BANKSProperty
development with care

CASTLE HILL WEST, HARROGATE

Proposed Housing Development

PLANNING STATEMENT

BANKS

Preface

This Planning Statement has been prepared to support an application by Banks Property Ltd for outline planning permission for 270 dwellings and a new school with associated roads, parking, landscaping, drainage and open space at land at Castle Hill West, Whinney Lane, Harrogate. The Castle Hill West site is located to the south west of Harrogate in the area known as Pannal Ash. The application has been prepared by Banks Property Ltd (part of the Banks Group) and the Local Planning Authority is Harrogate Borough Council (HBC).

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1. INTRODUCTION

1.1 This statement is split into two parts which fulfil the following functions:

- Chapters 1-7 provide details of the proposals along with a vision for the development and a reasoned case for approving planning the application in the context of local and national planning policies.

- Chapters 8-19 provide an Environmental Statement to satisfy the requirements of regulations with the information necessary to enable a proper environmental assessment of the proposals which will enable the local authority to make an informed decision.

1.2 The application is in outline, for 270 residential dwellings and a new school with associated roads, parking, landscaping, drainage and open space on land to the west of Whinney Lane, Harrogate. The site is known as Castle Hill West.

1.3 The general site location is shown in drawing PA01 with the detailed site boundary shown on drawing PA02. The applicant is Banks Property Ltd (BPL) which is part of the Banks Group.

BACKGROUND

1.4 In 2019 BPL gained outline planning approval for 130 dwellings on land to the east of Whinney Lane, Harrogate and are now working with Stonebridge Homes to bring forward the first new houses in 2020. This was designed so it could be phase one of a larger development which would continue west of Whinney Lane in line with the Harrogate Local Plan which was under preparation. The construction of a roundabout to serve both sites was evidence of the joined-up approach to designing a site layout.

1.5 The Local Plan was subject of a public examination in 2019 and in January 2020 the inspector published his report which concluded that policy H51 should remain in the plan. This policy allocates the land between Whinney Lane and Lady Lane for a mixture of housing and employment uses. The Local Plan was adopted in March 2020 and there is now a presumption that this application should be determined in accordance with the Plan.

1.6 It is vital that Harrogate meets its housing needs in the years to come. The National Planning Policy Framework (NPPF) advises that local authorities should boost significantly the supply of housing by providing five years' worth of housing against their requirements with an additional buffer of 20% to address historic under delivery and to ensure choice and competition in the market for land. This is what Harrogate will be able to do as a result of publishing a well-considered and justified plan. The application site will form a logical extension to Harrogate. The site is close to many local services and only 3 km from the town centre.

BENEFITS

1.7 The proposals will bring significant benefits to the local community which are described in greater detail in this statement. The main areas to benefit would be:

- Economic - Direct and indirect employment during the construction phase, significant levels of additional expenditure in Harrogate, developer contributions to support new infrastructure and services.

- Social - Providing much needed new homes for local people, promoting walking and cycling and supporting local facilities. Also providing a new primary school which will have wider social benefits in the local area.

- Environmental - Creation of new open space, biodiversity enhancements and management of surface water.

THE BANKS GROUP

1.8 The Banks Group have been based in County Durham for 44 years. The company employs around 360 people in three main business areas; coal mining, renewable energy and property.

1.9 The Banks Group is committed to development with care and the engagement of local communities in all its developments. The Banks Group has carried out many developments across the North East and Yorkshire including a housing development at Methley, Leeds and a wind farm at Hook Moor, Leeds.

1.10 Our development with care approach seeks to understand the community's perceptions of a site in its local context, as well as any views that they have related to the proposed development. Where practicable, the community is asked to participate and is given an opportunity to influence the design of the development proposed.

PROJECT TEAM AND COMPETENCY

1.11 Preparation of the planning application and coordination of the Environmental Statement has been undertaken by Justin Hancock MRTPI, Principal Development Planner with the Banks Group. Justin Hancock has over 25 years' experience of preparing planning applications and coordinating ES including minerals, housing, renewable energy and brownfield remediation schemes.

1.12 The following project team has worked on the proposals and assessments contained within this planning application. Each of their reports sets out their expertise and competency within their particular discipline.

- Project Management, Planning, Engineering, Community Engagement – Banks Property

- Design and Access – Pegasus Planning

- Landscape, Air Quality – Surface Property Consultants

- Transport, Arboriculture – WYG Consultants

- Flood Risk and Drainage – Wardell Armstrong

- Ecology – BSG Ecology

- Archaeology – Archaeological Services WYAS

- Historic Buildings – M B Heritage

- Agricultural Land Quality – GSC Grays

2. ENVIRONMENTAL IMPACT ASSESSMENT (EIA) METHODOLOGY

REQUIREMENT FOR EIA

2.1 The purpose of Environmental Impact Assessment (EIA) is to the protect the environment by ensuring that a local planning authority, when deciding whether to grant planning permission for a project which is likely to have significant effects on the environment, does so in the full knowledge of the significant effects, and takes this into account in the decision making process. EIA also aims to ensure that the public are given early and effective opportunity to participate in decision making procedures.

2.2 The proposed development falls under Part 10(b) of Schedule 2 of the EIA Regulations, as an urban development project including more than 150 dwellings. Projects of this nature will require an EIA to be undertaken where a development is likely to have a significant effect on the environment due to factors including its size, characteristics or location.

2.3 BPL (in consultation with HBC) have taken the view that when the impacts of the proposed development are considered *alongside* those of neighbouring developments the combined effects warrant provision of EIA for this application. This is consistent with the approach taken by Gladman Developments for the other major part of allocation H51.

SCOPE OF ASSESSMENT

2.4 EIA Regulations allow for the submission of a request for a Scoping Opinion from the Local Authority prior to the submission of the ES. However this is not mandatory, the alternative being to submit those reports and surveys deemed necessary for assessment. In this case BPL has not sought a Scoping Opinion. If any further environmental information is deemed necessary HBC will have the power to request it.

LOCATION OF INFORMATION

2.5 To aid reference the location of information required under Regulation 18 and Schedule 4 of the EIA Regulations is signposted in the Table 2.1 blow.

Table 2.1: Information required under the EIA Regulations

Regulation / Schedule	Information	Location
Regulation 18		
18(3) a	Description of proposed development including information on the site	Chapter 3
18(3) b	Description of likely significant effects	Chapters 8-19
18(3) c	Description of features or measures to avoid, prevent or reduce and, if possible, offset likely significant effects	Chapters 8-19
18(3) d	Description of reasonable alternatives	Chapter 8
18(3) e	Non-technical summary of information referred to in sub-paragraphs a – d	Non-Technical Summary

18(3) f	Any additional information specified in Schedule 4	See below
18(4) a	ES must be based on most recent Scoping Opinion issued under Regulation 15 or 16 (if one exists)	There has been no scoping report for this site
18(4) b	ES must include information reasonably required for reaching reasoned conclusion on significant effects	Chapters 8-19
18(4) c	ES must be prepared taking into account results of any relevant UK assessment reasonably available	Chapters 8-19
18(5) a	Developer must ensure ES is prepared by competent experts	See Below
18(5) b	Statement outlining relevant expertise or qualifications of experts	Chapter 1 & 8-19
Schedule 4		
1 (a) – (d)	Description of proposed development including location, physical characteristics, requisite demolition works, land use requirements	Chapter 4
2	Description of reasonable alternatives	Chapter 4
3	Description of baseline scenario and outline of likely evolution without implementation of the development	Chapter 3 & 4
4	Description of factors specified in Regulation 4(2) likely to be significantly affected by the development	Chapter 3
5	Description of likely significant effects of the development	Chapters 8-19
6	Description of forecasting methods or evidence used to assess the significant of effects, including details of difficulties and main uncertainties	Chapters 2 & 8-19
7	Description of measures to avoid, prevent or reduce and, if possible, offset likely significant effects, and any proposed monitoring	Chapters 8-19
8	Description of expected significant adverse effects of the development deriving from the vulnerability of the development to risks of major accidents and/or disasters relevant to the project	N/A
9	Non-technical summary of information provided under paragraphs 1 – 8	Non-Technical Summary
10	Reference list detailing sources used for the descriptions and assessment included in the ES	Chapters 8-19, where relevant

CONSULTATION

2.6 The application site has been allocated for development in the Harrogate Local Plan 2020. All the statutory bodies were consulted on that plan and had an opportunity to comment and/or object to policies at the plan's Examination.

2.7 In the formulation of a parameters plan for development to the west of Harrogate the company has consulted with North Yorkshire County Council highways and education departments and Harrogate landscape, ecology and historic buildings officers. Where appropriate our expert consultants have consulted with local authority officers also e.g.

archaeology, drainage. The company has undertaken pre-application consultation on the content of the application.

2.8 Public consultation has also been carried out in addition to the consultation relating to the Local Plan inquiry. Details of community engagement are set out in Section 6 of this document. The ability to consult has been compromised by the outbreak of corona virus but taking into account the commitment to an ongoing dialogue with local people, is considered suitable basis to submit this application.

3. PROPOSED DEVELOPMENT

3.1 The Banks Group acknowledges the need to bring forward developments of the highest standards to ensure that the development maximises the potential benefits presented by the site. To achieve this it is vital to have an overarching "vision" for the development. The following vision has informed the indicative layout and will continue to underpin the detailed design of buildings and green infrastructure on the site. It seeks to respect the site's setting whilst providing an appropriate design solution which will lead to sustainable development.

CASTLE HILL WEST: VISION

To create a unique and sensitively designed development which respects the site's setting on the edge of Harrogate with a sloping topography towards the Clark Beck. The development must be capable of integrating with a wider long term development framework proposed within the emerging Harrogate Local Plan.

New open space will be provided including a link to the west to respect existing footpaths and treed boundaries, and create a new routes along the Clark Beck and leading to Lady Lane.

The development will promote sustainability by encouraging walking, cycling and public transport, providing much needed family housing of a high quality of design and sustainable drainage.

The development will protect and celebrate views of local historic buildings and Almscliffe Crag some 4km to the south west.

SITE LOCATION AND CONTEXT

3.2 The site is located to the south west of Harrogate and extends to approximately 12.68 hectares of agricultural land (31.33 acres). Existing features within the site are shown on drawing PA03. Aerial photographs are provided at drawing PA04 and PA05. Contextual photographs are provided at drawing PA06 and also within the Design & Access Statement which is Appendix 1.

3.3 The site is made up of four fields. Two smaller fields are located in the north of the site. All of the fields are used for silage production with some grazing. At the southern corner of the site a small paddock field and two stone built houses are excluded from the site area.

3.4 The site slopes from a high point of 181m AOD in the north to a low point of 154m where Clark Beck meets Whinney Lane to the south before rising back up to a local high point of 165m on the boundary with Lady Lane. Immediately west of the site boundary the land falls away meaning that the north of the site appears quite elevated. However the presence of mature trees along the western boundary has the effect of screening the site from the lower land to the west.

3.5 Within the site there are two intact hedges separating the northern three fields. The southern two fields are separated only by Clark Beck which is culverted for a short distance and is a very minor watercourse, issuing just beyond the site boundary.

3.6 There is a small stone-built barn located on the southern boundary with Lady Lane. It is not considered to have sufficient cultural heritage value to require retention and refurbishment although it has bat roost potential.

Site Boundaries

3.7 The southern boundary of the site along Lady Lane has a mixture of stone wall, hedge and fence. The eastern boundary along Whinney Lane is hedge at the north and post & wire fence at the south. The western edge of the site has a very strong tree line including protected trees to the north. In the south of the site there is a low stone wall dividing the site from neighbouring agricultural land. Overall the boundaries of the site are not consistent in style but are typical of a rural North Yorkshire setting.

3.8 Whinney Lane runs immediately east of the site. It links directly into the main urban area of Harrogate at Pannal Ash roundabout to the north. Whiney Lane has a footway on the western side and street lights. On the eastern side of the road is located a large public house, the Squinting Cat, which has a large car park to cater for travelling custom.

3.9 Lady Lane runs immediately south west of the site. It is more rural in character than Whinney Lane and has no footways. It serves as a link between Whinney Lane and Beckwith Head Lane further to the west. Beyond its junction with Whinney Lane, Lady Lane seamlessly becomes Hill Top Lane which is of similar rural character and links this area to the village of Burn Bridge to the south east.

Neighbouring Uses

3.10 To the east of Whinney Lane is another piece of land which is designated for housing development. Banks Property gained outline planning permission in January 2019 for 130 dwellings on this land and the detailed house designs were approved in September 2019 which has enabled Stonebridge Homes to commence construction on site in the spring of 2020. The character of this area is therefore undergoing considerable change over the next few years as the housing is built out. The extensive farm house Castle Hill Farm is proposed to remain albeit subject to some redevelopment work to be confirmed.

Habitats

3.11 Ecological habitats within the site are described in more detail in Appendix 4.

3.12 The fields are categorised as “improved grassland”.

3.13 The western boundary of the site has a mixture of 11 mature trees, defunct hedgerow and fence. Most of them are protected by Tree Protection Orders.

3.14 There are four individual trees within site or on the eastern boundary. Three of these have TPOs.

3.15 There is a minor water course (the Clark Beck) which runs across the centre of the site to Whinney Lane. This stream has minimal ecological value because of its low volume of water and heavily grazed margins.

Tree Survey

3.16 WYG were commissioned to carry out a tree survey in July 2019. The full report is at Appendix 3 and a plan of the trees showing their canopies and root protection areas is included as drawing PA11. A Tree Preservation Order (ref 12/00008/TPO) covers a number of individual trees and groups of trees on the site although these are all located on boundaries where it will be possible and desirable to retain the trees. The arboricultural impact of the proposed development is therefore considered to be negligible subject to careful design of development to avoid impacts on root protection areas.

Figure 1: Aerial view of the site (outlined in red) and surrounding area

Planning History

3.17 There is no history of planning applications for development within the site except that a strip of land was included within outline planning application 17/05595/OUTMAJ for potential use as a drainage attenuation basin but this was not needed for the detailed scheme.

3.18 The site has been identified as part of a larger housing and employment allocation within the adopted Harrogate Local Plan. The fact that an independent Inspector has found the plan (and the allocation of land) to be sound demonstrates the soundness of the policy. The adoption of the plan by HBC on 4 March 2020 confirms the site's status although it sets various requirements for the development which are discussed in more detail in Section 5 of this statement.

APPLICATION PROPOSALS

3.19 This outline planning application is for a development of 270 residential dwellings and a new school with associated roads, parking, landscaping, drainage and open space.

3.20 The application only seeks *detailed* approval for a new access point which is proposed to be taken from Whinney Lane (see drawing PA10). This access would be a fourth spur of a roundabout which is currently approved but not yet built as part of the Castle Hill Farm development.

3.21 All other matters (scale, layout, built form and landscape) are reserved to be determined through a future Reserved Matters application.

Indicative Masterplan

3.22 An indicative masterplan has been prepared to demonstrate how the site could be developed with 270 residential dwellings and a primary school with associated infrastructure, see drawing PA08 and Figure 2. This layout is consistent with an emerging Parameters Plan for West of Harrogate which is required by Policy H51 and is being prepared by three lead developers including BPL.

Figure 2: Indicative masterplan

3.23 The thinking behind the illustrative site layout is articulated at greater length in the Design and Access Statement attached to this application at Appendix 1. In principle the layout is considered to complement the type, volume and density of housing which is located to the north of the site as well as that which is under construction to the east at Castle Hill Farm. The indicative layout contains a mix of house types predominantly aimed at providing family accommodation, at a gross density of around 24 dwellings per hectare gross (excluding the school) and 30 per hectare net housing.

Primary School

3.24 The school site has been chosen because it is close to existing housing, close to the entrance of the site and close to proposed bus routes into the site. It measures 1.34 hectares as shown on drawing PA14 and it could be linked to land to the west via footpath to provide additional flexibility in the future. The indicative layout of the school has been informed by landscape considerations because the alignment of the school along the eastern boundary would minimise its visual impact from the south. The size of the school is informed by Department for Education guidance and it could be two storeys in height.

3.25 It is considered that the school location would promote walking to school and deter car drop-off although the layout would enable cars to access the site without undue disturbance to residents, potentially using a one-way system (to be agreed at the detailed stage).

Design Considerations

3.26 The indicative layout would provide a suitable buffer between new houses and the existing dwellings to the south (Linton Cottage and Old Poor House). It would also provide a buffer between built development and the protected tree belt along the northern section of the western boundary which is largely in the school area.

3.27 The indicative layout has been designed to link through to the development proposed by Gladman (planning application reference 18/05202/EIAMAJ). Delivery of this link will be subject to agreement with HBC and the neighbouring developer. As a minimum the two sites should be linked for pedestrians and cyclists to maximise potential trips by sustainable modes.

3.28 The Design and Access Statement highlights the following elements of the layout;

- A medium density development with significant amounts of new public open space.
- Open space located at the low point of the site where Clark Beck crosses.
- Connection to the roundabout already planned as part of development to the east of Whinney Lane.
- Provision of sustainable urban drainage within the green space feeding Clark Beck.
- Active frontages onto open space wherever possible to provide natural surveillance.
- Enhanced pedestrian and cycle access to land east and west of the site.

3.29 Although only indicative, the layout has been designed in accordance with the council's design standards. All of the dwellings provide suitable privacy distances from existing and new housing to protect residential amenity. The layout would also provide minimum widths between houses and new structural landscaping to provide screening. It would also provide roads at a suitable width according to a road hierarchy set out in Figure 12 of the DAS (Appendix 1).

Indicative Housing Mix

3.30 The indicative masterplan comprises a mix of housing from 1-5 bedrooms, predominantly aimed at providing family accommodation. The illustrative housing mix is subject to change through subsequent reserved matters applications.

Table 3.1: Indicative Housing Mix

House Type	Proportion of Units
1 Bedroom	29%
2 Bedroom	39%
3 Bedroom	28%
4 Bedroom	4%

Public Open Space and Landscaping

3.31 Within the site public open space is concentrated on the area around the Clark Beck and Linton Cottage. This area measures 2.6 hectares in total although it is crossed by a road. Smaller pockets of amenity green space are indicated within the housing.

3.32 Wherever practicable BPL tries to include sustainable urban drainage features (SUDs) within its housing developments. A study of the surface water options for this site is included at Appendix 13. The indicative masterplan allows for various features within the site as part of an initial drainage scheme (drawing PA13) which may be subject to change at the detailed stage.

3.33 The potential features are located near the Clark Beck to allow attenuated flows to discharge into the beck.

3.34 Consideration of the type of open space provided and detailed design proposals will be discussed with the council and local community and included in future reserved matters applications. The biodiversity assessment in chapter 9 of this report indicates that the open space should be planted and managed to have an ecological function.

3.35 In terms of bio-diversity the site itself does not include any major wildlife corridors but there are mature corridors formed by trees and hedgerow to the west and north of the site which will be protected. An enhanced corridor will be created along the Clark Beck of the site in the form of SUDs basins and structural planting.

Roads and Access

3.36 A new vehicular access is proposed from Whinney Lane. This is proposed to be a fourth arm off an approved roundabout (see drawing PA10). The southern parcel of housing land is proposed to be accessed from the roundabout via the northern parcel and a road which will cross the Clark Beck. The indicative layout does not show any

vehicular access from the housing to Lady Lane south west of the site. This is a conscious design choice based on the premise that Lady Lane is a quiet country land without footways or street lighting and so there is a benefit in keeping it that way.

3.37 It is acknowledged that development and construction traffic would pass largely through Pannal Ash to the north and the impacts of this traffic are considered in a Transport Assessment contained at Appendix 10. Drawing PA09 shows the main movements of vehicles and pedestrians from the site.

3.38 The site currently has no public footpath access although footpath number 15.108/18/1 runs along the northern boundary of the site for a distance of 120 metres. The layout indicates new footpaths running from Whinney Lane near the Squinting Cat pub through to Lady Lane in two locations. These new paths would enable walkers to access the other proposed housing developments east and west of the site.

4. NATIONAL PLANNING POLICY

4.1 The National Planning Policy Framework (NPPF) published in July 2018 contains all national planning policy for England.

4.2 To promote a positive approach to development, at the heart of the NPPF is a presumption in favour of sustainable development as set out in Paragraph 11. For decision-taking, this means that development proposals that accord with an up-to-date development plan should be approved without delay. The Castle Hill West proposals do accord with a Local Plan recently adopted. This chapter summarises how the proposals also accord with national policy objectives and will provide significant benefits. A detailed assessment of conformity with local policy is provided in the chapter 4.

SUSTAINABLE DEVELOPMENT

4.3 NPPF advises that the purpose of the planning system is to contribute to the achievement of sustainable development. Paragraph 8 of NPPF sets out the three dimensions to sustainable development; the economic, social and environmental and outlines the number of roles that the planning system performs.

> An economic role – contributing to building a strong, responsive and competitive economy, by ensuring that sufficient land of the right type is available in the right places and at the right time to support growth and innovation; and by identifying and coordinating development requirements, including the provision of infrastructure
>
> A social role – supporting strong, vibrant and healthy communities, by providing the supply of housing required to meet the needs of present and future generations; and by creating a high quality built environment, with accessible local services that reflect the community's needs and support its health, social and cultural well-being
>
> An environmental role – contributing to protecting and enhancing our natural, built and historic environment: and as part of this, helping to improve biodiversity, use natural resources prudently, minimise waste and pollution and mitigate and adapt to climate change including moving to a low carbon economy

4.4 Socio-economic effects of the proposed development are assessed in greater detail in chapter 18 but in summary the development will contribute to all three dimensions of sustainable development as summarised below.

ECONOMIC ROLE

Positive Impacts during Construction Phase

4.5 New development creates local jobs in the construction industry as well as business for the building supply industry which supports sustainable economic growth. Based on standard build costs the development could be expected to provide around 48 temporary construction jobs per year during the construction phase.

4.6 In additional to direct employment, a considerable number of 'spin off' jobs per annum would be supported during the construction phase (estimated to be 121).

Positive Impacts as a result of Operation of Housing and School

4.7 There are existing local businesses within walking distance of the site including a public house, a general store, and Cardale Business Park. Harrogate town centre is within two miles of the site and contains many retail and service opportunities. Once constructed and occupied, the development will contribute towards the economic prosperity of Harrogate with significant levels of net additional expenditure.

4.8 The school will employ at least 40 full time staff on a permanent basis (more if it becomes a two-form entry school).

Fiscal Implications

4.9 The proposed development will make a significant contribution to the local economy via a Section 106 Agreement. These contributions will be used by Harrogate Borough Council and North Yorkshire County Council to fund education provision in the local area.

4.10 It is estimated that the development could generate around £3 million over six years as a result of the Government's New Homes Bonus scheme in addition to £500,000 per annum in additional Council Tax payments.

SOCIAL ROLE

New Housing

4.11 The proposed development would contribute to the supply of new housing at a time when there is an accepted need to increase the supply of housing. The Harrogate Local Plan identifies a need for new housing amounting to 669 new dwellings each year. Previous years have failed to deliver this amount so there is a need to catch up with a boost to new housing. Allocated sites such as Castle Hill West are needed to address this need in the next five years.

4.12 Harrogate is a desirable place to live and the provision of new housing will enable people to move into the town, particularly new families for whom most of the proposed housing mix on the site will designed. The Council has identified a particular local issue where people working in the town are not able to afford to live there, exacerbating commuting by car into the town. The strategy to deliver new housing with 40% affordable provision will help address this imbalance.

New School

4.13 HBC have identified the need for a new primary school to meet the increased need for primary education to the south west of Harrogate as a total of 2,500 new dwellings begins to be delivered.

Services / Amenities

4.14 Paragraph 38 of NPPF states that where practical, key facilities such as schools and local shops should be located within walking distance of most properties. There are a number of facilities within the Pannal Ash and Harlow Hill district of Harrogate. These include secondary schools, public house, village store and various cafes etc. These facilities are shown on the Movement Framework at drawing PA09.

4.15 Ashville College Sports Centre is located 250 metres from the site. Although this belongs to a private college it is accessible to the public with numerous facilities including swimming pool, tennis, badminton, squash, tennis, and fitness equipment.

4.16 There is a community centre at Harlow Hill which hosts a number of community groups and clubs that meet on a regular basis including Residents Association, Friendship Club, Men's Forum, Astronomical Club and various sports clubs. This demonstrates that this part of Harrogate already enjoys a thriving community which would benefit new residents.

Public Transport

4.17 The nearest train station is a Hornbeam Park approximately 2.5 km from the site. Harrogate station is marginally further away. Both stations serve the major regional employment and service centres of Leeds and York.

4.18 The nearest bus stop is located on Pannal Ash Road approximately 400 metres from the site. However it is planned to route a bus service through the H51 allocation, either within the application site or very close to it. This will mean that residents throughout the site will live within walking distance of a regular town centre bus service.

ENVIRONMENTAL ROLE

Creation of New Open Space and Green Infrastructure

4.19 The site lies outside any ecological designations and is currently of modest ecological value. The indicative layout provides for the retention of existing trees and hedgerow as well as the creation of new green corridors of vegetation within the site and species rich grassland.

4.20 The layout would provide 2.6 hectares new public open space and would create enhancements to the public footpath and cycle path network. The site would be drained sustainably using SUDs attenuation basins. These will create ecological habitats within the site.

4.21 The adopted Local Plan includes this site within a much wider designation of landscape value around the Crimple Valley. This matter is discussed in greater detail in Chapter 10 of this document. It requires a sensitive approach to boundary treatments, key viewpoints and planting within the scheme.

Framework Travel Plan

4.22 A Framework Travel Plan has been prepared which includes a number of initiatives aimed at promoting sustainable forms of transport including the appointment of a Travel Plan Coordinator and the production of an information travel pack as part of each buyers Welcome Pack which would include;

- Information about the local area, e.g. location, distance and directions to local amenities
- Copies of most recently published bus/train timetables and contact details of providers of local public transport
- Car sharing – Links to websites that co-ordinate car sharing

- Cycle maps showing surrounding routes

4.23 The information travel pack will be updated and monitored on a regular basis and the Travel Plan Coordinator will offer all residents assistance in planning their journey by sustainable travel options to tailor their specific requirements for their journeys.

NPPF CONSIDERATIONS

4.24 Each of the chapters in the ES contains a summary of planning policies relating to that topic. These are summarised below:

Table 4.1: NPPF Topics Covered in ES

NPPF Paragraph	Topic	ES Chapter
127-131	Achieving well-designed places	7
96	Access to high quality open spaces	7
150	Planning for a low carbon future	7 & 18
174-175	Habitat protection and biodiversity net gain	9
170	Protecting valued landscapes	10
189-197	Proposals Affecting Heritage Assets	11 & 12
108-111	Highway considerations	13
170	Preventing pollution	14 & 16
155-165	Flood risk	15
170	Protecting best and most versatile agricultural land	17

CONCLUSIONS

4.25 The proposals are considered to represent positive housing growth which will contribute significantly to the local economy, deliver much needed housing is a socially sustainable location and provide a range of environmental benefits. The proposed development will provide a significant contribution to all three dimensions of sustainability.

5. LOCAL PLANNING POLICY

5.1 Relevant local planning policy comprises:

Development Plan

- Harrogate Local Plan (2020)

Guidance

- Supplementary Planning Documents (SPDs)

5.2 Drawing PA07 shows how local planning policy designations affect the site.

HARROGATE LOCAL PLAN 2020

5.3 In March 2020 HBC adopted a Local Plan which seeks to meet the needs of the borough to 2035. The preparation of the Local Plan included the following milestones:

- Issues and Options – July 2015
- Draft Plan – November 2016
- Additional Sites Consultation – July 2017
- Submission to Secretary of State – August 2018
- Examination – January 2019
- Inspector's Report – January 2020
- Adoption – March 2020

5.4 The Local Plan was supported by several key pieces of evidence including the following documents which are relevant to these proposals:

- Sustainability Appraisal
- Strategic Housing and Economic Land Availability Assessment
- Built and Natural Environment Site Assessments
- Review of Local Landscape Designations

5.5 The policies of the new local plan supersede those contained in the previous Local Plan 2001 and Core Strategy 2009.

Policy GS1

5.6 This policy states that provision will be made in the district over the period 2014 - 2035 for 14,049 new homes as a minimum. The application site itself will provide a small element of this new home provision which becomes more significant when considered in combination with the neighbouring land and the school provision which will serve further new housing in the area.

5.7 The total need of housing is calculated using a range of different factors including demographic trends, employment projections and affordability.

Policy GS2

5.8 This policy sets out the spatial strategy for accommodating the growth required by GS1. The main focus for growth will be the main settlements of Harrogate, Knaresborough, and Ripon with a new settlement east of the A1 providing additional growth. The application site is on the edge of Harrogate within 3 km of the town centre so the proposals are very consistent with policy GS2.

5.9 The scale of the proposed development reflects the settlement's role and character and the site's close relationship to the public transport corridors of Otley Road and the Leeds-Harrogate railway line. Harrogate clearly has capacity within its infrastructure and services to accommodate up to the new housing and education on this site and neighbouring land.

Policy GS3

5.10 This policy proposes to retain development limits for each settlement albeit in an amended form to enable allocations of land including the application site.

Policy GS7

5.11 This policy requires new development to promote, support and enhance health and wellbeing. The application proposals support this in a number of ways including the enhancement of public footpaths, creating a high quality living environment, and locating housing close to employment and education opportunities.

Policy H51

5.12 The Local Plan proposes allocating 72 sites for housing in the borough and a further six sites for a mixture of housing and other uses. The application site is covered by allocation H51 which is one of the small number of mixed use allocations. This extends to include land to the west of the site bounded by Lady Lane to the south and Beckwith Head Lane to the west. The site is estimated to provide 690 dwellings in total and 3.28 hectares employment land.

5.13 Each site allocation is supported by a set of Site Requirements. These set out the expectations and constraints which all allocation will be expected to work to. The requirements for H51 (as modified) are set out below.

Requirement	Castle Hill West Response
1. Any planning application for this site will need to demonstrate how it accords with a full site masterplan, which itself is to be prepared in accordance with a West Harrogate Parameters Plan and agreed by the local planning authority in writing. The parameters plan will ensure the effective co-ordination of matters such as access, provision of community facilities, school provision, green	In response to discussions at the Local Plan Examination this requirement was strengthened to include a need for the Parameters Plan which combines numerous allocations on the west of Harrogate but most significantly H51 and H49. School locations have been discussed with NYCC as education authority and a preferred location within this

	infrastructure, public transport provision, cycling and pedestrian links with sites H45 Blue Coat Park and H46: Land at Otley Road, H36 Former Police Training Centre Yew Tree Lane, H70 Land east of Whinney Lane and H49 Windmill Farm, Otley Road. The Infrastructure Delivery Plan has identified a requirement for new education provision in West Harrogate on sites H49/H51. In order to ensure the timely delivery of education facilities in this location and to ensure that the combined education impacts of development in this location are mitigated, a financial contribution will be made towards the construction of a new school and/or provision of additional school places and land will be made available for a new primary school on sites H49/H51in discussion with North Yorkshire County Council. Planning permission will not be granted on either H51 or H49, unless and until there is agreement between the applicant and the County and Borough Council which ensures that the necessary provision will be made. In order to ensure that the necessary educational facilities are available in time to serve the new residential development, any permission granted on either site will be conditioned to tie the rate of delivery of residential development to the provision and delivery of educational facilities.	application site chosen. The site is relatively flat, sufficient in size (1.3 ha) and would be accessible at an early stage of the housing development. Delivery and availability of the site will be secured through the S106 agreement. Work has progressed on the Parameters Plan. It has not yet been formally agreed by HBC which is a necessary precursor to determining this application. Submission of H51 in two parts clearly provides challenge to designers. Our site layout at drawing PA08 is a strong response to this challenge as discussed in the DAS. Green infrastructure will flow through the H51 allocation as will pedestrian, cycle and bus routes. Whilst the two parts of the allocation will have different character there will not be a visual divide or barrier between the two. Allocations H36 and H70 have detailed layouts so there is a high degree of certainty regarding how these will be developed.
2.	Jackland House Farm is a non-designated heritage asset within the site; development of the site should minimise harm and seek opportunities to enhance the significance of this asset; this should include retaining and sensitively converting the farm buildings and protecting their setting.	Jackland House Farm is 400 metres away from the site boundary and well screened by trees so there is almost no inter-visibility between the asset and the site. The requirement is mainly relevant to a neighbouring development. This conclusion is supported by the assessment at Chapter 12.
3.	Building heights and location need to be such that they protect outlook/privacy of dwellings backing onto the site	Within this application area there are very few dwellings where this policy would be applicable; the Old Poor House and Linton Cottage to the south of the site. The DAS confirms the sensitive treatment of boundaries.

4. Lund House Farm and barn are both nearby Grade 2 listed buildings; development of the site should minimise harm and seek opportunities to enhance the significance of these designated heritage assets; this should include keeping a significant buffer of land around these buildings free from built development.	The issue of Lund House Farm and its barn was discussed at Examination of the Local Plan where Historic England expressed concern at the impact of development across H51. The Inspector concluded that "there does not appear to be any clear functional link between them and the allocation site. Lund House and Barn (the latter having been converted into residential units), very much turn their back on the site such that any harm would be at the lower end of less than substantial. Their significance would appear, now, to relate chiefly to their inter-relationship with each other and to their history, form and appearance". This matter is dealt with extensively in Chapter 12 of this Statement. It concludes that the proposals would give rise to a limited degree of harm to significance, with the agricultural setting of the building. However mitigation is recommended and in the context of the site allocation the public benefits would be capable of outweighing this harm.
5. The cottages off Whinney Lane, Ash View terraces and the farms of Castle Hill, Syke House and Blue Coats, Ash View, Harlow View, Crag View & 24-34 Whinney Lane are nearby non-designated heritage assets; the development of the site should respect these assets.	Chapter 12 of this statement also considers the impact of development upon local non-designated assets such as the Syke House Farm which lies immediately east of the site. Varying degrees of harm are identified but generally considered to be minimal in nature.
6. Create green buffers along on-site watercourses in order to enhance these Green Infrastructure corridors; this should include the planting of new native tree, shrub and wildflower species.	The indicative layout lan includes a landscaped buffer for the Clark Beck as required. Tree planting will be native species.
7. Create a green corridor link between the north-east and the south-west of the site; this should include the restoration of species-rich grassland and the planting of new native tree, shrub and wildflower species.	This link arguably falls outside the application area or borders it. This application provides an additional east-west green corridor along the Clark Beck in the south.

8. Retain the trees, hedgerows and ditches on-site, including protected trees and hedgerows.	The indicative layout demonstrates that the trees and hedgerows on the site will be retained **except for** the two hedgerows which cross the northern part of the site. The northern of these would be reinstated as a new boundary to the school. Retention of the hedges would greatly inhibit development of the northern part of the site in particular the spine road. Any hedge which could be retained would not be genuinely functional and so the best response to the challenge is to create new planting which fits the wider masterplan.
9. Enhance and reinforce existing field boundaries with new planting of native hedgerow and tree species.	The indicative layout indicates that field boundaries would not be retained within the northern part of the site. This is because the site is relatively narrow at this point and the need to provide a road running south through the site would remove a significant part of those hedgerows in any event. This is discussed in DAS at Appendix 1. The boundaries between the site and land to the west are much more important lined as they are by mature trees with TPOs. These will be retained and protected by a generous buffer.
10. Provide vehicle, cycle and pedestrian access from Lady Lane. Significant pedestrian improvements may be required on Lady Lane and Whinney Lane.	Planning application 18/05202/EIAMAJ proposes a vehicular access from Lady Lane which would meet this requirement. This application would deliver pedestrian and cycle links either directly to Lady Lane or via neighbouring land. Improvements are being proposed for Whinney Lane already as a part of the Castle Hill Farm development.
11. Provide pedestrian and cycle links within the site and from the site to connect with the nearby areas in order to provide convenient routes to residential and employment areas, including those planned on sites H36 Former Police Training Centre, Yew Tree Lane and H70: Land east of Whinney Lane.	The development of Castle Hill Farm will provide a pedestrian link to Yew Tree Lane and H36 which may be upgraded to encourage cycling.

12. The design and layout of the site should protect the recreational and amenity value of the public rights of way that cross the site.	The layout respects and stands off the public right of way which runs along the northern boundary of the site.
13. In addition to the requirements of the local validation criteria, the following technical reports are required when a planning application is submitted: - Transport assessment - Travel plan - Site-specific flood risk assessment - Full ecological assessment - Heritage statement - Landscape and visual impact assessment - Agricultural land classification survey in accordance with Policy NE8	The following reports are provided: - Transport assessment at Appendix 10 - Travel plan at Appendix 11 - Flood risk assessment at Appendix 13 - Ecological assessment at Chapter 9 - Heritage assessment at Appendix 12 - Landscape and visual impact assessment at Chapter 10 - Agricultural land survey at Appendix 15

Policy HS1

5.14 This policy concerns the mix of new housing and also the density to which it should be built. Housing developments should seek to deliver a range of house types and sizes that reflect and respond to the identified housing needs and demands of the district's households. Developments of 10 or more dwellings should provide 10% accessible and adaptable homes.

5.15 The application proposals include a mixture of 2, 3, 4 and 5 bed units. Because it is outline this mixture can be reviewed at the detailed design stage, as can the provision of accessible and adaptable homes.

5.16 Policy HS1 also states that new housing development will be expected to achieve a minimum net density of 30 dwellings per hectare. Where it can be demonstrated that development at such densities would be detrimental to local character or amenity, or site constraints would prevent these densities from being achieved, then development may be permitted at a lower density.

5.17 The application proposals take into account constraints on the site including the TPO trees on the western boundary and the need for a buffer along the Clark Beck along with the proposal to locate a school on site. The density for the whole 12.7 hectares is therefore quite low (21 dwellings per hectare). However when the school is removed this is 24 dph and when the central open space is removed it is 30 dph in line with policy. Drawing PA14 shows the deductions for open space and school.

5.18

Policy HS2

5.19 This policy stipulates that the Council will require 40% affordable housing on all developments, subject to viability and the demonstration of the need for affordable housing. In exceptional circumstances, off-site provision or a commuted sum in lieu of on-site provision may be acceptable. Starter homes will be required in line with national policy. The final tenure mix of the affordable housing on individual sites will be determined through negotiation, taking account of up-to-date assessments and the characteristics of the area.

5.20 The provision of affordable housing will be covered by a legal agreement under Section 106 of the Planning Act. This will also set out the tenure mix.

5.21 The policy advises that affordable homes should be distributed across the development and integrated with the scheme design such that they are indistinguishable from the market housing on the same site. At the outline stage the exact location of the affordable housing is not known.

Policy NE4

5.22 This policy seeks to protect, enhance and restore the landscape character of Harrogate district. New development will be required to have "particular regard to maintaining the aesthetic and biodiversity qualities of the natural and man-made heritage within the landscape such as trees and woodland, hedgerows, walls, buildings, watercourses, ponds, reservoirs, lakes, ecological networks or other topographical features.

5.23 The indicative masterplan enables the retention of a number of features such as TPO trees, hedgerows, stone wall and the Clark Beck.

5.24 New development proposals should also be sympathetic to the broader landscape character areas which have been identified in the Harrogate District Landscape Character Assessment. The application site is located within the Upper Crimple Valley Character Area (Area 60) although it has the potential to impact upon other nearby character areas. The effects of the proposed development are considered in some detail within the LVIA at Chapter 10 of this ES. This chapter concludes that the surrounding Upper Crimple Valley landscape area would not be adversely affected overall because landscape impacts would limited to a distance of around 500 metres from the site in an area which already has sporadic built development associated with the urban fringe.

5.25 Policy NE4 continues to identify nine Special Landscape Areas in the district in which development proposals should:

- Avoid significant loss of key characteristics that contribute to the quality of the Special Landscape Area and the setting of Harrogate, Knaresborough and Ripon;

- Ensure that development proposals are linked to existing settlements and are designed to enhance the appearance of the urban edge and its integration with the countryside.

5.26 The application site is covered by one of the SLA designations; the Crimple Valley (as shown on drawing PA07.

5.27 The LVIA at Chapter 10 concludes that the proposals accord with the second part of this policy. There would be some loss of landscape features as well as some retention. The effect of the development on the SLA would be major/moderate at a local level but it would not affect the designation because most of the SLA would not be adversely affected by the development.

Policy NE5

5.28 This policy requires new development to incorporate existing and/or new green infrastructure features within their design and to improve accessibility to the surrounding area. It should avoid creating undifferentiated built-up areas and prevent built-form coalescence. The indicative layout provided with this application demonstrates enhanced green links from Whinney Lane westwards towards Lund House. The site is well contained by Lady Lane and the two halves of development will be very well differentiated by the large open space beside Clark Beck. Strategic planting will break up the development, strengthen edges and differentiate it from the neighbouring plot of land which is subject to a separate planning application. The indicative layout would therefore make a significant contribution to green infrastructure as envisaged by draft policy NE5.

SUMMARY OF DEVELOPMENT PLAN POSITION

5.29 Adoption of the Harrogate Local Plan confirms the status of the application site as a preferred location for housing development in the period to 2035. The comments of the inspector who heard evidence for and against the allocation support the conclusion that the site can make a valuable and logical contribution to meeting Harrogate's housing needs. In particular the inspector concluded that the benefit of this allocation outweighed impacts to heritage assets and local landscape provided that the development was sensitively designed. Proposals which accord with the Local Plan should be approved and delivered without delay.

5.30 Policy H51 requires the preparation and agreement of a Parameters Plan covering the West of Harrogate allocations to demonstrate integrated public transport, vehicular, pedestrian and cycle connectivity as well as green infrastructure and education. This piece of work is under preparation. H51 requires a masterplan to ensure effective delivery of the application site alongside the Gladman development called Lady Lane. Submission of this application will enable the two proposals to be considered together to ensure comprehensive development.

5.31 The council's latest published position is that it enjoys a 5 year land supply following the grant of various planning permissions, however the surplus over the 5 year level is not large and the Council acknowledges the benefit of bringing forward a greater number of new sites to provide greater choice for house purchasers. The Local Plan does not include any phasing policies which would suggest that delivery of H51 should be delayed. The inclusion of a new settlement with inevitable long lead times increases the emphasis on delivery from sites which are easily accessible. The commencement of development east of Whinney Lane in 2020 includes the provision of a roundabout accessing the application site. Approval of the application site will allow seamless continuity of housing provision in this area as well as the delivery of a new primary school which will relieve pressures on school places in the locality.

ADDITIONAL GUIDANCE

Supplementary Planning Documents (SPDs)

5.32 The council has adopted a number of Supplementary Planning Document's (SPDs) which are material considerations in the determination of planning applications. Consideration has been given to the following SPDs.

- Planning Obligations Guidance (2017)
- Affordable Housing Guidance (2015)
- Green Infrastructure SPD (2014)
- Provision of Open Space in Connection with New Housing Development SPD (2015)
- Policy on Developer Contributions to Education Facilities (2017)
- Bio-diversity Action Plan (2012)

SECTION 106 MATTERS AND DRAFT HEADS OF TERMS

5.33 It is acknowledged that a Section 106 Agreement will be required for the proposal and pre-application discussions with officers have highlighted the likely heads of terms relevant in this particular case. Given the outline nature of the scheme it is proposed to agree the full Heads of Terms, following submission of the application once it has been subject to full consultation.

5.34 The following Heads of Terms are provided as the basis for further discussions with Harrogate Borough Council and have been prepared without prior finalisation of all expected contributions or viability assessment undertaken:

Education

5.35 The Local Plan policy states that new primary education provision will be required on allocation H51. Discussions have been ongoing between the developers, Harrogate Borough Council and North Yorkshire County Council which is the education authority and therefore an important stakeholder. It had been hoped to agree the location before submission of this application but further information has recently been requested by the two councils. Nevertheless this application anticipates that the school will be located within this site and sets out that proposal accordingly. If this agreed with the councils then the Section 106 agreement would be the logical means of securing the land for this purpose. It is likely that the provision of land would be time-limited to ensure that once allocated the land was indeed brought forward for that purpose.

5.36 NYCC has established a county-wide policy for contributions towards education. Irrespective of the decision relating to the primary school, contributions will be required to pay for secondary education in the area.

Affordable Housing

5.37 The Affordable Housing SPD sets out a requirement for 40% affordable housing on schemes of 15 dwellings or more. The type of affordable housing provided will be discussed with the council during the consideration of the application. The SPD

indicates that the split between social rented and intermediate housing within the affordable element should be around 70/30.

Transport

5.38 The Transport Assessment does not highlight the need for off-site highways improvements which might require financial contributions arising specifically from this development. However the cumulative impacts of multiple developments to the west of Harrogate put pressure on junctions at Pannal Ash, Cold Bath Lane and Prince of Wales roundabout. These may be addressed via proportionate combined contributions from the developments concerned.

5.39 The road improvements around the access can be delivered through a Section 278 agreement. However the Interim Travel Plan contains various measures which may need to be considered as part of a Section 106 agreement.

6. STATEMENT OF COMMUNITY INVOLVEMENT

INTRODUCTION

6.1 Throughout 44 years of working on projects across England and Scotland, the development with care approach to working has evolved to ensure the Banks Group attaches great weight to building and maintaining a constructive dialogue with the local communities for our projects from the early stages of the project's development. This approach was successfully established through minerals and renewables developments but is also effectively applied to property developments such as Castle Hill West.

6.2 Our development with care approach seeks to understand the community's perceptions of a site in its local context, as well as any views that they have related to the proposed development. Where practicable, the community is asked to participate and is given an opportunity to influence the design of the development proposed.

PUBLIC ENGAGEMENT AT CASTLE HILL WEST

6.3 Public engagement on this project has been constrained by the outbreak of Corona Virus in March 2020 and the subsequent imposition of social distancing measures by the Government. BPL has had to adapt the normal process of consultation in accordance with these measures. Nevertheless there is evidence that BPL has consulted over a period of time with local interest groups which will help inform the proposals going forward. It is helpful that the proposals are in outline only (with the major details subject to future applications), and also that the principle of the acceptability of the site for housing is established in the Harrogate Local Plan. As outlined above the HLP was examined in public in January and February 2019 following several rounds of public consultation. On days set aside to discuss housing in Harrogate, local groups exercised their right to outline concerns and, in some cases, opposition to the plans. Ultimately the objections did not lead to deletion of H51 from the plan but they did lead to a major modification which was to require development to the South West of Harrogate to be accompanied by a Parameters Plan which would set a coherent framework across the various allocations. This plan is being prepared in parallel to this planning application.

BANKS ENGAGEMENT WITH LOCAL COMMUNITY

6.4 When it became clear in 2017 that BPL had a series of applications to pursue in the area around Castle Hill Farm, the company selected a specialist Community Relations Manager from the in-house team to engage with the local community, local amenity groups and local residents. Prior to submission of the first application for 130 dwellings drop in sessions were held for local people. Later when Stonebridge Homes brought forward their reserved matters application there was further communication with local residents.

6.5 On 18 December 2019 a meeting was held between the BPL Castle Hill West project team and the Harlow Hill Pannal Ash Residents' Association members for a further update which was intended to be one of several prior to the outbreak of Corona Virus. Email correspondence between the company and HAPARA has carried on since then to ensure we maintain a dialogue, including a video conference on 5 May 2020.

6.6 To coincide with submission of the planning application BPL is writing to around 100 households near the proposed development explaining the Castle Hill West proposals

and likely timescales, offering contact via email with project team members to discuss the development. An online consultation will also be carried out on a dedicated project web page www.banksgroup.co.uk/castlehillwest. The responses and feedback will be captured in an SCI update to be issued in the coming weeks.

6.7 Appendix 2 includes material prepared to publicise the consultation including:

- Press Release
- On-line material

ISSUES RAISED TO DATE

6.8 The main issues raised by consultees so far have been;

- Traffic impacts
- Need for a comprehensive master planning approach
- Need for additional school places
- Access to other services and amenities
- Footpaths & cycle ways

6.9 Having gathered feedback from all attendees at the drop in sessions, the project team carefully assessed the various points raised, in order to identify solutions and consider mitigation where appropriate. Discussions will continue with local people throughout the planning process.

Traffic Impacts

6.10 Concerns have been raised about the capacity of the local road network to accommodate additional traffic from this and other allocated sites. The TA at Appendix 10 has looked at this in detail and concluded that in combination with the other development pressure will be put on three junctions which may be addressed by road improvements the cost of which could be met by the developments on a pro-rata basis.

6.11 Efforts will be made to encourage residents onto more sustainable modes of transport with a Travel Plan, public transport enhancements and improvements to pedestrian and cyclist links.

Masterplan

6.12 Following the requirement to prepare a parameter plan across several allocated sites in the Local Plan, BPL has worked with the local councils, Gladman Developments and Anwyl Homes to agree an integrated approach to development in this sector of the town, particularly with regards to public transport, highways assessment, education provision and green infrastructure.

School

6.13 Concerns have been raised over a period of years that the local schools are becoming full and that further development will not be possible to accommodate without a new primary school in the area. This application proposes to deal with this by providing land

for a new school close to the access of the site which would facilitate early delivery. North Yorkshire County Council would be responsible for delivery of the school but they would collect substantial financial contributions from the housing developments to pay for this.

CONCLUSIONS

6.14 Public engagement on this development should be seen as part of a longer process stretching back through the Harrogate Local Plan consultation and examination in public.

6.15 Public engagement for Castle Hill West outline application has been a challenge during a period of enforced social distancing. Nevertheless BPL have built on relationships already established in the local neighbourhood to draft outline proposals which address concerns raised. This includes engaging with all residents who took part in the drop in sessions for the Castle Hill East scheme, extended dialogue with members of HAPARA, and BPL has contacted all local properties via a posted leaflet and offered residents the opportunity to engage with the proposals via email.

6.16 The views of local people have been collated and reviewed and wherever possible, have influenced the design and other elements of the scheme and therefore have contributed to our proposals for Castle Hill West.

6.17 Dialogue with local people will continue throughout the planning application process. With the proposed layout being indicative only, there will be further opportunities for local people to influence the detailed design and other key elements of the development through any future reserved matters application.

7. DESIGN AND ACCESS STATEMENT

INTRODUCTION

7.1 A Design and Access Statement (DAS) has been prepared and is included in Appendix 1. The statement provides an analysis of the site and its context, a review of the key design principles and concepts that have been applied to the proposal, in particular the amount, layout, scale, landscaping and appearance of the development.

7.2 The DAS demonstrates that careful consideration has been given to all aspects of the proposals and how the site has been influenced by the local context and will integrate into the surrounding area. The design philosophy was informed by local context, landscape characteristics, consultation with neighbours, and the intended end-users of the development.

7.3 The DAS contains numerous drawings. The following drawings form part of the main application drawings:

- Indicative Masterplan (PA10);
- Green Infrastructure Plan (PA12);

Purpose of Statement

7.4 The DAS has been prepared in accordance with the Town and Country Planning (Development Management Procedure) (England) Order 2015 (”the DMPO”), which sets out the requirement for certain planning applications to be accompanied by a Design and Access Statement.

7.5 The DMPO further confirms that the role of the Design and Access Statement is to illustrate the design process which has guided the development, in particular to demonstrate the steps taken to appraise the context of the development and how the design takes that context into account. This approach is endorsed by the National Planning Policy Framework (NPPF).

7.6 This statement follows the detailed requirements of the DMPO, which states that a design and access statement must:

- explain the design principles and concepts that have been applied to the development
- demonstrate the steps taken to appraise the context of the development and how the design of the development takes that context into account;
- explain the policy adopted as to access, and how policies relating to access in relevant local development documents have been taken into account;
- state what, if any, consultation has been undertaken on issues relating to access to the d development and what account has been taken of the outcome of any such consultation; and
- explain how any specific issues, which might affect access to the development have been addressed.”

ASSESSMENT

Site Description and Context

7.7 The DAS contains an overview assessment of the following aspects of the site and its context:

- Location
- Land use
- Topography
- Public access
- Road access
- Neighbouring land uses and proposals
- Landscape features and designations

7.8 The DAS contains a summary of the findings of the Landscape and Visual Impact Assessment (Chapter 10 of this ES) and demonstrates that these findings have been taken into account when formulating the site design.

7.9 In particular it acknowledges the sensitivity of the Crimple Valley Special Landscape Area and the need to meet the following criteria:

- Avoid significant loss of key characteristics that contribute to the quality of the Special Landscape Area and the setting of Harrogate
- Ensure that development proposals are linked to existing settlements and are designed to enhance the appearance of the urban edge and its integration with the countryside.

7.10 The DAS analyses the current movement of people around the site and the location of local facilities including public transport. This informs the design proposals for roads and paths to enhance connectivity.

Surrounding Built Form Context

7.11 In order to establish an appropriate suburban semi-rural character for the proposed development an analysis of the key characteristics of the existing built form context has been carried out.

7.12 Photographs are presented showing housing at Goodrick Close, Beckwith Road and Brinklow Way with notes on materials and architectural and landscape features.

EVALUATION

Opportunities and Constraints

7.13 Following a detailed assessment of the site and its surrounding context and information gained through stakeholder consultation, a number of opportunities and constraints

have been identified. These are outlined in the Opportunities and Constraints Plan opposite and have formed the basis for the design concepts for the site.

Table 7.1: Opportunities and Constraints	
Opportunities	**Constraints**
Provide active frontages onto Whinney Lane	Potential noise deriving from Whinney Lane
Provide rear to rear properties to create defensible boundaries	Residential amenity of neighbouring properties must be protected (Min. 21m separation distance for rear to rear properties
Enhance the landscape structure and improve access to areas of public open space	Retain existing trees where possible
Orientate buildings to maximise views across the countryside to the southwest	Direction of gentle slope
Provide future connectivity (including bus transport) to future neighbouring development to the west	Clark Beck runs through the site

INVOLVEMENT

The Consultation Process

7.14 The consultation process has included ongoing dialogue with planners at district and county level. At a local level, discussions have taken place with local residents. The extent of consultation has recently been affected by the recent Covid-19 pandemic.

Evolution of the Masterplan

7.15 Pegasus have worked on the concept of this design since 2016. Initial work included a high level framework followed by a relatively detailed indicative layout. Key changes have been made to the layout of the proposed development as the project has evolved. These have responded to the opportunities and constraints analysis, constraints identified within technical surveys, and discussions with Council officers and various statutory and non-statutory consultees, stakeholders and interested parties. Various early stage options and concept plans were tested before developing and refining the indicative masterplan.

7.16 The progress from concept plan to indicative design proposals has included the following key changes:

- Increased efficiency in relation to the density of development across the site;
- Sustainable Drainage Systems in the proposed open space;
- Consideration of Key Views;
- Alignment of road between the two main development parcels; and
- Inclusion of a new primary school in northern part of the site.

DESIGN PRINCIPLES

7.17 The design principles for the site have been developed in response to the site assessment and are guided by definitions contained within NPPF and Planning Practice Guidance.

Accessibility

7.18 *"The ability to move safely, conveniently and efficiently to and within a place will have a great influence on how successful it is. The experience for all users, whatever their mobility or mode of transport are important"*

- Creation of convenient, safe and direct access for all residents to local facilities, play areas and dwellings;
- Provision of an efficient vehicular access point into the site from Whinney Lane;
- Design of a permeable network of streets that create legible routes for vehicles, cyclists and pedestrians alike;
- Creation of a clear movement hierarchy providing easily recognisable routes, which balance the street as a space, alongside its function as a movement corridor;
- Maintain a human dimension in terms of scale to the built form for ease of orientation.

Provision of Amenity Space

7.19 *"Public spaces are available for everyone to see, use, enjoy. They help bring neighbourhoods together, and provide space for social activities and civic life"*

- Creation of legible links through the site to the areas of open space;
- Public spaces to provide opportunities for children's play and social activity;
- Properties fronting onto open spaces and green links providing surveillance and a sense of security;
- Provision of private amenity space for all new residents; and
- Open space provides links and corridors to enhance biodiversity within the locality

Respond To Context

7.20 *"Development should seek to promote character in townscape and landscape by responding to and reinforcing locally distinctive patterns of development, local man-made and natural heritage and culture, while not preventing or discouraging appropriate innovation"*

- Opportunity to establish a new distinctive identity to the development, whilst relating to the existing context;

- Integration of the proposed development into the existing built form fabric of Harrogate in relation to scale, height and massing;

- Respond to key visual receptors in the locality through the consideration of views in and out of the site;

- Providing architecture that reflects the local vernacular.

Efficient Use of Resources

7.21 *"Planning should support the transition to a low carbon future in a changing climate"*

- Encouraging walking, cycling and public transport use rather than the use of the private car, thereby reducing the reliance on natural resources;

- Use of energy efficient building techniques;

- Provision of a range of house types, tenure and sizes in order to cater for choice and a variety of households;

- Provision of surface water management systems (SuDS) as part of the site's water management strategy.

Quality of Public Realm

7.22 *"Designs should ensure that new and existing buildings relate well to each other, that streets are connected, and spaces complement one another"*

- Provision of a clear hierarchy of connected spaces and places including streets, accessible by a variety of users, and which consider the design of the space as well as its function as a movement corridor;

- Enhancement of retained features and habitats and integration with the creation of new habitats and landscape features;

- Creation of a clearly defined public realm through the provision of strong building frontage lines and variations in enclosure of private spaces;

- Control of access to private areas.

DESIGN PROPOSALS

Proposed Indicative Masterplan

7.23 The indicative masterplan shows how the identified design principles can be achieved. Detailed matters including scale, appearance, landscaping and layout are reserved for future consideration at reserved matters stage, but the design proposals set out in this section demonstrate how the scheme is intended to look and function.

7.24 The layout proposed in the indicative masterplan opposite indicates how new homes could be distributed across the site. It is proposed that 40% of the new dwellings will be affordable. The new primary school will be located within the northern part of the site.

7.25 The main vehicular access is from a proposed roundabout along Whinney Lane at the eastern boundary of the site. The site is located relatively close to bus stops on Pannal Ash Road serving the settlement centre and surrounding towns. The new roundabout and main route through the site have been designed to allow for future bus transport which will improve connectivity to neighbouring developments to the west of this site.

7.26 The indicative housing layout is designed to create a community with a sensitive relationship to the town edge and surrounding countryside setting. It also applies a clear hierarchy of streets that will be safe and easily-navigated. The layout provides a range of dwelling sizes, types and tenures arranged around feature spaces, offering a choice of lifestyles to future buyers.

7.27 The proposal retains existing field boundary hedgerows, trees and other vegetation wherever possible, forming the basis for green infrastructure connections across the site.

7.28 A row of hedgerow is proposed for removal in the northern part of the site. This hedgerow is to be replaced as a new green barrier between the residential development and the new primary school. The reasoning behind the removal was to create logical forms of development.

7.29 The central and southern parts of the site are designed to become a multi-functional public greenspaces which would provide play and recreational opportunities for future residents and the local community, as well as incorporating attenuation basins for SuDS. This has also contributed to the provision of considerable biodiversity benefits through habitat retention, creation and enhancement.

Development Framework

7.30 The development framework represents the basic structuring of components for the development. The framework is broken down into the following elements/matters, which have informed the development of the illustrative masterplan. These are elaborated on in the following pages.

7.31 Existing Features - Identifying the existing components on site to develop a suitable solution to the constraints and work with the opportunities that exist in the site's boundary and surroundings.

7.32 Movement & Access - This covers accessibility to and within the site for vehicles, cyclists and pedestrians in terms of positioning and treatment of access and circulation routes and how these fit into the surrounding access network. Active street scenes will be created with the intention that the layout is not based solely on roads, but creates a development that is suited to the intended users' needs.

7.33 Use & Amount - How much development is proposed? For residential development, this means the number of proposed units for residential use and for all other development, this means the proposed floor space for each proposed use.

7.34 Layout - The way in which buildings, routes and open spaces are provided within the development and their relationship to buildings and spaces outside the development.

7.35 Scale/Density - The scale and density of buildings proposed, including why particular heights have been settled upon, and how these relate to the site's surroundings and any sensitive skylines.

7.36 Appearance - The aspects of a building or place which determine the visual impression it makes.

7.37 Green Infrastructure and Landscaping – Providing a 'green' network across the development to create public open space, SuDS, pedestrian routes and recreational areas. Also the treatment of private and public space to enhance or protect the site's amenity through hard or soft measures, for example screening by planting trees or hedges or by constructing fences or walls.

Transport and Vehicle Access

7.38 Access to the site will be provided via a single point off the new roundabout junction on Whinney Lane. The internal layout provides internal loops for emergency purposes as well as future connectivity to the surrounding field network to facilitate further potential growth in the local area.

Parking Provision

7.39 Car and cycle parking will be provided in line with the standards which are in place at the time of the Reserved Matters planning application. During the preparation of the indicative layout, due consideration has been given to the current standards.

7.40 The illustrative masterplan can incorporate the correct amenity space for each dwelling, including garden size and car parking. Each dwelling will have at least one parking space, with some of the detached dwellings having a single or double shared garage as well as integral garages.

Access and Movement Strategy

7.41 The site is well connected to local facilities including public transport and is within walking and cycling distance of key services including schools, leisure and health services.

7.42 The indicative movement and access plan opposite shows the proposed structure of the development. A well-connected movement network, accessible by all users is proposed which helps ensure that all areas of the development are easy to navigate, safe and secure.

7.43 The new roundabout and main vehicle route through the site are capable of accommodating bus transport to allow future connections to the neighbouring developments.

7.44 The movement hierarchy clearly defines the main routes and helps achieve a permeable layout. The proposed street types vary in their movement and place function within the hierarchy.

Ecology

7.45 The DAS takes into account recommendations in the ecology assessment (chapter 9) that:

- Areas of species-rich grassland habitat could be created on site boundaries and within greenspace particularly where nutrient poor subsoils from any excavation activities can be utilised.

- Wherever possible hedgerows and associated mature trees are retained and managed to promote their ecological value.

- If the removal of a section of hedgerow is required to enable access, then compensation could potentially be achieved by planting up any gaps within the existing hedgerow or planting of new hedgerow within the site.

- It is recommended that a buffer of at least 3m between construction activities and retained hedgerows is incorporated into the design. Where mature trees are present as part of the hedgerows this may need to be increased accordingly to take account of the relevant root protection area for the tree.

- Enhancement of hedgerows could also be achieved through management.

- Mature trees to be retained within the proposed development where possible.

- Small watercourse to be retained and protected during construction and that the development layout incorporates a buffer to this feature. The stream could for example be incorporated into a Sustainable Urban Drainage Scheme and its biodiversity value enhanced by appropriate management and native planting

Urban Grain

7.46 The development forms an extension from the existing edge of Pannal Ash in Harrogate. The approval of the adjacent site and wider master planning of the area will produce a cohesive and sensitively considered development at this edge of the existing settlement.

Built Form, Scale & Appearance

7.47 The illustrative masterplan shows the position of land uses and the proposed structure of the development. Streets are defined by the building layout, housing frontage and built form, so that buildings rather than roads dominate. Lower density housing is situated to the central and southern parts of the development.

7.48 Open space is located along the southern, south eastern boundaries as well as at the central part of the site. Small incidental areas of green space are also included throughout.

Example Character Areas

7.49 The two character areas identified on the adjacent plan and sketches opposite aim to create distinctive spaces within the development.

- Character Area 1 – Grass verges and street trees along primary routes assist in enhancing the street scene by softening the appearance of built form.

- Character Area 2 – Development facing over areas of public open space providing positive and attractive outlooks and natural surveillance.

7.50 The indicative masterplan is designed to create spaces with a strong sense of place, with larger properties set on key corners to create way markers.

7.51 The site will be clearly legible to residents and visitors with key internal road crossing points differentiated by contrasting materials to the macadam carriageway.

7.52 Street tree planting and in some areas ground cover planting will create continuity and enclosure.

Materials

7.53 A materials analysis and local character assessment will drive the development to suitably fit within the local vernacular.

7.54 The materials palette within Harrogate is diverse and consists of red/buff brick and grey slate or red tile roofs. Mock Tudor features are also included throughout the settlement.

7.55 The specification of materials used for this development will be a matter to be dealt with through the course of a reserved matters application or by a suitably worded condition, however it is envisaged that the proposed dwellings will be constructed of red or buff brick and grey/red tile with rendered sections and traditional roof pitches.

Green Infrastructure & Landscape Strategy

7.56 The DAS reproduces the Green Infrastructure Plan (drawing PA12) and reiterates its aims regarding:

- Retaining existing trees and hedgerow
- New native tree planting south and east of the school and to boundaries of the site
- New native tree planting within residential scheme to provide filtered screening of properties when viewed from the south
- Proposed native scrub planting to reinforce the north-western boundary
- Species rich grassland with native trees primarily located along the peripheries
- Native wetland planting associated with SuDS
- New species rich hedgerow to tie in with existing planting and dry stone wall
- Existing culvert to be opened and pond area created and planted with aquatic planting to improve health of the ditch running centrally through the site
- Existing dry stone wall to be repaired and an opening created for the new pedestrian route

BUILDING FOR LIFE

Resource Efficiency and Adaptability

7.57 The new development should be flexible enough to respond to future changes in use, lifestyle and demography. This means designing for resource efficiency, creating flexibility in the use of property, public spaces and service infrastructure and introducing new approaches to transportation, traffic management and parking.

7.58 The development should be flexible to accommodate changes of use and circumstances through changing social, technological and economic conditions.

Building for Life 12 Assessment

7.59 The DAS includes a table assessing the proposals against the Building for Life 12 questions as follows:

Table 7.2: Building for Life 12 Assessment

Integrating into the Neighbourhood		Score
1 Connections	Does the scheme integrate into its surroundings by reinforcing existing connections and creating new ones, while also respecting existing buildings and land uses around the development site? • Creates connections through the site. • Properties integrating into existing urban grain. • Good separation and relationship to adjacent houses.	Green
2 Facilities and Services	Does the development provide (or is it close to) community facilities, such as shops, schools, workplaces, parks, play areas, pubs or cafes? • There are some facilities similar to the above that are in close proximity to the proposed development, including schools, leisure centres, post office and a pub.	Amber
3 Public Transport	Does the scheme have good access to public transport to help reduce car dependency? • There are bus stops within approximately 500m radius of the site linking future residents to the centre of Harrogate	Amber
4 Meeting Local Housing Requirements	Does the development have a mix of housing types and tenures that suit local requirements? • A wide range of house types are proposed, from 2 to 4 bed terraced, semi-detached and detached houses. • A mixture of private and affordable properties and all are fully integrated and designed to be tenure blind to create a broad-based community	Green
5 Character	Does the scheme create a place with a locally inspired or otherwise distinctive character? • Proposed housing and its amount will be enough to create its own identity. • The proposed scale, form, massing and materials of the new dwellings responds to the local character.	Green
6 Working with the site and its context	Does the scheme take advantage of existing topography, landscape features (including water courses), trees and plants, wildlife habitats, existing buildings, site orientation and micro-climate? • The dwellings will respond to the existing urban grain of local housing, creating a development that fits in with the area and includes active street frontages. • The scheme will retain the majority of the existing hedgerows and boundary	Green

	vegetation, creating a development which reflects the character of the area.	
7 Creating well defined streets and spaces	Are buildings designed and positioned with landscaping to define and enhance streets and spaces and are buildings designed to turn street corners well? • The location and orientation of dwellings creates well-defined streets with the use of dual aspect designs to turn corners and give presence to both streets. • 'Gateway' buildings and focal buildings / vista-stops also help define and frame the spaces. • The built form is enhanced with high quality landscaping with proposed tree planting, used to define the semi-private spaces to garden frontages and to define specific character areas.	Green
8 Easy to find your way around	Is the scheme designed to make it easy to find your way around? • The proposed roads on the site connect to Whinney Lane, with good permeability and connections to the surrounding area for pedestrians and cyclists. • The landscape is designed to be continuous to create a comprehensive character and development.	Green
9 Streets for all	Are streets designed in a way that encourages low vehicle speeds and allow them to function as social spaces? • There is a clear hierarchy of the street design, with a main primary road through the site, branching off to shared surface scenarios and private drives.	Green
10 Car parking	Is resident and visitor parking sufficient and well integrated so that it does not dominate the street? • Each property has a minimum of 1-2 spaces each, typically 'in-curtilage', with some on street allocated visitor parking and all relating well to the property they serve. • 25% Visitor parking has been allowed for on shared surface roads and on-street parking .	Green
11 Public and private access	Will public and private spaces be clearly defined and designed to be attractive, well managed and safe? • Each street will have overlooking plots, creating safe and secure street scenes. • Green frontage has been designed at the site access. Public open space is to be a focal point of the development, retaining some existing trees. The open space will be maintained by a management company or the local authority.	Green

12 External storage and amenity space	Is there adequate external storage space for bins and recycling, as well as vehicles and cycles? • All properties have secure rear garden space, which give the space for refuse storage and allow a storage shed which are optional to the resident. Some of the properties have either external or integral garages.	Green
TOTAL SCORE		**10 / 2 / 0**

7.60 The DAS concludes that the initial assessment of the scheme is achieving 10 'green lights' and shows that the development has taken account of all the questions posed by the Building for Life Assessment. The designers believe that by virtue of its considered design, the development should be 'a good place to live.'

Crime Prevention

7.61 The design proposals are based on an understanding of best practice and reference has been made to relevant documents including "Safer places: the Planning System" and "Manual for Streets". The development is designed to create an environment that is well designed, attractive, clearly defined and well maintained. People should be able to take pride in their surroundings and feel comfortable and safe and have a sense of shared ownership and responsibility. The development is clearly defined with no ambiguity as to which areas are private, which are public, and how the two relate to one another. The development has followed the following principles:

- Routes lead directly to where people want to go;
- All routes are necessary, serving a defined function;
- The majority of cars are marked in the curtilage of homes to provide optimum surveillance. Visitor on-street parking have natural surveillance;
- Natural surveillance is promoted by ensuring the street and open spaces are overlooked and well used; and
- Ownerships and responsibilities for external spaces will be clearly identified and the proposals will facilitate ease of maintenance and management

7.62 Landscape design is essential to achieve an environment that creates a sense of place and community identity. Landscape design in this context encompasses the planning, design and management of external spaces. Well-designed public lighting increases the opportunity for surveillance at night and sends out positive messages about the management of an area.

7.63 Natural surveillance in the form of doors and windows overlooking streets and pedestrian routes and therefore creating activity throughout the day and evening will be essential in creating safe and comfortable routes for the user and discourage criminal activity by increasing the risk of detection.

SUMMARY

7.64 Banks Property is applying to Harrogate Borough Council for Outline Planning Permission for a residential development of up to 270 homes, a new primary school and strategic green space infrastructure, to create a high quality and sustainable development.

7.65 The indicative scheme layout has been carefully developed to ensure that the proposed development responds to the site context and opportunities and constraints as set out within this Design and Access Statement.

7.66 The site is considered to be suitable and sustainable for residential development that can utilise existing infrastructure in the area.

7.67 The development proposals will achieve:

- The creation of an integrated community with a sensitive relationship to the existing settlement edge of Harrogate and countryside setting;
- The retention and creation of pedestrian connections through the development that link the existing settlement with the wider village and countryside;
- The provision of a development that is well connected, readily understood and easily navigated, promoted through a layout that is efficient, safe and user-friendly;
- The creation of a strong landscape and open space structure;
- Provision of a range of dwelling sizes, types and tenures that offer an accessible and acceptable choice of lifestyles; and
- Promotion of the objectives of sustainable development through layout and design.

8. ENVIRONMENTAL STATEMENT

8.1 The applicant has elected to treat this planning application as EIA development to be subject to Environmental Impact Assessment. The neighbouring land is already the subject of an EIA planning application and was also the subject of a scoping opinion from Harrogate Borough Council. This scoping opinion has helped inform the scope of the Environmental Statement for Castle Hill West.

ALTERNATIVES TO THE DEVELOPMENT PLANNED

8.2 The following alternatives to the proposed development have been considered in preparation of the planning application.

- No development scenario
- Develop elsewhere in Harrogate
- All-housing development i.e. no school
- Inclusion of employment uses on site

No Development Scenario

8.3 The provision of housing and employment development has been proposed by Harrogate Borough Council on the wider site of which the application forms a part. Failure to bring the land forward for these uses during the plan period would lead to a shortfall in provision which would have negative economic and social consequences for the borough, particularly because the site is in such a strategic location adjacent to the existing town, capable of utilising existing infrastructure and facilities whilst enhancing those in the course of development. The Local Plan enables a co-ordinated approach to developing in this area rather than a piecemeal approach.

Develop elsewhere in Harrogate District

8.4 The Local Plan makes provision for new housing in settlements across the borough including a large new settlement in open countryside. Limited areas have been protected from new development because they are designated either Area of Outstanding Natural Beauty or Green Belt. One of the three main towns in the Borough is Ripon which suffers from ground conditions which can constrain development. Harrogate is the principal town with the best connections to the main regional employment area of Leeds. Whilst other parts of the borough will contribute to development needs the main town will continue to be the main focus to provide for future needs as long as that can be done in an environmentally acceptable manner.

All-housing development i.e. no school

8.5 The cumulative provision of new housing in the west of Harrogate leads to the need for new primary education. It has been stated by the County Council that there should be separate primary provision north and south of Otley Road to avoid that road becoming a major hazardous barrier for children who walk to school. This situation still enables a range of choices for location of a school south of Otley Road including Blue Cote Farm (H46). However the school has to be sited somewhere and the northern end of the application site would have several benefits for a school site including topography and accessibility. Developing the site without a school being secured would

lead to considerable uncertainty over future access to school places with short-term pressure on existing primary schools. The inclusion of a school would have benefits in terms of place making because it would establish the new housing as a sustainable community.

Inclusion of employment uses on site

8.6 Policy H51 of the Local Plan identifies the need for the land to provide 3.28 hectares of employment land as well as housing. The driver for this is the proximity of Cardale Business Park to the north. Since preparation of the plan some of the land on the west, along Beckwith Head Road has already been approved for uses which broadly conform to employment. In their planning application Gladman have proposed a further area of land for employment which borders the business park. It is therefore considered that the need for employment uses will be met elsewhere within the allocation and that those locations are best given their context. The application site would be much less suitable for office development.

Conclusions on Alternatives

8.7 This section of the Environmental Statement demonstrates the alternatives which been considered, as part of the Local Plan preparation and since then as part of the master planning of the development. The consideration of alternatives has strengthened the rationale for the form of development proposed to ensure that it meets established community needs in a well-planned environment.

9. BIODIVERSITY

INTRODUCTION

9.1 Consultants BSG have provided this chapter of the Environmental Statement. It should be read in conjunction with Appendices 4 and 5.

9.2 This chapter of the Environmental Statement (ES) assesses the potential impacts of the development on the environment in respect of biodiversity. It is structured so that the relevant legislation, policy and guidance is initially described to provide the framework for the subsequent analysis. The Chapter then presents the methods that have been followed, and provides a review of the baseline conditions within the Site and the surrounding area. The results of the assessment of the effects of the development on relevant ecological interest features are then presented, and the chapter considers the anticipated magnitude and significance of these effects.

9.3 Measures are provided that are designed to avoid and minimise (mitigate) the effects of the Development during the construction and operational phases in line with national planning guidance and the provisions of relevant wildlife legislation. Given the National Planning Policy Framework, the emerging Harrogate Borough Council planning policy and the draft Environment Bill contents in relation to biodiversity net gain, a net gain assessment has been undertaken for the Development which calculates the pre-and post-development baselines in biodiversity unit terms using the Defra Biodiversity Metric 2.0. Measures are also included that will provide biodiversity enhancement.

Definitions

Site and Study Area

9.4 In this Chapter reference to the application site area is made using the terminology the “Site” and reference to the planning application proposals is made using the terminology the “Development”. The extent of the Site is shown on drawing PA02.

9.5 The study area is the area that has been covered by the desk study and/or by the ecological surveys. The extent of the ecological survey area reflects the anticipated Zone of Influence of the Development, which also varies depending upon the ecological feature (species, habitat or designated site) that is being considered.

Zone of Influence (ZoI)

9.6 Good practice industry guidance in relation to the process of ecological impact assessment (CIEEM, 2018) notes that activities will differ throughout the lifetime of a project and therefore it is important to define those associated with the different phases, e.g. construction and operation. The Zones of Influence have been identified on the basis that they encompass the areas/interest features that may be affected by the biophysical changes caused by activities associated with the Development during the different phases.

9.7 When defining a Zone of Influence it is important that it considers all relevant impacts and effects arising from activities associated with the Development. Impacts are defined as the changes resulting from an action, and effects are defined as the consequences of impacts. The Zones of Influence adopted in this assessment are described in the methodology section.

Incorporated mitigation

9.8 These are mitigation measures that have been incorporated into the Development proposals. This includes minor adjustments to the development footprint and replacement of anticipated habitat losses as part of the design process such as hedgerow. Incorporated mitigation also includes best practice measures to be adopted during the construction or operational phases such as avoidance of the breeding bird season.

Additional mitigation

9.9 Additional mitigation comprises mitigation measures that avoid or reduce the negative effects of the Development in addition to the incorporated mitigation measures. This section of the chapter also includes compensation, biodiversity net gain and enhancement measures.

Site overview

9.10 The Site occupies an area of land of approximately 12.68 ha centred at Ordnance Survey grid reference SE 2891 5281. The Site is situated to the south-west of Harrogate in North Yorkshire. The Site includes a series of fields of improved grassland. Hedgerows and stone walls are present on several of the field boundaries. A small watercourse is present in the southern part of the Site that extends from the eastern boundary into the Site. Scattered mature trees are present on the majority of field boundaries. A barn is present on the western boundary.

9.11 Whinney Lane forms the south-eastern boundary of the Site; Lady Lane runs along the south-west boundary of the Site. Residential housing lies to the north-east, agricultural pasture fields lie to the west, north, east and south of the Site. A Public Right of Way is present along the northern boundary of the Site.

9.12 The application is for a Development of "*outline planning permission for 270 dwellings and a new school with associated roads, parking, landscaping, drainage and open space*".

About the Author

9.13 This chapter has been prepared by Katy Stiles BSc (Hons) MCIEEM, a Principal Ecologist at BSG Ecology with over 18 years' experience in ecology and nature conservation, including the preparation of Ecological Impact Assessments (EcIA) for a range of commercial and residential developments in the UK. This report has been technically reviewed by Kirsty Kirkham MCIEEM, Director at BSG Ecology. Kirsty has worked in the sector since 1993 with one of her specialist areas being EcIA.

POLICY CONTEXT

9.14 Relevant national planning policy, national government guidance and wildlife legislation that are considered to be applicable to the Development are set out in Appendix 5.1: Relevant Planning Policy and Wildlife Legislation.

9.15 The policies all broadly state that developments should aim to maintain/conserve features of nature conservation interest, and that where ecological impacts are identified, development may not be permitted without mitigation or compensation for the loss of nature conservation interest. These policies do not, however, explicitly state at what level an impact should be considered to be significant. For the purposes of this

assessment, the approach taken has been to ensure that the Development broadly accords with the policies identified and also identifies where a policy response may be triggered due to the value of the feature and the nature and extent of the impact upon it.

9.16 A summary list of the key relevant national legislation and national and local planning policy considerations are shown in the following:

Legislation

- EU Birds and Habitats Directives
- Wildlife and Countryside Act 1981 (as amended)
- Countryside and Rights of Way Act 2000 (CROW Act)
- Natural Environment and Rural Communities Act 2006 (NERC Act)
- Conservation of Habitats and Species Regulations 2017 (as amended).

National planning policy

- National Planning Policy Framework (2019)
- ODPM Government Circular 06/2005
- Biodiversity 2020: A strategy for England's wildlife and ecosystem services.

Local planning policy

- Harrogate District Local Plan: Publication Draft 2018 Policies NE3 Protecting the Natural Environment, NE4 Landscape Character and NE5 Green Infrastructure and NE7 Trees and Woodland.
- Harrogate District Local Biodiversity Action Plan adopted December 2012.

Biodiversity net gain

9.17 Existing Government policy for England on biodiversity net gain is set out in Paragraph 170 of the National Planning Policy Framework (NPPF) (MHCLG, 2019). This states that:

"*Planning policies and decisions should contribute to and enhance the natural and local environment by... minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures…*"

9.18 Government signalled its intention to make biodiversity net gain mandatory in England in the Queen's Speech of December 2019 that referred to the introduction of the Environment Bill (the readings of the Bill have currently paused in its passage through the Houses of Parliament). The speech stated that one of its elements would be:

"Protecting nature by mandating 'biodiversity net gain' into the planning system, ensuring new houses aren't built at the expense of nature and delivering thriving natural spaces for communities."

9.19 Biodiversity net gain is also referred to in Policy NE3 Protecting the Natural Environment of the Harrogate District Local Plan.

METHODOLOGY

Sources of information & guidance

9.20 Industry standard guidance has been developed for surveys of the habitats and species that are present or have the potential to be present within the Development site. Guidance documents that have been referred to when undertaking the field work that has informed the ecological baseline are as follows:

- JNCC (2010). 'Handbook for Phase 1 habitat survey - a technique for environmental audit' published by JNCC, Peterborough
- Defra (2019). The Biodiversity Metric 2.0 auditing and accounting for biodiversity, Technical Supplement.
- Harris S, Cresswell P and Jefferies D (1989). Surveying Badgers. Mammal Society
- Collins (Ed) (2016). 'Bat Surveys for Professional Ecologists – Good practice Guidelines', 3rd Edition, published by the Bat Conservation Trust

9.21 The Ecological Impact Assessment (EcIA) has been carried out with reference to guidance published by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2018): 'Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine'.

Consultation & Liaison

9.22 A pre-application enquiry was submitted by Banks Property Ltd to Harrogate Borough Council on 3 July 2019.

9.23 There has not been any other formal or informal consultation with statutory or non-statutory organisations.

Desk Study

9.24 A desk study has been undertaken informed by various data sources including data obtained from Defra's Multi-Agency Geographic Information for the Countryside (MAGIC) internet-based database (www.magic.gov.uk, accessed 09 September 2019 and subsequently 07 April 2020) to establish the location and nature of any Local Nature Reserves (LNRs), Sites of Special Scientific Interest (SSSIs), Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar sites within 5 km of the Site.

9.25 MAGIC was also used to derive information relating to the location of Impact Risk Zones, European protected species licences that have previously been granted within 2 km of the Site, and priority habitats including ancient woodland.

9.26 The North & East Yorkshire Ecological Data Centre (NEYDEC) was contacted to obtain records of non-statutory sites, protected species and habitats within a 2 km radius of the Site.

9.27 Aerial photographs and 1:25,000 Ordnance Survey maps were reviewed to characterise the habitats present within and surrounding the Site, to evaluate the ecological context of the Site within the surrounding landscape, and to identify ponds within 500 m.

Field Survey

9.28 The Site was subject to ecological survey work in 2017 and 2019 (BSG Ecology). Survey work has been devised and carried out with reference to standard methods and guidance where possible, appropriate and relevant, according to the habitat or species / species group. This includes the following work:

- Extended Phase 1 habitat survey, which included an assessment of the habitats suitability to support protected species (including reptiles, water vole *Arvicola amphibius*, otter *Lutra lutra* and white-clawed crayfish *Austropotamobius pallipes*) and other species of conservation importance.
- Badger *Meles meles* survey.
- Breeding birds survey.
- Bat activity surveys.
- Remote static bat detector surveys.
- Dusk emergence bat surveys.
- Invasive species survey (including Japanese knotweed *Fallopia japonica* and Himalayan balsam *Impatiens glandulifera*) as part of the extended Phase 1 habitat survey.

9.29 Full details of the survey methods and relevant study areas are included within the Baseline Ecology Report and Breeding Bird Report in Appendix 4 and are summarised in the following subsections.

Extended Phase 1 Habitat Survey

9.30 An extended Phase 1 habitat survey was undertaken on 7 April 2017 and 20 June 2019. A Site walkover was completed and the habitats present were described using Phase 1 Habitat Survey methodology (JNCC, 2010).

9.31 As part of the extended component of the Phase 1 habitat survey, the habitats present were evaluated to determine their suitability to support protected species and other species of conservation importance. This included reptiles, amphibians, otter, water vole and white-clawed crayfish.

9.32 During the Phase 1 habitat survey and subsequent visits, a record was made of any invasive non-native species that were present.

Badger Survey

9.33 A badger survey was undertaken during the extended Phase 1 habitat survey in 2017 and 2019. During subsequent site visits, evidence of badger was searched for on each occasion.

Breeding Birds Survey

9.34 A breeding bird characterisation survey was undertaken in April, May and June 2017. The survey visits followed the methodology set out within the Common Bird Census technique (Gilbert et al, 1998).

Bat Activity Surveys

9.35 Three bat transect surveys were completed in June, July and September 2019.

Remote Bat Detector Surveys

9.36 Remote (static) bat detectors were deployed across the Site in June, July and August / September 2019 to collect information on bat activity within the Site.

Dusk Emergence Bat Surveys

9.37 The barn was subject to three dusk emergence bat surveys between July and August 2019.

Ecological impact assessment methodology

Assessment Process / Criteria

9.38 The evaluation and assessment has been undertaken with reference to relevant parts of guidelines for Ecological Impact Assessment (EcIA) published by CIEEM in 2018. Although this is recognised as current industry guidance for ecological assessment, the guidance itself recognises that it is not a prescription about exactly how to undertake an EcIA; rather, CIEEM advises that the guidelines "*provide guidance to practitioners for refining their own methodologies*".

Important Ecological Features

9.39 The first step of the EcIA process is the determination of which ecological features (habitats, species, ecosystems and their functions/processes) are important. Important features should then be subject to detailed assessment if they are likely to be impacted by the Development. It is not necessary to carry out detailed assessment of features that are sufficiently widespread, unthreatened and resilient to project impacts such that there is no risk to their viability.

9.40 Ecological features can be important for a variety of reasons and the rationale used to identify them is explained below. Importance may relate, for example, to the quality or extent of designated sites or habitats, to habitat/species rarity, to the extent to which they are threatened throughout their range, or to their rate of decline.

Evaluation: Determining Importance

9.41 The importance of an ecological feature should be considered within a defined geographical context. The following frame of reference has been used in this assessment:

- International (European);
- National (England);

- Regional (Yorkshire & The Humber);
- County (North Yorkshire);
- Local (Harrogate); and
- Site.

9.42 Ecological features, including those at the Local and Site levels, may be included in the assessment taking into account the CIEEM guidance with respect to the importance and significance of those ecological features. In addition to designated sites, the CIEEM guidance (Paragraph 4.3) advises that important ecological features can include:

- Habitats and species of principal importance for the conservation of biodiversity listed on Country Biodiversity Lists (listed in accordance with Section 41 of the Natural Environment and Rural Communities Act 2006);
- Local Biodiversity Action Plan Habitats and Species; and
- Red Listed, Rare and Legally Protected Species.

The 2018 CIEEM guidance (Paragraph 5.25) advises in respect of significance that:

"*A significant effect is simply an effect that is sufficiently important to require assessment and reporting so that the decision maker is adequately informed of the environmental consequences of permitting a project. A significant effect is a positive or negative ecological effect that should be given weight in judging whether to authorise the project: it can influence whether permission is given or refused and, if given, whether the effect is important enough to warrant conditions, restrictions or further requirements such as monitoring. A significant effect does not necessarily equate to an effect so severe that consent for the project should be refused planning permission.*"

9.43 Therefore ecological features are included in the assessment where their importance fits within that set out in the CIEEM guidance, and where the significance of a predicted effect is such that the decision maker needs to be adequately informed of the ecological consequences of the Development, which may be either positive/beneficial or negative/adverse.

Impact Assessment

9.44 The impact assessment process involves:

- identifying and characterising impacts;
- incorporating measures to avoid and reduce (mitigate) these impacts;
- assessing the significance of any residual effects after mitigation;
- identifying appropriate compensation measures to address significant residual effects; and
- identifying opportunities for ecological enhancement.

9.45 It is only necessary to assess and report significant residual effects (those that remain after mitigation measures have been taken into account). However, it is good practice to make clear both the potential significant effects without mitigation and the residual significant effects following mitigation (CIEEM, 2018). This process of assessment without mitigation helps to identify necessary and relevant mitigation measures that are proportionate to the size, nature and scale of anticipated impacts.

9.46 The assessment only needs to describe those characteristics of impacts that are relevant to understanding the ecological effect and determining the significance. It should consider, as appropriate: direct, indirect, secondary and cumulative impacts and whether the impacts and their effects are short, medium, long-term, permanent, temporary, reversible, and/or irreversible.

9.47 In this chapter, positive effects are referred to as beneficial; negative effects as adverse. The assessment of impacts then takes into account the baseline conditions to describe how the baseline conditions will change as a result of a project and associated activities.

Significant Effects

9.48 The CIEEM guidance sets out information about determining ecological significance, and also how this relates to the ability to achieve biodiversity conservation objectives for a given feature.

9.49 Significant effects are qualified with reference to an appropriate geographic scale, and the scale of significance of an effect may or may not be the same as the geographic context in which the feature is considered important. For example, an ecological feature that is present within a site may be evaluated as being of Regional importance; however, the development may only have a limited impact on this interest feature and this may only be significant at the site level for example.

9.50 The nature of the identified effects on each assessed feature is characterised. This is considered, along with available research, professional judgement about the sensitivity of the feature affected and about how the impact is likely to affect a site, habitat, or population's structure and continued function. Where it is concluded that an effect would be likely to reduce the importance of an assessed feature, it is described as significant. The degree of significance of the effect takes into account the geographic context of the feature's importance and the degree to which its interest is judged to be affected.

Main Phases of the Development

9.51 The potential impacts of the Development are considered in relation to its two phases: (1) construction and (2) operational phase.

Matrix Approach

9.52 The 2018 CIEEM guidance states

"*A matrix approach is commonly used in EIA by disciplines other than ecology to assign significant residual effects to categories (e.g. major, moderate, minor). In many cases, its use is required to provide consistency across all the topics of an Environmental Statement. If using this approach, it is very important to make a clear distinction between evidence-based and value-based judgements so that decision makers and other stakeholders are aware of the level of subjective evaluation that has been used*."

9.53 In this assessment significance is determined at the appropriate geographic scale: where it is concluded that an effect would be likely to reduce the importance of an assessed feature, it is described as significant. Mitigation and/or compensation measures are applied and the residual effect is then assessed with reference to the relevant planning policies and guidance. Significance is ultimately determined with reference to planning policy, i.e. whether or not the residual effects of the development conflict with any planning policy and/or legislative requirements.

Achieving a Net Gain in Biodiversity Value

9.54 The above method based on that set out for EcIA in CIEEM (2018) aims to assess significant effects on important ecological features. The effect on biodiversity more widely, including common and widespread habitats and species is hard to assess through this method. Therefore, to reflect current Government policy in relation to securing a measurable net biodiversity gain, the Defra Biodiversity Metric 2.0 has been used as a tool to help ascertain whether the Development as a whole is likely to be compliant with government policy.

9.55 The Defra Biodiversity Metric 2.0 has been used to calculate the biodiversity value of the Site before the Development and once it has been constructed (post-development). This enables determination of whether the Development is likely to result in losses or gains in biodiversity unit terms. The metric is used to numerically quantify the value of biodiversity at any site and can form an evidence base on required mitigation for a development, the amount of residual biodiversity impact and, if necessary, to identify the amount of required compensation and what the options are for the compensation such as additional on- or off-site habitat enhancement, habitat creation or by making a financial payment. Defra has identified that a 10% uplift to the existing baseline biodiversity units is required to deliver measurable biodiversity net gain.

9.56 The results of the Defra Biodiversity Metric 2.0 are provided below and Appendix 5.3. Appendix 5.2 also presents further details on the Biodiversity Net Gain Metric.

Limitations

9.57 There are not considered to be any limitations to the survey methods, results or assessment.

EXISTING CONDITIONS

9.58 This section sets out a summary of the results of the relevant baseline ecological survey work and desk study. It then goes on to evaluate the importance of the identified ecological features.

9.59 Ecological features are considered in the following order:

- Protected sites – both statutory (e.g. Sites of Special Scientific Interest or Local Nature Reserves) and non-statutory (e.g. Local Wildlife Sites) protected sites

- Habitats – a description is provided of the habitats present within the Site, including consideration of those habitats identified as being of principal importance for the purposes of conserving biodiversity in accordance with Section 41 of the NERC Act (habitats of principal importance or HPI)

- Protected species or other species of conservation importance – this includes consideration of those species protected under European and UK legislation (e.g.

bats) and consideration of those species identified as being of principal importance for the purpose of conserving biodiversity in accordance with Section 41 of the NERC Act (species of principal importance or SPI)

Designated Sites

Statutory designated sites

9.60 There are four statutory designated sites within a 5 km radius of the Site. Details of these sites are provided in Table 9.1.

Table 9.1: Statutory designated sites within 5 km

Site name	Designation	Distance from the Site	Description
Rosset Nature Reserve	Local Nature Reserve	780 m north	Pond, scrub and grassland interest.
Birk Crag Nature Reserve	Local Nature Reserve	1.9 km north-west	Mixed evergreen & deciduous woodland. Presence of chestnut click beetle, a local BAP species.
Hookstone Wood Nature Reserve	Local Nature Reserve	3 km north-east	Oak, birch and beech woodland with two ponds supporting 10 species of dragonfly and damselfly.
Great Almscliff Crag	SSSI	3. 8 km south-west.	Notified for geological interest.

Statutory designated sites evaluation

9.61 The LNRs are of regional/county level importance; LNR designation is subject to formal public consultation and designated by Natural England and the relevant local planning authority. LNRs are typically managed and public enjoyment of their wildlife features is part of the reason for designation. The Development, which will be restricted to the Site, is not anticipated to give rise to a direct or indirect impact on any of the LNRs shown in Table 9.1 due to geographical separation. The Site is not well connected to these LNRs by public rights of way, recreational access within the LNR's is likely to be managed and recreational impacts on the LNRs are considered unlikely. No further consideration of the three LNRs is considered necessary and they have been scoped out of this assessment.

9.62 The SSSI is of national level importance. This SSSI is notified for its geological interest rather than its biological interest and, therefore no further consideration of the SSSI is necessary and it has been scoped out from this ecological impact assessment.

Non-statutory designated sites

9.63 There are four non-statutory Sites of Importance for Nature Conservation (SINC) and one deleted SINC within a 2 km radius of the Site.

Table 9.2: Non-statutory sites of nature conservation interest within 2 km		
Site name	**Designation**	**Distance from the Site**
Springhill Farm	SINC	1 km south
Rossett Acre Ponds	SINC	840 m north-east
Sandy Bank Wood	SINC	1.6 km south-east
Bluecoat Field	SINC	1.09 km north-west
Pannal Ash Fields	Deleted SINC	150 m north

Non-statutory designated sites evaluation

9.64 The four SINCs are of county level importance and afforded Local Plan policy protection. No direct impacts are anticipated in relation to all the SINCs or the deleted SINC given their distance and geographical separation from the Site. There are not anticipated to be any indirect impacts, through for example, increases in recreational disturbance, as the Site is not connected to any of the SINCs by public rights of way. There is a public right of way that extends east to west along the northern boundary of the Site; however this is not connected to any of the SINCs, and does not join any other public rights of way that lead to these SINCs. No further consideration of SINCs is considered necessary they have been scoped out of the assessment.

Habitats and Species

9.65 A summary of the 2017 and 2019 surveys is set out in this section, along with a consolidated evaluation of each habitat or species / species group. Whilst habitats may have been scoped out of the need for further formal ecological impact assessment under the provisions of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017, further consideration is subsequently given to all habitat features in relation to biodiversity net gain within this chapter. In addition, the excluded features table, Table 9.4, summarises all the habitats and species features and the rationale for their exclusion.

Habitat Description

9.66 The ecological survey work undertaken identified that the Site supports the following habitats:

- Improved grassland (12.34 ha)
- Species-poor hedgerows with mature trees (1.06 km)
- Scrub
- Mature trees
- Stone walls
- Watercourse (0.017 ha).

Habitat Evaluation

9.67 The improved grassland does not conform to the definition of Habitats of Principal Importance / Priority Habitat Type (Maddock et al, 2011). This habitat type is of low ecological value at a Site level, being widespread, common and readily replaceable. The loss of improved grassland is not considered to be significant. No further

consideration of improved grassland is considered necessary and this habitat has not been subject to further formal ecological impact assessment.

9.68 The scrub does not conform to the definition of Habitat of Principal Importance / Priority Habitat Type (Maddock et al, 2011). This habitat type is of low ecological value at a Site level, being widespread, common and readily replaceable. The loss of scrub is not considered to be significant. Scrub will not be taken through for further assessment.

9.69 The species-poor hedgerows with occasional mature trees conform to the definition of a Habitat of Principal Importance / Priority Habitat type for Hedgerows and are assessed to be of Local level importance. There will be a direct loss of 345 m of species-poor gappy hedgerow arising from the Development; the planting of 528.5 m of native hedgerow as part of the incorporated/design mitigation measures will replace the habitat loss and provide improved habitat connectivity and linkages within and beyond the Site. No further consideration of hedgerow is considered necessary and this habitat has not been subject to further formal ecological impact assessment.

9.70 The scattered mature trees do not conform to the definition of a Habitat of Principal Importance / Priority Habitat Type (Maddock et al, 2011). The scattered mature trees are assessed to be of Site level importance. None of the mature trees will be affected as a result of the Development and design based measures will be incorporated to ensure that there will be no indirect impacts on mature trees. Mature trees will not be taken through for further assessment.

9.71 The stone walls do not conform to the definition of Habitats of Principal Importance / Priority Habitat Type (Maddock et al, 2011). The stone walls within the Site are generally intact and are a local landscape feature. They are not of intrinsic ecological value; however they are of value for species such as reptiles. The stone walls will be retained as part of the Development. No further consideration of stone walls is considered necessary and this habitat has not been subject to further formal ecological impact assessment.

9.72 The watercourse does not conform to the definition of a Habitat of Principal Importance / Priority Habitat Type (Maddock et al, 2011). This habitat is assessed to be of Site level importance. The watercourse will be retained and enhanced as part of the Development and design based measures will be incorporated to ensure that impacts on the watercourse are avoided or reduced to a negligible level. No further consideration of the watercourse is considered necessary and this habitat has not been subject to further formal ecological impact assessment.

Great crested newt

9.73 The data trawl provided 76 records of great crested newt within the desk study area, dating between 1981 and 2015. The nearest records are 790 m to the north-east of the Site dating between 1981 and 2003. No ponds were recorded within the Site; no ponds were identified within 500 m, based on a review of online aerial photographs and the 1:25,000 OS map.

9.74 One EPSL for great crested newt is recorded on the MAGIC.gov website within 2 km. This is dated 2014 and is 650 m north of the Site.

Evaluation for great crested newt

9.75 The local records provided for this species are distant (650 m or more) from the Site and no ponds were identified within the Site, or within 500 m of the Site. It is considered

unlikely that this species is either present or will be affected by the Development. No further consideration of great crested newt is considered necessary and it has been scoped out of the assessment.

Reptiles

9.76 The data trawl did not provide any records of reptiles within the desk study area. The majority of the Site comprises closely grazed grassland which is considered sub-optimal for reptiles due to its lack of cover and structural diversity. The watercourse, stone walls, scrub and hedgerows within the Site could provide some limited habitat for basking and foraging reptiles. However the presence of reptiles is considered to be unlikely.

Evaluation for reptiles

9.77 Reptiles are considered unlikely to be present on Site; however the presence of common species of reptile cannot be completely discounted. Providing appropriate precautionary design based measures are incorporated, for example through sensitive vegetation clearance under a Method Statement, to avoid killing/injury i.e. to meet legal compliance requirements, and retention of the most suitable habitat, reptiles are scoped out of the assessment.

Water vole

9.78 The data trawl provided three records for water vole within the desk study area for the period 1997 to 1999. None of these records is attributed to the Site, with them all relating to the River Crimple. The nearest record is for a location on the River Crimple, approximately 780 m to the south of the Site.

9.79 The watercourse within the Site is assessed as being sub-optimal for water vole due to its shallow depth and lack of emergent vegetation (Strachan *et al.*, 2011). No evidence of water voles, such as burrows, droppings, tracks or footprints, were recorded.

Evaluation for water vole

9.80 The local records for water vole are distant and the watercourse within the Site is assessed to be sub-optimal for water vole. Water vole is not considered to be present on Site. No further consideration of water vole is considered necessary and it has been scoped out of the assessment.

Otter

9.81 No otter records were provided for the area of search.

9.82 The watercourse present within the Site is considered to be sub-optimal for otter due to its shallow depth and lack of cover. No evidence of otter, such as spraints, tracks or footprints were recorded.

Evaluation for otter

9.83 There are no otter records present in the local area and the habitat on Site is considered to be sub-optimal. No further consideration of otter is considered necessary and it has been scoped out of the assessment.

White-clawed crayfish

9.84 The data trawl provided one record for white-clawed crayfish *Austropotamobius pallipes* within the desk study area dated 1995. The record is for a location approximately 1.9 km to the south-east of the Site and is attributed to a pond within the village of Pannal.

9.85 The watercourse within the Site is considered to be sub-optimal for white-clawed crayfish due to its shallow depth and the likelihood of annual drying out. No further consideration of white-clawed crayfish is considered necessary and it has been scoped out of the assessment.

Birds

9.86 The data trawl provided 23 records of seven different bird species within the desk study area, dating between 2000 and 2014. None of the records relates directly to the Site. The nearest record is for common swift *Apus apus* 630 m west of the site dated 2007.

9.87 A total of 19 bird species were recorded during the breeding birds surveys. Of the species recorded, three are species of high conservation concern (tree sparrow *Passer montanus*, house sparrow *Passer domesticus* and starling *Sturnus vulgaris*) (Eaton et. al. 2015) and two amber list species (dunnock *Prunella modularis* and house martin *Delichon urbicum*).

9.88 Tree sparrow and house sparrow were recorded in association with the buildings and gardens off-site, to the south and north of the Site. Starling was observed flying over and feeding within the southern pasture field and is not considered likely to be holding a breeding territory within the Site. House martin was recorded in association with buildings off-site, to the west of the Site. Dunnock was recorded outside of the Site to the east.

9.89 Nine of the 19 species were considered likely to be holding territories within the Site. House sparrow, tree sparrow, dunnock, greenfinch and house martin are considered likely to be holding territories in habitats immediately adjacent to the Site.

9.90 The majority of species confirmed or considered likely to be holding a breeding territory within the Site (probable or possible breeders) are principally associated with the hedgerows and mature trees along the field boundaries. No ground nesting species were recorded.

9.91 The survey work identified barn owl pellets within the barn (at TN1) and white droppings splashes, along with a possible egg shell. The wide wall plates of the barn are assessed to be suitable for nesting barn owl; however there is no definitive evidence that the barn has been used as a barn owl nest site. The habitats within the Site provide suitable foraging habitat; however barn owl was not recorded during any of the evening survey visits.

9.92 In summary, the bird assemblage within the Site is considered to support a range of species typical of the habitats present. Several species of conservation concern have been recorded within or immediately adjacent to the Site.

9.93 Table 9.3 sets out the status of the birds recorded within the Site within Yorkshire.

Table 9.3: Birds recorded on and adjacent to Site				
Common name	**Latin name**	**Species of Principal Importance**	**Conservation Status**	**Status in Yorkshire**
On Site				
Starling	*Sturnus vulgaris*	Yes	Red	Abundant but decreasing resident, passage migrant and winter visitor.
Goldfinch	*Carduelis carduelis*	-	-	Common resident, passage migrant and winter visitor.
Wheatear	*Oenanthe oenanthe*	-	-	Scarce breeding summer visitor, uncommon passage migrant.
Blackbird	*Turdus merula*	-	-	Abundant resident, passage migrant and winter visitor.
Blue tit	*Cyanistes caeruleus*	-	-	Abundant and widespread resident; uncommon passage migrant/winter visitor.
Carrion crow	*Corvus corone*	-	-	Abundant and widespread resident, passage migrant and winter visitor.
Chaffinch	*Fringilla coelebs*	-	-	Abundant and widespread resident, passage migrant and winter visitor.
Chiffchaff	*Phylloscopus collybita*	-	-	Common breeding summer visitor.
Gold crest	*Regulus regulus*	-	-	Fairly common resident and passage migrant.
Great tit	*Parus major*	-	-	Abundant and widespread resident; uncommon

				passage migrant.
Greenfinch	*Chloris chloris*	-	-	Common resident and passage migrant.
Robin	*Erithacus rubecula*	-	-	Common to abundant resident, passage migrant and winter visitor.
Swallow	*Hirundo rustica*	-	-	Common breeding summer visitor and passage migrant.
Woodpigeon	*Columba palumbus*	-	-	Abundant and widespread resident and passage migrant/winter visitor.
Wren	*Troglodytes troglodytes*	-	-	Abundant resident, passage migrant in small numbers.
Barn owl	*Tyto alba*	-	Green	Uncommon resident breeder, rare n north-west.
Adjacent to Site				
House sparrow	*Passer domesticus*	Yes	Red	Abundant resident but has decreased,
Tree sparrow	*Passer montanus*	Yes	Red	Uncommon resident, very recent population recovery.
House martin	*Delichon urbicum*	-	Amber	Common breeding summer visitor and passage migrant.
Dunnock	*Prunella modularis*	Yes	Amber	Common resident, passage migrant.

Evaluation for birds

9.94 All nesting birds are protected under the Wildlife and Countryside Act 1981 (as amended), which makes it an offence to kill, injure or take any wild bird or take, damage or destroy its nest whilst in use or being built, or take or destroy its eggs. In addition to this, for some rarer species including (listed on Schedule 1 of the Act), it is an offence to disturb them while they are nest building or at or near a nest with eggs or young, or

to disturb the dependent young of such a bird. A number of species are also listed as species are of Principal Importance under the provisions of the NERC Act 2006.

9.95 Three bird species of high conservation concern (tree sparrow house sparrow and starling) (Eaton et. al. 2015) and two amber list species (dunnock and house martin) were recorded during breeding birds surveys. With the exception of starling these were all recorded within off-site habitats. Evidence of barn owl was recorded in the barn (TN1). Barn owl is a Schedule 1 species. The remaining bird species recorded on Site are of low conservation concern or have no formally recognised status.

9.96 The assemblage of bird species likely to be holding territories within the survey area is considered to be typical of the arable farmland, mature tree and hedgerow landscape close to Harrogate.

9.97 The breeding bird assemblage recorded within the Site is considered to be of Site level importance.

9.98 With incorporated design measures (including legal compliance measures in relation to vegetation clearance) and adoption of good practice measures direct and indirect impacts on breeding birds can be scoped out from further assessment.

Badger

9.99 The desk study did not reveal any records of badger for the area of search. Evidence of badger foraging was recorded in 2017, but no setts or other evidence was recorded. No evidence of badger was recorded during the 2019 surveys.

9.100 The habitats within the Site are considered to offer suitable foraging and commuting habitat for badger.

Evaluation for badger

9.101 There is no evidence that badger is present within the Site. Providing appropriate precautionary design based measures are incorporated, for example through completion of a pre-commencement badger survey and measures during the construction phase of development, to ensure legal compliance, badger is scoped out of the assessment.

Bats

9.102 The data trawl provided 40 bat records for the area of search for the period 2013 to 2018. These relate to “unspecified bat species”, pipistrelle bat Pipistrellus sp, common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, Nathusius’ pipistrelle *Pipistrellus nathusii*, brown long-eared *Plecotus auritus* and noctule *Nyctalus noctula*. The records do not differentiate between roosts and flight sightings, so it is not known how many roost records are present in the search area. None of these records relate directly to the Site.

9.103 There are four EPSL Bat Mitigation Licences granted within a 2 km radius of the Site. Two of these licences relate to non-breeding common pipistrelle bat roosts from 2014, located 965 m and 1 km to the west of the Site; a breeding common pipistrelle bat roost from 2014 located 1.4 km to the west of the Site; and a common pipistrelle and soprano pipistrelle non-breeding bat roosts located 1.8 km to the north of the Site.

9.104 There is one building within the Site, a stone built barn (TN1) which is assessed to have high bat roosting potential. No bats were recorded emerging from this building during the dusk emergence bat surveys. No evidence of bats was recorded internally or externally during the June 2019 surveys; two bat droppings were recorded in August 2019, and four scattered bat droppings, characteristic of pipistrelle species, was recorded in September 2019 on top of a hay feeder inside the barn. This is not considered to suggest the presence of a roost, but that bats are considered likely to be foraging within the barn, perhaps during periods of inclement weather.

9.105 Thirteen of the mature trees (horse chestnut, oak and ash) along the boundaries of the Site contain features with potential to support roosting bats.

9.106 At least four species of bat were recorded during the remote surveys. These are common pipistrelle, soprano pipistrelle, and one or more species of the Myotis and Nyctalus genus. Soprano pipistrelle and noctule are Species of Principal Importance (under the provisions of the NERC Act 2006).

9.107 The hedgerows within and on the periphery of the Site and the grassland within the Site are considered to provide suitable foraging habitat and commuting routes for a range of bat species. The data suggest that all locations sampled by the three static locations may be used by bats as part of a flight route and may provide areas suitable for bat foraging.

9.108 Accounting for 90.26% of bat passes, common pipistrelle was the most regularly recorded species overall. Common and soprano pipistrelle bat passes (combined for all locations) account for 96.41% of passes recorded. Myotis species account for 2.56% of bat passes and Nyctalus species 1.02% of passes recorded.

9.109 The Site falls within the distribution range of four species of the Myotis genus, these are Daubenton's *Myotis* daubentonii, whiskered Myotis mystacinus, Brandt's *Myotis brandtii*, and Natterer's Myotis nattereri (Bat Conservation Trust Website, accessed 10 September 2019). Natterer's bat has a preference for old buildings, trees and bridges, whiskered and Brandt's bats are found in a range of buildings, Daubenton's bat can use tree cavities, bridges and sometimes buildings, often close to water (Collins, 2016, Table 3.2). These species could potentially roost within buildings, trees and bridges in the local area. The data indicate that the Site experiences a very low level of Myotis bat activity.

9.110 Bat species which are known to be light sensitive, including species of the Myotis genus (Institute of Lighting Professionals, 2018) were recorded at static detector locations 1 and 2 but only in low numbers.

9.111 Common pipistrelle bat passes were recorded between 21 to 40 minutes after sunset and 40 to 21 minutes before sunrise, suggesting a roost location may be present close to the static recording locations. This could be within the Site or from a location in the surrounding area.

9.112 A single Myotis bat was recorded 60 to 41 minutes before sunrise, suggesting that this individual may have roosted close to the static recording locations. The data do not suggest that roosting regularly occurs within or close to the Site.

9.113 Overall it is considered that the survey work has identified that the level of bat activity within the Site is low.

Evaluation for bats

9.114 The survey work has not revealed any bat roosts within the barn (TN1); the scattered bat droppings recorded within the barn suggest that bats are likely to be foraging within the barn. The barn does support a number of potential roosting features. Based on the current bat survey results the demolition of the barn will not result in the loss of a bat roost; however it will result in the loss of bat roosting opportunities.

9.115 Thirteen mature trees within the Site are assessed to support suitable features for roosting bats. No tree works is or felling is to be undertaken as part of the Development, so an impact on roosting bats is not anticipated. No bat roosts will be affected by the Development so roosting bats are scoped out from further assessment.

9.116 Incorporated design based mitigation measures for roosting bats will provide integrated bat roosting opportunities into new residential dwellings and the school building.

9.117 The overall potential resource for roosting bats is considered to be of Site level importance.

9.118 Low levels of bat activity were recorded within the Site and the Site is assessed to be of Site level importance for foraging bats. With the incorporation of design-based mitigation measures, it is anticipated that impacts on bats can be avoided or reduced to a negligible level and therefore foraging bats are scoped out from further assessment. Incorporated design-based measures as part of the Development will be as follows:

- A sensitive lighting scheme to ensure light spill is minimised;
- A scheme layout that retains as much suitable bat foraging habitat as possible, provides new bat foraging habitat and strengthens boundary features for bats.

FUTURE BASELINE

9.119 The likely future baseline for this Development is considered unlikely to change substantially from the current baseline conditions based on the data collected to date in 2017 and 2019, as set out in this assessment, by the time the Development is implemented. It is anticipated that the current land-use and land management of the existing habitats would remain the same or very similar.

Incorporated Design Measures

9.120 The following measures have been identified on the basis of forming an integral component of the Development, or constitute good practice measures as part of the construction phase. These measures will be incorporated into the CEMP and Landscape and Ecological Management Plan.

- Landscaping measures have been incorporated into the Development, which include the creation of new native hedgerows, strengthening existing hedgerows and boundary features with native planting, SuDS ponds with associated native wetland planting, species-rich grassland creation, native scrub planting and native tree planting.
- Where possible, any work requiring vegetation removal or ground clearance work (particular any work affecting dense scrub) will be carried out between September and January, in order to avoid the bird breeding season. As a guide, the bird

breeding season is between February and August inclusive although dates vary by species and can be affected by prevailing weather conditions. The majority of birds do not start breeding until March/April. If the work has to take place during the bird breeding season, then the suitable nesting habitat will be surveyed for active nests by a suitably qualified ecologist before the work is carried out. If active nests are present, the work within the area supporting the nests would be delayed until the nesting bird activity had ceased;

- Lighting during construction will be directed away from retained habitats with potential to be used by foraging and commuting bats such as hedgerows and mature trees;

- The installation of bat and bird boxes within a minimum of 10% of properties within the Development;

- The installation of bat and bird boxes within the primary school;

- Permanent external lighting will be kept to a minimum and will be designed in a sensitive manner to ensure that it is directed away from retained and newly created habitats that could be used by foraging bats and it will not illuminate any new bat roosting features;

- Reasonable avoidance measures (RAMs) will be adopted with respect to reptiles in a method statement e.g. systematic vegetation clearance;

- During construction, where it is necessary to leave trenches open overnight, an earth ramp will be provided to prevent badgers and other mammals becoming trapped;

- A pre-construction ecological walkover survey will be undertaken prior to the commencement of construction works with a specific focus on badger to search for any new evidence of badger or sett creation due to the high mobility of this species. This survey will identify whether any additional construction phase mitigation is required.

- Subject to the outcome of the barn owl survey and associated requirements, the barn (TN1) will be demolished under a watching brief by a licensed ecologist to ensure that in the event that any bats are present, then work will stop and an appropriate course of action taken.

- Provision of alternative permanent roosting/nesting sites through the installation of a minimum of two barn owl boxes, either in suitable trees or pole mounted, in suitable locations (facing away from development into suitable habitat).

- A pre-commencement survey of the barn in advance of development works to ensure that the current status of barn owl is understood and relevant action to be identified as appropriate.

<u>Features to be excluded from further assessment</u>

9.121 At this stage of the assessment it is possible to scope out particular biodiversity features from further assessment, taking into account both the likelihood of an impact occurring and the evaluation of a particular feature described above (features of Site level importance are excluded from further assessment). Biodiversity features to be

excluded from further assessment and those to be taken forward are summarised in Table 9.4 with a clear rationale for doing so.

Table 9.4: Excluded biodiversity features

Biodiversity Features	Evaluation	Assess	Scope out	Rationale
Sites				
Local Nature Reserves	Regional/County Importance	No	Yes	There are no significant or appreciable effects anticipated upon the LNRs because of geographical separation and lack of connectivity with the Site.
Great Almscliff Crag SSSI	National	No	Yes	Geological rather than a biological SSSI.
Non-statutory sites (SINCs)	Local	No	Yes	There are no significant or appreciable effects anticipated upon the LNRs because of geographical separation and lack of connectivity with the Site.
Habitats				
Improved grassland	Site	No	Yes	This habitat does not conform to a Habitat of Principal Importance. This habitat is of negligible intrinsic value and readily re-creatable and replaceable.
Species-poor hedgerows with trees	Local	No	Yes	This habitat does conform to a Habitat of Principal Importance and is identified in the Local BAP. There will be a loss of 345 m of hedgerow habitat; however 528.5 m of hedgerow habitat will be created. No significant or appreciable effects anticipated.
Scrub	Site	No	Yes	This habitat does not conform to a Habitat of Principal Importance. This habitat is of readily re-creatable and replaceable.
Mature trees	Site	No	Yes	This habitat does not conform to a Habitat of Principal Importance. All mature trees are to be incorporated into the Development so no significant or appreciable effects anticipated.
Stone walls	Site	No	Yes	This habitat does not conform to a Habitat of Principal Importance. Stone walls are to be retained within the Development. No significant or appreciable effects anticipated.

Watercourse	Site	No	Yes	This habitat does not conform to a Habitat of Principal Importance and this habitat is to be retained within the Development and Incorporated Design Measures will enhance this habitat.
Species				
Great crested newt	n/a – not considered to be present	No	Yes	Great crested newt is considered unlikely to be present or affected by the Development.
Reptiles	n/a – not considered to be present	No	Yes	Reptiles are considered unlikely to be present. As a precautionary measure, Incorporated Design Measures including sensitive vegetation clearance under a Method Statement will be provided for legal compliance to avoid killing/injury in the unlikely event that common species of reptiles are discovered during the Development construction, and retention of the most suitable habitat for reptiles is incorporated into the Development design. No significant or appreciable effects anticipated.
Water vole	n/a – not considered to be present	No	Yes	Water vole is considered unlikely to be present or affected by the Development.
Otter	n/a – not considered to be present	No	Yes	Otter is considered unlikely to be present or affected by the Development.
White-clawed crayfish	n/a – not considered to be present	No	Yes	White-clawed crayfish is considered unlikely to be present or affected by the Development.
Birds	Site	No	Yes	No ground nesting birds were recorded and the bird assemblage recorded was typical of the habitats present. Mature trees and much of the hedgerow habitat will be retained and as part of the Incorporated Design Measures there will be new hedgerow creation, tree planting and species-rich grassland creation that will be of benefit to birds. In addition integrated bird boxes and bricks will be installed within new dwellings and the primary school. No significant or appreciable effects anticipated.

Badger	n/a – not considered to be present	No	Yes	Badger is considered unlikely to be present or affected by the Development. Incorporated Design Measures will ensure legal compliance.
Bats-Tree roosts	Site	No	Yes	All mature trees will be retained and incorporated into the Development so no significant or appreciable effects anticipated.
Bats-Building roosts	Site	No	Yes	No bat roosts were identified in the barn from survey work; however it is assessed to have high bat roosting potential. Incorporated Design Measures will be provided including demolition under ecological supervision and integrated bat boxes and bricks within new dwellings and the primary school.
Bats-Foraging	Site	No	Yes	No significant or appreciable effects anticipated. Incorporated Design Measures will be provided including retention of suitable habitat, habitat creation and sensitive lighting scheme.

Construction and Operational Phase Impacts

9.122 The following summarises the principal impacts (positive and negative) of the Development during the construction and operational (completed) phases, taking into account the incorporated design measures.

Construction Phase

- Loss of 12.34 ha of improved grassland.
- Loss of 345 m of hedgerow habitat.
- Creation of 1.83 ha of species-rich meadow.
- Creation of SuDS wetland area of 0.32 ha.
- Creation of 528.5 m of new native hedgerow.
- Creation of 1.06 ha of native scrub and woodland planting.

Operational Phase

- The habitat losses and gains identified within the construction phase will remain, with no change, in the completed phase of development.
- The newly created habitats will become established during the completed phase and will provide habitat for foraging bats and nesting birds.

Identified features requiring ecological impact assessment

9.123 No impacts or effects are anticipated that would require assessment of any ecological features due to the incorporation of mitigation measures within the overall Development design.

Change in biodiversity value

9.124 The biodiversity net gain assessment, or change in biodiversity value, as assessed through the Defra Biodiversity Metric 2.0, considers the likely effects during the construction stage (including habitat losses, retention and creation) and subsequent changes in habitat condition through sympathetic management or deterioration at the operational stage. All habitat based biodiversity measures have been taken into account in the Defra Biodiversity Metric 20.0 calculation i.e. retained, lost, created, and enhanced on site. No off-site provision is identified to address biodiversity net gain requirements for this development.

- Biodiversity value of Site (existing baseline) = 25.09 biodiversity units and 7.01 hedgerow units.

- Biodiversity value of Site operational phase (after development) = 21.40 biodiversity units and 7.85 hedgerow units.

9.125 To achieve the 10% biodiversity net gain above the existing baseline, the following operational phase biodiversity unit scores are required: 27.56 habitat units and 7.71 hedgerow units. Hence there is a deficit of 6.16 habitat units and 12.01% biodiversity net gain has been achieved for the hedgerow units.

9.126 To address the shortfall for habitats and achieve 10% biodiversity net gain the following options are available:

- Create approximately 1.5 ha of moderate condition species-rich neutral grassland off Site or

- Make a financial payment of £61,600.00 (calculated at a rate of £10,000 per habitat unit using the Defra Biodiversity net gain consultation document, December 2018 which suggested a tariff range of £9,000 to £15,000 per unit. Given the northern geographic location £10, 000 per unit is considered to be reasonable).

9.127 The details of the habitat retention, creation, enhancement and associated land management requirements will be provided within the relevant sections of the Landscape & Ecological Management Plan under a planning condition associated with the Development.

Additional Mitigation

9.128 No additional mitigations beyond the incorporated design mitigation measures are considered to be required.

CUMULATIVE EFFECTS

9.129 In accordance with the EIA Regulations, the EIA needs to consider the cumulative effects of the Development, in combination with the environmental effects of other developments on sensitive features identified through the EIA process.

9.130 Eight developments (Refer to Table 9.5) have been identified within a 1 km radius that are considered for the EIA cumulative effects assessment.

9.131 For each development, documents relating to ecology were identified from the Harrogate Borough Council planning portal and were reviewed to identify sensitive features.

Table 9.5: Developments within 1 km of Site

Planning reference	Development description	Ecology Information
18/05202/EIAMAJ	Outline planning application for a mixed-use development for up to 480 residential dwellings, up to 1.92ha of employment land (Use Classes - B1, B2 and B8), retail centre (Use Classes - A1-A5 & D1) and public open space with access considered.	Yes-ecological appraisal report and protected species surveys.
18/02960/FULMAJ	Erection of 40 no. dwellings with associated landscaping and access.	Yes-ecological appraisal report and bat surveys.
18/03379/DVCMAJ	Erection of Nursing/Care Home with Close Care Accommodation (Use Class - C2); Formation of Car Parking, Landscaping and other associated works	No-none identified on planning portal.
15/00798/EIAMAJ	Outline application for up to 450 dwellings, mixed use local centre to include retail, primary school, village green, open space and associated infrastructure with access considered	Yes-ecological appraisal and protected species surveys including bats and breeding birds.
14/00259/OUTMAJ	Outline planning application for the erection of 124 dwellings with associated open space, access and landscaping with access considered	Yes-ecological appraisal.
17/05595/OUTMAJ	Outline application for up to 130 dwellings with access considered	Yes-BSG Ecology reports including Phase 1 habitat survey, breeding birds and bats.
14/02970/FULMAJ	Conversion of North Lodge, Headmasters House, Kensington House and Library to form 14 dwellings and erection of 147 dwellings (161 units total) with associated garaging, access, parking and landscaping. Additional works to comprise formation of playing fields with associated access and parking, formation of children's play area and various works, including felling, to trees within Tree Preservation Order 52/2014	Yes-ecological appraisal and bat surveys.
17/00213/OUTMAJ	Outline application for residential development of up to 14 dwellings with all matters reserved.	Yes-Phase 1 habitat survey and bat surveys.

9.132 Ecology information was available for all but one planning application. None of the other developments considered in the cumulative assessment is considered to result in significant adverse ecological impacts and measures are to be taken within each development design to address the ecological impacts identified to an insignificant level. One species, tree sparrow, was highlighted as being present within two of the

developments, and was identified as to be potentially adversely affected through loss of habitat. This species was not recorded on Site and as such is not considered likely to be additionally affected by this Development.

9.133 Any assessment of the other developments within a 1 km radius of the Site has not identified any significant adverse ecological impacts that will need to be taken into account as part of this Development.

SUMMARY AND CONCLUSION

9.134 Ecology survey work was carried out by BSG Ecology at the Site in 2017 and 2019. This includes a desk study with North and East Yorkshire Data Centre, extended Phase 1 habitat survey (including protected species and invasive species surveys), bat activity transect surveys, remote bat detector surveys, bat emergence surveys and breeding birds surveys. The ecological assessment process was undertaken with reference to the 2018 CIEEM guidelines for Ecological Impact Assessment in the United Kingdom.

9.135 The Site includes improved grassland, hedgerows and stone walls, a small watercourse, scattered mature trees and a barn.

9.136 There are no statutory or non-statutory sites within the Site or immediately adjacent.

9.137 The hedgerows within the Site conform to the definition of a Habitat of Principal Importance / Priority Habitat Type. None of the other habitats within the Site are Habitats of Principal Importance or Priority Habitat types.

9.138 There are no ponds within the Site or within 500 m of the Site and great crested newt is considered unlikely to be present on Site.

9.139 The watercourse within the Site was assessed to be sub-optimal for white-clawed crayfish, water vole and otter.

9.140 The majority of the habitats within the Site were assessed to be sub-optimal for reptiles; however some limited suitable habitat is present.

9.141 No evidence of badger was recorded within the Site.

9.142 Nineteen bird species were recorded during the breeding bird surveys; nine of these were holding territories within the Site. These species were principally associated with hedgerows and mature trees. No ground nesting birds were recorded. Evidence of barn owl was recorded within the barn (TN1).

9.143 No bat roosts were identified within the barn (TN1); however the barn is assessed to have potential to support roosting bats. The bat activity and remote bat detector surveys identified four species of bats using the Site. Levels of bat activity within the Site were assessed to be low.

9.144 Incorporated design measures have been integrated into the Development and these include landscaping measures (hedgerow creation, native planting, SuDS ponds, species-rich grassland creation and native tree and scrub planting), installation of bird and bat boxes within a minimum of 10% of properties, installation of barn owl boxes, sensitive vegetation clearance to take into account nesting birds and reptiles and a sensitive lighting scheme. These measures will be incorporated into a CEMP and Landscape and Ecological Management Plan.

9.145 During the construction phase of the Development there will be a loss of 12.34 ha of improved grassland and 345 m of hedgerow habitat. The following habitats will be created: 1.83 ha of species-rich grassland, 0.32 ha of SuDS wetland habitat, 528.5 m of native hedgerow and 1.06 ha of native scrub and woodland planting.

9.146 As part of the ecological impact assessment, a biodiversity net gain assessment has been completed which takes into account the habitat losses and gains that will occur as a result of the Development. There is a deficit of 6.16 habitat units as a result of the Development. In order to achieve 10% biodiversity net gain it will be necessary to either create approximately 1.5 ha of moderate condition species-rich grassland or make a financial payment of £61,600.00.

9.147 The cumulative impacts taking into account eight other developments within a 1 km radius of the Site are not assessed to result in additional significant adverse ecological impacts. Measures are taken within each individual development to address ecological impacts.

9.148 No additional mitigation beyond the incorporated design measures is considered to be required. The incorporated design measures will be implemented through the Landscape and Ecological Management Plan. With these measures in place it is considered that the Development will conform to relevant national and local planning policy and relevant wildlife legislation.

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10. LANDSCAPE AND VISUAL IMPACT

INTRODUCTION

10.1 Surface Property Consultants were appointed to carry out a Landscape and Visual Impact Assessment (LVIA). The LVIA has been undertaken by a Chartered Landscape Architect in accordance with good practice guidance, and is informed by a site visit and a review of local landscape character assessments, landscape capacity guidance and other relevant guidance as specified.

SCOPE OF ASSESSMENT

The Development

10.2 The Development comprises of:

- 270 dwellings;
- a new primary school; and
- green infrastructure in the form of public footpaths, open space, play areas and wildlife habitat. See section 12, Mitigation for further detail and Appendix 6B Drawing No. 51156-DR-LAN-101 Landscape Masterplan.
- The construction of the Site would be phased over a 6-year period.

10.3 LVIA Methodology & Relevant Guidelines

- The methodology for the LVIA is included in Appendix 6A and is based on current best practice guidance, namely:
- Landscape Institute and Institute of Environmental Management and Assessment, 2013, Guidelines for Landscape and Visual Impact Assessment, 3rd Edition ('GLVIA3');
- The Landscape Institute (2013), GLVIA3 Statement of Clarification 1/13[1];
- Visual Representation of Development Proposals, Technical Guidance Note 2019, The Landscape Institute[2];
- SNH and The Countryside Agency (2002) Landscape Character Assessment Guidance for Scotland and England[3]; and
- SNH and the Countryside Agency (2002) Topic Paper 6: Techniques and Criteria for Judging Capacity and Sensitivity.

[1] The Landscape Institute (2015) GLVIA3 – Statements of Clarification [Online] Available at: https://www.landscapeinstitute.org/technical-resource/glvia3-clarifications/ (Last accessed 01.04.2020)

[2] The Landscape Institute, *Visual Representation of Development Proposals, Technical Guidance Note 06/19*, 17th September 2019 (Last accessed 01.04.2020.)

[3] SNH and The Countryside Agency (2002). Landscape Character Assessment Guidance for Scotland and England. (Last accessed 01.04.2020)

Limitations of the Assessment / Assumptions and Limitations

10.4 The assessment of residential properties, or groups of properties, is limited to those within 2km of the Development. These properties have been assessed from the nearest public road or footpath with the aid of aerial photographs and site photography. In these cases, the assessment should therefore be regarded as an informed estimate of the likely visual effects.

10.5 The two components of LVIA referred to throughout the report are based on the following definitions:

'Assessment of landscape effects: assessing effects on the landscape as a resource in its own right'[4]*; and*

'Assessment of visual effects: assessing effects on specific views and on the general visual amenity experienced by people.'[5]

10.6 Development may have a direct (physical) effect on the landscape in which it is located as well as an indirect or perceived effect from landscape character areas surrounding it. The potential landscape effects, occurring during construction and post construction stages of the development may therefore include, but are not restricted to, the following:

10.7 Changes to landscape elements: the addition of new elements or the removal of vegetation, and buildings and other characteristic elements of the landscape character type;

10.8 Changes to landscape qualities: degradation, erosion, or reinforcement of landscape elements and patterns, and perceptual characteristics, particularly those that form key characteristic elements of landscape character types;

10.9 Changes to landscape character: landscape and character may be affected through the effect on characteristic elements (including perceptual characteristics), landscape patterns and attributes and the cumulative addition of new features, the magnitude and presence of which is sufficient to alter a notable part of the overall landscape character type of a particular area; and

10.10 Cumulative landscape effects: where more than one development may lead to a potential landscape effect.

10.11 Visual effects are concerned wholly with the effect of development on visual receptors and general visual amenity. Visual effects are identified for different receptors (people) who would experience the view such as at their places of residence, during recreational activities, at work, or when travelling through the area. Visual effects may include the following:

- Visual effect: change in the appearance of the landscape as a result of development. This may include changes to the quality of the view, ability of the visual receptor to appreciate the view, or changes to the characteristic elements

[4] Landscape Institute and Institute of Environmental Management and Assessment, 2013, *Guidelines for Landscape and Visual Impact Assessment*, 3rd Edition, Routledge, London. Paragraph. 2.21, page 21. (Last accessed 01.04.2020)

[5] Ibid. page 21.

within the view. These changes can be positive (i.e. beneficial or an improvement) or negative (i.e. adverse or a detraction); and

- Cumulative visual effects: the cumulative or incremental visibility of similar types of development may combine to have a cumulative visual effect.

10.12 A detailed description of the methodology used has been provided in Appendix 6A.

CUMULATIVE ASSESSMENT

10.13 The cumulative assessment would take into consideration the approved larger scale residential and mixed-use schemes within 1km of the site. The site and a larger area of land immediately west of the site is shown as a draft allocation for mixed use in the emerging Harrogate District Local Plan: Publication Draft 2018. A planning application for the development of this parcel of land adjacent to the site has been submitted but not yet decided.

Refer to Figure 7 in Appendix 6C

Study Area

10.14 The Detailed Study Area for the LVIA was set as a 2 km radius from the planning application boundary with additional consideration of longer distance views outside the study area between 2.5 to 4km. Approximately half of the Detailed Study Area encompasses the south western edge of Harrogate and the villages of Pannal and Burn Bridge and RHS Harlow Carr at Harlow Hill to the north. The remaining study area comprises rural countryside with small villages such as Beckwithshaw, scattered residential properties and numerous farms.

10.15 Farmland is predominately pastoral with a patchwork of fields enclosed by hedgerows, hedgerow trees or stone walls in varying condition and small woodland blocks.

10.16 There is a network of rural local roads to the south west of Harrogate with B6162, Otley Road and A61 located within the northern portion of the Study area.

10.17 The Study Area is shown on Figure 1 of Appendix 6C.

Desk-Based Study

10.18 Information for the landscape and visual appraisal was gathered from the following sources:

- Web GIS data bases;
- Ordnance Survey mapping at 1:25,000 scale;
- Georeferenced Aerial photography;
- Contour mapping (1 m);
- Lidar data; and
- Google Earth, Street View and Maps;

- Natural England, National Character Area Profile 22 (Pennine Dales Fringe[6]);
- North Yorkshire and York Landscape Characterisation Project, 2011[7];
- Harrogate Landscape Character Assessment, 2004
- Harrogate District Local Plan 2014-2035; and
- Green Infrastructure SPD.

Field Study

10.19 Following the desk-based assessment, fieldwork was undertaken on the 24th March 2020 by a chartered landscape architect.

10.20 The key activities during baseline fieldwork were:

- To augment and verify the published descriptions of landscape character with fieldwork observations;
- To undertake an assessment of the quality or condition of baseline landscape and visual resources;
- To identify any significant features and elements in the landscape such as vegetation or built form that would screen the Development and thereby verify or refine the ZTV;
- To visit each viewpoint location identified during the desk study and screening report, and to microsite each viewpoint location in accordance with good practice guidance and obtain accurate coordinates;
- To undertake viewpoint photography at each viewpoint location; and
- To identify landscape features and elements that may be altered or removed as a result of the Development.

10.21 The baseline fieldwork also allowed the study area to be refined and therefore the focus of the assessment stage of the LVIA.

- Fieldwork during the assessment stage included an assessment of effects on the following receptors:
- Landscape resources including landscape character, landscape sensitivity, landscape features and landscape elements;
- Residential and recreational receptors;
- Roads; and

6 http://publications.naturalengland.org.uk/publication/5619375490990080 (Last accessed 01.04.2020)

7 https://www.northyorks.gov.uk/sites/default/files/fileroot/Environment%20and%20waste/Conservation/North_Yorkshire_and_York_landscape_character_assessment_report.pdf (Last accessed 01.04.2020)

- Public Rights of Way and other permissive footpaths / cycleways.

Zone of Theoretical Visibility (ZTV)

10.22 Following identification of the landscape components which define landscape character such as topography, vegetation, built form, infrastructure and land use, the LVIA has been informed by a ZTV to help identify the potential landscape and visual receptors. The ZTV was generated from a combination of data, where available, including Lidar DTM (bare earth), Lidar DSM (surface including buildings and trees), National Tree Data (tree data with full canopy spread) over the 3-4km area. They illustrate the theoretical visibility of the Development throughout the study area based on the average eye height (1.6m) of an adult person. This presents the worst-case scenario and is dependent on the coverage of the data.

10.23 ZTVs are currently the best tool for predicting the likely visibility of the Development and used to inform viewpoint selection and to refine the scope of the LVIA.

10.24 In reality, changing weather patterns and local climatic conditions, would influence the visibility of the Proposed Development in terms of the extent of view, the colour and contrast of the proposed housing and primary school against the skyline, and thus the perceived visual impact. There would be periods of low visibility (i.e. fog, low cloud, and bright sunny conditions that are accompanied by haze) as well as periods of high visibility in clear weather. In some instances, and from some locations, the proposed buildings may be 'back-lit' (i.e. appearing darker in colour during sunset / sunrise and periods of pale or white blanket cloud) and in other circumstances may appear to be 'up-lit' (i.e. during stormy periods that combine dark clouds and bright sunshine). As a result, careful consideration on the colour of the Proposed Development external envelope, and roof type, would assist in the reduction of contrast in different climatic conditions. Refer to Section 12 Mitigation.

Viewpoints

10.25 The selected viewpoints illustrate the landscape context, and views from nearby residential properties, the local public rights of way and road network, and to represent the local landscape character.

10.26 Viewpoints were selected by analysis of the ZTV, with reference to the Pegasus Landscape and Visual Context and Analysis Document which was produced for the Site H51 Draft Allocation. The viewpoints were confirmed through a site visit, and through consultation with the Principal Planner at Harrogate Borough Council via email on the 22nd March 2020 (HBC) Following methodology established in GLVIA3, the viewpoints were chosen based on the following criteria:

- Viewpoints should be representative of the likely impacts;
- Viewpoints should show a range of different types of views;
- Viewpoints should be representative of a range of different receptor groups;
- Viewpoints should be representative of a range of distances and directions; and
- Viewpoints should be representative of the varying image of the Development within the landscape.

10.27 A summary of the illustrated viewpoints is provided in Table 10.1 below. All viewpoints are publicly accessible and focus on the location of the Development. Site photography was undertaken during periods of fine weather and clear visibility. Refer to Figure 6 for Viewpoint Locations, and Figures 9 – 24 for the baseline landscape photographs.

Table 10.1 - LVIA Selected Viewpoints

Viewpoint Number	Viewpoint Name	Reason for selection	Distance to the proposed Development (km/m)
1	Whinney Lane	Viewpoint to illustrate views from one of the nearest residential properties at Linton Cottage. The viewpoint is also representative of views available for footpath, road users and visitors to the Squinting Cat Public House south and east of the Development.	2m
2	Public Footpath near Rosset Green No. 15.54/131/1	Viewpoint to illustrate views from a public footpath near to residential housing in Rosset Green east of the Development and east of the Castle Hill farm housing construction area.	0.2km
3	Lady Lane	Viewpoint to illustrate views from Lady Lane and nearby residential properties at Bark Mill Cottage and Blue Coat Farm south of the Development.	2m
4	Harrogate Ringway footpath. No 15.65/73/1	Viewpoint to illustrate views from the Harrogate ringway footpath south east of the Development and south of the former police training centre.	0.5km
5	Harrogate Ringway footpath. No 15.65/73/1	Viewpoint to illustrate views from the Harrogate ringway footpath south east of the Development.	0.3km
6	Public Footpath adjacent to Syke House Farm	Viewpoint to illustrate views available for footpath, users adjacent to Syke House Farm east of the Development.	0.1km
7	Public Footpath near Rosset Green No. 15.65/72/1	Viewpoint to illustrate views from a public footpath near to residential housing in Rosset Green and adjacent to the former police training centre buildings east of the Development and east of the Castle Hill Farm housing construction area.	0.35km
8	Public Footpath at Castle Hill. No. 15.54/69/1	Viewpoint to illustrate views from public footpath north west of the Development.	2m
9	Public Footpath at Castle Hill. No. 15.54/69/1	Viewpoint to illustrate views from public footpath north of the Development. The viewpoint is also representative of views available for users of Whinny Lane and housing on the outskirts of Pannal Ash.	2m

Table 10.1 - LVIA Selected Viewpoints			
Viewpoint Number	**Viewpoint Name**	**Reason for selection**	**Distance to the proposed Development (km/m)**
10	Harrogate Ringway footpath/Hill Top Lane	Viewpoint to illustrate views from the Harrogate ringway footpath near Hill Top Lane south of the Development.	0.1km
11	Public footpath between Lund House group of properties and The Cottage. No. 15.108/18/1	Viewpoint to illustrate views from a group of residential properties at Lund House and The Cottage. The viewpoint is also representative of views available for footpath users west of the Development.	0.3km
12	Lady Lane	Viewpoint to illustrate views available for road users and nearby group of residential properties at Lund House west of the Development.	0.4km
13	Brackenthwaite Lane/ Public footpath No. 15.101/6/2	Viewpoint to illustrate views available for footpath, road users and nearby residential properties at Well Garth Cottage and Field Head Farm to the south west of the Development.	1.3km
14	Hill Top Lane	Viewpoint to illustrate views available for road users south of the Development.	0.8km
15	Almscliffe Crag	Viewpoint to illustrate views available for visitors to Almscliffe Crag south of the Development.	4km
16	Thirkhill Drive near Swarth Hill	Viewpoint to illustrate views available for road users south east of the Development.	2.4km

Significance Criteria

10.28 In accordance with the EIA Regulations, it is essential to determine whether the predicted effects are likely to be 'significant'.

10.29 Significant landscape and visual effects, in the assessor's opinion, resulting from the Scheme would be all those effects that normally result in a 'substantial' or a 'moderate / substantial' effect with any exceptions being clearly explained (refer to Table 10.2 below). There may for example be exceptions in the case of lower magnitudes of change affecting receptors of higher landscape and or visual sensitivity and leading to a moderate effect that in some circumstances are considered to be significant. A full description of the methodology used in this assessment is set out in Appendix 6A.

Table 10.2: Evaluation of Landscape and Visual Effects				
Magnitude of Change	**Landscape and Visual Sensitivity**			
	High	Medium	Low	Negligible
Very High	**Very Substantial**	**Substantial**	**Substantial / Moderate**	**Moderate**
High	**Substantial**	**Substantial / Moderate**	**Moderate**	Slight
Medium	**Substantial / Moderate**	**Moderate**	Slight	Slight / Negligible
Low	**Moderate**	Slight	Slight / Negligible	Negligible
Negligible	Slight	Slight / Negligible	Negligible	Negligible
Zero	None / No view	None / No view	None / No view	None / No view

Key		Significant
		Not significant

LANDSCAPE LEGISLATION AND POLICIES

10.30 This assessment has taken into account the current legislation, policy and guidance relevant to the LVIA. In landscape and visual terms, the planning policies of relevance to the Development are discussed within this section of the LVIA.

European Landscape Convention

10.31 The European Landscape Convention ('ELC') which was ratified in the UK on the 21 November 2006 and became binding on 1 March 2007.

10.32 The ELC defines landscapes as: *"An area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors."*

10.33 The ELC applies to natural, rural, urban and peri-urban areas including land, inland water and marine areas. Its purpose is to promote landscape protection, management and planning in relation to all landscapes regardless of whether their quality and condition is considered outstanding, ordinary or degraded.

10.34 The UK is recognised as already putting many of the principles of the ELC into practice. The importance of landscapes in contributing to local identity and in reflecting local cultural influences and ecological diversity is shown through the use of Landscape Character assessments and National Character Area Profiles.[8]

National Planning Policy Framework (NPPF)

10.35 Paragraph 170, contained within Chapter 15 "Conserving and enhancing the natural environment" of the NPPF sets out how planning policies and decisions should

8 https://www.gov.uk/government/publications/national-character-area-profiles-data-for-local-decision-making/national-character-area-profiles (Last accessed 01.04.20)

contribute to and enhance the natural and local environment. Of relevance to the consideration of landscape and visual amenity impacts, this includes by:

- Protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality); and

- Recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland. Local Planning Policy.

Local Planning Policy

10.36 The current Harrogate District Local Plan 2014-2035 (HDLP) was recently adopted on 4 March 2020. It replaces the Local Plan of 2001as well as the Core Strategy of 2009. The main function of the Local Plan is to set out planning policies and proposals to promote, coordinate and control future development. The following section outlines policies relevant to landscape, firstly within the Core Strategy and secondly within the Local Plan.

Policy NE4 Landscape Character

10.37 Contained within the Heritage and Placemaking and Natural Environment section of the HDLP, Policy NE4 seeks to conserve landscape features and states that:

Proposals that will protect, enhance or restore the landscape character of Harrogate district for its own intrinsic beauty and for its benefit to the economic, environmental and social well-being of the district will be supported.

This will be achieved by:

A. Requiring that development has particular regard to maintaining the aesthetic and biodiversity qualities of the natural and man-made heritage within the landscape such as trees and woodland, hedgerows, walls, buildings, watercourses, ponds, reservoirs, lakes, ecological networks or other topographical features;

B. Requiring that development proposals are informed by and are sympathetic to the distinctive landscape character areas as identified in the Harrogate District Landscape Character Assessment and that proposals respect the distribution and form of settlements and buildings in their landscape setting;

C. Requiring that development proposals protect and/or enhance the character, appearance and local distinctiveness of the landscape and consider the ambiance of the area, including nocturnal character, level and type of activity and tranquillity, sense of enclosure/exposure;

D. Requiring that visually sensitive skylines, hills and valley sides and visual amenity are protected and/or enhanced;

E. Resisting development which would harm or be detrimental to the character of the local and wider landscape or the setting of a settlement.

10.38 The council will work with landowners and statutory agencies to encourage land management practices that will protect and reinforce landscape character across the

district, and proposals which seek to restore areas of degraded landscape or individual landscape elements will be supported.

Special Landscape Area

10.39 Policy NE4 goes on to protect nine defined Special Landscape Areas across the district, which are considered as local valued landscapes, significant to the setting surrounding settlements including Harrogate. The SLAs have been preserved from previous Local Plans albeit with some variations to boundaries.

10.40 The Site is located within the Crimple Valley Special Landscape Area which wraps around the southwest periphery of Harrogate, and provides a natural and definitive edge to the area. This area of landscape serves to separate Harrogate from Pannal and Spacey Houses. The proposed development would not affect the land forming a separation between Harrogate and Pannal/Spacey Houses as it is located to the immediate south west of Pannal Ash and Rosset Green.

10.41 The second part of Policy NE4 requires development to:

F Avoid significant loss of key characteristics that contribute to the quality of the special landscape area and the setting of Harrogate, Knaresborough and Ripon.

G. Ensure that development proposals … are linked to existing settlements and are designed to integrate the urban edge with the countryside and to enhance the appearance of the urban fringe.

Policy NE3 Protecting the Natural Environment

10.42 Policy NE3 supports proposals that protect and enhance features of ecological and geological interest and provide net gains in biodiversity will be supported.

10.43 Part E of the policy requires proposals for major developments to avoid any net loss of biodiversity. Chapter 9 of this ES considers the issue of biodiversity gain for the Development.

10.44 Part F of the policy requires proposals to "increase connectivity of habitats by locating features which enlarge, connect or support existing green corridors and natural and semi-natural green spaces in line with policy NE5 Green and Blue Infrastructure and the Green Infrastructure Supplementary Planning Document (2014) (or successive document)";"

Policy HP2 Heritage Assets

10.45 Policy HP2 provides protection against development which would harm heritage assets including listed buildings, conservation areas and registered parks and gardens. Harrogate Conservation Area is located within the 2km Study Area but there is no inter-visibility. Valley Gardens Registered Park and Gardens is also located within the 2km Study Area with no inter-visibility. The landscape impact on listed buildings is considered further below.

Policy NE7 Trees and Woodlands

10.46 Policy NE7 outlines appropriate protection of trees and woodlands and states that *"development that results in the loss of, or damage to trees will be required to provide*

replacement trees on-site or, if this is not possible, compensatory planting off-site that is equivalent to the public value of the trees to be removed".

10.47 It is intended that all trees within the application boundary would be retained if they are not dying or considered dangerous.

NE5 Green and Blue Infrastructure

10.48 Policy NE5 sets out design principles and guidance for green and blue infrastructure which development proposals should consider as an integral part of a scheme. The Landscape Plan included in Appendix 6B, illustrates the proposed new green and blue infrastructure features providing opportunities for biodiversity, recreation, enhancing local vernacular and create new green infrastructure links.

HP5 Public Rights of Way

10.49 Policy HP5 seeks to protect existing Public Rights of Way (PRoW) as well as creating new paths. There are no PRoW within the application site however there are several in close proximity (refer to Appendix 6C Figure 4). The Development proposes to retain and link pedestrian routes into surrounding PRoW as well as provide mitigation planting to limit potential views of the Development, and to retain amenity value.

LANDSCAPE PLANNING DESIGNATIONS

10.50 This section, which should be read in conjunction with Figure 4 in Appendix 6C and identifies landscape planning policies, designations and constraints relevant to this LVIA. Table 10.3 summarises the constraints within the 2km radius study area.

Table 10.3: Landscape /Planning Designations and Protected Heritage Assets

Landscape / Planning Designations & Protected Heritage Assets	Present Within Site	Present within Detailed Study Area (2 km radius)
National Parks	No	No
Area of Outstanding Natural Beauty	No	No
World Heritage Sites	No	No
Scheduled Monuments	No	No
Conservation Areas	No	Yes
Listed Buildings	No	Yes
Registered Parks and Gardens	No	Yes
Local Special Landscape Area	Yes	Yes

Table 10.3: Landscape /Planning Designations and Protected Heritage Assets		
Landscape / Planning Designations & Protected Heritage Assets	**Present Within Site**	**Present within Detailed Study Area (2 km radius)**
Green Belt	No	Yes

Consultation

10.51 Pre-application consultations have taken place in March 2020 with Harrogate Borough Council (HBC) to agree the representative viewpoints to be assessed based on the Pegasus document – Landscape and Visual Context and Analysis – Draft Allocation Site H51, Harrogate Dec 2018.

10.52 Following the site visit the viewpoint locations were refined to take account of footpath closures and extent of the site compared to the larger H51 allocation area which the Pegasus document covered. Viewpoint locations are illustrated on Figure 6, and baseline photograph panoramas are illustrated in Figures 9 -24.

Insignificant Effects

10.53 The following effects have been considered insignificant and have therefore not been considered within the LVIA:

- Landscape effects beyond the agreed study area of 2 km radius from the Development, and those areas outwith the ZTV; and
- Visual effects beyond the agreed study area of 2 km radius except longer distance elevated viewpoints considered at Almscliffe Crag, Brackenthwaite and Swarth Hill area and those areas outwith the ZTV.
- Cumulative effects beyond a 1km radius from the Development of larger scale housing and mixed-use development only.
- This allows for a detailed assessment to focus on potential significant effects within the 2 km detailed study area unless otherwise stated.

POTENTIALLY SIGNIFICANT EFFECTS

10.54 Potentially significant effects are listed below:

Construction Phase

10.55 Proposed construction activities of the development would include, but would not be restricted to, temporary vehicular routes for construction vehicles, a temporary construction compound and welfare units, car park, crane activity and laydown areas for the Development. These activities could result in potentially temporary significant landscape and visual effects during the construction period, specifically:

10.56 Effects on landscape character, based on a current and future baseline, from construction and plant activities; and

10.57 Effects on visual amenity of surrounding visual receptors, including residential properties and users of the local PRoW and road network, based on a current and future baseline, from construction and plant activities.

Post Construction Phase

10.58 Potentially significant effects which would be assessed in the LVIA post construction include:

- Effects on landscape character within the study area of the Proposed Development due to new built form and landscaping during operation; and
- Effects on the visual amenity of surrounding visual receptors due to new built form of the Proposed Development and landscaping during operation.
- Specifically, potential residual significant landscape and visual effects could arise as a result of:
- New built form associated with the proposed development, access roads, lighting, signage, fencing and landscaping including ground modelling;
- Changes to the local landscape character as a result of the construction and post construction Stages;
- Loss of features including characteristic vegetation such as hedgerows within the site area;
- Changes in the composition of key views across the landscape, including from surrounding residential properties, PRoWs and roads; and
- The landscape and visual setting of built assets including Listed Buildings is discussed in the Cultural Heritage assessment.

Assumptions & Limitations

10.59 The following assumptions have been made:

- The Primary School building would be approximately 8 m in height;
- The housing would be up to 10m in height;
- The following limitations have been made:

10.60 The assessment of residential properties, or groups of residential properties, is limited to those within 2 km of the development. These properties have been assessed from the nearest public road or footpath with the aid of aerial photographs and photography from within the development site boundary. In these cases, the assessment should therefore be regarded as an informed estimate of the likely effects.

10.61 The assessment takes account of the likely views from the ground and upper floors of properties and garden areas.

BASELINE CONDITIONS

10.62 The following section describes the existing environment in terms of landscape character and visual amenity, the baseline against which the impacts of the Development would be assessed, including sensitivity of landscape, seascape or visual receptors:

- Landscape Character;
- Landscape Designations; and
- Visual Receptors.

10.63 Assessment is also supported by field observations to confirm the key features and characteristics pertinent to the 2 km radius detailed study area.

Landscape Character Types

10.64 The landscape character is considered at three levels:

- A national setting defined within the Natural England National Landscape Character Assessment[9];
- A regional setting defined within the North Yorkshire and York Landscape Characterisation Project[10]; and
- A local setting defined within the Landscape Harrogate Borough Council Landscape Character Assessment[11].
- At a national level there is one Landscape Character Area (LCA) Pennine Dales Fringe within the 2km Study Area. The LCAs provide a detailed assessment and understanding of the landscape character.
- At a regional level there is one Landscape Character Type (LCT) within the 2km Study Area.

10.65 At a local level there are five LCA. However, the following LCAs, whilst within the detailed study area, are peripheral and only occupy very small areas 2 km from the Development, and have not been considered any further in this assessment:

- Oak Beck and Reservoirs;
- South West Harrogate Upland Fringe Undulating Farmland; and
- Middle Crimple Valley.

9 https://www.gov.uk/government/publications/national-character-area-profiles-data-for-local-decision-making/national-character-area-profiles (Last accessed 25.03.2020)

10 North Yorkshire and York's Landscape Character [Online]. Available at: https://www.northyorks.gov.uk/describing-and-understanding-our-landscape (Last accessed 25.03.2020)

11 Harrogate District Landscape Character Assessment (2004) [Online]. Available at: https://www.harrogate.gov.uk/info/20102/conservation_landscape_and_ecology/572/landscape_character_assessment (Last accessed 25.03.2020)

National Landscape Character - NCA 22 Pennine Dales Fringe

10.66 At a national level the development falls within the Pennine Dales Fringe Landscape Character Area which runs north to south between the Yorkshire Dales and the Yorkshire moors and covers the study area in its entirety.

10.67 Key characteristics of the Pennine Dales Fringe are listed as:

- A transitional landscape between the Pennine uplands to the west and the low-lying fertile landscape of the Vale of York to the east; mainly pastoral in the west, with rough grazing on the moorland edge, merging into mixed farming, with arable on the lighter soils in the east.
- A well-wooded landscape, with woodland along valleys, many copses and plantations on the side slopes, and hedges with hedgerow trees in the lower lying arable areas.
- Several historic parklands, with woodlands and veteran trees.
- Field boundaries of drystone walls on higher ground and hedges in lower areas.
- A generally tranquil and rural area, with a distinctly ancient character in some parts, with several small, historic market towns including Kirkby Malzeard, Middleham, Masham, Richmond and Barnard Castle, linked by a network of minor roads.

Regional Landscape Character - North Yorkshire and York, Landscape Character Units (LCU) and Landscape Character Types (LCT)

10.68 The North Yorkshire and York Landscape Characterisation Project identifies Primary Landscape Units which are composed of several Landscape Character Types. The Site and Study Area are located within the Farmed Lowland and Valley Landscapes LCU.

10.69 Eleven Landscape Character Types make up the Farmland Lowland and Valley LCU including LCT 29 Undulating Lowland Farm which covers the majority of the Study Area. The remainder consists of a general Urban LCT.

10.70 Key Characteristics of the Undulating Lowland Farm are listed as:

- Many mixed farm woodlands, copses and hedgerow trees;
- Intricate tapestry of grazed fields;
- A patchwork of wood and pasture when viewed from surrounding higher landscapes;
- A scattered settlement pattern of small hamlets, villages and isolated farmsteads; and
- Intimate-scale landscape, with a strong sense of tranquillity in places; Dry stone walls delineate fields.

10.71 Sensitivities are listed as:

- Moderate visual sensitivity overall. In places, woodland and hedgerows limit views, whilst in places there is strong inter-visibility with adjacent Landscape Character Types;
- Moderate ecological sensitivity overall as a result of the combination of hedges, hedgerow tree small stream corridors which provide key habitats; and
- Moderate landscape and cultural sensitivity overall, resulting from the predominantly intact network of drystone walls, mature hedgerows and hedgerow trees.

10.72 Guidelines are listed as:

- Conserve and enhance woodland, hedges and stone walls;
- Link existing woodlands and hedgerows to create a continuous woodland network to reverse habitat fragmentation;
- Create new hedgerows and regenerate existing hedges to maintain and enhance key landscape linkages;
- Conserve the lowland herb-rich hay meadows and unimproved neutral grasslands; Encourage conservation of existing key landscape features and habitats;
- Encourage habitat linkage to increase robustness to climate change; and
- Ensure that verges are managed to maximise floristic biodiversity value.

Local Landscape Character - Harrogate District Landscape Character Areas (LCA)

10.73 LCA 60 Upper Crimple Valley covers a large proportion of the Study Area, including the Site itself.

10.74 Key Characteristics of the Upper Crimple Valley LCA are listed as:

- Small scale V-shaped valley landform rising between 90m AOD in the valley bottom at Pannal to 220m AOD on the valley side near Briscoe Ridge Lane at the top of the south valley side;
- A field pattern of early enclosure to the north and parliamentary enclosure to the south bound by hedges;
- Few small blocks of deciduous woodland including Ancient Semi-Natural woodland at Low Wood; and
- Lots of trees along field boundaries, along the River Crimple and the urban edge of Harrogate.

10.75 Guidelines are listed as:

- To protect the character of the area and its role in separating Harrogate from Pannal and provision of a rural setting to the urban edge.
- To reinforce landscape pattern particularly on the south facing north Crimple Valley side and maintain the wildlife value of this edge of Harrogate character area.
- Promote the retention, regeneration and management of hedgerows to maintain field boundaries.
- Encourage management and continuity of wooded character of River Crimple and marginal vegetation as a wildlife corridor.
- Encourage management for biodiversity in line with the aims of the Harrogate District Biodiversity Action Plan.
- To maintain the network of footpaths and rights of way in the area and their contribution to landscape character.

Landscape Character of the Site

10.76 Site investigations, and a review of the landscape character assessments, have both informed the assessment of the landscape character of the site:

10.77 The site is located on the northeast and southwest facing slopes either side of Crimple Valley. Topography does therefore allow for wide expansive views to the south towards Almscliffe Crag. Views from the north and west however, are fairly contained due to rising topography and existing vegetative cover. It is anticipated views would be limited to the east by development which is currently under construction;

10.78 Landform within the immediate site context primarily consists of undulating pastoral land, divided by native hedgerows with hedgerow sporadic tree. Rows of mature native trees along field margins are present along the north western boundary of the site and commonly found within the landscape setting of the Site. Avenues of trees occur more commonly south of the application site;

10.79 The wider study area to the south is similar in landscape composition to the site, with some larger blocks of woodland further afield to the south and west;

10.80 North of the application site, the landscape character alters swiftly to the urban fringe of Harrogate;

10.81 There are few isolated properties to the south and east of the site and roads which run parallel to the site are rural roads and therefore the landscape is considered fairly tranquil and rural character. This alters immediately north of the site; and

10.82 The immediate landscape does appear to have some amenity value, with several well used PRoW surrounding the site which appear popular with walkers. Neighbouring roads also appear well utilised by long distance cyclists.

LANDSCAPE / PLANNING DESIGNATIONS

Green Belt

10.83 An area of approximately 4.6km2 of the Liverpool, Manchester and West Yorks Green belt lies within the Study Area, situated approximately 410 m west of the proposed development.

10.84 The fundamental aim of Green Belt policy is to prevent urban sprawl by keeping land permanently open, which by its purpose, would seek to maintain the open character of the area. The essential characteristics of Green Belts are their openness and their permanence. However, the proposed development is not located within the Green Belt, no direct landscape effects are anticipated, and therefore the Green Belt designation has not been considered further within this LVIA.

Registered Parks and Gardens – Valley Gardens

10.85 Valley Garden Registered Park and Garden is located approximately 1.5km north-east of the Site. Although Valley Gardens is located within the Study Area Figure 4, Appendix 6C indicates the development is unlikely to be visible from the Registered Park and Garden and intervening vegetation limits wider views and therefore has been scoped out of the LVIA.

Special Landscape Area (SLA) - Crimple Valley Special Landscape Area

10.86 Crimple Valley Special Landscape Area is one of nine Special Landscape Areas in Harrogate and Ripon. A large portion of the SLA covers the southern extent of the Study Area, and the Site is located within the designated area.

10.87 "The Special Landscape Areas are valued locally for their high-quality landscape and their importance to the settings of Harrogate, Knaresborough and Ripon. The designation reinforces the importance *of these landscapes and their high sensitivity to inappropriate development which would adversely impact on the quality of the area designated. Development proposals within these areas are required to meet the following criteria:*

- *Avoid significant loss of key characteristics that contribute to the quality of the Special Landscape Area and the setting of Harrogate, Knaresborough and Ripon;*
- *Ensure that development proposals are linked to existing settlements and are designed to enhance the appearance of the urban edge and its integration with the countryside*.[12]

10.88 Key characteristics of the SLA include:

- A richly textured and attractive rural landscape with excellent wide-ranging views over large areas of open countryside to the west and south of the town;
- A valley with woodland, rights of way network and golf courses provides for a variety of recreation activities; and

[12] https://consult.harrogate.gov.uk/portal/pp/lp/dlp?pointId=s1455708059258

- An area of landscape is especially important because it serves to separate Harrogate from Pannal and Spacey Houses.

Conservation Areas

10.89 Harrogate Conservation Area[13] is located approximately 1.25 km northeast of the Site within the Study Area. Key characteristics are defined within the Harrogate Conservation Area Appraisal which is a material consideration when determining planning applications. The appraisal also outlines significant views in, out and within the Conservation Area. It is considered that the development would not affect any of the views described within the Appraisal. Figure 6, Appendix 6C indicates there is unlikely to be any views of the development from the Conservation Area and therefore has been scoped out of the LVIA.

Listed Buildings

10.90 There are numerous listed features within 2km of the Site. The majority of the listed buildings within a 2km radius are situated within Harrogate City Centre. Fewer are located within the rural setting surrounding Harrogate with only seven Listed Buildings located within the landscape 1km distance of the Site. Due to topography and intervening buildings and vegetation, Listed Buildings which may afford views of the development are limited to those in close proximity to the application boundary. Key Listed Buildings within 1km of the Application boundary include:

- Grade II Listed property, Lund House approximately 300 m west of the Development, now named The Manor House; and

- Grade II Listed barn 5 m east of Lund House, now named The Old Barn.

10.91 The ZTV shown on Figure 6, Appendix 6C, and fieldwork verified that views of the development from other Listed Properties within 1km are unlikely and therefore these have been scoped out of the LVIA. These include:

- Grade II* Listed property, Hill Top Hall approximately 970 m south of the Development;

- Grade II Listed Church of All Saints approximately 920 m north of the Development;

- Grade II Listed Howe House 920 m east of the Development; and

- Grade II Listed property Springfield House approximately 500 m northeast of the Development.

Visual Receptors

10.92 The visual assessment draws from the ZTV, previous Pegasus document and the site visit and assesses the potential visual effects on views and visual amenity likely to be experienced by receptors (people) within the landscape, including:

- Views from residential properties and settlements;

[13] Harrogate Conservation Area Character Appraisal https://www.harrogate.gov.uk/downloads/download/89/conservation_areas_documents Last accessed 28.03.20)

- Views experienced while travelling through the landscape (recreational road users, walkers, horse riders, cyclists for example);
- Views from listed buildings; and
- Views from tourist and recreational destinations.

10.93 The visual assessment focuses on those receptor areas where significant effects are most likely, as detailed in the sections below.

10.94 Visual effects would be experienced by the people who live and work in the area, along with those enjoying recreational activities in this area or simply passing through. Whilst it is people who are the actual receptors of visual effects, it is the places they may occupy, and from which the Development may be seen, that are listed below.

10.95 The following three main receptor types have been identified within the Study Area:

- Residential properties, encompassing individual and groups of properties and farm properties;
- Public rights of way (PRoW) and viewpoints such as Almscliffe Crag; and
- Road users, users of the existing road network, within the study area.

Recreational Receptors

10.96 Whilst the potential visual effects on tourists, or those engaging in recreation activities, may be brief in nature by passing through the area by vehicle, or on horse, foot or bike, their sensitivity to landscape and visual change is high because their purpose/activity is to enjoy the landscape and surroundings.

10.97 The visual assessment considered views from recreational receptors within 2km of the Development. Following site fieldwork this was reduced to 1.2km. The majority of recreational receptors beyond this distance are unlikely to appreciate the development due to intervening landform, buildings and vegetation except where highlighted below.

10.98 Nearby recreational receptors within the study area include:

- PRoW close to the site including the footpath 15.54/131/1 near Rosset Green;
- Footpath 15.54/131/2 adjacent to Syke House Farm (10m east of the Site);
- Footpath 15.65/72/1 adjacent to the former police academy;
- Footpath 15.108/18/1 near Lund House group of properties;
- Footpath 15.54/69/1 along the northern edge of the site near Pannal Ash; and
- Harrogate Ringway footpath – 15.54/73/1 and 15.108/16/1.
- Longer distance elevated receptors including:
- Almscliffe Crag Viewpoint and footpath near Brackenthwaite, 15.101/6/2.

Please refer to Figure 6, Appendix 6C.

Residential Properties & Settlements

10.99 The visual assessment considers views from individual residential and farm properties predominantly within 1.2 km of the site (Figure 8, Appendix 6C). From a desk-based assessment and site visit, the LVIA includes an assessment of 13 properties/groups of properties within a 1.2km radius of the site. A radii of 1.2km distance was selected due to the surrounding tree cover within the wider landscape and landform which would assist with the screening / filtering views of the site beyond 1.2km within the wider landscape.

10.100 Residential properties are considered as being of high sensitivity due to the importance that individuals place on the view from their homes.

10.101 Particular attention is dedicated to the effect of the Development on local residents because they would experience the Development from different locations, at different times of the day, usually for longer periods of time, and in different seasons.

10.102 The methodology for the appraisal of the visual impacts on views from residential properties is included within Appendix 6A. However, this is not a Residential Visual Amenity Assessment.

10.103 The appraisal of visual effects likely to be experienced from settlements includes consideration of residential areas on the outskirts of Harrogate such as Pannal Ash.

Please refer to Figure 6, Appendix 6C.

Transport Routes

10.104 It is important to take account of how the Development would be experienced from the surrounding road network. The visual assessment considers the potential visual effects likely to be experienced by people travelling through the landscape on main roads and the local road network. Views would vary depending on proximity to the road, the mode of transport, the angle of view, elevation and intervening landscape features.

10.105 Within the study area there are the following:

- A-61 Leeds road to the east; and
- B 6162 Otley Road to the northwest and B 6161 to the north.
- Local un-classified roads in close proximity to the Site including:
- Whinney Lane directly east of the Site;
- Lady Lane directly west of the Site; and
- Hill Top Lane south of the Site.

10.106 There are numerous residential roads within the study area around Harrogate that have not been considered due to screening of the Site by the built development within Harrogate.

Receptors Scoped Out of the LVIA

10.107 Further to the information presented above, the following landscape and visual receptors have been scoped out of this assessment:

- Harrogate Conservation Area;
- Liverpool, Manchester and West Yorks Green belt;
- Valley Gardens Registered Parks and Gardens; and
- Numerous residential roads.

Night Time Baseline

10.108 Light pollution is noticeably higher within urban and sub-urban areas of Harrogate. This is less so within the immediate area surrounding the Site, and in the southern and western areas of the Study Area, given the landscape's reduced areas of large scale-built development, and reduced areas of street lighting on the rural local road network. Sources of light pollution are limited to residential properties and street lighting currently.

Future Baseline

10.109 It is anticipated that the baseline conditions as described above would change within the next 1-3 years due to the anticipated future residential and mixed-use development in the area. The site, and adjacent land, is allocated as mixed-use development in the HBC Local Plan. The approved Castle Hill Farm residential development is currently under construction and it is anticipated more residential development would take place to the west of the Site within the remaining H51 allocation area. This is subject to planning approval of a recent application for mixed-use development including housing.

ZTV Analysis

10.110 The ZTV illustrates extensive visibility of the Development within a close radius of the site between 200m to 800m. Visibility beyond this is fragmented and partially visible beyond 2- 4 km on higher ground to the south east, south, west and north west.

ASSESSMENT OF LIKELY EFFECTS

10.111 In order to understand the likely effects of the Development, it is first necessary to understand the construction processes involved, and the components of the Development which would be present during the life of the Development. The likely effects that would arise as a result of the Development can be attributed to either the short-term construction works or the permanent presence of the housing and school. The Landscape Masterplan, Appendix 6B, shows an illustrative plan of the proposed Development.

Effects of Construction

10.112 The construction period of the Development would be phased over 6 years and post construction the Development would be considered permanent.

Landscape Effects During Construction

10.113 The construction phase would result in localised and direct landscape effects on the Upper Crimple Valley LCA and the landscape features (hedges etc) within the Site itself. Table 10.4 below provides a list of the construction activities to be undertaken together with an appraisal of the level and type of effect predicted.

- Assessment for the effects on landscape character, sensitivity and value is a combination of a review of published Landscape Character Assessments, and professional judgement from field observations.

- Construction activities could result in temporary landscape and visual effects during the construction period, specifically:

- Effects on landscape character, based on a current and future baseline, from construction and plant activities within a 0.5 km radius; and

- Effects on visual amenity of surrounding visual receptors, including residential properties and the local road network, based on a current and future baseline, from construction and plant activities within a discrete area of 0.5 km radius and more distant receptors.

Construction of the Development

10.114 The site is located within the Upper Crimple Valley LCA and Crimple Valley Special Landscape Area (SLA), which has a medium sensitivity, and medium landscape value.

Table 10.4 Landscape Effects during Construction

Construction Activity and Assessment	Landscape Assessment		
	Sensitivity	**Magnitude**	**Level of Effect**
Housing, school and infrastructure construction *Impacts to landscape character include direct loss of landscape features such as hedgerows and semi improved grazing land. Reduction in tranquillity associated with rural/urban fringe farmland.* *Permanent introduction of medium scale built form and hard landscaping.* *The magnitude of change is predicted to be medium and the landscape effect would be Moderate, permanent, direct, adverse and significant.*	Medium	Medium	Moderate

Table 10.4 Landscape Effects during Construction			
Construction Activity and Assessment	**Landscape Assessment**		
	Sensitivity	**Magnitude**	**Level of Effect**
Vehicle activity *Large plant, machinery and delivery traffic would be conspicuous in views of the site, highlighting the presence of the construction works temporarily increasing awareness of the site. Temporary increase in noise and disturbance and lighting. Reduction in tranquillity associated with rural/urban fringe farmland. Temporary spoil heaps, material storage and site compounds.* *The magnitude of change would increase to medium and the landscape effect would be Moderate, temporary (short term), direct and indirect, adverse and significant.*	Medium	Medium	Moderate

10.115 Taking all the factors above together, the medium sensitivity of the landscape, and the predicted medium magnitude of change, results in an overall effect during construction, predicted to be ***Moderate***, temporary, direct, adverse and significant during the construction process.

Visual Effects During Construction

10.116 The visual effects of the Development during the construction period would be most noticeable from 'close-range views' of the construction plant within the site, with views of lorries delivering materials and contractors vehicles, material stockpiles, welfare units and 'heras' security fencing.

10.117 The Site is visually open to the west, east and south, with no notable boundary features to screen many of the views of the ground-based activities from Lady Lane and Whinney Lane and a footpath to the west. The hedgerow to the north of the Site would provide partial screening from footpath users at ground level.

10.118 Overall, the sensitivity of visual receptors with close distance views is medium (road users) and high (residential receptors) and high to medium (footpath users). The magnitude of visual change would vary over the course of the construction phase in line with the extent of infrastructure present on site. The magnitude would therefore be negligible to small initially and the level of effect (Minor – Minor to Moderate) before gradually increasing in relation to the progressive increase in the extent of the ground works. However, the level of visual effect towards the end of the construction period would not exceed that assessed for the post construction period where the built form would have maximum visual influence.

Effects Post Construction

10.119 The visual effects of the Development after the construction period would again be most noticeable from 'close-range views' within 500m of the site, from the local road

network to the south and east, residential properties to the west, east, north and south and footpaths to the north and west.

10.120 The Development would be visible over a limited area with visual receptors predominantly confined to within 0.5km but with elevated distant views from Brackenthwaite (1.2km) and Almscliffe (4km).

Mitigation Measures

10.121 The design process has taken account of national and local planning policy as well as design guidance from Harrogate Borough Councils Biodiversity Action Plan[14] , Harrogate Borough Council Landscape Design Guide and Green Infrastructure SPD[15].

10.122 As a result, the design has evolved holistically with consideration of biodiversity to ensure that significant landscape mitigation is already 'embedded' within the proposed development, prior to the assessment of residual effects. Please see Drawing No. 51156-DR-LAN-101 Landscape Masterplan. Appendix 6B.

Landscape Character

10.123 The Site lies within the LCT 29 Undulating Lowland Farm. The following guidelines have been incorporated into the development of the landscape mitigation and Green infrastructure plan for the site:

- Conserve and enhance woodland, hedges and stone walls;
- Link existing woodlands and hedgerows to create a continuous woodland network to reverse habitat fragmentation;
- Create new hedgerows and regenerate existing hedges to maintain and enhance key landscape linkages;
- Conserve the lowland herb-rich hay meadows and unimproved neutral grasslands; Encourage conservation of existing key landscape features and habitats;
- Encourage habitat linkage to increase robustness to climate change; and
- Ensure that verges are managed to maximise floristic biodiversity value.

10.124 The following guidelines within the Upper Crimple Valley LCA 60 have been considered in the LVIA and have been incorporated into the mitigation and Green infrastructure plan for the site:

- To protect the character of the area and its role in separating Harrogate from Pannal and provision of a rural setting to the urban edge;
- To reinforce landscape pattern particularly on the south facing north Crimple Valley side and maintain the wildlife value of this edge of Harrogate character area;

[14] https://www.harrogate.gov.uk/info/20102/conservation_landscape_and_ecology/573/biodiversity

15 https://www.harrogate.gov.uk/downloads/download/87/green_infrastructure_spd_documents (Last accessed 28.03.20)

- Promote the retention, regeneration and management of hedgerows to maintain field boundaries;

- Encourage management for biodiversity in line with the aims of the Harrogate District Biodiversity Action Plan; and

- To maintain the network of footpaths and rights of way in the area and their contribution to landscape character.

10.125 The Development provides an opportunity to both screen the Development from sensitive residential and recreational receptors, retain mature trees (Policy NE7), integrate the site with the surrounding network of PRoW's (Policy HP5) whilst at the same time integrate the design with suitable landscaping including amenity open space, (Policy HP9 & NE5) improve the existing landscape fabric/features of the Site (Policy NE4), integrate the development and reinforce the surrounding landscape setting and appropriate to the surrounding landscape character (Policy NE5) to meet with the green infrastructure objectives of the HBC Green Infrastructure SPD.

10.126 The Development includes a significant amount of habitat creation (Policy NE3) new planting and biodiversity enhancements in the form of native species, hedgerow, wetland, woodland and scrub planting and other habitat enhancements as follows:

- 528.5 m of Native Species Hedgerow Planting to mitigate visual impacts and enhance habitat linkages and biodiversity;

- 1.06 ha of Native Species of Woodland and Scrub Planting to mitigate visual impacts and enhance habitat linkages and biodiversity;

- 0.32 ha of ponds/wetland areas;

- 1.83ha of wildflower meadow creation;

- 15m of new stone wall and 64m repaired along Lady Lane; and

- 721 m of new public rights of way connecting into the existing PRoW network.

10.127 In addition to the above, the following recommendations would assist with the landscape and visual assimilation of the Development:

10.128 To reduce the prominence of the school building and houses the building materials should be of muted colours. i.e. not white rendered or vivid red brick or vivid red terracotta pantile.

10.129 New dwellings should ideally reflect the local vernacular and be constructed with materials resembling grey slate for the roof and stone for walls. For example, where they are in close proximity and visible to existing properties such as Linton Cottage, The Old Poor House and Bark Mill Cottage or at other noticeable locations such as the proposed entrance way to the Development off Whinney Lane.

10.130 To reduce the contrast of the suburban development and rural/urban fringe character. Avoidance of close board fencing around garden boundaries and using hedgerows, post and rail fencing or metal rail fencing.

ASSESSMENT OF RESIDUAL LANDSCAPE EFFECTS

Assessment of Effects on Landscape Character

10.131 An appraisal of the baseline landscape character has been undertaken in order to determine the sensitivity of the landscape and its capacity to accommodate the Development.

10.132 The landscape character is considered at four levels:

- National/regional setting, in relation to the Natural England National Landscape Character Assessment;
- The North Yorkshire county council Landscape character Assessment;
- The Harrogate Landscape Character Assessment; and
- Local setting, based on field observations to confirm the key features and characteristics pertinent to the study area and the application site.

National Landscape Character Areas

10.133 At a national level, the study area falls within the Natural Character Area Profile 22 Pennine Dales Fringe.

10.134 Whilst character areas designated at a national scale have a role to play in providing general context, regional and local landscape character assessments have been published by North Yorkshire Council and Harrogate Borough Council. These contain a greater level of detail subdividing the previous extensive character areas into much smaller discrete character areas.

10.135 Guidance within the LCAs on landscape opportunities and trends have been referred to and reviewed as part of the LVIA and incorporated into the development of the mitigation proposals.

10.136 Of particular relevance to the site are the characteristics of *'A well-wooded landscape, with woodland along valleys, many copses and plantations on the side slopes, and hedges with hedgerow trees in the lower lying arable areas. Several historic parklands, with woodlands and veteran trees. Field boundaries of drystone walls on higher ground and hedges in lower areas.'*[16]

Regional Landscape Character Areas (LCAs)

10.137 Assessment for the effects on landscape character, sensitivity and value is a combination of a review of the Landscape Character Assessments and professional judgement from field observations.

10.138 At a regional level, the study area falls within the Farmland Lowland and Valley LCU including LCT 29 Undulating Lowland Farm which covers the majority of the Study Area. The remainder consists of a general Urban LCT over the Harrogate area.

10.139 The Farmland Lowland and Valley LCU including LCT 29 Undulating Lowland Farm has a moderate visual sensitivity overall. In places, woodland and hedgerows limit

[16] http://publications.naturalengland.org.uk/publication/5619375490990080

views, including a moderate ecological sensitivity overall as a result of the combination of hedges, hedgerow tree small stream corridors which provide key habitats. There is a moderate landscape and cultural sensitivity overall, resulting from the predominantly intact network of drystone walls, mature hedgerows and hedgerow trees although the boundaries of the site are in varying condition and would benefit from improvement.

10.140 The magnitude of change arising from the proposed Development within the LCT would be small for the LCT overall. However, the development would result in changes to the landscape charter at a local level from one of rural farmland partially influence by the adjoining urban land uses.

10.141 This results in a medium susceptibility to the Development. The landscape would be able to accommodate the Development with some adverse effects to character at a localised level, taking account of the existing character and quality of the landscape.

10.142 The landscape effects within the LCT overall is considered to be **Moderate - Minor**, adverse and significant (in part), as the overall character of this LCT would be maintained within the wider area and the geographical extent of the development is small and is of medium sensitivity.

Local Landscape Character Areas (LCAs)

10.143 At a local level, the study area falls within the Upper Crimple Valley LCA 60. As above, the 'host' LCA is considered to be of a medium sensitivity.

10.144 The magnitude of change arising from the proposed Development within the LCA would be small for the LCT overall. However, the development would result in changes to the landscape character at a local level and change the character from one of rural farmland partially influence by the adjoining urban land uses to suburban.

10.145 This results in a medium susceptibility to the Development. The landscape would be able to accommodate the Development although with some adverse effects to character but over a small extent within the overall LCA.

10.146 The landscape effects within the LCA is considered to be **Moderate to Minor,** adverse and permanent. The overall character of this LCA would be maintained within the wider area as the geographical extent of the development is small.

Landscape Character of the Site

10.147 The landscape character of the site has been assessed as having:

- Landscape value – the site lies within a Special Landscape Area (SLA) and therefore is considered to be of medium landscape value;

- Landscape quality – the site is considered to be of a low - medium landscape quality due to the intensively grazed improved pasture and varying condition of boundaries features;

- Capacity to change – development of the site would change the land use from rural agriculture to sub-urban / urban fringe, although the site is influence by the outskirts of Harrogate due to the presence of modern housing types at Pannal Ash, The Squinting Cat public house and 'wacky warehouse' and the construction site at Castle Hill Farm. However, the development would change the existing landscape character over a localised area. Taking account of the

existing character and quality of the landscape and location on the urban fringe of Harrogate it is considered that the site has a medium susceptibility to the development; and

- Landscape sensitivity –the Site is designated as an SLA and therefore is considered to be of a medium landscape sensitivity overall.

10.148 The magnitude of effect arising from the Development within the Site would be large where there would be the addition of large-scale built elements within the Site such as housing areas, a school and associated sub-urban roads. The green infrastructure would partly assimilate the development into the landscape and would involve the permanent change to the local landscape character.

10.149 Taking account of the existing character and quality of the landscape it is considered that the landscape of the site would be able to accommodate the Development. However, this would result in a localised landscape character change but the surrounding Upper Crimple Valley LCT within which the Site is located would not be adversely affected overall.

10.150 The direct landscape effects within the Site would be **Major to Moderate** adverse, permanent and significant post construction, and there would be a discernible change to the existing landscape character but confined over a localised area.

ASSESSMENT OF RESIDUAL VISUAL EFFECTS

10.151 Visual effects are concerned wholly with the effect of the Development on views, and the general visual amenity as experienced by people.

10.152 Visual effects are assessed by considering the sensitivity of the receptor (people) against the proposed magnitude of change to determine a level of visual effect. The acceptability of this effect largely relates to the activity and the experience of the viewer and the visual composition, character, context, and the overall ability of the landscape in that view to accommodate the Development. Visual effects are assessed in relation to the agreed viewpoints, properties and settlements, tourist and recreational destinations including tourist routes as well as main transport routes.

Viewpoint Assessment

10.153 An appraisal of visual effects was undertaken from 16 viewpoints, which were selected to replicate those viewpoints from the previous landscape and visual assessment with some modification following the site visit. The viewpoints represent typical views from key receptors at varying distances and orientations from the site.

- From each viewpoint the following information is provided, and presented in accordance with the Landscape Institute Guidance:

- A representative baseline photograph (90-degree horizontal angle of view) to show the context of location of the viewpoint;

- A description of the existing view;

- A qualitative assessment of the potential visual effects considering the sensitivity of the receptor and magnitude of change in view.

It is recognised that different receptors would appreciate the landscape in many different ways, depending on whether they live in, work in the area and how they are travelling through e.g. on road or foot.

10.154 Those living within, or travelling through, the landscape of the study area on a regular basis may appreciate it beyond the perception of a visitor and may appreciate familiarity of landscape and views, based on their experience of viewing it in a certain way, over time and in its present state without intervention. Therefore, those who notice change within the landscape may be more acutely affected by change irrelevant of the scale of the Development. There may also be a different appreciation for change where such change for instance brings social or economic benefits and as such it is difficult to interpret how such changes would be interpreted by various users other than as set out in the methodology in Appendix 6A. On this basis we have assessed all such receptors as being of medium - high sensitivity to change and as such have assessed any such effects on a worst-case basis.

10.155 The viewpoint locations are shown on Figures 9 to 24 (Appendix 6C). Photographs of the existing baseline from each viewpoint, and are shown in Viewpoints 1 – 16, Figures 9 to 24 (Appendix 6C).

10.156 Viewpoint selection and micro-siting of each viewpoint location accord with technical guidance[17].

Viewpoint 1 – Whinney Lane

Baseline

10.157 Refer to Figure 9, Appendix 6C. Viewpoint taken from the footpath adjacent to Whinney Lane and the Squinting Cat public house and Linton Cottage where there are open and extensive views across development site. Linton Cottage has side elevation and rear views of the development site. A residential property, named The Old Poor House, to the south of Linton Cottage has rear views of the development site. Open and filtered views available from the pub car park. Open views from the footpath adjacent to Whinney Lane.

Sensitivity

10.158 Visual receptors would include residents of the two properties and users of the local road network. Road users would be of a medium sensitivity and residents and footpath users would be of a high sensitivity.

Magnitude of Change

10.159 The proposals would cause a large change in close distance views from the two properties and Whinney Lane and Squinting Cat car park. The extent of the changes would be large and would substantially alter the composition of the current rural fringe farmland view to one of a housing development and sub-urban open space comprising of grassland, tree planting areas and sustainable urban drainage system ponds (SUDS).

17 Visual Representation of Development Proposals, Technical Guidance Note 2019, The Landscape Institute.

Level of Visual Effect (Construction)

10.160 The nature of these effects would be Major-Moderate, adverse, permanent and significant (local road, footpath and pub users) and Major adverse, permanent and significant (residents). Views of the construction works from this location would be temporary, cumulative, and adverse given the proximity of the development from this location.

Level of Visual Effect (Post construction with mitigation)

10.161 The nature of these effects would be Major-Moderate (local road, footpath and pub users) and Major (residents), permanent, cumulative, adverse and significant, given the proximity of the development from this location.

Viewpoint 2 – Footpath near Rosset Green

Baseline

10.162 Refer to Figure 10, Appendix 6C. There are filtered views towards the development site, partially limited by intervening hedgerow and trees. Syke House Farm and the Squinting Cat Public House can be seen in the foreground and Lund House properties in longer distance views. This view would change as construction works progress on the adjacent Castle Hill Farm housing development site resulting in the existing views being obscured by housing at this location.

Sensitivity

10.163 Visual receptors would include residents of new properties and users of the local road network. Residents would be of a high sensitivity and footpath users, medium sensitivity.

Magnitude of Change

10.164 The proposals would cause a clearly noticeable change in view in middle distance views from this location at the time of the fieldwork. However, when the Castle Hill scheme is complete it is unlikely any views of the development would be available from this location due to intervening houses. Therefore, no change is predicted for receptors at this location once the Castle Hill development is constructed.

Level of Visual Effect (Construction)

10.165 No effect due to intervening housing.

Level of Visual Effect (Post construction with mitigation)

10.166 No effect due to intervening housing.

Viewpoint 3 – Lady Lane

Baseline

10.167 Refer to Figure 11, Appendix 6C. This viewpoint is representative of views from the local road network on Lady Lane and nearby residential properties at Blue Coat Farm and Bark Mill Cottage with open and extensive views across the development site. Bark Mill Cottage is orientated towards the site towards the east. Blue Coat Farm is

orientated away from the site to the south. Open and filtered views are available from the pub car park.

Sensitivity

10.168 Visual receptors would include residents of the two properties and users of the local road network. Road users would be of a medium sensitivity and residents would be of a high sensitivity.

Magnitude of Change

10.169 The proposals would cause a large change in close distance views from Bark Mill Cottage as this property faces the development site and also for road users due to the limited hedgerow vegetation along this section of road. Blue Coat Farm is orientated southwards from the development and intervening farm buildings prevent views from this property except for an upper side window which would have oblique views of the Development. The extent of the area, over which changes are visible, is large and would substantially alter the composition of the current rural fringe farmland view to one of a housing development and suburban open space (grassland, tree planting areas and sustainable urban drainage system ponds (SUDS) and the school building on the horizon.

Level of Visual Effect (Construction)

10.170 The nature of these effects would be Major-Moderate (local road users) and Major (residents), temporary for construction works, cumulative, adverse and significant given the proximity of the development from this location.

Level of Visual Effect (Post construction with mitigation)

10.171 The nature of these effects would be Major-Moderate (local road) and Major (residents), permanent, cumulative, and adverse given the proximity of the development from this location.

Viewpoint 4 – Harrogate Ringway

Baseline

10.172 Refer to Figure 12, Appendix 6C. This viewpoint is representative of views from the Harrogate Ringway PRoW south east of the Development. Filtered views of the former police training centre and properties along Lady Lane, Hill Top Lane and Whinney Lane rooftops are visible. There are no views of the development site from this location due to intervening hedgerow vegetation and mature hedgerow trees.

Sensitivity

10.173 Footpath users would be of a high sensitivity on this promoted route.

Magnitude of Change

10.174 No changes to the existing view.

Level of Visual Effect (Construction)

10.175 No effect.

Level of Visual Effect (Post construction with mitigation)

10.176 No effect.

Viewpoint 5 – Harrogate Ringway

Baseline

10.177 Refer to Figure 13, Appendix 6C. This viewpoint is representative of views from the Harrogate Ringway PRoW south east of the development. Filtered views of the former police training centre, Syke House Farm, Summerbeck House and the Castle Hill Farm construction site. Beyond the construction site on the horizon lies the development site and location of the proposed school and housing. Views of the development site are partially restricted by intervening vegetation.

Sensitivity

10.178 Footpath users would be of a high sensitivity on this promoted route.

Magnitude of Change

10.179 At the time of the fieldwork, the proposals would cause a perceptible change over a small extent of the view. Views are filtered along the majority of the footpath route from VP 4 towards Hill Top Lane. However once the Castle Hill Farm development is completed, the development site is likely to be predominantly obscured by housing from this location. Therefore, the predicted magnitude of change would be negligible to no change.

Level of Visual Effect (Construction)

10.180 The nature of these effects would be Moderate/Minor, permanent, cumulative, and adverse to no effect from this location and therefore not significant.

Level of Visual Effect (Post construction with mitigation)

10.181 The nature of these effects would be Moderate/Minor, permanent, cumulative, and adverse to no effect from this location and therefore not significant.

Viewpoint 6 – Footpath near Syke House Farm

Baseline

10.182 Refer to Figure 14, Appendix 6C. Viewpoint taken from the footpath adjacent to Syke House Farm with views towards the construction site at Castle Hill farm. Views of the development site are partially obscured by intervening topography and hedgerows and would be partially obscured by the Castle Hill farm development once completed. The extent of which is shown by the heras fencing in the photograph. Syke House Farm is orientated away from the development site although may have oblique filtered views from windows to the side of the house. The adjacent property is Summer Beck House and views of the site from the lower floor are limited by garden vegetation. However potential filtered views are available from upper floor windows.

Sensitivity

10.183 Visual receptors, which would include residents of the two properties adjacent to the footpath and users of the footpath. Footpath users would be of a medium sensitivity and residents would be of a high sensitivity.

Magnitude of Change

10.184 The proposals would cause a barely perceptible change in close distance views from the footpath as views would be predominantly obscured by the Castle Hill Farm housing development. The proposals would cause a barely perceptible change in close distance views for residents of the two properties as views would be filtered through garden vegetation and/or oblique views rom upper floor windows.

Level of Visual Effect (Construction)

10.185 The nature of these effects would be Minor (footpath users) and Moderate/Minor (residents), temporary for construction works, cumulative, and adverse given the proximity of the development from this location.

Level of Visual Effect (Post construction with mitigation)

10.186 The nature of these effects would be Minor (footpath users) and Moderate/Minor (residents), permanent, cumulative, and adverse given the proximity of the development from this location.

Viewpoint 7 – Footpath near Rosset Green

Baseline

10.187 Refer to Figure 15, Appendix 6C. Viewpoint taken from the footpath adjacent to the former police training centre and near to Rosset Green housing estate with views towards the construction site at Castle Hill Farm. Views of the development site are obscured by intervening topography and hedgerows. Any potential views of the development site would be obscured by the Castle Hill Farm housing. The extent of which is shown by the heras fencing in the photograph.

Sensitivity

10.188 Footpath users would be of a medium sensitivity.

Magnitude of Change

10.189 The proposals are unlikely to be visible due to intervening topography and vegetation and the future houses currently being built at Castle Hill Farm.

Level of Visual Effect (Construction)

10.190 No effect.

Level of Visual Effect (Post construction with mitigation)

10.191 No effect.

Viewpoint 8 – Footpath west, Pannal Ash

Baseline

10.192 Refer to Figure 16, Appendix 6C. Filtered views towards the development site partially obscured by mature trees and hedgerows. Viewpoint taken from the footpath near Pannal Ash.

Sensitivity

10.193 Footpath users would be of a medium sensitivity.

Magnitude of Change

10.194 The proposals would cause a large change in close distance filtered views from this footpath depending on the level of mitigation vegetation and time of year. The extent of the changes would be visible is large and would substantially alter the composition of the current view to one of a school with associated playground and car parking and tree planting areas. Overtime, the level of effect would reduce as mitigation planting matures. Refer Item 1 and 2 on the Landscape Masterplan.

Level of Visual Effect (Construction)

10.195 The nature of these effects would be Major-Moderate (footpath users) temporary for construction works, cumulative, adverse and significant given the proximity of the development from this location.

Level of Visual Effect (Post construction with mitigation)

10.196 The nature of these effects would be Major-Moderate (footpath users) permanent for construction works, cumulative, adverse and significant given the proximity of the development from this location.

Viewpoint 9 – Footpath east, Pannal Ash

Baseline

10.197 Refer to Figure 17, Appendix 6C.Open views across the northern portion of the development site. Viewpoint taken from the footpath near Pannal Ash.

Sensitivity

10.198 Footpath users would be of a medium sensitivity.

Magnitude of Change

10.199 The proposals would cause a large change in close distance views from this footpath depending on the level of intervening mitigation vegetation. The extent of the changes would be visible is large and would substantially alter the composition of the current farmland view to one of a school with associated playground and car parking and tree planting areas. Overtime, the level of effect would reduce as mitigation planting matures. Refer Item 2 on the Landscape Masterplan.

Level of Visual Effect (Construction)

10.200 The nature of these effects would be Major-Moderate (footpath users) temporary for construction works, cumulative, adverse and significant given the proximity of the development from this location.

Level of Visual Effect (Post construction with mitigation)

10.201 The nature of these effects would be Major-Moderate (footpath users) permanent for construction works, cumulative, adverse and significant given the proximity of the development from this location.

Viewpoint 10 – Harrogate Ringway, Hill Top Lane

Baseline

10.202 Refer to Figure 18, Appendix 6C. Framed and filtered views towards the development site and Squinting Cat Public House and excavator undertaking trial trenching woks in the development site. Viewpoint taken from the footpath accessed from Hill Top Lane.

Sensitivity

10.203 Footpath users would be of a high sensitivity as this is a promoted route.

Magnitude of Change

10.204 The proposals would cause a perceptible change in close distance partial views from this footpath. The extent of the changes would be visible is small and partly obscured by vegetation.

Level of Visual Effect (Construction)

10.205 The nature of these effects would be Moderate (footpath users) temporary for construction works, cumulative, adverse and significant given the proximity of the development from this location.

Level of Visual Effect (Post construction with mitigation)

10.206 The nature of these effects would be Moderate (footpath users) permanent for construction works, cumulative, adverse and significant given the proximity of the development from this location.

Viewpoint 11 – Footpath near Lund House group of properties and The Cottage

Baseline

10.207 Refer to Figure 19, Appendix 6C. Open and extensive views across the southern portion of the development site. The northern portion of the Site is predominantly obscured by landform and intervening vegetation. Viewpoint taken from the footpath adjacent to and between the Lund House group of properties (The Manor House, The Stables, The Old Barn and Oaktree House) and The Cottage. Open and direct views available from 3 of these properties (The Manor House, The Old Barn and The Cottage) the footpath and side windows of The Stables. However, the area between these properties and the Site is subject to a planning application for a mixed-use development including residential housing. Should this be approved then views of the Site would be obscured from these properties by intervening buildings and planting.

Sensitivity

10.208 Visual receptors, which would include residents of the properties and users of the footpath. Footpath users would be of a medium sensitivity and residents would be of a high sensitivity.

Magnitude of Change

10.209 The proposals would cause a large change in middle distance direct views from three properties and the footpath. The extent of the area over which the changes would be visible is large and would substantially alter the composition of the current rural fringe farmland on the horizon to one of a suburban housing development. However, overtime the proposed perimeter mitigation planting (Item 15 on the Landscape Masterplan) will predominantly obscure views of the Site.

Level of Visual Effect (Construction)

10.210 The nature of these effects would be Major-Moderate (footpath users) and Major (residents), temporary for construction works, cumulative, adverse and significant given the proximity of the development and direct views available from this location.

Level of Visual Effect (Post construction with mitigation)

10.211 The nature of these effects would be Major-Moderate (footpath users) and Major (residents), permanent, cumulative, adverse and significant given the proximity of the development and direct views available from this location. The level of effect would reduce overtime until mitigation planting matures.

Viewpoint 12 – Lady Lane

Baseline

10.212 Refer to Figure 20, Appendix 6C. Filtered views towards the development site, predominantly obscured by hedgerows and mature hedgerow trees at this location. Viewpoint taken near Lund House group of properties at the side of Lady Lane.

Sensitivity

10.213 Road and footpath users would be of a medium sensitivity.

Magnitude of Change

10.214 The proposals would cause a perceptible although glimpsed change in middle distance views from Lady Lane at this location due to intervening vegetation. The extent of the area over which the changes would be visible is slight and views are partial and glimpsed.

Level of Visual Effect (Construction)

10.215 The nature of these effects would be Moderate/Minor for road users, temporary for construction works, cumulative, adverse and significant given the proximity of the development and direct views available from this location.

Level of Visual Effect (Post construction with mitigation)

10.216 The nature of these effects would be Moderate/Minor for road users, permanent, cumulative, adverse and significant given the proximity of the development and direct views available from this location.

Viewpoint 13 – Brackenthwaite Lane

Baseline

10.217 Refer to Figure 21, Appendix 6C. Panoramic direct, distant towards the development site on the horizon. Viewpoint taken near Well Garth Cottage and nearby footpath accessed off Brackenthwaite Lane.

Sensitivity

10.218 Road and footpath users would be of a medium sensitivity. Residents would be high sensitivity.

Magnitude of Change

10.219 The proposals would cause a barely perceptible change in long distance views from Brackenthwaite Lane. Although this would be dependent on the building material chosen. White rendered houses in Burn Bridge are particularly visible from longer distance views. The extent of the area over which the changes would be visible is slight but on the horizon.

Level of Visual Effect (Construction)

10.220 The nature of these effects would be Minor for road users, Moderate/Minor for residential properties, temporary for construction works, cumulative and adverse given the distance of the development and elevated views available from this location but not significant.

Level of Visual Effect (Post construction with mitigation)

10.221 The nature of these effects would be Minor for road users, Moderate/Minor for residential properties, permanent, cumulative, and adverse given the distance of the development and elevated views available from this location but not significant.

Viewpoint 14 – Hill Top Lane

Baseline

10.222 Refer to Figure 22, Appendix 6C. Viewpoint taken from gateway along Hill Top Lane. Views of Site obscured by intervening landform and hedgerows.

Sensitivity

10.223 Road users would be of a medium sensitivity.

Magnitude of Change

10.224 The proposals are unlikely to be seen due to intervening landform and hedgerow vegetation resulting in no change.

Level of Visual Effect (Construction)

10.225 No effect.

Level of Visual Effect (Post construction with mitigation)

10.226 No effect.

Viewpoint 15 – Almscliffe Crag

Baseline

10.227 Refer to Figure 23, Appendix 6C. Panoramic direct, distant views towards the development site on the horizon with a patchwork of regular green fields and hedgerows and adjacent well wooded horizon on the outskirts of Harrogate. Viewpoint taken from one of the highest points on Almscliffe Crag itself. The built form on the outskirts of Harrogate appear well assimilate due to the level of vegetation. Although, the white rendered houses of Burn Bridge stand out against the muted colours of the green fields and brown hedgerows and trees at the time of the site visit. The Castle Hill Farm construction site is barely discernible from this viewpoint.

Sensitivity

10.228 Visitors here would be high sensitivity.

Magnitude of Change

10.229 The proposals would cause a barely perceptible change in long distance views from this viewpoint. Although this would be dependent on the building material chosen. White rendered houses in Burn Bridge are particularly visible from longer distance views. The extent of the area over which the changes would be visible is slight but, on the horizon, and set against a backdrop of vegetation. A photomontage illustrates the proposed development in Figure 23b. At a 4km distance the development would be difficult to discern.

Level of Visual Effect (Construction)

10.230 The nature of these effects would be Moderate/Minor and temporary for construction works, cumulative, and adverse given the distance of the development and elevated views available from this location but not significant.

Level of Visual Effect (Post construction with mitigation)

10.231 The nature of these effects would be Moderate/Minor for visitors to Almscliffe Crag permanent, cumulative, and adverse given the distance of the development and elevated views available from this location but not significant.

Viewpoint 16– A61 at Swarth Hill

Baseline

10.232 Refer to Figure 24, Appendix 6C. This viewpoint is representative of views from the local road network from the A61 south east of the Development.

10.233 Notable features include the former police training academy and the distinctive white rendered houses in Burn Bridge. The development site and Castle Hill Farm construction site is not visible and screened by intervening vegetation.

Sensitivity

10.234 Visual receptors, as local road users accessing the residential properties in this location, would be of a medium sensitivity.

Magnitude of Change

10.235 The proposals would not be visible from this location.

Level of Visual Effect (Construction)

10.236 No effects.

Level of Visual Effect (Post construction with mitigation)

10.237 No effects.

Residential Properties

10.238 The effect of the Development on local residents requires particular attention because they would experience the Development from different locations, at different times of the day, usually for longer periods of time, and in different seasons.

10.239 Whilst individual or specific observations are made concerning views or potential views in the direction of the Development in respect of the relevant properties, a 'summation' is offered based on an opinion 'in the round' i.e. taking all relevant factors into account which could include the various potential views from the house, the surrounding amenity ground, the access/egress points and the immediately adjacent highway taking the views in the direction of the Development into account along with alternative views which may be available.

10.240 In all, 13 properties (including three groups of properties at Lund House, Pannal Ash and Rosset Green) have been assessed within 1 km via a combination of a site visit to the closest public location in the vicinity of that property (usually a road or footpath), views from within the site itself outwards and the use of Google Earth.

10.241 Whilst it is accepted that a number of properties would experience a large magnitude of change to a view or views, considering the proximity of the Development, it is not considered that any of these properties would suffer unduly from negative visual effects such as visual over-dominance, overbearance, or blocking of light, which collectively may affect the overall visual amenity, and associated living standards. This is mainly due to the design of open space within the scheme, mitigation planting within the site and distance and orientation of the proposed housing from existing properties.

10.242 Those residential receptors with views of the development are illustrated in Figure 8 (Appendix 6C) and include those detailed in Table 10.5 below. The effects below are during construction and post construction. Overtime these effects would reduce as mitigation planting matures and the level of effect would reduce.

Table 10.5: Visual Effects on Residential Properties	
Property	**Description of Effect**
Linton Cottage	Description: There are open and oblique views to the site from the side and rear elevation of the two-storey residential property which is orientated to the south east and towards Whinney Lane. Magnitude of Change: The predicted magnitude of change arising from the Development would be large. Level of Effect: **Major** – in particular views to the rear where new housing would be located. Views from side elevations of open green space. The nature of these effects during construction (temporary) and post construction would be permanent, indirect and adverse and significant.
The Old Poor House	Description: There are open and oblique views to the rear elevation of the two-storey residential property which is orientated to the south east and towards Whinney Lane. Magnitude of Change: The predicted magnitude of change arising from the Development would be large. Level of Effect: **Major** – views to the rear where new housing would be located. The nature of these effects during construction (temporary) and post construction would be permanent, indirect and adverse and significant.
Blue Coat Farm	Description: Potential oblique views from the side elevation of the two-storey farmhouse which is orientated to the south towards farmland. Otherwise intervening farm buildings obscure views from this property. Magnitude of Change: The predicted magnitude of change arising from the Development would be small (partial change in view from side window). Level of Effect: **Moderate** – oblique views from an upper side window towards the development. The nature of these effects during and post construction would be permanent, indirect and adverse and significant.
Bark Mill Cottage	Description: There are predominantly open and oblique views to the site from the front (upper and lower windows) elevation of the two-storey residential property which is orientated to the east and towards Lady Lane. Magnitude of Change: The predicted magnitude of change arising from the Development would be large. Level of Effect: **Major** – Views from upper and lower elevations. The nature of these effects during construction (temporary) and post construction would be permanent, indirect and adverse and significant.

Table 10.5: Visual Effects on Residential Properties	
Property	**Description of Effect**
Syke House Farm	Description: This residential property is orientated to the north east. There are potential oblique filtered views from the rear elevation although hedgerow vegetation along Whinney Lane limits views available. Magnitude of Change: The predicted magnitude of change arising from the Development would be negligible. Level of Effect: **Moderate/Minor** – Potential filtered oblique views from side elevation. The nature of these effects during construction (temporary) and post construction would be permanent, indirect and adverse and not significant.
Summerbeck House	Description: This residential property is orientated to the west and towards Whinney Lane and a tall garden hedge and mature hedgerow trees. There are potential filtered views from the front elevation (upper storey windows). Magnitude of Change: The predicted magnitude of change arising from the Development would be negligible. Level of Effect: **Moderate/Minor** – Potential filtered direct views from front elevation. The nature of these effects during construction (temporary) and post construction would be permanent, indirect and adverse and not significant.
Lund House group of properties (The Manor House, Old Barn, The Cottage, The Stables)	Description: There are open and direct views of the southern portion of the site from the side and front elevations of these two-storey residential properties which are orientated to the east over farmland and south west towards Lady Lane. Magnitude of Change: The predicted magnitude of change arising from the Development would be medium. Level of Effect: **Major/Moderate** – In particular views to the front of The Manor House, The Old Barn and The Cottage. Middle distance views of the southern portion of the development on the horizon. Views from side elevations of The Stables. Should the adjacent mixed-use development be approved the views of the Site would be obscured by intervening buildings and vegetation. The nature of these effects during construction (temporary) and post construction would be permanent, indirect and adverse and significant.
Pannal Ash	Description: There are oblique filtered views to the site from front and rear elevations of two-storey residential properties which are orientated to the north west towards Whinney Lane and to the south at Castle Hill Grove. Properties along Whinney Lane have potential oblique views of the school. Magnitude of Change: The predicted magnitude of change arising from the Development (in particular the school) would be small. Level of Effect: **Moderate** – Oblique views to the front and rear elevations of residential properties on the outskirts of Pannal Ash.

Table 10.5: Visual Effects on Residential Properties	
Property	**Description of Effect**
	Views from rear elevations would be predominantly obscured by the current construction of housing at Castle Hill Farm and intervening hedgerow vegetation and mature hedgerow trees. The nature of these effects during construction (temporary) and post construction would be permanent, indirect and adverse and significant.
Rosset Green	Description: There are potential views to the site from rear elevations of two-storey residential properties which are orientated west. However, the Castle Hill Farm construction would obscure any potential views of the development site. Magnitude of Change: No changes are predicted. Level of Effect: **No effect.**
Well Garth Cottage	Description: There are distant direct views to the site from front elevations of this two-storey residential property which is orientated to the north towards Brackenthwaite Lane. Magnitude of Change: The predicted magnitude of change arising from the Development would be negligible due to distance and setting of development within an area of perceived high level of woodland/hedgerow vegetation. Level of Effect: **Moderate/Minor**– Direct and distant views to the front elevation. The nature of these effects during construction (temporary) and post construction would be permanent, indirect and adverse and not significant.
Castle Hill Farm	Description: This former farmhouse is currently unoccupied and being redeveloped as part of the Castle Hill Farm housing scheme. There are direct filtered views to the site from front elevations of this two-storey property which is orientated to the north west towards Whinney Lane. Intervening garden vegetation and hedgerows and hedgerow trees partially limit views. Magnitude of Change: The predicted magnitude of change arising from the Development would be small. Level of Effect: **Moderate** – Direct although filtered views to the front elevations partly obscured by vegetation and in the future by the Castle Hill Farm housing currently being constructed. The nature of these effects during construction (temporary) and post construction would be permanent, indirect and adverse and significant.
Hill Top View	Description: There are partial oblique filtered views to the site from the front elevation (upper windows) of this two-storey residential property which is orientated to the north and towards Hill Top Lane. Views are partially limited by intervening vegetation.

Table 10.5: Visual Effects on Residential Properties	
Property	**Description of Effect**
	Magnitude of Change: The predicted magnitude of change arising from the Development would be small. Level of Effect: **Moderate** – oblique filtered views from upper windows towards the development. The nature of these effects during construction (temporary) and post construction would be permanent, indirect and adverse and significant.
Lund House Green Farm	Description: Potential oblique filtered views to the site from side and rear elevations (upper windows) of this two-storey residential property which is orientated to the north and towards Hill Top Lane. Views are limited by intervening garden vegetation and hedgerows/hedgerow trees. Magnitude of Change: No changes to existing view Level of Effect: **No effect.**

VISUAL EFFECTS ON VIEWS FROM PROW

10.243 There are a number of public footpaths and bridleways in the local landscape within the 2km study area (refer to Figure 4, Appendix 6C).

10.244 The visual effects that would be experienced by the walkers, riders and cyclists using these routes are described below in Table 10.6. The assessment of the potential effects on these routes has been assisted by the use of ZTV maps during the site assessment. The sensitivity of all these receptors is considered to be high (for the regionally promoted recreational route, the Harrogate Ringway) to medium, for local PRoW. Visibility of the Development varies due to the screening of intervening tree / woodland / hedgerow cover and distance and significant effects are generally limited to within 500m of the site. There would be no direct impact on PRoW.

Table 10.6: Visual Effects on PRoW	
Route	**Description of Effect**
Footpath from Lund House to northern boundary of site - No.s 15.54/69/1 15.108/18/1	Footpath No. 15.108/18/1 from the Lady Lane near Lund House to Castle Hill is predicted to experience the greatest effects to its setting due to proximity of the footpath to the site and open views available along sections of the path where vegetation doesn't limit views. Magnitude of Change: The proposals would cause a large change in middle distance direct views from near the Lund house group of properties and close distance views at Castle Hill. The extent of the area over which the changes would be visible is large and would substantially alter the composition of the current rural fringe farmland to one of a suburban housing development, a school and increased woodland planting. Level of Effect: **Major/Moderate,** and significant.

Table 10.6: Visual Effects on PRoW	
Route	**Description of Effect**
	The nature of these effects would be adverse and temporary for construction works and permanent post construction and experienced over short sections of footpath closer to the site such as Footpath No. 15.108/18/1 at Castle Hill. More so during the construction work, gradually reducing as mitigation planting matures. Users of the footpath near the Lund house group of properties would also have middle distance open views of the site on the horizon until mitigation planting matures.
Harrogate Ringway No.s 15.54/73/1 15.108/16/1	Framed and filtered views towards the development site and excavator undertaking trial trenching works and adjacent Castle Hill Farm construction site. Footpath users would be of a high sensitivity as this is a promoted route. Magnitude of Change: The proposals would cause a perceptible change in close and middle-distance partial and filtered views along approximately 500m of this footpath from Hill Top Lane eastwards until topography and intervening mature trees limit views further east as shown on the ZTV. The extent of the changes would be visible is small and partly obscured by vegetation. Level of Visual Effect: **Moderate,** and significant. The nature of these effects would be moderate and temporary for construction works changing to permanent post construction, cumulative and adverse given the proximity of the development from this footpath and views of the Castle Hill Farm construction works.
Footpath adjacent to Syke House Farm. No. 15.54/131/2	Views of the development site mainly visible at the entrance to the footpath off Whinney Lane. Further east views are partially obscured by intervening topography and hedgerows. Any potential views of the northern part of the development site (the school) would be obscured by the Castle Hill farm development. Footpath users would be of a medium sensitivity. Magnitude of Change: The proposals would cause a barely perceptible change in close distance views from the footpath as views would be predominantly obscured by the Castle Hill Farm housing development further east along the path. Views of the site predominately gained from the entrance at Whinney Lane. Level of Visual Effect: **Minor**, and not significant The nature of these effects would be Minor and temporary for construction works, permanent for post construction, cumulative, and adverse given the proximity of the development from this location.

Table 10.6: Visual Effects on PRoW	
Route	**Description of Effect**
Footpath near Rosset Green No. 15.54/131/1	Part of this footpath was closed at the time of the site visit due to the construction works at Castle Hill farm. Filtered views towards the development site partially limited by intervening hedgerow and trees. This view would change as construction works progress on the adjacent Castle Hill Farm housing development site resulting in views being obscured by housing at this location. Footpath users would be of a medium sensitivity. Magnitude of change: The proposals would cause a clearly noticeable change in view in middle distance views from this location at the time of the fieldwork. However, when the Castle Hill scheme is built it is unlikely any views of the development would be available from this location due to intervening houses. Therefore, no change is predicted for receptors at this location once the Castle Hill development is constructed. Level of Visual Effect: **None**
Footpath adjacent to former police training academy. No. 15.54/72/1	This footpath is located adjacent to the former police training academy and near to Rosset Green housing estate with views towards the construction site at Castle hill farm. Views of the development site are obscured by intervening topography and hedgerows. Any potential views of the development site would be obscured by the Castle Hill farm housing. Footpath users would be of a medium sensitivity. Magnitude of change: The proposals are unlikely to be visible due to intervening topography and vegetation and the future house currently being built at Castle Hill farm. Level of Visual Effect: **None**
Bridleways	There are a limited number of bridleways in the study area and are predominantly located to the north south and east but are not as numerous as public footpaths. Views are limited due to intervening buildings, vegetation and landform and the level of visual effects for receptors using these bridleways are considered to be **Minor** to **No effect.**

Visual Effects on the views from Listed Buildings

10.245 There are a number of Listed buildings in the local landscape within the study area (refer to Figure 4, Appendix 6C). The closest buildings with intervisibility with the site is Lund House, now named The Manor, and an adjacent converted listed barn called The Old Barn.

10.246 There are open and direct views to the site from the front elevations of these two-storey residential properties which are orientated to the east overlooking farmland in the foreground and mid distance where the site is located.

10.247 The predicted magnitude of change for the views from these listed buildings (as assessed in this report above in 14.2), arising from the Development would be medium.

10.248 The level of effect would be **Major/Moderate,** and significant, due to middle distance views available of the southern portion of the development on the horizon.

10.249 The nature of these effects during construction (temporary) and post construction would be permanent, indirect and adverse. Reducing over time until mitigation planting matures along the perimeter of the Site. Should the adjacent mixed-use development be approved the views of the Site would be obscured by intervening buildings and vegetation.

Visual Effects on Views from Transport Routes

10.250 This section considers the views from the main transport routes and the likely visual effects on receptors, visual experience whilst using the road network within the study area. The views from these routes would be experienced transiently by road and the sensitivity of all these receptors is considered to be low - medium (low for A-road users where potential views are fleeting and travelling at speed), and medium for users of the local road network.

10.251 The key routes were driven in both directions to assess the potential effects on the routes and the assessment has been assisted with the use of ZTV maps. Those routes outside the ZTV have not been assessed.

10.252 Site assessment work revealed that the site is predominantly viewed from rural roads immediately adjacent to the site and the level of tree cover throughout the study area limits views from roads further afield or are distant.

Table 10.7: Visual Effects on Transport Routes & Cycle Routes

Receptor	Description of Effect
A61	The sensitivity of visual receptors using the A934 road are considered to be low. At its closest point the A61 passes within 2.5 km east of the proposed Development. Magnitude of Change: The predicted magnitude of change arising from the Development would be negligible to no change due to distance and intervening vegetation. Any potential views from Swarth Hill would be barely perceptible. Level of Effect: **Negligible to no change**, and not significant The nature of these effects would be Negligible, permanent adverse or no effect. Refer to Figure 24, Appendix 6C
Brackenthwaite Lane	The sensitivity of visual receptors using this road are considered to be medium. At its closest point this road passes within 1.2 km south of the proposed Development. Magnitude of Change: The predicted magnitude of change arising from the Development would be negligible due to distance and

Table 10.7: Visual Effects on Transport Routes & Cycle Routes	
Receptor	**Description of Effect**
	setting of development within an area of perceived high level of woodland/hedgerow vegetation. Level of Effect: **Minor**, and not significant – direct and distant views available although barely perceptible at this distance. The nature of these effects during construction (temporary) and post construction would be permanent, indirect and adverse. Refer to Figure 21, Appendix 6C.
Hill Top Lane	The sensitivity of visual receptors using this road are considered to be medium. At its closest point this road passes within 85m south of the proposed Development. Magnitude of Change: The predicted magnitude of change arising from the Development would be negligible due roadside hedgerows and other vegetation. Views closer to the site near Hill Top View become more apparent otherwise the development is predominantly screened from view along this road. Level of Effect: **Minor**, and not significant – filtered views available around Hill Top View otherwise barely perceptible. The nature of these effects during construction (temporary) and post construction would be permanent, indirect and adverse. Refer to Figure 22, Appendix 6C.
Whinney Lane	The sensitivity of visual receptors using this road are considered to be medium. At its closest point this road passes immediately east of the proposed Development. Magnitude of Change: The predicted magnitude of change arising from the Development would be large due to the proximity of the site and gaps in hedgerows/low height affording open direct views. Level of Effect: **Major/Moderate** and significant – Open direct views. The nature of these effects during construction (temporary) and post construction would be permanent, indirect and adverse. Refer to Figure 9, Appendix 6C.
Lady Lane	The sensitivity of visual receptors using this road are considered to be medium. At its closest point this road passes immediately south of the proposed Development. Magnitude of Change: The predicted magnitude of change arising from the Development would be large due to the proximity of the site and gaps in hedgerows affording open direct views particularly the section south of Bark Mill Cottage. Further north there is an increase in taller mature hedgerow trees and hedgerows. Around Lund house and beyond limiting views further north.

Table 10.7: Visual Effects on Transport Routes & Cycle Routes	
Receptor	**Description of Effect**
	Level of Effect: **Major/Moderate**, and significant– Open direct views. The nature of these effects during construction (temporary) and post construction would be permanent, indirect and adverse. Refer to Figure 11, Appendix 6C.

CUMULATIVE EFFECTS

10.253 Potential close to middle distance views from the north, east, west and south of the Development (up to 500m) would be seen in the context of the existing Castle Hill Farm construction site and future development, within the larger H51 allocated area for mixed use development on the south western edge of Harrogate. This would result in potential 'in combination' and sequential landscape and visual cumulative effects.

10.254 The Development, when considered cumulatively with the Castle Hill Farm site, would serve to increase the built form over a localised area extending the urban edge of Harrogate and changing the character of the Site area.

10.255 Landscape mitigation and enhancement is proposed, see Drawing 51156-DR-LAN-101 Landscape Masterplan, which seeks to reduce the visual and landscape impact of the Development and increase biodiversity and extend the green infrastructure network.

10.256 Within the wider landscape, the two developments can be seen from Viewpoints 13 and 15 at distances of between 1.2km and 4km but would be barely discernible due to distance and the well wooded character of the urban edge of Harrogate and any cumulative landscape effects are not considered significant.

10.257 Significant visual effects are predicted for close proximity receptors where large changes to views and landscape character would be experienced and the level of effect is considered to be of major significance, but confined to a localised area (0.5km distance) within an area which is currently influenced by the urban edge of Harrogate.

SUMMARY & CONCLUSION

Summary of Predicted Landscape Effects

10.258 The development of the site would involve the loss of local landscape features such as improved pasture agricultural land, and small sections of hedgerow where new access roads would be located. However, as part of the Landscape & Green Infrastructure Plan, additional landscape features would be incorporated into the development including woodland, hedgerows and hedgerow trees and species rich grassland and wetland features.

10.259 The site is located in the regionally designated landscape, the Crimple Valley Special Landscape Area and is considered that the proposals accord with the following criteria,

'Ensure that development proposals are linked to existing settlements and are designed to enhance the appearance of the urban edge and its integration with the countryside.'

10.260 The overall character and qualities of the site and wider study area generally conform to LCA and SLA characteristics, as a rural landscape with wide ranging views, woodland, many trees along field boundaries and the urban edge of Harrogate, with a varied PRoW network and serving to separate Harrogate from Pannal and Spacey Houses (Policy NE4 and SLA designation). The development would not adversely affect the open landscape between Pannal and Harrogate and would maintain open rural areas. The recently approved (with reserved matters) housing development on the former police academy training centre is located in closer proximity to Pannal.

10.261 However, the site is influenced by the urban edge of Pannal Ash, and the construction activities at Castle Hill Farm housing development.

10.262 Significant effects on landscape character arising from the Development are restricted to the Site, and its immediate setting due to surrounding vegetation and the boundary of Lady Lane providing containment to the south. The character of the Site would change from a rural setting influenced by the urban edge to a sub urban land use. This would be partly mitigated through, new hedgerows and woodland planting provided as part of the Development to integrate it with the wider landscape as well as helping to restore characteristic landscape features that have become lost or eroded.

10.263 The influence of the Development is considered to be limited to a distance of approximately 500 m from the Site with significant effects limited to this distance also where, with mitigating measures in place, residual effects on landscape character are judged to be **major/moderate** significance but at a localised level.

10.264 Effects on the SLA are considered to be **major/moderate** at a local level but would not affect this designation in the wider area due to the limited geographical extent of the site within the SLA and the influence of the urban edge. Similarly, the Development may give rise to significant cumulative effects on landscape character but at a localised level as distant views of the site are barely discernible from elevated viewpoints and the extent of the site and cumulative sites are well absorbed by the high levels of tree cover when viewed from elevated viewpoints to the south at Brackenthwaite and Almscliffe Crag.

Summary of Predicted Visual Effects

10.265 The visual appraisal indicates that views of the Development from some residential, footpath and road receptors would be significant i.e. Major, Major/Moderate or Moderate, within a 500 m radius of the site. This is due to:

- The site boundaries have gaps in vegetation (Lady Lane) or where hedgerows are present, they are shorter in places along Whinney Lane;
- The site is located on a south facing sloping site which contributes to its visibility;
- The proximity of local roads and footpaths to the site; and
- The orientation of residential housing towards the site.

10.266 Effects on views and visual amenity are limited by the undulating landform and the level of tree cover within the study area, which combine to limit views towards the Site to close range or distant.

10.267 Significant visual effects are predicted for some residential properties found within 500 m of the Site, of which three properties are judged to undergo effects of major significance on views and visual amenity where they lie in close proximity with open and direct views. These are Bark Mill Cottage, Linton Cottage and The Old Poor House where, with mitigation in place, residual effects are considered to be of major significance during and post construction. Other properties considered to experience residual effects of major/moderate significance are the group of properties at the former Lund House (The Manor and The Old Barn) and The Cottage adjacent. These all have open and direct views from front elevations approximately 250m north west of the development boundary at the closest point. Other properties considered to experience residual effects of moderate significance are housing along Whinney Lane in Pannal Ash (in particular views of the school), Castle Hill Farm and Hill Top View and Blue Coat Farm. These properties are in close proximity but have limited views due to intervening vegetation or orientation of the buildings.

10.268 Significant visual effects are predicted from the network of public footpaths that pass within 500m of the Site. Of these, users of a short section of Harrogate Ringway would undergo significant effects on views and visual amenity where they pass closest south of the Site. Residual effects are judged to be of moderate significance.

10.269 Similarly, users of the public footpath from Lady Lane, adjacent to Lund House which extends north towards the northern site boundary are considered to undergo significant effects where close to middle distance open and direct views of the Development are available where vegetation doesn't limit views. Residual effects on these receptors are considered to be of **major/moderate** significance.

10.270 Users of Whinney Lane and Lady Lane are also predicted to experience residual effects of major/moderate significance as they have open and direct views of the site.

10.271 Effects on views and visual amenity from PRoW, roads and residential receptors can be largely mitigated in the longer term by new planting within and along the boundaries of the Site to break up the built form.

10.272 The Development would give rise to potential cumulative effects, either statically (in combination) from one location (i.e. Whinney Lane, Lady Lane and footpaths identified above), or sequentially along the local road and core path networks within a 500m radius. Although some of these views are filtered and limited by intervening landform and vegetation. At longer distance viewpoints there is potential for the allocated area to be seen in conjunction with the Site and the Castle Hill Farm construction site. However, these are at distance and the wooded character of the south western edge of Harrogate would make the site and adjacent developments barely discernible.

10.273 Similarly views from Almscliffe Crag are not considered to be significant (moderate/minor) due to distance (4km) and the Development is seen against the backdrop of the wooded character of Harrogate. Although this would be dependent on choosing appropriate muted colours for the housing and school. For example, avoiding white coloured buildings.

10.274 Any significant visual effects identified would, over time, reduce as mitigation planting matures reducing the extent of views available.

Conclusion

A LVIA has been undertaken to identify the landscape and visual resources of the Site and surrounding area and to assess the likely effects that the Development may have

on identified landscape and visual receptors. The purpose of the LVIA has been to determine whether any of the identified effects would be significant and potentially result in an unacceptable change to the character of the landscape or to visual amenity.

10.275 The development site and wider area to the west lies with a parcel of land known as H51 and is allocated as a mixed-use development within the HBC Local Plan. In terms of landscape character, the site lies with the Upper Crimple Valley LCA and display some of the characteristics of this LCA. Although the site is rural in character it is influenced by the urban fringe of Harrogate (modern housing at Pannal Ash, Squinting Cat Public House and wacky warehouse) and housing construction work immediately adjacent to the east of the site at Castle Hill Farm

10.276 The landscape features on site such as existing hedgerows, fencing and stone walls are in varying condition and the boundaries of the site are open in places allowing direct views across the site. The site lies within the Crimple Valley Special Landscape Area and as such is considered to be a landscape of medium sensitivity. Changes to the landscape character are considered to be significant over a localised area but would not adversely affect the wider LCA area.

10.277 Significant visual effects are predicted for several residential properties, road and footpath users including properties at the former Lund House, Blue Coat Farm, Bark Mill Cottage, Linton Cottage, The Old Poor House, Hill Top View, Castle Hill Farm, the outskirts of Pannal on Whinney Lane, Lady lane, Whinny Lane and two footpaths to the north/north west and east (Harrogate Ringway).

10.278 Where significant landscape and visual effects and cumulative effects have been identified these are localised and would reduce over time as the mitigation planting matures, the extent of views are reduced and the development becomes integrated into the landscape. As such it is considered the site has the capacity to absorb the development.

10.279 A comprehensive masterplan has been produced taking into consideration landscape and visual mitigation as well as biodiversity consideration and has been guided by the HBC Green Infrastructure Supplementary planning guidance (SPD) and other relevant HBC design guides and SPD's, field work and planning policy.

11. ARCHAEOLOGY

11.1 Consultants WYAS have provided archaeological advice to inform the Environmental Assessment. Two reports are attached at Appendices 7 and 8.

11.2 There is evidence for archaeological or historical settlement activity in the area, and the site is likely to have been used as agricultural land, as it has been in the recent past. A geophysical survey identified features of a possible archaeological origin, in the form of enclosures, areas of settlement, boundaries and ring ditches.

11.3 Based on the results of the desk-based assessment and the geophysical survey, the archaeological potential is considered to be high in the north and southwest of the proposed development area and medium to low elsewhere.

11.4 A programme of trial trenching was agreed and took place in the spring of 2020 which will help inform the determination of this planning application.

11.5 The desk top study looked at a wider study area around the application site which included 22 heritage assets and records which are catalogued in Chapter 5 of Appendix 7. Only two of these assets and records are located within the application site (one of which is the output of the applicant's geophysical survey). The top end of the site has been called Castle Hill at least since the 1851 Ordnance Survey map and Grainge wrote about local tradition that Pendragon encamped his army at this location. However no trace of fortification has been found and so the significance of the name is considered to be low.

11.6 The three assets of medium significance are listed buildings outside the application boundary. Lund House and Barn are considered in greater detail below because of their proximity and relationship with the site. Springfield House is located on Green Lane with no inter-visibility to the application site.

11.7 A geo-physical survey of the site was undertaken in August 2019 to provide additional information on the archaeological resource of the site. Appendix 7 contains the results of this survey. Figures 4-9 of Appendix 7 indicate areas of interest known as anomalies. Some of these can be attributed to non-archaeological factors such as agriculture or underlying geology. The clearest archaeological anomalies are A1 and A2 at the north end of the site and A3 at the southern end. These are both believed to be historic enclosures. There are further possible archaeological anomalies P1-P5.

11.8 A programme of trial trenching was designed to complete the archaeological assessment (see Appendix 8). The consultant took into consideration the findings of investigations on neighbouring sites to west and east. Nine trenches were agreed to be sufficient, targeted on anomalies from the geo-physical survey. The initial findings of the trenching are included as Appendix 8. Environmental samples are still being analysed and so a more complete report will be issued in due course. It is worth noting that Trench 6 which is located in the south of the site near Lady Lane has revealed evidence of iron-age or early medieval slag.

12. HISTORIC BUILDINGS

INTRODUCTION

12.1 M B Heritage and Planning Ltd were appointed to provide a specialist assessment of the potential impacts upon the built historic environment predicted to arise from the proposed development.

12.2 The site falls in proximity to a number of designated and non-designated heritage assets and, as such, development will have potential to impact upon the built historic environment. The nature and extent of this impact is considered within the assessment at Appendix 9.

12.3 The report is structured to initially summarise the relevant policies and guidance at national and local level which inform assessment and decision-taking in respect of the historic environment. It then describes the significance and heritage values of the site having regard to Historic England guidance and sets out national policy guidance central to the consideration of the development. This provides a baseline framework for the assessment of potential impacts and guidance on potential mitigation measures where harm is identified.

POLICY AND ASSESSMENT GUIDANCE

Legislative Background

12.4 The Planning (Listed Buildings and Conservation Areas) Act 1990 (the Act) sets out the principal statutory instruments which must be considered by the decision-taker in the determination of any application affecting a listed building or conservation area. Section 66 of the Act states that in considering whether to grant planning permission for development which affects a listed building or its setting the local planning authority shall have special regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses.

12.5 Case law confirms that where harm to a listed building or conservation area or its setting is identified this a matter to which great weight and importance should be attached in the planning balance.

National Policy and Guidance

12.6 The policies contained within NPPF, comprise the Government's view of what sustainable development should constitute in practice. The protection and enhancement of the built and historic environment is an over-arching environmental object within NPPF (para 8). A heritage asset is defined as:

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

12.7 Significance, for heritage policy, is defined as:

"The value of a heritage asset to this and future generations because of its heritage interest. This interest may be archaeological, architectural, artistic or historic.

Significance derives not only from a heritage asset's physical presence, but also from its setting."

12.8 In undertaking any heritage assessment, the aim should be to demonstrate understanding of the nature of significance and the particular interest which contributes to that significance, the extent of the building fabric that holds this interest and its comparative level of importance. Historic England Advice Note 12 (HEAN12) indicates that heritage assessments of significance should provide an impartial analysis of significance and the contribution of setting:

"A Statement of Heritage Significance is not an advocacy document, seeking to justify a scheme which has already been designed; it is more an objective analysis of significance, an opportunity to describe what matters and why, in terms of heritage significance."

12.9 HEAN12 advocates a stage approach to decision-taking in applications affecting heritage assets:

- Understand the form, materials and history of the affected heritage asset(s).
- Understand the significance of the asset(s).
- Understand the impact of the proposal on that significance.
- Avoid, minimise and mitigate negative impacts in a way that meets the objectives of the National Planning Policy Framework.
- Look for opportunities to better reveal or enhance significance.

12.10 Further guidance on the assessment process is provided in Historic England Good Practice Advice in Planning 2, Managing Significance in Decision-Taking in the Historic Environment, 2015 (GPAP2). This notes that if there is apparent conflict between the proposed development and the conservation of a heritage asset consideration may need to be given alternative means of delivering the development which leads to a more sustainable result which reduces potential harm to significance. This process, reflected in HEAN12 advice, should be undertaken before weighing the public benefits of a proposal against any harm.

12.11 NPPF indicates that, when considering the impact of a proposed development on the significance of a designated heritage asset great weight should be given to an asset's conservation. Such weight should be given irrespective of the extent of potential harm identified (paragraph 193). For heritage policy 'conservation' is defined as:

"The process of maintaining and managing change to a heritage asset in a way that sustains and, where appropriate, enhances *its significance."*

12.12 Paragraph 192 of the Framework states that, in determining planning applications, local planning authorities should take account of:

- "The desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation;
- The positive contribution that conservation of heritage assets can make to sustainable communities including their economic vitality; and

- The desirability of new development making a positive contribution to local character and distinctiveness."

12.13 Paragraph 194 states that any harm to, or loss of, the significance of a designated heritage asset should require clear and convincing justification. Paragraph 195 indicates that, where it is concluded that an application will lead to substantial harm to, or total loss of, significance to a designated heritage asset, authorities should refuse consent unless it can be demonstrated that:

"The substantial harm or loss is necessary in order to achieve substantial public benefits that outweigh that harm or loss."

12.14 Where less than substantial harm is identified to the significance of a designated heritage asset the Framework advises, at paragraph 196, that authorities should weigh the public benefits of the proposal against the harm identified.

12.15 The Framework does not provide a definition of 'substantial harm' but National Planning Practice Guidance (NPPG) does consider the process of assessment and states that:

"Whether a proposal causes substantial harm will be a judgement for the decision-taker, having regard to the circumstances of the case and the policy in the National Planning Policy Framework. In general terms, substantial harm is a high test, so it may not arise in many cases ……. It is the degree of harm to the asset's significance rather than the scale of development that is to be assessed, the harm may arise from works to the asset or from development within its setting".

12.16 Where development falls within the setting of heritage assets, the Framework indicates that authorities should look for opportunities for new development to enhance or better reveal their significance. Where proposals preserve those elements of setting that make a positive contribution to the asset (or which better reveal significance) they should be treated favourably (paragraph 200). As regards the consideration of what constitutes the setting of a heritage asset the Framework provides the following definition:

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

12.17 Historic England has guidance in respect of the setting of heritage assets (Historic Environment Good Practice Advice in Planning, Note 3 (Second Edition) indicates, at paragraph 9, that:

"Setting is not itself a heritage asset, nor a heritage designation, although land comprising a setting may itself be designated. Its importance lies in what it contributes to the significance of the heritage asset or to the ability to appreciate that significance."

12.18 The advice note sets out a staged approach to proportionate decision-taking and recommends a broad approach to assessment, undertaken as a series of steps that may be applied proportionately to complex and more straightforward cases (paragraph 19):

- Step 1 Identify which heritage assets and their setting are affected

- Step 2 Assess the degree to which these settings make a contribution to the significance of the heritage asset (s) or allow significance to be appreciated

- Step 3 Assess the effects of the proposed development, whether beneficial or harmful, on that significance or on the ability to appreciate it

- Step 4 Explore the way to maximise enhancement and avoid or minimise harm

- Step 5 Make and document the decision and monitor outcomes

12.19 In considering the setting of an asset and potential impacts upon it, it is important to not draw too narrow an interpretation. Both policy and guidance provide a broad definition of setting which makes clear that this should not be based solely upon the existence of a physical or visual connection. Planning Practice Guidance, at paragraph 013 states that:

"The extent and importance of setting is often expressed by reference to visual considerations. Although views of or from an asset will play an important part, the way in which we experience an asset in its setting is also influence by other environmental factors such as noise, dust and vibration from other land uses in the vicinity, and by our understanding of the historic relationship between places. The term setting is not defined in purely visual terms in the NPPF which refers to the "surroundings in which a heritage asset is experienced". The word "experienced" has a broad meaning, which is capable of extending beyond the purely visual."

12.20 In respect of the consideration of development impacts upon views the Historic England setting guidance indicates that views which contribute more to the understanding of the significance of a heritage asset include:

- Those where the composition within the view was a fundamental aspect of the design or function of the heritage asset

- Those where town or village-scape reveals views with unplanned or unintended beauty

- Those with historical associations, including viewing points and the topography of battlefields

- Those with cultural associations, including landscapes known historically for their picturesque and landscape beauty, those which become subjects for paintings of the English landscape tradition, and those views which have otherwise become historically cherished and protected

- Those where relationships between the asset and other heritage assets or natural features or phenomena such as solar or lunar events are particularly relevant.

12.21 The setting guidance is adopted within the assessment at Appendix 9.

Local Planning Policy and Guidance

12.22 The Harrogate District Heritage Management Guidance Supplementary Planning Document (SPD) was adopted in 2014. The SPD broadly accords with NPPF and sets out, amongst other things, a number of general principles to be following in considering

development affecting heritage assets. In summary, it indicates that the loss of any significance should be minimised and will be permitted only where any harm is justified by the public benefits of the proposal. New development affecting a listed building or its setting should incorporate high quality design.

12.23 In respect of non-designated buildings or features the SPD states (para. 159) that:

"There is a presumption against any development which would remove, demonstrably harm or undermine the significance of a non-designated asset, or its contribution to the character of a place, unless the public benefits of the development would outweigh the harm; New development should enhance or reinforce those characteristics, qualities and features of the environment that contribute to local distinctiveness within the district's rural and urban areas."

12.24 The Harrogate District Local Plan (HDLP) was adopted in March 2020. Policy HP2 states that, in respect of designated and non-designated heritage assets, proposals should protect or enhance those elements that contribute to special architectural or historic interest. The Policy also indicates that, where proposals would remove, harm or undermine the significance of a non-designated heritage asset, they should only be permitted where the benefits are considered sufficient to outweigh the harm.

12.25 The assessment site forms part of an areas of land allocated within the HDLP under the provisions of Policy DM3, Mixed Use Allocations, site reference H51 Land East of Lady Lane, Harrogate. The overall site, which extends to the north, north-west and west of the assessment site, comprises around 50 hectares of currently agricultural land. Potential yield is given as around 690 dwellings with 8 hectares comprising employment uses. The HDLP sets out a number of site requirements in respect of the allocation site, those relevant to the historic environment stating:

2. Jackland House Farm is a non-designated heritage asset within the site; development of the site should minimise harm and where possible enhance the significance of this asset. This should include retaining and sensitively converting the farm buildings and protecting their setting.

4. Lund House Farm and barn are both nearby Grade 2 listed buildings; development of the site should minimise harm and seek opportunities to enhance the significance of these designated heritage assets; this should include keeping a significant buffer of land around these buildings free from built development.

5. The cottages off Whinney Lane, Ash View terraces and the farms of Castle Hill, Syke House and Blue Coats, Ash View, Harlow View, Crag View and 24-34 Whinney Lane are nearby non-designated heritage assets; the development of the site should respect these assets.

8. Retain the trees, hedgerows and ditches on-site, including protecting trees and hedgerows.

9. Enhance and reinforce existing field boundaries with new planting of native hedgerow and tree species.

12.26 The site requirements also state that the master planning of the site should have due regard to nearby development sites H36: Former Police Training Centre, Yew Tree Lane and H70: Land east of Whinney Lane. Both of these development sites, along with H88: Land at Beckwith Hill Road, will shape the contextual setting of the

assessment site. For clarity the relationship of these sites is shown on Figure 2 of Appendix 9.

12.27 As part of the evidence for the HDLP a number of Built and Natural Environment Site Assessments (2016) were prepared in respect of the proposed allocations. In respect of site H51 this confirms those designated and non-designated built heritage assets, as set out in the site requirements (see para. 2.30), likely to be affected by development. This provides background to the assessment set out below.

12.28 The Inspector's Report on the Examination of the Harrogate District Local Plan (January 2020) considered the potential impact of the development of the H51 allocation site upon built heritage assets (paragraph 165):

"The rural setting of the heritage assets, being chiefly extant or former farms, would be compromised by proposed development, albeit that there does not appear to be any functional link between them and the allocation site. Even so, the most significant heritage assets, Lund House and Barn (the latter having been converted into residential units), very much turn their back on the site such that any harm would be at the lower end of less than substantial. Their significance would appear, now, to relate chiefly to their inter-relationship with each other and to their history, form and appearance. Again, I consider that the public benefit arising from the delivery of a mixed used scheme upon the site would outweigh the limited harms arising."

BASELINE ASSESSMENT

12.29 A baseline assessment study has been undertaken in order to identify heritage assets within, and in proximity to the site, which may be potentially affected by the development proposals. This, as appropriate, identifies:

- Designated heritage assets including buildings statutorily listed as being of special architectural or historic interest, conservation areas, scheduled monuments and designated landscapes;
- Non-designated heritage assets including buildings or structures of local interest;
- The elements, both built and within the human-made landscape, which contribute to the significance and setting of the identified heritage assets;
- The contribution of the site, as existing, to the significance and setting of the identified heritage assets; and
- The historical relationship of the site to the identified heritage assets.

12.30 The baseline assessment and identification of heritage assets has been compiled through reference to documentary and archival resources and field surveys. The following information has been reviewed in compiling the baseline set out below:

- The National Heritage List for England (NHLE)
- The National Record for the Historic Environment (NRHE)
- The North Yorkshire Historic Environment Record (NYHER)
- Historic mapping of the site and surrounding area;

- North Yorkshire Archive Office;
- Local Planning Authority documents, including relevant Conservation Area Appraisals

12.31 Relevant built heritage assets falling within the vicinity of the site are summarised below.

Site Context

12.32 The site comprises around 12.68 hectares of land currently in agricultural pasture use located to the west of Whinney Lane and extending to the south-west to adjoin Lady Lane. It is divided into 4 comparatively large enclosed fields with boundary divisions comprising hedgerows, tree groupings and individual tree species along with post and rail fencing. The field division to the south is fragmentary and defined by the Clark Beck. Field access is taken off Whinney Lane and from Lady Lane to the south-west corner of the site. Land form is undulating and generally slopes down to the south and south-west. This allows relatively expansive views from Castle Hill and Whinney Lane across an agricultural landscape to the south, south-west and southeast. A public right of way crosses the northern boundary of the assessment and links Whinney Lane with Lady Lane to the west.

12.33 The North Yorkshire, York and Lower Tees Valley Historic Landscape Characterisation study (2010) describes the site as forming part of a larger area of enclosed land (HNY4670) extending to around 36 hectares and described as:

"This is an area of possible strip fields centred on Beckwith House [located to the west of the site] *which consists of small irregular fields defined by s-curved overgrown hedgerows. This area has significant legibility with no* real *boundary loss since the first edition OS. This seems to represent an area of medieval enclosure, although it is not completely clear. It seems to be the survival of a bigger area of strip fields, most of which became piecemeal enclosure in the early post medieval period."*

12.34 Land use to the immediate north, west and south of the site remains predominantly in agricultural use with a number of scattered farmsteads dating from the 18th and 19th centuries. The Cardale Park business park is located further to the north-west and is largely screened by buffer planting. Residential development is relatively close beyond a single field to the north of the site with 20th century estate development to the north-east along Castle Hill Drive and Whinney Lane. Residential development, part of the HDLP H70 allocation, has also been approved to the east of Whinney Lane and the assessment site, around Castle Hill farmhouse which is to be adapted and retained. This development comprises the erection of 130 dwellings extending to the north and south of the Castle Hill building group to the boundary of the Syke House curtilage. Infrastructure works include the laying out of a new roundabout on Whinney Lane with spurs linking to the new estate and projected to the west, into the assessment site. The development was granted Reserved Matters planning approval in September 2019 (19/02342/REMMAJ).

Historical Background and Mapping Record

12.35 Having regard to baseline data, the site is likely to have remained in agricultural use since the medieval period with no evidence of settlement within, or within the immediate vicinity. Pannal is not referenced within the Domesday survey and during this period the area fell within the Manor of Beckwith with Rossett. Mention is made by Grainge (1871) of Castle Hill, "where tradition says Pendragon encamped with his

army" although there is no evidence of fortification works. The area was included within the Forest of Knaresborough, a royal hunting forest, established following Conquest and fell within the honour of Knaresborough.

12.36 The enclosure of the Forest of Knaresborough began in the early 17th century and parliamentary enclosure of land including the assessment site is recorded in 1778 (Knaresborough Forest Enclosure Map 1778). The structure of this enclosure can be discerned within the current landscape and represented by long straight field divisions seen to the west of the site and, more fragmentary, to the north. Much of the landscape is however now overlain by later enclosure which had been established by the mid-19th century. The integrity of this enclosure has been diminished with the site to some degree by the amalgamation of fields during the early 20th century.

12.37 The first edition Ordnance Survey (OS) map, published in 1851, shows the site as part of a wider agricultural landscape punctuated by a number of scattered farmsteads and building groups. These include farmsteads at Lund House, Jackland House, Blue Coats (unmarked), Lund House Green (unmarked) Syke House and Castle Hill (unmarked). A School and Poorhouse is marked to the south of the site along with the Three Horse Shoes Inn, the latter now the site of the Squinting Cat Public House. Both sites retain buildings likely dating to the early 19th century although now substantially adapted and extended. The assessment site is shown as comprising eight fields, of varying sizes running to the west of Whinney Lane and extending to Lady Lane to the west/south-west.

12.38 The 1891 OS map shows some amalgamation of fields to the central and southern sections of the site. Little change is shown to the landscape context of the site although more detail is shown of the farmsteads in the area, these generally comprising principal house with courtyard outbuildings arrange in L and U-shaped plan forms. Treed enclosure is indicated to the west side of Syke House along the Whinney Lane frontage. The terrace of workers houses on Ash View to the north has been constructed by this point. By the time of the publication of the 1909 OS plan further field amalgamation has occurred and the current pattern of field divisions within the site established. The group of workers houses has been constructed at Crag View, Harlow View and along Whinney Lane to the north.

12.39 Subsequent mapping shows no significant changes within the site or its immediate context. By the 1960s the sub-urban expansion of Harrogate and Pannal Ash is evident with the construction of new estate development along Yew Tree Lane to the north. This suburban expansion continued during the late 20th century with residential development around Castle Hill and Whinney Lane to the north and north-east.

12.40 Copies of selected OS mapping are included at Appendix 2 of Appendix 9.

Heritage Assets

12.41 An initial assessment of record heritage assets falling within the vicinity of the site has been undertaken based upon a 1km search radius from the site centre. This radius is considered appropriate having regard to the context of the site and nature of the development proposal.

12.42 The National Heritage List for England (NHLE) hold three records falling within the search area, these being:

Lund House, Lady Lane (Grade II Listed Building)

12.43 Late 18th century farmhouse, in 2-storeys and constructed in gritstone under a stone slate roof. The building is located to the east of Lady Lane and west of the assessment site. The site forms part of the historic and contemporary agricultural setting to the House and as such development impacts can be anticipated. The nature and extent of these impacts are considered in the next Section.

Barn Approximately 5 metres east of Lund House, Lady Lane (Grade II Listed Building)

12.44 Mid-late 18th century barn associated with Lund House and sharing group value. Constructed in a similar coursed gritstone and stone slate roof covering. As with Lund House, the site forms part of the agricultural landscape setting to the Barn and potential impacts are assessed within the next section.

Springfield House, Green Lane (Grade II Listed Building)

12.45 Early to mid-19th century house with later additions. In two storeys and constructed in a sandstone ashlar under a Welsh slate roof covering. The building is located within the current built up area of Harrogate to the north-east. Given distancing, landform and intervening built form it is not considered that the site forms part of setting to the building and as such no development impacts are anticipated.

12.46 The National Record of the Historic Environment holds one record within the search area. This comprises a find spot of Iron Age quern stones (MN 51813) located to the west of the site (NGR: SE2792 5230) near Howe Quarry. Given distancing and the nature of the record, no development impacts are anticipated.

12.47 The North Yorkshire Historic Environment Records holds four records within the search area, these being:

Earthworks at Beckwith Head

12.48 Pit and enclosure earthworks of unknown date and associated find of a quern stone, late Iron Age to Roman. Possible indication of earlier settlement.

Ridge and Furrow north of Beckwith Lodge Farm

12.49 Areas of medieval ridge and furrow located to the north side of Beckwith Lodge Farm to the west of the site.

Beehive Quern, Howe Quarry

12.50 Quern stone, likely Iron Age, found at Howe Quarry to the west of the site.

Quern, near Beckwith House

12.51 Quern stone, likely Iron Age, found near Beckwith House to the west of the site.

12.52 No NYHER entries fall with the site are in immediate proximity to it. Given the nature of the records no development impacts are anticipated.

12.53 As noted earlier, the Council has identified a number of non-designated built heritage assets falling within and in the vicinity of the wider H51 mixed use allocations. These are listed below:

Jackland House Farm, Lady Lane

12.54 18th century yeoman's farmhouse constructed in stone with slate roof. Associated L-shaped barn range is coursed rubble stone with pantile/stone slate roof covering. Located within the wider H51 allocation site, outwith and to the west of the assessment site and west of Lund House.

Castle Hill, Whinney Lane

12.55 Early 19th century farmhouse with later extensions shown on the first edition OS plan and later marked as *Castlehill Farm*. Constructed in stone with grey slate roof covering. Located to the east of the site and Whinney Lane

Sykes House Farm, Whinney Lane

12.56 Early 19th century farmhouse with a range of outbuildings and later extensions now converted to residential and ancillary uses, located to the west of the site and Whinney Lane. Constructed in a coursed stone under grey slate roof.

Blue Coats Farm, Lady Lane

12.57 Late 18th or early 19th century farmstead located to the west of the site and Lady Lane. The farm group is shown, unmarked, on 19th century mapping. The farmhouse and associated barns are constructed in stone with stone slate roof covering and retain a strong vernacular character.

Ash View, Harlow View, Crag View and 24-34 Whinney Lane

12.58 A series of workers houses/terraces constructed between the late 19th (Ash View) and early 20th century. In stone with slate roofs. The Crag View houses to the south orientate towards the site.

12.59 No currently recorded built heritage assets fall within the site. Potential development impacts upon the significance, within setting, of the listed Lund House and non-designated heritage assets are considered in the next Section. The location of these assets is shown in Figure 3 below:

Figure 3: Location of Built Heritage Assets

ASSESSMENT OF SIGNIFICANCE AND DEVELOPMENT PROPOSAL

Potential Development Impacts

12.60 Having regard to the initial scoping exercise of potential impacts and the baseline study set out above it is considered that the principal potential development impacts will be those upon the significance, within setting of the Grade II listed Lund House and associated, individually listed barn, and upon the setting of a number of non-designated heritage assets falling within the vicinity of the site.

12.61 The extent and nature of potential impacts upon these built assets is assessed below. The assessment considers the first three stages of the Historic England methodology to identify areas of potential harm.

12.62 In undertaking the assessment regard is had to committed and emerging development at Castle Hill to the east of Whinney Lane and within the wider H51 allocation site adjoining to the west and north of the assessment site. Development within these areas will clearly impact upon the existing setting of the identified heritage assets and affect the nature of impact arising from development of the assessment site.

Step 1: Identify which* heritage *assets and their setting are affected

12.63 As discussed above, the site forms part of the historic agricultural landscape setting to the following built heritage assets:

- Lund House (Grade II)
- Barn east of Lund House (Grade II)
- Jackland House Farm (Non-Designated Heritage Asset)
- Castle Hill (Non-Designated Heritage Asset)

- Sykes House Farm (Non-Designated Heritage Asset)
- Blue Coats Farm (Non-Designated Heritage Asset)
- Ash View, Harlow View, Crag View and 24-34 Whinney Lane – Non-Designated Heritage Assets)

12.64 Whilst not formally identified within the HDLP site requirements, regard should also be had to the setting of building groups around the **Old Poor House** and the **Squinting Cat Public House** to the south. Whilst now altered and extended the buildings retain 19th century fabric and their sites evidence historic settlement.

Step 2: Assess the* degree *to which these settings make a contribution to the significance of the heritage asset or allow significance to be appreciated

12.65 The assessment site forms part of a wider historic agricultural landscape which contributes positively, to varying degrees, to the significance, within setting, of these heritage assets. Whilst field patterns have been amalgamated during the early part of the 20th century retained boundaries are reflective of late 18th and early 19th century enclosure. Structural divisions to the west are likely earlier and associated with the enclosure of the Forest of Knaresborough. The site is significant in evidencing historic landscape and functional connectivity with retained farmsteads building groups.

12.66 Assessment in respect of the identified heritage assets is set out below.

Lund House and Barn, Lady Lane

12.67 The farmhouse is in two-storeys, three bays, and constructed in stone with stone slate roof. The building adopts neo-classical proportions with a central plan form and principal elevation orientated to the south-east. The building has strong group value with the associated barn (now adapted to residential use) to the north which is single storey and adopts similar material treatment. Domestic curtilage is well defined with garden land extending to the south-east of the house. Access is taken via Lady Lane with woodland, treed enclosure to the north and south-west. Later buildings to the south-west have no substantive heritage interest.

12.68 The historic and contemporary agricultural setting to the buildings remains well evidenced and illuminates the functional relationship of the listed buildings with the landscape. Views outwards from the building and curtilage to the east take in an agricultural landscape retaining 18th and 19th century enclosure patterns and this setting contributes positively to significance. The site does not form part of this immediate setting but is visible in extended views towards Whinney Lane to the east and south-east. The northern section of the site is screened by intervening hedgerow and treed field divisions. The site facilitates significant views from Whinney Lane across the lower land around Clarke Beck which allow the principle elevation of Lund House to be appreciated and the building to be seen within its historic setting. The site is considered to contribute positively to the setting of Lund House as part of its wider historic agricultural setting.

Jackland House Farm, Lady Lane

12.69 Jackland House Farm is located to the west of the assessment site and west of Lund House. The farmhouse is in two storeys with principal elevation orientating to the south towards Lady Lane from which it takes access. It holds group value with an associated, albeit extended and altered, barn range to the south and east. Landscaped/woodland

enclosure is strong to the west and south and modern farm buildings to the east further visually enclose the house. The historic agricultural setting to the farmstead remains well evidenced to the north, west and east and continues to the south beyond Lady Lane.

Castle Hill, Whinney Lane

12.70 The Castle Hill farm building group comprises an early 19th century farmhouse shown on the first edition OS map with a later, attached house, to the north-east constructed in the early 20th century. The earlier house is in stone under a Welsh slate roof, a later alteration likely replacing stone slate. The later house to the north-west is in similar materials and adopts a square plan form with hipped roof. The barn range to the south has been much altered and is now terminated by a later barn of no heritage value. The building is accessed from the west via Whinney Lane. Give the extent of, likely early 20th century, alteration and extension the heritage values of the retained building are comparatively low.

12.71 The historic agricultural setting to the building currently remains evident although its extent has been diminished through 20th century sub-urban development to the north and northeast and the laying out of playing fields to the south and east. The farmhouse has a strong landscape enclosure to the west and north with woodland/copse and hedgerow screening much of the building fabric from Whinney Lane. Whilst inter-visibility with the assessment site in views from the farmhouse is limited by intervening woodland and hedgerow the site does form part of the historic landscape setting and can be considered to contribute positively to significance.

Sykes House Farm, Whinney Lane

12.72 Whilst the farmstead was likely established during the early 19th century, the original farmhouse shown to the south of the curtilage, on the 1st edition OS map is was removed by 1932 and the extent of original fabric retained or incorporated within subsequent development is unclear. The house to the north, with principle elevation to the south, was constructed in the early 20th century in stone with grey slate roof. Former barn ranges have been adapted as domestic outbuildings and garages either through conversion or reconstruction. The house to the south is later 20th century, possibly incorporating earlier fabric, and is in stone with grey slate roof. Curtilage boundaries to Whinney Lane are domestic in character and provide a strong visual enclosure and screen in views from the west. In approaches along the public right of way to the north-east the building group has greater visibility although these views fall onto more functional rear and side elevations. These views do allow the farmstead to be seen in the context of the wider landscape with some limited inter-visibility with the assessment site.

12.73 The setting of the Syke House building group has historically been altered by sub-urban expansion to the north-east and east and by the laying out of car parking areas for the Squinting Cat Public House to the south. Given the comparatively later dating of the buildings within the site and the extent of landscape/wooded enclosure the contribution to setting made by the assessment site is limited. The residential development of the Castle Hill site to the north will remove agricultural setting to the north although this will be retained to the south-east and south.

Blue Coats Farm, Lady Lane

12.74 The Blue Coats farmstead is shown, albeit un-named, on the first edition OS map with detached farmhouse to the south and U-shaped courtyard of farm buildings to the

north. The house is retained in two stories with principal elevation orientating to the south. It is constructed in stone, with stone slate roof and retains vernacular detailing. The former barn range is largely retained although in varying condition with some later re-roofing within the northern range. Later general-purpose agricultural buildings to the north-west hold no heritage interest.

12.75 The house itself is screened in views from Lady Lane by hedgerow boundaries and the barn group to the north although the barn buildings do have some prominence given their position towards the road frontage. The building group is also an element in wider views available across the assessment site from Whinney Lane. The historic agricultural setting to the farmstead remains well evidenced and the site is a significant part of the open landscape to the east, with extended views facilitated by the comparatively low boundary hedge along Lady Lane. Given the orientation of the farmhouse it seems likely that the functional land associated with the stead historically fell to the south.

Ash View, off Whinney Lane

12.76 Ash View comprises a terrace of, likely workers houses, in two storeys and constructed in stone under a later grey slate roof. The buildings formed part of the late 19th century suburban expansion of Pannal Ash and subsequent residential development to the south has divorced the terrace from its original landscape setting. The terrace has prominence in relatively short distance views from Whinney Lane, most notably in approaches from the south. It holds group value with the row of earlier cottages to the north and the terraced housing to the south. Given intervening built form and the lower ground of the assessment site it is not considered that the site forms a significant element to the setting of these buildings.

Harlow View, off Whinney Lane

12.77 The terrace was constructed in the late 19th to early 20th century (first appears on the 1909 OS map) in gritstone with grey slate roof covering. The walling to the south is in red brick and former yard areas, delineated by low brick walls with stone capping, extended to the rear. The terraces hold group value with the similar terrace, Craig View, to the south. Principal elevation orientates away from the site to the north. Given the construction of Craig View no intervisibility exists with the site and no historic functional relationship is evident. On this basis, the assessment site does not form a significant element to setting.

Crag View, off Whinney Lane

12.78 Corresponding terrace to Harlow View and of the same material and architectural treatment. Principle elevation opens out to the south with small garden areas adjoining pastoral field and providing views onto the landscape to the south and south-west. The south facing elevation has some prominence in relatively short distance views from Whinney Lane and in views from the public footpath to the north of the site. The field to the south is significant in facilitating these views. The assessment site is located on lower ground falling away to the south of Castle Hill and is screened to some degree by hedgerow field division to the south of the footpath. In the absence of historical functional relationship, it is considered that the assessment site makes a very limited contribution to significance.

24-34 Whinney Lane

12.79 Terrace of six dwelling built in two storeys with converted attic space constructed in gritstone under a grey slate roof. The terrace has been much altered with the likely later addition of bay windows and alterations to window openings and surrounds. Garden areas to the Whinney Lane frontage, delineated by low stone wall, and yard areas to the rear define curtilages and reflect historic layout. The principle elevation orientates to the east and the terrace is prominent in views along Whinney Lane where it contrasts with later 20th century residential estate development to the east. The majority of the assessment site has no significant intervisibility with the site given landform and intervening hedgerow. In the absence of historic functional relationship, the site makes limited contribution to setting although does provide some historic openness.

The Old Poor House and Linton Cottage

12.80 Workhouse, originally shared by Harrogate and Bilton (www.workhouses.org.uk) and likely founded in the late 18th – early 19th century. The building, ranged to the north-western curtilage boundary, was subsequently sub-divided to provide four cottages (OS mapping). Now in two units of occupation, The Old Poor House and Linton Cottage. The building is constructed in stone with a grey slate roof covering with principle elevation orientated towards Whinney Lane. A number of extensions have been made to the rear elevation. Buildings/garages to the frontage are not shown on historic mapping and were likely constructed during the late 20th century. The historic curtilage boundaries remain intact and show a relatively narrow plot defined by hedgerow and stone walling with some ornamental planting. These boundaries provide a strong sense of enclosure although significant views are available from Whinney Lane onto the north gable end and wing of the original building.

12.81 The assessment site forms part of an historic agricultural/landscape setting to the building. Whilst no functional inter-relationship is evident the site provides openness to the building and allows extensive views over landscape to the north and west. Development will diminish this openness and urbanise the context of the building. Mitigation is possible through development set back and retention of open space to the north allowing views from Whinney Lane to be maintained.

The Squinting Cat Public House, Whinney Lane

12.82 The Three Horseshoes Inn is shown on the 1851 OS plan as a ranged building fronting onto Whinney Lane with building/stable range to the rear and marked as a smithy. The building was extended during the second half of the 20th century with the addition of a flat roof entrance lobby and gabled extension to the rear. The ‘Squinting Cat’ name first appears on the 1967 OS map. Further substantial extensions to the rear of the building were made in the late 20th and early 21st century and car parking areas, screened by conifer tree belts, were laid out to the north. The extensions have masked original fabric, particularly to the rear, although the vernacular character of the building is retained to the Whinney Lane frontage. Given the extent of landscape enclosure the building is not prominent in long or medium distance views from Lady Lane or Whinney Lane although is prominent in shorter distance views from the junction of the two roads. In views from the north, along Whinney Lane, the building is screened by the landscape planting bounding the car parking areas. From the west and east the building is screened by the buildings and landscape within the Old School House demise and by the rear extensions to the public house.

12.83 The site formed part of the historic landscape setting of the Inn although no functional interrelationship is evident. Inter-visibility is limited by the demise and landscape boundaries to the Old Poor House plot although some degree of openness is provided by land to the north.

Summary

12.84 Overall, the site can be considered to contribute positively to the significance, within setting, of the majority of identified heritage assets. This contribution is more limited in respect of the terraced housing on Ash View and Harlow View where inter-visibility with the site is obscured by built form and building orientation. Similarly, Jackland House to the west has a strong woodland enclosure and the site makes a negligible contribution to setting.

Step 3: Assess the effects of the proposed development, whether beneficial or harmful, on that significance or on the ability to appreciate it.

12.85 A summary of the assessed impacts, having regard to the existing contribution made by the site to setting, is set out below.

Lund House and Barn, Lady Lane

12.86 The development will diminish and remove this wider agricultural landscape to the listed building. This will, on an in-principle basis, give rise to a limited degree of harm to significance, with the setting of the building. Having regard to the intervention development of the wider H51 allocation site it is considered that impact will be minimal. The retention of a central area of open space within the proposal site will provide an opportunity to mitigate impact (subject to the final layout of development to the west of the site) by maintaining views towards the listed buildings from Whinney Lane.

Jackland House Farm, Lady Lane

12.87 The proposed development site is relatively distant from the Jackland House Farm building group and has no significant inter-visibility with it given intervening built and landscape form. This is particularly related to the woodland and tree belts lining the lane serving Lund House and field boundaries to the west of the site. Given this, it is not considered that development will impact upon the significance of the heritage asset.

Castle Hill, Whinney Lane

12.88 Permission has been granted for the development of land surrounding the Castle Hill building group and extending to the south, to provide 130 dwellings with associated roundabout off Whinney Lane to the west. This development, now approved under Reserved Matters, indicates new dwellings to the north, west and south of the buildings and will substantially alter setting, divorcing the farmstead from its historic landscape and largely closing off available views from Whinney Lane. On the basis of this development being undertaken the additional impact of development of the assessment site will be negligible.

Syke House Farm, Whinney Lane

12.89 Development of the assessment site will remove agricultural context to the west of Whinney Lane although, having regard to the nature of the buildings and extent of

enclosure, the overall impact will be minimal although some harm is assessed through loss of wider historic setting and openness.

Blue Coats Farm, Lady Lane

12.90 The development of the assessment site will remove historic and contemporary agricultural setting to the east of the building group and interrupt or diminish views onto the buildings from Whinney Lane. The loss of openness to the east of Lady Lane will also have a harmful impact and alter the character of views along the lane although this is mitigated by development set back and landscape treatment. Significant aspects of setting will be retained to the south, west and north of the building group. Overall impact is assessed as minimal through the loss of openness and setting although is mitigated through landscape treatment and development set back from Lady Lane.

Ash View, off Whinney Lane

12.91 The site makes no significant contribution to setting. As such no development impacts are anticipated.

Harlow View, off Whinney Lane

12.92 The site makes no significant contribution to setting. As such no development impacts are anticipated.

Cragg View, off Whinney Lane

12.93 A minor impact upon setting is identified through impact upon views from Whinney Lane although this is mitigated from landscape treatment.

23-34 Whinney Lane

12.94 As with Craig View it is considered that potential development impact upon the significance, within setting, of the 24-34 Whinney Lane will be minimal and areas of harm can be mitigated through landscape treatment to an acceptable degree.

The Old Poor House and Linton Cottage, Whinney Lane

12.95 Overall harm to significance, within setting, is assessed although the extent of harm, given building orientation, landscape enclosure and absence of historic functional interrelationship, is minimal and is mitigated through development layout and landscape treatment.

Squinting Cat Public House, Whinney Lane

12.96 Whilst development will diminish this openness to some degree this will be retained to the east and south of the building. Development will not intervene directly into significant views on the building from Whinney Lane. As such development impacts will be minimal.

Summary

12.97 In summary the Impact Assessments conclude that the proposed development will give rise to less than substantial harm to the significance, within setting of a number of built heritage assets. In the context of allocated development sites, including the wider H51 mixed-use site, and the consequential landscape change which will arise, the nature

and extent of impact is considered to be minimal. In the Council's determination to allocate the site for development it has considered that the public benefits of development will outweigh this harm and this conclusion was confirmed with the HDLP Inspectors Report (see 2.32).

12.98 In accordance with Framework and good practice guidance, the proposed development seeks to minimise the extent of harm identified through layout treatment, provision of open space and landscaping. The indicative masterplan (drawing PA08) indicates two development parcels to the north and south of an area of open space around Clark Beck. This corridor of open space, subject to its continuation within the wider H51 allocation site, will retain significant views from Whinney Lane towards Lund House albeit reframed by new built form. Development set back and landscape reinforcement along Lady Lane and Whinney Lane will reduce visual impact and the orientation of new dwellings to address both Lane's will allow new development to contribute positively to local distinctiveness. Set back from Whinney Lane will also retain visual connectivity with the wider agricultural landscape extending to the south of the site. Retention of existing historic field divisions to the west and north will maintain some evidence of the earlier landscape and provide visual breaks to the overall development of the site.

12.99 Subject to careful consideration of matters of scale, design and material treatment at Reserved Matters stage, it is considered that the impact of development upon the identified built heritage assets can be successfully mitigated.

CONCLUSIONS

12.100 The assessment at Appendix 9 has considered potential impacts upon the built historic environment arising from the proposed residential development of land falling to the west of Whinney Lane in Harrogate. The land forms part of a wider mixed-use land allocation within the adopted Harrogate District Local Plan (2020) and which extends to the north, north-west and west of the assessment site. The site falls in proximity to a number of designated and non-designated built heritage assets.

12.101 The site retains elements of 18th and early 19th century field enclosure patterns and is part of a wider historic landscape which contributes positively to the setting of the Grade II listed building, Lund House and the non-designated historic farmsteads at Blue Coats, Syke House and Castle Hill. It illustrates past functional relationship to these farmsteads and provides an openness which allows significant views from Whinney Lane and Lady Lane. The site also forms part of the historic landscape setting to the 19th century building groups of the Old Poor House and the Squinting Cat Public House and early 20th century terraced housing on Crag View and Whinney Lane to the north.

12.102 Development will give rise to a degree of harm, considered to be less than substantial and minor in extent and effect, to the significance, within setting, of these assets. This derives from the loss of agricultural setting and openness. As confirmed within the Council's assessment of the impacts of the H51 mixed-use allocation this harm is capable of mitigation to the extent that the identified public benefits outweigh the harm identified. This accords with the Inspector's conclusion following Examination of the HDLP and is in line with guidance set out at paragraphs 196 and 197 of NPPF.

13. TRANSPORT AND ACCESSIBILITY

13.1 This Transport and Accessibility chapter has been produced by WYG and considers the baseline conditions on the surrounding highway network for access by a range of modes, identifies potentially significant impacts as a result of the proposed development and the residual effects of the development proposals following mitigation. The chapter is based on information from the Transport Assessment and Travel Plan reports produced for the development proposals. The reports are attached as Appendix 10 and 11.

13.2 The assessments consider the impacts of the proposed development as well as other committed developments identified through discussions with the local highway authority. The assessments also consider the cumulative impacts of a number of other allocated sites that have not received planning permission. The cumulative assessment includes development on the remainder of the H51 local plan allocation site.

ASSESSMENT METHODOLOGY

13.3 This section sets out the methodology adopted to assess the impacts of the proposals against a range of criteria during both the construction and occupation phases of the development. It provides a summary of the methodology for assessing the significance of the impacts based on appropriate guidance.

Policy Background

13.4 Both the Transport Assessment and this Transport and Accessibility Chapter has been produced having due regard for the advice contained in the following national and local documents:

- National Planning Policy Framework (NPPF) - published by the Ministry for Housing, Communities & Local Government (MHCLG), June 2019.

- Harrogate District Local Plan 2014-2035 – published by Harrogate Borough Council (HBC), March 2020.

National Planning Policy Framework

13.5 The Government's National Planning Policy Framework (NPPF) replaced the majority of previous Planning Policy Statements (PPS) and Planning Policy Guidance Notes (PPG) documents on 27 March 2012. It has subsequently been reviewed and replaced, most recently in June 2019.

13.6 The NPPF is based on a range of core planning principles, which are aimed at supporting sustainable plan-led development. Transport specific policies play a key role in supporting and achieving the core planning principles and are intrinsically linked to the objective of sustainable development. The NPPF specifically states that development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe.

13.7 The NPPF defines the delivery of sustainable development through three roles:

- an economic objective – to 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;

- a social objective – to 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 and safe built environment, with accessible services and open spaces that reflect current and future needs and support communities' health, social and cultural well-being; and

- an environmental objective – to contribute to protecting and enhancing our natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.

13.8 At the heart of the NPPF is a presumption in favour of sustainable development. It states:

"In assessing sites that may be allocated for development in plans, or specific applications for development, it should be ensured that:

-appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;

-safe and suitable access to the site can be achieved for all users; and

-any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree".

13.9 At paragraph 102 c) NPPF identifies that:

"opportunities to promote walking, cycling and public transport use are identified and pursued."

13.10 The NPPF states in relation to development proposals at paragraph 103:

"opportunities to maximise sustainable transport solutions will vary between urban and rural areas, and this should be taken into account in both plan-making and decision-making".

13.11 The accessibility of the site has therefore been considered based on the guidance in NPPF.

13.12 The core planning principles above provide a framework to provide inclusive, accessible, well connected and sustainable development. Paragraph 109 states:

"development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe".

"Plans and decisions should take account of whether:

-the opportunities for sustainable transport modes have been taken up depending on the nature and location of the site, to reduce the need for major transport infrastructure;

-safe and suitable access to the site can be achieved for all people; and

improvements can be undertaken within the transport network that cost effectively limit the significant impacts of the development. Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe."

Harrogate District Local Plan

13.13 The Harrogate District Local Plan is a is a set of policies, proposals and allocations setting out how and where land is to be developed with new homes, places of employment, services and facilities. Development Plans consist of Local Plans prepared by Local Planning Authorities and neighbourhood plans prepared by local communities. Together they form the statutory framework for future development of land and buildings.

13.14 Policy TI1 in Chapter 6, Transport and Infrastructure, of the Local Plan states:

"Sustainable Transport The council will work in partnership with other authorities, transport providers, developers and local groups to promote a sustainable and improved transport system which is safe, reliable, and convenient and will:

A - Improve road and rail connections both within the district and to the wider area, in particular the improvement of the Leeds-Harrogate-York railway;

B - Seek reductions in traffic congestion in Harrogate, Knaresborough and Ripon;

C - Promote improvements to public transport, including the provision of better parking at rail stations and park and ride facilities, the creation of walking and cycling routes, provision of electric vehicle charging points for both cars and bikes, the Harrogate car-share scheme and measures to reduce air pollution;

D - Ensure development proposals seek to minimise the need to travel and achieve more sustainable travel behaviour by requiring all developments which will generate significant amounts of traffic to be supported by a transport statement or transport assessment and a travel plan;

E - Locate, as far as possible, the majority of future development so that it is accessible to a station on the Leeds-Harrogate-York railway or within the key bus service corridor;

F - Improve accessibility in rural areas;

G - Undertake a Strategic Transport Priorities Study for the district in order to set out the council's priorities for sustainable transport."

13.15 The preparation of the TA and the Transport and Accessibility chapter have therefore taken the above policy guidance into account.

Transport Assessment

13.16 The assessment of the potential impacts of the proposed development and mitigation that may be required has been assessed through the preparation of a Transport

Assessment (TA) and Travel Plan (TP) for the development at Castlehill West, Whinney Lane, Harrogate.

13.17 The TA sets out the baseline conditions on the surrounding network for access by a range of sustainable modes and assesses the potential impacts of the proposed development on the surrounding network.

13.18 Whilst the key transport issues and impacts are identified in this section of the ES, the TA provides the detailed methodology and assessment. The scope of the TA and Interim TP has been discussed through the preparation and submission of a scoping note to North Yorkshire County Council (NYCC) and Harrogate Borough Council (HBC) and the preparation of a parameters plan for the wider local plan allocation sites to the west of Harrogate.

13.19 The TA has been prepared in broad accordance with the Ministry for Housing, Communities & Local Government's (MHCLG's) National Planning Policy Framework and Planning Practice Guidance for TAs, and NYCC's Interim Guidance on Transport Issues including Parking Standards and Advice on Transport Assessments and Travel Plans.

13.20 WYG have previously considered the potential highways impacts of both the H51 and H70 residential allocations to the south-west of Harrogate and have had discussions with NYCC and HBC officers on these matters. WYG have also undertaken an assessment of the approved residential development on site H70 for up to 130 units on land to the east of Whinney Lane.

13.21 The current application considers development of part of the H51 site on the west side of Whinney Lane, based on the principles set out for the masterplan of the full H51 and H70 site allocations.

Travel Plan

13.22 The Interim TP for the Castlehill site is included as Appendix 11. It supports the TA and includes mitigation measures aimed at reducing the numbers of single occupancy car trips by encouraging the uptake of sustainable modes of travel such as walking, cycling or public transport.

13.23 The TP produced for the proposed development, has been prepared in broad accordance with the DfT publication 'Making Residential Travel Plans Work & Good Practice Guidelines: Delivering Travel Plans Through the Planning Process'.

Scoping and Consultation

13.24 The proposed scope and methodology for the assessment has been discussed and agreed with highways officers of NYCC and HBC and the preparation of a parameters plan for the wider local plan allocation sites. A Scoping Report was issued to NYCC in July 2019 and a revised scope was issued in February 2020 following development of the parameters plan covering local plan allocations to the west of Harrogate.

13.25 The assessments in the TA have adopted a number of assumptions relating to the trip generation and distribution of the development traffic based on the scoping discussions with NYCC. Further details of the basic assumptions and methodology adopted modelling exercise are provided in the TA report.

13.26 Detailed operational assessments have been carried out at the following junctions on the highway network surrounding the site:

- Whinney Lane/ Site Access Roundabout
- Whinney Lane/ Pannal Ash Road/ Yew Tree Lane/ Green Lane Roundabout
- B6162 Otley Road/ Cold Bath Road/ Arthurs Avenue Traffic Signals
- Prince of Wales Roundabout (A61 York Place/ A61 Leeds Road/ B6162 Otley Road/ A61 W Park)

13.27 The locations of these junctions in relation to the development site are shown in Figure 1.

13.28 The full impact of the residential development at Castlehill West has been assessed at the above locations for a design year of 2030, when the residential development is expected to be complete. Sensitivity assessments with a number of additional allocated sites have also been undertaken for a design year of 2030 in order to assess the cumulative impacts of these developments.

Significance Criteria

13.29 The assessment has been undertaken in accordance with the Guidelines for the Environmental Assessment of Road Traffic (IEA (Now IEMA), 1993). The following topics have been assessed for the construction and occupation phases, taking into account the anticipated development timescales:

- Severance of pedestrians and cyclists (during construction and operational stages).
- Driver delay/ network capacity (during the operational stage).
- Construction traffic (during the construction stage).
- Traffic Accidents (during construction and operational stages).

13.30 In line with IEMA's 'Guidelines for the Environmental Assessment of Road Traffic', the methodology is based on a comparison between forecasted traffic flows on roads potentially affected by the proposed developments against the environmental baseline if development were not to take place.

13.31 The IEMA guidelines is the only document available that sets out a broad methodology for assessing potentially significant environmental effects where a proposed development is likely to give rise to changes in traffic flows. Specifically, the following two 'rules' have been applied, to include highway links or junctions in the assessment where:

- traffic flows are predicted to increase by 30% or more during either the weekday AM or PM peak hours (or where the number of heavy goods vehicles is predicted to increase by 30% or more), or
- any other specifically sensitive areas where traffic flows are predicted to increase by 10% or more.

13.32 Where these rules apply, the guidelines consider that the impacts are likely to be significant and therefore, require assessment as part of the EIA. The significance of each effect has been considered against the criteria within the IEMA guidelines, where possible. However, the IEMA guidelines state that:

"for many effects there are no simple rules or formulae which define the thresholds of significance and there is, therefore, a need for interpretation and judgement on the part of the assessor, backed-up by data or quantified information wherever possible. Such judgements will include the assessment of the numbers of people experiencing a change in environmental impact as well as the assessment of the damage to various natural resources."

13.33 In the absence of established significance criteria for traffic and transport effects, professional judgement has been used to assess the sensitivity of various receptors, based on the IEMA guidelines.

13.34 The first step in this process is to qualify the sensitivity of traffic receptors or roads. Table 2.1 below illustrates how this has been done.

Table 13.1: Sensitivity of Traffic Receptor for Driver Delay / Network & Traffic Accidents

Sensitivity	Example of Receptor
Very High	Highway network link of international importance, major junction or node (e.g. shown on Map of Trans European Transport Network).
High	National highway network link, major junction or node (e.g. roads defined as a Motorway or part of the Primary Road Network).
Medium	Regional or County highway link, junction or node (e.g. A-class roads not on Primary Road Network or B-class roads of higher standard based on design).
Low	Local roads, junction or node (e.g. a lower standard B-class road or other minor roads).

13.35 When assessing pedestrian severance, consideration has been given to specific groups or locations which may be particularly sensitive to changes in traffic conditions. For example, locations in which the desire of pedestrians to cross the road is high or the road users are of a particularly sensitive groups such as children, elderly and disabled. Table 2.2 below illustrates how this has been done.

Table 13.2: Sensitivity of Traffic Receptor for Pedestrians and Cyclist Severance	
Sensitivity	**Example of Receptor**
High	Roads offering a wide range of facilities such as shops, cafes/ restaurants (e.g. High Street), or roads including schools, hospitals etc.
Medium	Roads offering some facilities such as parade of shops (e.g. Neighbourhood Centre), or commercial businesses, leisure facilities with some residential.
Low	Roads with limited facilities and primarily residential (e.g. Suburbs or Out of Town).

13.36 The magnitude of the Development's traffic impact on those receptors is then quantified, and Table 2.3 provides an indication on how this has been done when considering total junction movements for driver delay/network capacity and individual road links for pedestrian severance.

Table 13.3: Magnitude of Impacts on Highway Junctions and Links	
Sensitivity	**Example of Receptor**
Major	Where the total traffic flow at a junction/link during either the weekday AM peak hour or PM peak hour is increased by at least 30% or 100 vehicles.
Moderate	Where the total traffic flow at a junction/link during either the weekday AM peak hour or PM peak hour is increased by at least 50 vehicles but less than 100.
Minor	Where the total traffic flow at a junction/link during either the weekday AM peak hour or PM peak hour is increased by at least 30 vehicles but less than 50.
Negligible	Where the total traffic flow at a junction/link during either the weekday AM peak hour or PM peak hour is increased by less than 30 vehicles.

13.37 The final step is to determine the significance of a traffic impact by considering its magnitude alongside the sensitivity of the receptor in question, the matrix in Table 2.4 below refers.

		Table 13.4: Magnitude of Impacts on Highway Junctions and Links			
		Sensitivity of Receptor			
		Very High	**High**	**Medium**	**Low**
Magnitude of Impact	**Major**	Substantial Adverse/ Beneficial	Substantial Adverse/ Beneficial	Substantial-Moderate Adverse/ Beneficial	Moderate Adverse/ Beneficial
	Moderate	Substantial Adverse/ Beneficial	Substantial-Moderate Adverse/ Beneficial	Moderate Adverse/ Beneficial	Moderate-Minor Adverse/ Beneficial
	Minor	Moderate Adverse/ Beneficial	Moderate-Minor Adverse/ Beneficial	Minor-Adverse/ Beneficial	Minor-Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

BASELINE CONDITIONS

13.38 This section provides a summary of the existing conditions on the highway network in the vicinity of the development for access by a range of sustainable modes and baseline traffic and road safety information.

Development Site

13.39 The application site is located on a parcel of agricultural land at Castlehill West off Whinney Lane, Harrogate; as shown in Figure 2 in Appendix 10.

13.40 The site is bounded by adjacent agricultural land to the north and east, by Whinney Lane to the south and Lady Lane to the west.

Local Highway Network

13.41 The following provides a description of the surrounding highway network.

13.42 Whinney Lane is a single carriageway road which has a north-east to south-west alignment between Pannal Ash roundabout in the north and a T-junction with Lady Lane and Hill Top Lane in the south. It has residential development on both sides of the road for the first 175m, south from Pannal Ash roundabout, then residential development only on the east side for a further 100m, thereafter the road is a rural character until the Squinting Cat public house where there is a small cluster of homes.

13.43 Lady Lane is an unlit, rural, single carriageway road which is subject to the national speed limit. It generally has a north-west to south-east alignment connecting to Beckwith Head Road/ How Hill Quarry Road junction in the north west and to the Whinney Lane / Hill Top Lane junction at its southern end. The carriageway has a variable width of between 4.5m and 5.4m with grass verges either side of the carriageway which vary in width along its length.

13.44 Hill Top Lane, later named Hill Foot Lane, is an unlit, rural, single carriageway road which has a variable carriageway width of between 4.1m and 5.5m. Hill Top Lane has a north to south alignment from the T-junction with Whinney Lane to Fall Lane after which it continues west to east as Hill Foot Lane.

13.45 Beckwith Road forms the western arm of the Pannal Ash roundabout which runs in a north west to south east alignment to form a priority junction with the B6162 Otley Road in the west. It has residential development on both sides of the road and is a bus route. Beckwith Road is a street-lit, single carriageway road with a carriageway width of approximately 7.3m and 2.0m wide footway on both sides. There are no waiting restrictions on Beckwith Road and it is subject to a 30mph speed limit with traffic calming along the route in the form of speed cushions.

13.46 Pannal Ash Road forms the northern arm of the Pannal Ash roundabout and runs broadly northwards to a signalised crossroads junction with the B6162 Otley Road and Manor Drive. Pannal Ash Road has residential development on both sides of the road and serves Rossett Sports Centre, Rossett Acre Primary School and Rossett School. It is a bus route and, in part, a cycle route. The road has a carriageway width of approximately 6.1m and 2.0m wide footway on both sides for most of the route. There is a Puffin pedestrian crossing at the entrance to Rossett Acre Primary school, Rossett School and Rossett Sports Centre.

13.47 Green Lane forms the eastern arm of Pannal Ash Roundabout and has a north-west to south- east alignment from the roundabout to a priority junction with Leadhall Lane. It is largely residential in character,but serves Rossett School on the north side adjacent to the roundabout, and Ashville College. The road is a street-lit, single carriageway road with a typical carriageway width of 7.3m. There is a continuous 1.5m wide footway along the south side of the road, and a similar width footway on the north side between Pannal Ash roundabout and Rossett School.

13.48 Yew Tree Lane has a north-east to south-west alignment from the Pannal Ash Roundabout to form a mini-roundabout with Burn Bridge Road and Spring Lane. Approximately 1km of the northern section of Yew Tree Lane has residential development on both sides, with an access to Ashville College car park, and Ashville College sports fields, with 700m of the southern section being rural in character, before entering Burn Bridge village. The residential section of Yew Tree Lane is a street-lit, single carriageway road with a typical carriageway width of 6.0m with 2.0m footway on both sides for 650m and continues on the east side with a varied width.

13.49 The B6162 Otley Road has a broadly east to west alignment which begins at the A61 Leeds Road/ A6040 York Place roundabout. To the west, the B6162 Otley Road meets a roundabout with Pot Bank where the B6162 then continues southwards through Leathley where it is named the B6161 Leathley Lane. From this point, the B6162 continues eastwards to form a priority junction with the A658 north of Pool in Wharfedale.

13.50 Within Harrogate, the B6162 is street-lit, has a typical carriageway width of 7.3m with 2.0m-3.0m wide footway on the south side with 1.5m-1.8m wide footway on the north side and is a bus and cycle route.

13.51 The site is therefore well located in relation to access to a range of local and strategic routes surrounding the site.

Walking

13.52 Within the vicinity of the site, there are a number of existing public footways, footpaths and bridleways which provide access across the wider network which are shown in Figure 3 in Appenddix 10. Within close proximity to the site, there are public rights of way connecting to Lady Lane in the west.

13.53 The Harrogate Ringway runs to the south of the site and is a 20 mile circular walking route around Harrogate, with 3-4miles of the route being on country lanes and pathways. The route is accessible from Yew Tree Lane and connects to Hill Top Lane, approximately 300m south of the public right of way which runs along the rear of H70. To the north, connections to the B6162 Otley Road can be made, and to the south, the public right of way routes to Pannal before following a route around the town with connections to other rights of way from this route to the wider areas of Harrogate available. The route also provides a connection to the Knaresborough Round route to the north-eastern side of Harrogate.

13.54 In addition to the above facilities, there are existing footways provided adjacent to residential streets to the north and east of the site, which provide access to surrounding local facilities.

13.55 For this review an acceptable maximum walk distance of 1.95 km has been adopted, i.e. approximately a 24 min walk (at a typical walking speed of 1.3 metre per second) from the centre of the proposed development. These have been assessed with due consideration to the local public rights of ways identified in Figure 3 (Appendix 10)and the existing pedestrian connections discussed above. A walking catchment plan is shown at Figure 4 (Appendix 10).

13.56 The internal footway networks within the site would provide a number of links to the existing footway on Whinney Lane. This would provide the main connection to existing pedestrian routes from the site to local schools and facilities in the Pannal Ash residential area.

13.57 At the Pannal Ash roundabout, there are currently dropped kerbs and tactile paving on Green Lane and Pannal Ash Road crossing points.

13.58 On Pannal Ash Road there is a signalised pedestrian crossing at the junction with the Rossett Acre Primary School allowing full pedestrian movements across the carriageway on all approaches.

13.59 Beyond the new primary school proposed on site the nearest primary school is Rossett Acre Primary School which is approximately 1.1 km from the centre of the site in a northbound direction via Whinney Lane and Pannal Ash Road. This school is accessible via the existing pedestrian network and the proposed footway on Whinney Lane.

13.60 Rossett School is the nearest secondary school with a sixth form and is situated to the northern side of Green Lane. This school is approximately 950m from the centre of the site via Whinney Lane. This school is accessible via the existing pedestrian network and the proposed footway on Whinney Lane.

13.61 The Rossett Sports Centre is located to the north of the proposed development to the rear of the Rossett School. The Sports Centre provides access to a range of indoor and outdoor sporting facilities including tennis pitches, gymnasiums and artificial sports pitches. These sites are approximately 1.2km north of the site via Whinney Lane.

13.62 The Squinting Cat is the nearest public house which also offers a restaurant. The site itself is situated to the south of the proposed development boundary and is within close walking proximity within approximately 750m via Whinney Lane.

13.63 Cardale Park, to the south of the B6162 Otley Road, can be reached within a 1.8km walk from the centre of the site and provides potential job opportunities.

13.64 There are a number of local education, employment, retail, health and community opportunities which could be reached on foot from the development site. The wider development of the H51 site would also provide a range of education, retail and employment opportunities in future that would be located within walking distance of the Castlehill West development.

Cycling

13.65 There is a local cycle route which provides access to the National Cycle Route 67 (NCN67) that is accessible from St. George's Road, Westbourne Avenue, Alderson Road and St.James' Drive. NCN67 is situated to the east of the site and can be accessed via the existing footway provisions, through on road-cycle access and via the public right of way routes. This route runs locally from Ripley along the Nidderdale Greenway to the north of Harrogate before continuing through the town, past the showground and southwards towards Wetherby where it links to the wider national cycle network.

13.66 National Cycle Route 636 is situated to the north east of the site and runs between Harrogate and Knaresborough and is approximately 4 miles in length. The route is a combination of urban / rural and runs along Bilton Lane, commencing at Dragon Cycleway and provides a link between the two towns without the requirement to use the A59. The National Cycle Routes in relation to the site are shown in Figure 5 (Appendix 10).

13.67 For this review an acceptable maximum cycle distance of 7.25km has been adopted, i.e. approximately a 36-minute ride (at a typical cycle speed of 200m per minute) from the centre of the proposed development. The proposed cycle connections discussed above and shown at Figure 5 have been used in this assessment. A cycle catchment plan is shown at Figure 6 (Appendix 10).

13.68 Residents at the development site could cycle to a wide range of education, employment, retail, health and community opportunities, some of which they may view as beyond a reasonable walk distance. A 10-minute bike ride (5km) reaches all of those destinations which are within a 25-minute walk (2km).

13.69 To the north-east of the site, all of Harrogate Town Centre is accessible within the 85th percentile cycling catchment. Within this catchment access to additional education facilities can be reached which includes Harrogate Grammar School, Harrogate High School St John' Fisher Catholic High School and St Aiden's Church of England High School in addition to further retail and employment opportunities both within the town centre.

13.70 To the south, Pannal and Burn Bridge can also be reached where there are a number of additional food-stores and local shops including a Co-op Food-store as well as Pannal Primary School also being accessible within approximately 3.5km.

13.71 In addition to education and retail facilities, healthcare is accessible within a 5km cycle catchment with the nearest doctors' surgery being Leeds Road Surgery, with Harrogate District Hospital also being accessible within the catchment area.

13.72 Further access to retail opportunities is available within the cycle catchment which includes Harrogate Retail Park, situated to the north of the site where there is a B & Q and Pets at Home store. Plumpton Retail Park is located to the north-east of the site where a Morrison's, Homebase and PC World are situated along with a number of smaller retail units.

13.73 Hornbeam Park Railway Station is situated south of Hookstone Road and is accessible within a 3km cycle ride from the centre of the site and has cycle storage facilities. Rail services from Hornbeam Park include those to Leeds, Knaresborough and York. Pannal Station is also located approximately 3km to the south of the site and also provides access to trains towards York/ Leeds.

13.74 There are a range of education, employment, retail, health and community opportunities which could be reached by bike from the development site.

Public Transport

13.75 There are a number of bus stops within close proximity of the development site served by existing local services. These bus stops are shown on Figure 7 (Appenddix 10). The accessibility of the development to local destinations by bus is considered in more detail below.

13.76 The existing bus services accessible from Pannal Ash Road and Beckwith Road bus stops are summarised below at Table 3.1.

Table 13.5: Pannal Ash Road/ Beckwith Road Bus Services

Route No.	Route Description	Monday to Saturday		Sunday
		Daytime	Evening	Daytime
Harrogate Bus Company 6	Harrogate to Pannal Ash Via Harrogate Bus Station, Harrow Hill and Pannal Ash	Every 30 mins	Every 30 mins	Hourly

13.77 The current number 6 service offers regular and frequent journey opportunities to Harrogate Town Centre where local facilities can be accessed and proposals to extend the service would further enhance the site's accessibility.

13.78 As noted in the TA, discussions are also currently ongoing with bus operators regarding the potential for diversion of existing services to serve the proposed development and other development coming forward in the surrounding area in the future. Further details of the proposals and other proposed public transport improvements are provided in the TA.

13.79 The proposed development therefore is accessible on foot or by cycling to a range of local destinations, and there is a frequent and regular bus service available for journeys further afield. The development is located in a sustainable location with good opportunities for travelling by a range of sustainable modes of transport.

Future Baseline Traffic Flows

13.80 Traffic surveys on the surrounding network were undertaken in 2017 and 2018, and the future year for assessment purposes is taken as 2030. The TEMPRO v7.2 program has been used to growth up the surveyed flows to 2030 base flows. Committed development traffic, identified through discussion with NYCC and summarised in the TA, has been added to the 2030 base flows to create 2030 No Development Flows. The predicted traffic from the proposed residential development and primary school has been added to the 2030 No Development Flows to create 2030 With Development Flows.

13.81 A sensitivity test has also been carried out to consider the cumulative impact of a number of allocated sites that are not yet committed development. The additional development traffic as a result of the additional sensitivity test sites has been added to the 2030 No Development flows to provide the future year baseline for the sensitivity test assessment prior to the addition of the Castlehill West development traffic. Further details of the traffic flows used in the operational assessments is provided in the TA.

Highway Safety

13.82 The existing road safety record for the surrounding network has been reviewed in the TA. No significant road safety issues have been identified in the review that would be exacerbated by the addition of the proposed development traffic.

Committed Highway Improvements

13.83 There are no committed highway improvements in the local area which are considered as part of this assessment.

POTENTIAL IMPACTS

13.84 This section details the potential impacts of the development on the surrounding road network during the construction stage and once in operation.

13.85 Specifically taking into consideration the IEMA guidance, the following transportation-related effects have been considered:

- Construction traffic (during construction stage).
- Parking requirements (during construction and operational stages).
- Driver delay/ network capacity (during operational stage).
- Severance of pedestrians and cyclists (during construction and operational stages).
- Traffic accidents (during construction and operational stages).

Embedded Mitigation

13.86 To ensure the design is policy compliant, measures to encourage sustainable methods of transport have been considered as part of the development of the site Masterplan.

13.87 The layout of the site has been designed to facilitate walking and cycling, with inter-connecting pathways being provided as well as links to adjacent development on the H51 allocation.

13.88 In addition the proposed site access arrangements, including the approved site access to the H70 allocation, include improved pedestrian provision on Whinney Lane in the vicinity of the site with widened footways and pedestrian crossing facilities provided. The carriageway on Whinney Lane would also be widened in the vicinity of the site in order to accommodate public transport access in future and the access layout also includes for the provision of enhanced bus stop facilities.

13.89 The proposed site access layout would therefore provide an improved highway layout in the vicinity of the site for access by a range of modes including pedestrians and public transport.

During Construction

13.90 There will be Heavy Goods Vehicle (HGV) movements associated with the delivery of construction materials, such as roof trusses, bricks, concrete etc, as well as the removal of waste in skips. Many of these will be made by rigid lorries, for example concrete deliveries and skip lorries, and some will be by articulated lorries, for example roof trusses and bricks. Some deliveries will be by transit-type vans/ Light Goods Vehicles (LGVs).

13.91 Based on typical construction traffic movements and assuming a construction programme delivery of 40-50 homes per year, it is anticipated there will be 2 articulated lorries per day and 10 rigid lorries per day visiting the site, as well as 10 LGVs.

13.92 It is envisaged 50 members of staff will work on the site each day, comprising construction workers such as bricklayers and joiners as well as site management staff. These will arrive in small vans and cars. There is likely to be some sharing of vehicles, and so 35 cars/ vans are expected each day.

13.93 Construction activities on site will be between 07:30am and 18:30pm weekdays and 07:30am and 13:30pm on Saturdays. Site workers are expected to arrive between 7:00am and 9:00am and depart between 17:00pm and 19:00pm. The construction site will not operate on Sundays or on public holidays. It will be operational during the school holidays.

13.94 Table 4.1 below summarises the anticipated daily construction traffic movements to access the development site through the construction period, assuming one outlet is operational. The numbers in red are site staff movements.

Table 13.6: Anticipated Daily Construction Movements

Hour Beginning	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800
Cars & LGVs IN	14	14	1	1	1	2	2	0	0	0	0	0
HGVs IN	0	0	2	1	2	2	2	0	0	0	0	0
Total IN	14	14	3	3	3	4	4	0	0	0	0	0
Cars & LGVs OUT	0	0	0	1	1	1	2	2	0	0	14	14
HGVs OUT	0	0	0	2	1	2	2	2	0	0	0	0
Total OUT	0	0	0	3	3	3	4	4	0	0	14	14

13.95 From Table 4.1 it can be seen construction at the site is expected to result in a maximum of 2 HGVs per hour inbound and outbound during the working day. Staff car trips are mainly concentrated at the start and end of the working day, i.e. 14 per hour inbound between 7:00am and 9:00am with 14 per hour outbound between 5:00pm and 7:00pm. The distribution of LGVs through the day is similar to that of HGVs.

During Construction - Potential Effects of Construction Traffic

13.96 The development is anticipated to take up to 7-8 years to construct, at an expected build-out rate of 40-50 homes per year, and the construction will result in an increase in the movements of HGVs on the road network local to the site during that period. It is envisaged construction traffic will route to the site via the access on Whinney Lane, Pannal Ash Road, Otley Road, A661 and A658 via the A1(M).

13.97 Table 4.2 below summarises the potential effects of traffic predicted to be generated during the construction stage of the residential element of the Development have been derived and whether they then trigger the need for mitigation.

Table 13.7: Potential Effects of Construction Traffic

Link	Sensitivity	Magnitude	Effect	Mitigation
A1(M)	High	Negligible	Negligible	No consideration required
A658	Medium	Negligible	Negligible	No consideration required
A661	Medium	Negligible	Negligible	No consideration required
B6162 Otley Road	Medium	Negligible	Negligible	No consideration required
Pannal Ash Road	Medium	Negligible	Negligible	No consideration required
Whinney Lane	Low	Negligible	Negligible	No consideration required

During Construction - Potential Effects on Parking Requirements

13.98 During the construction stages, there will be an increase in demand for car parking on the local road network as a result of workers needing to gain access to the site. If suitable provision is not made on site this might result in overspill onto Whinney Lane or the adjoining residential streets.

During Construction – Potential Effects on Pedestrians and Cyclists

13.99 The extra traffic generated during the construction stages might increase the delays encountered by pedestrians and cyclists on the local road network. They may find it more difficult to establish precedence when seeking to cross some local roads. Construction traffic will also affect the PROWs that run through the development site and again, pedestrians and cyclists may find it more difficult to establish precedence when seeking to cross roads that run through the PROWs.

During Construction – Potential Effects on Traffic Accidents

13.100 The extra traffic generated during the construction stages might increase the likelihood of an accident occurring on the local road network. In particular, there will be an increase in the number of HGVs.

After Completion (Operation) – Potential Effects on Parking Requirements

13.101 Residents require adequate car parking on site to ensure vehicles do not overspill onto nearby roads such as Whinney Lane or the adjoining residential streets. Parking in the development needs to be sufficient so it can accommodate residents, employees and visitors.

After Completion (Operation) – Potential Effects on Driver Delay/ Network Capacity

13.102 For the most part driver delay is encountered at junctions, and therefore consideration of this category has been made with reference to the Operational Assessment chapter of the Transport Assessment (TA). A more detailed breakdown of the impacts of traffic generated by the Development can be obtained from that document.

13.103 The TA includes an assessment of the impact of the proposed development in the future design year (2030) with the addition of background traffic growth and committed development traffic. In addition, a sensitivity test has been carried out in order to consider the cumulative impacts of additional site allocations on the local highway network. Consideration has therefore been given to the potential impacts of development for both of these scenarios.

13.104 Following the methodology described earlier in this section, the sensitivity of the traffic receptor, in this instance a junction, has been established and the magnitude of impact on that receptor has been predicted to determine the significance of any potential effects. The sensitivity of the junction has been established based on the highest classification of connector road, and likewise the magnitude of impact is taken as the busiest of the AM or PM peak hours.

13.105 The change in total flow through a junction has been taken as the difference between the 2030 No Development scenario and 2030 With Development scenario presented in the TA. The development generated trips have been assigned onto the surrounding network as detailed in the TA.

13.106 Table 4.3 below summarises how the potential effects of traffic predicted to be generated by the Development on driver delay/ network capacity at these junctions has been derived and whether they trigger the need for consideration of further mitigation.

Table 13.8: Potential Effects on Driver Delay/Network Capacity

Junction	Sensitivity	Magnitude	Effect	Mitigation
Whinney Lane/ Site Access Roundabout	Low	Major	Moderate Adverse	No consideration required
Whinney Lane/ Pannal Ash Road/ Yew Tree Lane/ Green Lane Roundabout	Medium	Major	Substantial-Moderate Adverse	Requires consideration
B6162 Otley Road/ Cold Bath Road/ Arthurs Avenue Traffic Signals	Medium	Moderate	Moderate Adverse	No consideration required
Prince of Wales Roundabout (A61 York Place/ A61 Leeds Road/ B6162 Otley Road)	Medium	Moderate	Moderate Adverse	No consideration required

13.107 As is shown in Table 4.3 above, the significance of potential adverse effects on the junctions as a result of the development is predominantly Moderate Adverse. No further consideration of the junctions with this effect is required with regards to driver delay and network capacity. However, the impact at the Whinney Lane/ Pannal Ash Road/ Yew Tree Lane/ Green Lane roundabout suggests it does require further consideration. This is addressed in the next section.

13.108 In addition to the assessment of the impacts of the proposed development summarised in Table 4.3 consideration has also been given to the cumulative impacts of development undertaken in the sensitivity test as detailed in the TA. Table 4.4 summarises the impacts of the development in the sensitivity test scenario.

Table 13.9: Potential Effects on Driver Delay/Network Capacity – Sensitivity Test

Junction	Sensitivity	Magnitude	Effect	Mitigation
Whinney Lane/ Site Access Roundabout	Low	Major	Moderate Adverse	No consideration required
Whinney Lane/ Pannal Ash Road/ Yew Tree Lane/ Green Lane Roundabout	Medium	Major	Substantial-Moderate Adverse	Requires consideration
B6162 Otley Road/ Cold Bath Road/ Arthurs Avenue Traffic Signals	Medium	Moderate	Moderate Adverse	No consideration required
Prince of Wales Roundabout (A61 York	Medium	Moderate	Moderate Adverse	No consideration required

Place/ A61 Leeds Road/ B6162 Otley Road)				

13.109 As shown in Table 4.4 the predicted effect of the proposed development in the sensitivity test scenario is the same as the impacts identified in Table 4.3.

After Completion (Operation) – Potential Severance on Pedestrians and Cyclists

13.110 Consideration of this category has been made with reference to the TA. The links considered for the assessment are those that would be used by pedestrians in the vicinity of the site in order to access local facilities. These are Whinney Lane, Beckwith Road and Pannal Ash Road.

13.111 As illustrated in the TA there is a range of local facilities to the north of the Development reached via Whinney Lane, Pannal Ash Road and Beckwith Road. For example there is Rossett Acre Primary School on Pannal Ash Road and a Co-Op Food store on B6162 Otley Road as well as a newsagents and other facilities which can be reached on foot or bike via Beckwith Road or Pannal Ash Road. Most of the amenities are in the direction of Harrogate which means the majority of pedestrian movements from the site would be northbound on Whinney Lane.

13.112 The sensitivity of the traffic receptor has been taken from Table 2.3. The magnitude of impact on that receptor has been predicted to determine the significance of any potential effects. The magnitude of impact is taken as the busiest for traffic of the AM or PM peak hours.

13.113 The change in total flow along the link is as described above for driver delay/ network capacity.

13.114 Table 4.5 below summarises how the potential effects of traffic predicted to be generated by the Development on severance of pedestrians and cyclists have been derived and whether they then trigger the need for mitigation.

Table 13.10: Potential Severance of Pedestrians and Cyclists

Junction	Sensitivity	Magnitude	Effect	Mitigation
Whinney Lane	Low	Major	Moderate Adverse	No consideration required
Beckwith Road	Low	Negligible	Negligible	No consideration required
Pannal Ash Road	Medium	Moderate	Moderate Adverse	No consideration required

13.115 As is shown in Table 4.5 above, the significance of potential adverse effects on the severance of pedestrians and cyclists as a result of the development is Moderate at most. Further consideration of mitigation is not required.

13.116 In addition to the assessment of the impacts of the proposed development summarised in Table 4.5 consideration has also been given to the cumulative impacts of

development undertaken in the sensitivity test as detailed in the TA. Table 4.6 summarises the impacts of the development in the sensitivity test scenario.

Table 13.11: Potential Severance of Pedestrians and Cyclists – Sensitivity Test

Junction	Sensitivity	Magnitude	Effect	Mitigation
Whinney Lane	Low	Major	Moderate Adverse	No consideration required
Beckwith Road	Low	Negligible	Negligible	No consideration required
Pannal Ash Road	Medium	Moderate	Moderate Adverse	No consideration required

13.117 As shown in Table 4.6 the predicted effect of the proposed development in the sensitivity test scenario is the same as the impacts identified in Table 4.5.

After Completion (Operation) – Potential Effects on Traffic Accidents

13.118 Consideration of this category has been made with reference to the Highway Safety chapter of the TA. That document reviews in detail records for personal injury accidents on the road network local to the site during the most recent 3 years for which data is available, to establish if there are any common clusters or causes, and then consider if the traffic impacts due to the development may adversely affect those trends.

MITIGATION MEASURES

13.119 This section outlines the mitigation measures that would be provided as part of the development proposals and the significance of the residual effects of the development with appropriate mitigation measures in place.

During Construction – Construction Traffic

13.120 As described in the previous section, the potential traffic impacts during the construction stage do not trigger mitigation measures for highway reasons. Notwithstanding that there is the matter of amenity for residents of surrounding areas to the west of Harrogate.

13.121 A strategy will be submitted to and agreed with NYCC and HBC prior to the first phase of construction, namely a Construction Environmental Management Plan (CEMP), which will establish the likely numbers, routing and times of delivery vehicles. The CEMP will primarily be aimed at managing the following:

- Working periods on the site.
- Construction access and temporary traffic signs.
- Parking arrangements for construction workers and vehicles.
- Routing of construction vehicles.
- Wheel washing facilities and dust sheeting of loads as appropriate.

13.122 The agreed strategy will be implemented at the commencement of the construction stage and followed during all subsequent phases as appropriate.

13.123 The significance of effect of construction traffic, with the CEMP in operation, is Negligible.

During Construction – Parking Requirements

13.124 All necessary parking for delivery and workers' vehicles during the construction stage will be provided on site and will be identified in the CEMP. There will be no loss of available parking for local residents.

13.125 The significance of effect of the construction stage on parking requirements in the locale, with the on-site parking provided as described above, is Negligible.

During Construction – Pedestrians and Cyclists

13.126 As described above, traffic impacts during the construction stage are negligible, and therefore will not have any noticeable effect on the delays encountered by pedestrians and cyclists on the local road network.

13.127 Whilst there are existing schools in the vicinity of the site, and a proposed primary school on the site, the timing of deliveries to the site by larger construction vehicles and HGV's would be controlled via the CEMP in order to avoid busy periods associated with school start and end times thereby minimising potential impacts on pedestrian movements associated with local schools.

13.128 Within the Development, construction traffic may cross PROWs and if as expected the numbers are low then signage warning construction vehicles of a PROW approaching can be used and if pedestrian numbers are high then a banksman can be employed to control traffic movements over the PROW.

13.129 The significance of effect of the construction stage on severance of pedestrians and cyclists with mitigation in place is Negligible.

After Construction (Operation) – Parking Requirements

13.130 Car parking will be provided in broad accordance with guidelines set out in NYCC's parking guidelines. An indictive masterplan has been produced for the development, however a separate detailed application would be required to confirm the detailed layout of the site.

13.131 It is envisaged, on average across the site, each residential property will have a garage or a driveway. Where there is no garage, a shed will be provided for safely storing a bike.

13.132 The significance of effect of the Development on parking requirements in the locale, with the on-site parking provided as described above, is Negligible.

After Construction (Operation) – Driver Delay/Network Capacity

13.133 Measures to mitigate for the traffic impacts of the Development on the surrounding road network have been investigated and determined in the TA. The measures have been tested for the future year of 2030.

13.134 In Table 4.3 the following junctions were identified as requiring consideration for mitigation:

- Whinney Lane/ Pannal Ash Road/ Yew Tree Lane/ Green Lane Roundabout

13.135 The junction listed above has been assessed within the TA. Future year assessments taking account of traffic growth, committed development traffic and development traffic demonstrate that the junction is predicted to operate satisfactorily with development in place and mitigation measures for capacity reasons are not required as a result of the addition of the proposed development traffic. Assessments of other off-site junctions also demonstrate that mitigation measures are not required as a result of the addition of the proposed development traffic.

13.136 Based on the operational assessments in the TA the significance of effect of the development on driver delay/ network capacity on the wider road network, with the mitigation measures provided as described above, is Minor - Negligible.

After Construction (Operation) – Traffic Accidents

13.137 The Development will increase traffic flows on the surrounding road network. There were no accidents reported on the road network immediately adjacent to the site access junction. The frequency of accidents that occurred on the wider road network assessed within the TA is relatively low. In most cases the accidents resulted from driver or pedestrian error which can be difficult to address with engineering measures.

13.138 There would be localised improvements to the carriageway, footways and pedestrian crossing facilities on Whinney Lane at the site access, which would belikely to mitigate any localised impacts as a result of development. At other locations on the wider network mitigation measures for highway safety reasons are not required. The significance of effect of the Development on traffic accidents is therefore considered Minor - Negligible.

After Construction (Operation) – Additional Mitigation

13.139 A Residential Travel Plan has been produced setting out the type of measures that will be implemented across the site as the development progresses. The prime objective of the Residential Travel Plan is to reduce the numbers of single occupancy car trips by encouraging the use of more sustainable modes of travel such as journeys on foot, by bike, or by public transport.

13.140 As set out in the TA, discussions are currently ongoing with operators regarding the future provision of a bus service into the development site to improve bus accessibility for the residents at the Development. It is proposed to divert the Harrogate Bus Company 6 service into the site from its current route along Pannal Ash Road and Beckwith Road. The diverted service would provide a 30-minute frequency during Monday to Saturday daytimes, and a 60-minute frequency during evening and Sunday periods and will provide connections to Harrogate centre as well as surrounding local destinations. The diversion of the No.6 service would also result in most of the development site being within a 400m walk of a bus stop.

RESIDUAL IMPACTS

13.141 This section summarises the traffic impacts of the Development, the benefit of the mitigation measures brought forward as a result and the residual effects after

mitigation. Also shown is the confidence level of each prediction. Table 6.1 below summarises the residual effects during construction and after completion.

Table 13.12: Residual Effects During Construction and After Completion (Operation)

Summary Description of Identified Impact	Significance of Effect (most frequent)	Mitigation	Resulting Residual Effect (worst case)	Confidence Level
During Construction				
Traffic on Whinney Lane and surrounding network	Negligible	CEMP/ Construction routing/ Hours of Operation	Temporary Negligible	High
Parking Requirement	Negligible	CEMP/ Provision of parking on site for workers	Temporary Negligible	High
Severance of Pedestrians and Cyclists	Negligible	CEMP/ Construction routing/ Hours of Operation	Temporary Negligible	High
Traffic Accidents	Negligible	CEMP/ Construction routing/ Hours of Operation	Temporary Negligible	High
After Completion (Operation)				
Parking Requirements	Negligible	Provision of parking on site in accordance with NYCC's parking guidance	Negligible	High
Driver Delay/ Network Capacity (Access Junction)	Moderate Adverse	Site access roundabout arrangement	Negligible	High
Driver Delay/ Network Capacity (wider road network)	Moderate Adverse	None required	Minor-Negligible	Medium
Severance of Pedestrians and Cyclists	Minor-Negligible	Whinney Lane access improvements	Minor-Negligible	Medium
Traffic Accidents	Moderate Adverse	Whinney Lane access improvements	Minor-Negligible	Medium
After Completion (Operation) – Sensitivity Test				

Driver Delay/ Network Capacity (Access Junction)	Moderate Adverse	Site access roundabout arrangement	Negligible	High
Driver Delay/ Network Capacity (wider road network)	Moderate Adverse	None required	Minor-Negligible	Medium
Severance of Pedestrians and Cyclists	Minor-Negligible	Whinney Lane access improvements	Minor-Negligible	Medium

CONCLUSIONS

13.142 This chapter of the EIA prepared by WYG on behalf of Banks Property, has considered the likely or potential impacts of the Castlehill West development on the environment in respect of transport and accessibility.

13.143 The transportation implications of the development have been assessed in accordance with the relevant national and local policy documents, published guidance, and consultation with NYCC and HBC.

13.144 Specifically, the potential traffic impacts on the surrounding road networks during construction and after completion have been assessed.

13.145 Construction of the development is expected to be commenced in 2020/ 21. The site lies near to an A-Class road; the A61 Harrogate Road and a B-Class Road; Otley Road, and hence is ideally placed for construction vehicles to gain access to and egress from the site with the minimum possible impact on the surrounding environs.

13.146 The traffic impacts of the development during the construction period will be adverse, but negligible and temporary in nature. Notwithstanding that a Construction Environmental Management Plan (CEMP), will be submitted to and agreed with NYCC and HBC, managing in particular the routes taken by construction vehicles, the times of day of the vehicle movements, and the volumes of construction traffic. The agreed strategy will be implemented at the commencement of the construction period and followed during all phases as appropriate.

13.147 It is proposed to have the primary vehicular access via a new arm of the approved roundabout access to the H70 site off Whinney Lane. The access junction has been designed to the relevant DMRB guidance and includes pedestrian provisions to facilitate crossings as well as widening of the carriageway and provision for bus stops. The internal layout and connections to the external network have been designed to ensure multiple, direct and convenient access points for pedestrians and cyclists.

13.148 The proposed pedestrian and cyclist improvements would enhance the current accessibility of the site. This will be further enhanced as future public transport improvements come forward.

13.149 A Residential Travel Plan will be implemented as part of the development. The prime objective of the Residential Travel Plan is to reduce the numbers of single occupancy

car trips by encouraging the use of more sustainable modes of travel such as journeys on foot, by bike, or by public transport.

13.150 A number of off-site junctions have been assessed within the accompanying Transport Assessment and junction improvements on the road network are not required to mitigate the impact of the Development; so its residual effects in capacity and safety are Minor/ Negligible.

13.151 A sensitivity test has also been carried out to consider the cumulative impacts of three additional development sites which do not have planning permission. From a comparison of the sensitivity test with no development it can be seen that there is a significant increase in queues and delays at Pannal Ash Roundabout, Otley Road/ Pannal Ash Road/ Cold Bath Signals and the Prince of Wales Roundabout and some mitigation measures may be required by North Yorkshire CC and if so an proportionate contribution from each development could be secured via Section 106 Agreements.

13.152 The Development meets the sustainable objectives of the National Planning Policy Framework (NPPF) and its residual traffic impacts are not severe.

14. AIR QUALITY

INTRODUCTION

14.1 Surface Property Consultants were appointed to provide an assessment of the effects of the proposed development upon local air quality. The assessment considers potential emissions of fugitive dust during construction activities and the effects of vehicle exhaust emissions associated with the operational phases of the development. Other air quality effects are scoped out of the assessment.

14.2 The assessment was undertaken by staff who are members of the Institute of Air Quality Management (IAQM) and reviewed by an Institute of Environmental Management and Assessment (IEMA) registered EIA Practitioner.

14.3 The scope and extent of the assessment has been determined by a combination of professional judgement and review of the EIA submitted for the adjacent Gladman's development (App Ref: 18/05202/EIAMAJ). There has been no formal EIA Scoping undertaken.

14.4 This chapter has utilised data relating to vehicle movements in the operational phase of the Development, and therefore should be referenced with Chapter 12: Transport

14.5 The following assessments have been undertaken:

- Potential dust impacts arising from construction;
- Potential impacts of existing air quality on new residential receptors arising from traffic emissions only; and
- Potential impacts of traffic emissions arising from the Development on new and existing receptors.

14.6 This chapter is supported by:

- Appendix 12, which details the dispersion modelling undertaken, and includes figures which detail the air quality study areas and receptors.

REGULATORY AND POLICY CONTEXT

EU Directive and UK Legislation

14.7 The Town and Country Planning (Environmental Impact Assessment) Regulations 2017[18] establish in broad terms what is to be considered when determining the effects of development proposals on air quality. The following legislation, guidance and information sources have been considered in carrying out this assessment.

14.8 European Union legislation forms the basis for UK air quality policy. Directive 96/62/EC and the first three daughter objectives were combined to form the European Union Directive 2008/50/EC (European Parliament, 2008) on Ambient Air Quality and Cleaner Air for Europe, which came into force June 2008 UK Air Quality Strategy.

[18] The Town and Country Planning (Environmental Impact Assessment) Regulations 2017. Available online. http://www.legislation.gov.uk/uksi/2017/571/made [Accessed 21/04/20]

14.9 The 1995 Environment Act requires the preparation of a National Air Quality Strategy (NAQS), which sets air quality standards and objectives for specified pollutants. The Act also outlines measures to be taken by local planning authorities in relation to meeting these standards and objectives, which is set out in the Local Air Quality Management (LAQM) system.

14.10 The first UK Air Quality Strategy, (Department of Environment 1997), brought together European Union Legislation, technical and policy developments and the latest information on health effects of air pollution. The strategy was revised and reissued as the Air Quality Strategy for England, Scotland, Wales and Northern Ireland (Department of the Environment, Transport and the Regions 2000); This was subsequently amended in 2003 (DETR) and in July 2007 (Defra) [19]. The Air Quality Strategy also enacted the Air Quality (England) Regulations (2000 and 2002 Amendment) [20], which provides the principal air quality legislation for the UK.

14.11 The NAQS provides an over-arching strategic framework for air quality management by:

- Setting out a way forward for air quality issues;
- Setting out the air quality standards and objectives to be achieved; and
- Introducing a new policy framework for tackling fine particles.

14.12 The current air quality standards and objectives for the study species are presented in Table 14.1. Pollutant standards relate to health-based ambient pollutant concentrations in air, whereas pollutant objectives incorporate target dates and in some cases margin of tolerance.

Table 14.1 NAQS Objectives (µg/m3) for the protection of Human Health

Pollutant	Air Quality Objective	
	Concentration	**Measured as**
Nitrogen dioxide (NO_2)	200 µg/m^3	1-hour mean not to be exceeded more than 18 times per year
	40 µg/m^3	Annual mean
Particles (PM_{10})	50 µg/m^3	24-hour mean not to be exceeded more than 35 times per year
	40 µg/m^3	Annual mean

14.13 Objectives for $PM_{2.5}$ have been introduced in the UK but are not included in Regulations. Furthermore, whilst road traffic can make substantial contributions to $PM_{2.5}$ concentrations at the kerbside (within 1 m of the kerb), at the roadside (a few metres from the kerb) the contributions are relatively limited[21]. As such, this assessment has not considered $PM_{2.5}$.

[19] The Air Quality Strategy for England, Scotland, Wales and Northern Ireland, Department for Environment, Food and Rural Affairs in partnership with the Scottish Executive, Welsh Assembly Government and Department of the Environment Northern Ireland, July 2007'

[20] The Air Quality (England) (Amendment) Regulations, 2002, Statutory Instrument 3043 (2002), HMSO and The Air Quality (England) Regulations, 2000, Statutory Instrument 928 (2000), HMSO.

[21] DEFRA. (2012). Fine Particulate Matter ($PM_{2.5}$) in the United Kingdom. [Online]. https://uk-air.defra.gov.uk/assets/documents/reports/cat11/1212141150_AQEG_Fine_Particulate_Matter_in_the_UK.pdf [Accessed 02/04/2020]

Local Air Quality Management (LAQM)

14.14 Where an air quality objective is unlikely to be met by the relevant deadline, local planning authorities must designate those locations as Air Quality Management Areas (AQMAs) and take action to work towards meeting the objectives. Following the designation of an AQMA, local planning authorities are required to develop an Air Quality Action Plan (AQAP) to work towards meeting the objectives and to improve air quality locally. New developments must factor into their impact assessments the current status of any AQMA and how the development would interact with it.

14.15 Possible exceedances of air quality objectives are usually assessed in relation to those locations where members of the public are likely to be regularly present and are likely to be exposed for a period of time appropriate to the averaging period of the objective. These objective figures are utilised in the assessment of new projects as part of the assessment of potential traffic and access effects on air quality.

National Planning Policy and Guidance

14.16 On a national level, air quality can be a material consideration in planning decisions.

14.17 The National Planning Policy Framework (NPPF) (2019)[22] sets out national planning policy for England; designed to make the planning system less complex, to protect the environment and promote sustainable development. The NPPF states at paragraph 170 that planning policies and decisions should contribute to and enhance the natural and local environment by the *"planning system should contribute to and enhance the natural and local environment by preventing both new and existing development from contributing to, or being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil, air, water or noise pollution or land instability"*.

14.18 The NPPF states that the effects of pollution on health and the sensitivity of the area and the development should be taken into account.

14.19 Paragraph 181 of the NPPF states *"Planning policies and decisions should sustain compliance with and contribute towards compliance with relevant EU limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and Clean Air Zones, and the cumulative impacts on air quality from individual sites in local areas... Planning decisions should ensure that any new development in Air Quality Management Areas and Clean Air Zones is consistent with the local air quality action plan"*.

14.20 The NPPF is supported by Planning Practice Guidance (PPG), which includes guiding principles on how planning can take account of the impacts of new development on air quality. This is detailed below under the Air Quality Guidance section.

Local Planning Policy

14.21 Paragraph 047 of the NPPF states that "Planning law requires that applications for planning permission be determined in accordance with the development plan, unless material considerations indicate otherwise…".

[22] Ministry of Housing, Communities and Local Government (2019). National Planning Policy Framework. [online] Gov.uk. Available at: https://www.gov.uk/government/publications/national-planning-policy-framework--2 [Accessed 22/07/2019].

14.22 Harrogate Borough Council adopted its District Local Plan in March 2020[23] which sets out policies for development and conservation in the district up to 2035. This included the identification of locations for new homes, employment areas and supporting infrastructure.

14.23 Policies relevant to air quality in the Local Plan are detailed below:

Policy NE1: Air Quality states that:

14.24 "Applicants must submit an Air Quality Assessment and/or a Dust Assessment Report and identify mitigation measures to ensure no significant effects where development may:

A. Affect the Air Quality Management Areas (AQMAs) at Bond End, Knaresborough, High and Low Skellgate, Ripon, Woodlands Junction at Hookstone Chase, Harrogate and York Place, Knaresborough, or any other AQMAs designated over the course of the plan period.

B. Create emissions of dust during demolition, earth moving and construction, or through site operations associated with mineral extraction, waste disposal or agriculture.

C. Impact on the air quality of a Special Area of Conservation (SAC), Special Protection Area (SPA), or Site of Special Scientific Interest (SSSI), or on a non-statutory site where there is a relevant sensitivity.

D. Create significant amounts of traffic, as determined through a transport assessment and/or air quality modelling specific to the proposal.

14.25 Mitigation measures should ensure consistency with the Council's Air Quality Action Plan and the Habitats Regulation Assessment where impacts are related to the diversity of ecosystems; and where impacts are traffic related, the current North Yorkshire Local Transport Plan.

EC7: Sustainable Rural Tourism states that:

14.26 "Proposals involving the development of new, or extension of existing, tourist and leisure attractions or visitor accommodation in the countryside will be permitted providing that: …

G. They would not generate levels of traffic that would have an adverse impact upon the operation of the highway network or on highway safety or on air quality"

HP4: Protecting Amenity states that:

14.27 "Development proposals should be designed to ensure that they will not result in significant adverse impacts on amenity. Amenity considerations will include the impact of the development on:…

C. Vibration, fumes, odour noise and other disturbances"

23 https://www.harrogate.gov.uk/info/20101/planning_policy_and_the_local_plan/1159/harrogate_district_local_plan_examination [Accessed 23/04/2020]

Air Quality Guidance

National Planning Policy Framework Planning Practice Guidance

14.28 The Government's online Planning Practice Guidance (PPG)[24] states that air quality concerns are more likely to arise where development is proposed within an area of existing poor air quality, or where it would adversely impact upon the implementation of air quality strategies and/or action plans.

14.29 Under the Air Quality section, paragraph 005 of the PPG states *that "Whether or not air* quality *is relevant to a planning decision will depend on the proposed development and its location. Concerns could arise if the development is likely to generate air quality impact in an area where air quality is known to be poor. They could also arise where the development is likely to adversely impact upon the implementation of air quality strategies and action plans and/or, in particular, lead to a breach of EU legislation (including that applicable to wildlife)"*.

14.30 Paragraph 007 of the PPG sets out the information that may be required in an air quality assessment, making clear that *"Assessments should be proportionate to the nature and scale of development proposed and the level of concern about air quality"*.

14.31 Paragraph 008 provides guidance on mitigating air quality impacts, stating *"Mitigation options where necessary, will depend on the proposed development and should be proportionate to the likely impact"*.

14.32 When deciding whether air quality is relevant to a planning application, consideration should be given to whether the development would lead to:

- Significant effects on traffic, such as volume, congestion, vehicle speed or composition
- The introduction of new point sources of air pollution, such as furnaces, centralised boilers and Combined Heat and Power (CHP) plant
- Exposing occupants on any new developments to existing sources of air pollutants and areas with poor air quality

Land Use Planning and Development Control: Planning for Air Quality

14.33 In January 2017, guidance released by Institute of Air Quality Management (IAQM) and Environmental Protection UK (EPUK)[25] provided a set of criteria used to determine whether a development will have a significant impact on air quality to ensure that air quality is adequately considered in the land-use planning and development control processes. If the proposed development results in a significant change in air quality or results in a change of relevant exposure to air quality, then it is reasonable to expect an air quality assessment to be undertaken.

[24] https://www.gov.uk/government/collections/planning-practice-guidance

[25] Institute of Air Quality Management (IAQM)/EPUK Guidance - Land-Use Planning & Development Control: Planning for Air Quality 2017. [Online]. Available at: http://www.iaqm.co.uk/text/guidance/air-quality-planning-guidance.pdf [Accessed 01/04/2020]

Local Air Quality Management Policy Guidance (PG16), 2016

14.34 LAQM.PG(16)[26] provides additional guidance on the links between transport and air quality. Road transport contributes to local air pollution and transport measures may bring improvements in air quality. Key transport-related Government initiatives are set out, including regulatory measures and standards to reduce vehicle emissions and improve fuels.

14.35 LAQM.PG(16) also provides guidance on the links between air quality and the use of the planning system; air quality considerations should be integrated within the planning process at the earliest stage, and is intended to aid local authorities in developing action plans to deal with specific air quality issues and create strategies to improve air quality.

Local Air Quality Management Technical Guidance (TG16), 2018

14.36 LAQM.TG16[27] is designed to support local authorities in carrying out their duties under the Environment Act 1995. LAQM is the statutory process by which local authorities monitor, assess and take action to improve local air quality. Where a local authority identifies areas of non-compliance with the air quality objectives, and there is relevant public exposure, there remains a statutory need to declare the geographic extent of non-compliance as an AQMA and to draw up an action plan detailing remedial measures to address the problem.

Harrogate Borough Council Air Quality Action Plan, 2018

14.37 The 2018 Air Quality Action Plan (AQAP)[28] sets out the strategy and actions from the period 2018-2023 to reduce pollutant concentrations and improve quality of life in Harrogate.

14.38 The key priorities of the 2018 AQAP are:

- "Priority 1 – reduction in car journeys
- Priority 2 – reduction in total vehicles
- Priority 3 – encourage sustainable travel
- Priority 4 – efficiency through junctions (based on local knowledge)"

14.39 Specific measures to achieve these objectives include the development and implementation of an Ultra-Low Emissions Vehicle Strategy, education campaigns, and improving bus and cycle routes.

14.40 This assessment has been undertaken with reference to a number of guidance manuals that offer technical advice and best practice measures on the assessment of air quality issues for the use of air quality professionals. The guidance has been produced by relevant technical experts and professional bodies that specialise in air

[26] DEFRA. (2016). Local Air Quality Management Policy Guidance PG(16), DEFRA, London. [Online]. Available at: https://laqm.defra.gov.uk/assets/laqmpolicyguidance2016.pdf [Accessed 01/04/2020]

[27] Local Air Quality Management Technical Guidance (TG16), (2018). Available Online: https://laqm.defra.gov.uk/documents/LAQM-TG16-April-16-v1.pdf [Accessed 01/04/2020]

[28] Harrogate Borough Council (2018). Air Quality Action Plan. Available at: https://www.harrogate.gov.uk/download/downloads/id/5186/2018_air_quality_action_plan.pdf [Accessed 01/04/2020]

quality assessment. A list of the guidance and information sources utilised in the assessment is provided in Table 14.2.

Table 14.2 Key Information Sources	
Data Source	**Reference**
Harrogate Borough Council	Harrogate Borough Council (2018). Air Quality Action Plan.
Department for Environment Food and Rural Affairs (Defra)	Defra (2018) Local Air Quality Management Technical Guidance TG(16)
Defra's Local Air Quality Management (LAQM) Support Portal	LAQM 1 x 1km grid background pollutant maps[29]
Environmental Protection UK (EPUK)/ Institute of Air Quality Management (IAQM)	EPUK/IAQM (2017) Development Control: Planning for Air Quality (v1.1)[25]
Institute of Air Quality Management (IAQM)	Guidance on the assessment of dust from demolition and construction (v1.1)[30]
	IAQM (2012) Dust and Air Emissions Mitigation Measures[31]

SCOPE

14.41 The scope and extent of the assessment has been determined by a combination of professional judgement and review of the EIA submitted for the adjacent Gladman's development (App Ref: 18/05202/EIAMAJ). There has been no formal EIA Scoping undertaken.

14.42 The following assessments have been undertaken:

- Potential dust impacts arising from construction;
- Potential impacts of existing air quality on new residential receptors; and
- Potential impacts of traffic emissions arising from the Development on new and existing receptors.

14.43 The assessment of ecological receptors has been scoped out of the assessment as there are none within the study area (set out below).

14.44 Effects from demolition dust have been scoped out as the site is currently greenfield.

14.45 The scope of pollutants in detailed in the following text. Air Quality Objectives (AQOs) exist for the following pollutants[32]:

- Fine particulate matter (PM_{10})
- Nitrogen dioxide (NO_2)
- Ozone

[29] DEFRA. Background mapping data for local authorities. [Online]. Available at: https://uk-air.defra.gov.uk/data/laqm-background-home [Accessed 02/04/2020]

[30] IAQM (2014). Guidance on the Assessment of dust from demolition and construction Version 1.1. [Online] iaqm.co.uk. Available at: https://iaqm.co.uk/text/guidance/construction-dust-2014.pdf [Accessed 02/04/2020]

[31] IAQM. (2012). Dust and Air Mitigation Measures. [Online]. iaqm.co.uk Available at: https://www.iaqm.co.uk/text/guidance/iaqm_mitigation_measures_2012.pdf [Accessed 02/04/2020]

[32] DEFRA (2016). National Air Quality Objectives. Available at: https://uk-air.defra.gov.uk/assets/documents/National_air_quality_objectives.pdf [Accessed on 02/04/2020]

- Sulphur Dioxide (SO_2)
- Polyaromatic Hydrocarbons
- Carbon Monoxide (CO)
- Benzene
- 1,3-Butadiene
- Lead

14.46 These species are currently regulated because of their known or suspected deleterious effects upon human health, and because historically, relatively high concentrations have been recorded within and downwind of urban centres.

14.47 In most urban areas of the UK, traffic-generated pollutants have become the most common pollutants. These are NO_2, PM_{10}, CO, 1,3-butadiene and benzene.

14.48 Appendix 12 focuses on NO2 and PM10, as these pollutants are least likely to meet their Air Quality Strategy objectives near roads.

14.49 The following pollutants have been excluded from the assessment, along with justifications:

- Lead, because it has now been removed from petrol fuels
- CO, Benzene and 1,3-butadiene, because only one of the 168 Local Authorities having designated Air Quality Management Areas (AQMAs) within the UK did so due to an exceedance of benzene or 1,3-butadiene objectives. Furthermore, monitoring for these pollutants was ceased by Harrogate Borough Council (HBC) following the 2007 Air Quality Annual Progress Report[33] showing no risk of exceeding the air quality objective for the pollutant throughout the district.
- SO_2, because of the introduction of low sulphur diesel and the relatively insignificant sulphur content of petrol fuels

14.50 Ozone and PAHs, because these two species remain as national objectives not prescribed in regulation and presently remain outside the scope of Local Air Quality Management (LAQM)

METHODOLOGY

Study Area – Construction Phase Dust Assessment

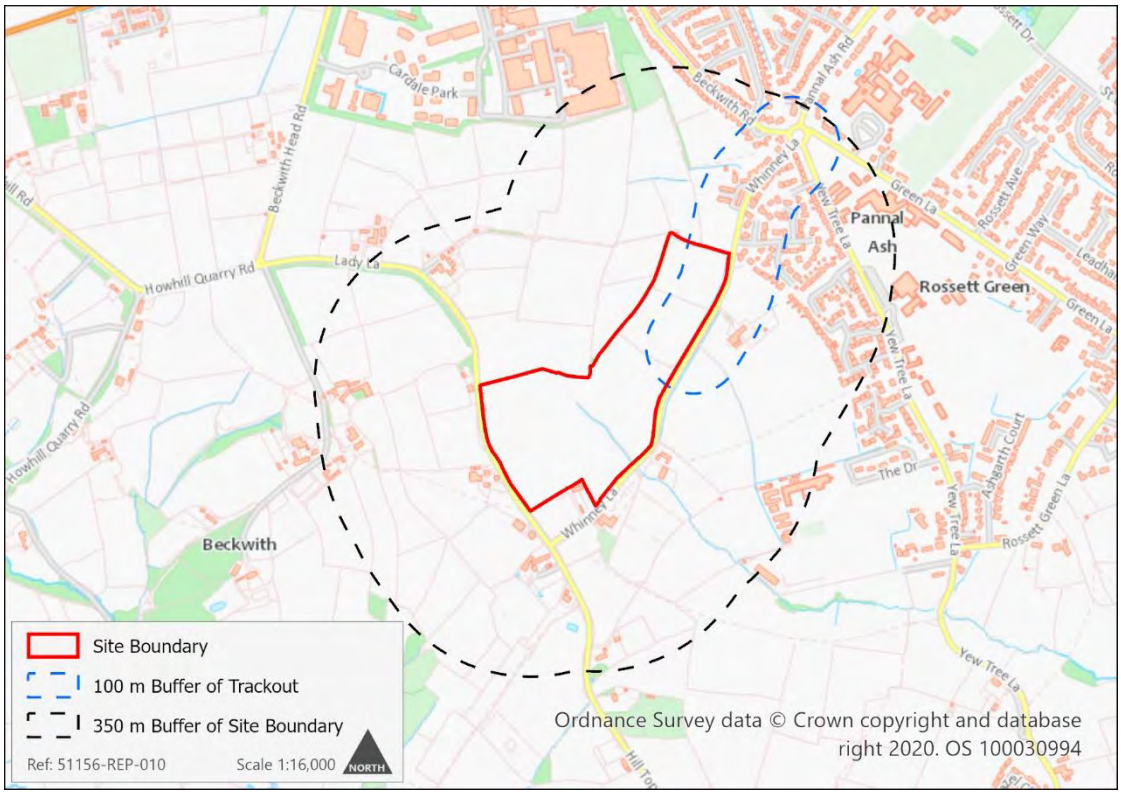
14.51 In relation to construction phase dust emissions, and in accordance with the Institute of Air Quality Management Technical Guidance (IAQM, 2018)[34] and the DMRB (Highway Agency, 2019), the Construction Dust Study Area extends to:

- Within 350 metres (m) of the Development site

[33] Harrogate Borough Council. (2007). Air Quality Progress Report. [Online]. Available at: https://www.harrogate.gov.uk/download/downloads/id/1137/2007_air_quality_progress_report.pdf [Accessed 02/04/2020]
[34] IAQM (2018). Guidance on Monitoring in the Vicinity of Demolition and Construction Sites. [Online] iaqm.co.uk. Available at: https://iaqm.co.uk/text/guidance/guidance_monitoring_dust_2018.pdf [Accessed 02/04/2020]

- Within 100 m of the route(s) used by vehicles on the public highway, up to 500 m from the site entrance(s)

Figure 14.1 Dust Assessment Study Area



14.52 Technical guidance reports a distance of up to 100 m as a threshold within which ecological receptors may be affected by dust raising activities; there are no relevant ecological receptors within this distance of the Development site.

Study Area – Operational Phase Assessment of Traffic

14.53 In relation to operational phase traffic emissions, in accordance with guidance detailed in DMRB (Highway Agency, 2019), the Construction Traffic Study Area extends to within 200 m of affected road links.

Construction Phase Dust Emissions Assessment Methodology

14.54 In 2014, the IAQM published a guidance document 'Guidance on the Assessment of Dust from Demolition and Construction'[30], this guidance has been used to undertake the assessment of dust emissions. Descriptors for magnitude and significance used for the assessment of air quality in the assessment of construction phase dust emissions are taken from the IAQM guidance and detailed within this section.

14.55 The term 'effects' is utilised within the guidance as it refers to the consequence of changes in airborne concentrations and/or dust deposition for a receptor. The guidance refers to impacts as the change in concentrations irrespective of whether there are effects on receptors. This terminology is used within this assessment.

14.56 Activities on construction sites have been divided into four separate types to reflect their different impacts, each of these types of activity are assessed individually. These are:

- Demolition;
- Earthworks;
- Construction; and
- Trackout

14.57 Given that no demolition is required on the greenfield site the assessment does not consider dust impact form demolition activities and therefore this activity is scoped out of the assessment.

14.58 Trackout is identified as 'the transport of dust and dirt from a construction / demolition site onto the public road network, where it may be deposited and then re-suspended by vehicles using the network' (IAQM, 2014). Significant particulate track-out may occur up to 500 m from large sites, 200 m from medium sites and 50 m from small sites.

14.59 The dust risk assessment assesses the following three impact risks:

- The risk of dust impact to human and property receptors;
- The risk of dust impact to ecological receptors; and
- The risk of dust impact to human health.

14.60 This is comprised of a qualitative method using a set of matrices and is repeated for each of the three activities involved (Earthworks, Construction, and Trackout).

14.61 The methodology has been organised into a stepped approach and the assessment was conducted as follows:

- Step 1: Screen the need for detailed assessment;
- Step 2: Assess the risk of dust effects arising;
- Step 3: Identify the need for site-specific mitigation; and
- Step 4: Define effects and their significance.

14.62 STEP 1 of the assessment screens the requirement for a more detailed assessment. Due to the presence of “human receptors” within 350 m of the boundary of the site and within 100 m of the route used by construction vehicles on the public highway (up to 500 m from the site entrance), a dust assessment is necessary for the Development.

14.63 STEP 2 is to assess the risk of dust effects on these sensitive receptors and assign a risk category to the Development site. The risk category is determined by several factors:

- The scale and nature of the works, which determines the risk of dust arising (the dust emission magnitude as shown in Table 14.3); and
- The proximity of sensitive receptors to these potential risks.

14.64 The classification of dust emission magnitude is determined based on the area size and dust raising potential of the earthworks and construction activities, resulting in either a small, medium or large magnitude (Table 14.3).

Table 14.3 Determination of dust emission magnitude

Activity	Criteria used to determine dust emission magnitude		
	Large	**Medium**	**Small**
Earthworks	Total site area >10,000 m^2. Potentially dusty soil type. >10 heavy earth moving vehicles active at any one time. Formation of bunds >4 m – 8 m in height. Total material moved >100,000 tonnes	Total site area 2,500 – 10,000m^2, moderately dusty soil type (e.g. silt). 5-10 heavy earth moving vehicles active at any one time. Formation of bunds 4 m – 8 m in height, total material moved 20,000 tonnes – 100,000 tonnes.	Total site area <2,500m^2. Soil type - large grain size (e.g. sand). <5 heavy earth moving vehicles at any time of day. Surface material - with low potential for dust release. Surface material with low potential for dust release. Unpaved road length <50 m.
Construction	Total building volume >100,000 m^3. On site concrete batching. Dusty construction material. Sandblasting.	Total building volume 25,000 – 100,000 m^3. Potentially dusty construction material (e.g. concrete). On site concrete batching.	Total building volume <25,000 m^3. Construction material with low potential for dust release (e.g. metal cladding or timber).
Trackout	>50 HDV (>3.5t) outward movements in any one day. Potentially dusty surface material (e.g. high clay content). Unpaved road length 50 m – 100 m.	10-50 HDV (>3.5t) outward movements in any one day. Moderately dusty surface material (e.g. high clay content). Unpaved road length 50 m – 100 m.	<10 HDV (>3.5t) outward movements in any one day. Surface material with low potential for dust release. Unpaved road length <50 m.

14.65 The sensitivity of the area to human health impacts is assessed based on the background PM_{10} concentration the Development site, the number of receptors and their sensitivity and the distance of these receptors from the source. This is presented in Table 14.4.

Table 14.4 Sensitivity of the Area to Human Health Impacts

Receptor Sensitivity	Annual Mean PM_{10} Concentration	Number of Receptors	Distance from the Source (m)				
			< 20	**< 50**	**< 100**	**< 200**	**<350**
High	> 32 µg/m^3	> 100	High	High	High	Medium	Low
		10 – 100	High	High	Medium	Low	Low
		1 - 10	High	Medium	Low	Low	Low
	28 - 32 µg/m^3	> 100	High	High	Medium	Low	Low
		10 – 100	High	Medium	Low	Low	Low
		1 - 10	High	Medium	Low	Low	Low
	24 – 28 µg/m^3	> 100	High	Medium	Low	Low	Low
		10 – 100	High	Medium	Low	Low	Low
		1 - 10	Medium	Low	Low	Low	Low
	< 24 µg/m^3	> 100	Medium	Low	Low	Low	Low
		10 – 100	Low	Low	Low	Low	Low
		1 - 10	Low	Low	Low	Low	Low
Medium	> 32 µg/m^3	> 10	High	Medium	Low	Low	Low
		1 - 10	Medium	Low	Low	Low	Low
	28 - 32 µg/m^3	> 10	Medium	Low	Low	Low	Low
		1 - 10	Low	Low	Low	Low	Low
	24 – 28 µg/m^3	> 10	Low	Low	Low	Low	Low
		1 - 10	Low	Low	Low	Low	Low
	< 24 µg/m^3	> 10	Low	Low	Low	Low	Low
		1 - 10	Low	Low	Low	Low	Low
Low	-	> 1	Low	Low	Low	Low	Low

14.66 The people and property sensitivity of the area to dust soiling (Table 14.5) is determined from the combination of the individual receptor sensitivity (based on the number of properties) with the distance from the source activity resulting in a low, medium or high sensitivity to dust soiling.

Table 14.5 Determination of the sensitivity of the area to dust soiling effects on people and property

Receptor Sensitivity	Number of receptors	Distance from the Source (m)			
		<20	<50	<100	<350
High	>100	High	High	Medium	Low
	10-100	High	Medium	Low	Low
	1-10	Medium	Low	Low	Low
Medium	>1	Medium	Low	Low	Low
Low	>1	Low	Low	Low	Low

14.67 The sensitivity of the area to dust soiling effects on ecological receptors (Table 14.6) is determined from the combination of the receptor sensitivity (based on ecological designation) with its distance from the source activity.

Table 14.6 Sensitivity of the Area to Dust Soiling Effects on Ecological Receptors

Receptor Sensitivity	Distance from the source (m)	
	< 20	< 50
High	High	Medium
Medium	Medium	Low
Low	Low	Low

14.68 The area sensitivities are used in combination with the dust emission magnitude of each of the source activities to produce the risk of dust impact (Table 14.7). The risk of dust impact is assessed separately for each part of the development for both human and property receptors and ecological receptors.

Table 14.7 Risk of Dust Impact

Sensitivity of Area	Dust Emission Magnitude		
	Large	**Medium**	**Small**
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Medium Risk	Low Risk
Low	Low Risk	Low Risk	Negligible

14.69 STEP 3 provides appropriate and proportionate site-specific mitigation measures. For those cases where the risk is assigned as negligible, no mitigation measures are required. It is important to note that adherence to any legislative and regulatory construction site control measures falls outside mitigation and would still be required.

14.70 STEP 4 concludes whether the Development will have significant effects (defined as significant or not significant) once the risk of dust impact has been determined and mitigation measures have been applied to each of the three on-site activities. It is important to note that negligible and low risk translate to an effect that is not significant and a risk defined as medium or high will translate to a significant effect.

Operational Phase Traffic Emissions Assessment Methodology

14.71 The operational phase assessment considered NO_2 and PM_{10} impacts arising at identified receptors as a result of traffic related emissions. Air dispersion modelling using ADMS Roads version 4.1.1 was undertaken to predict pollutant concentrations at the receptors, which once added to background concentrations was compared to the air quality objective limits and a conclusion of impact significance made, utilising IAQM assessment guidance and professional judgement.

14.72 The modelling required data relating to vehicle numbers, the proportion of HGVs, vehicle speeds and the distance between the receptor and the roads carrying the traffic. In this way, predicted changes in air quality resulting from the development have been established and pollutant concentrations compared to the Air Quality Strategy objectives. Further details on the model parameters are presented in Appendix 12 including the modelled scenarios, the modelled roads and receptors, meteorological data used and model verification against monitored diffusion tube data held by the Council.

14.73 The significance of any changes in pollutant concentrations in relation to traffic emissions was considered in the context of the National Air Quality Objectives detailed in the Government's Air Quality Strategy and the Environmental Protection UK (EPUK) and IAQM guidance document 'Land-Use Planning & Development Control: Planning for Air Quality 2017.

14.74 Table 14.8 provides a matrix for assigning a magnitude of change for increases or decreases in the annual mean values of NO_2 and PM_{10} from negligible to substantial as published in the IAQM guidance (2017)[25]. The Air Quality Assessment Level (AQAL) can be an Air Quality Objective (AQO), EU limit or target value or the Environmental Agency Environmental Assessment level (EAL). The *"% change in concentration relative to the AQAL" r*epresents the concentration contributed by the development as a percentage of the total AQAL value. This was combined with the *"Long term average concentration at the receptor in an assessment year"* (annual mean concentration), which was categorised into percentage ranges of the amount it is above or below the AQAL. These parameters were combined to measure the degree of potential harm on a scale from negligible to substantial based on if the total concentration(s) of the pollutant(s) exceeds the AQAL.

Table 14.8 Assessment Matrix

Long term average Background Concentration at receptor in assessment year	% Change in Concentration relative to Air Quality Assessment level (AQAL)			
	<1	2-5	6-10	>10
75% or less of AQAL	Negligible	Negligible	Slight	Moderate
76%-94% of AQAL	Negligible	Slight	Moderate	Moderate
95%-102% of AQAL	Slight	Moderate	Moderate	Substantial
103%-109% of AQAL	Moderate	Moderate	Substantial	Substantial
110% or more of AQAL	Moderate	Substantial	Substantial	Substantial

14.75 In accordance with IAQM and EPUK guidance, the above framework for describing impacts has been used as a starting point to make a judgement on significance of

effect, in EIA terms, but the extent of impact (both geographic coverage and numbers of receptors affected) and other factors will also be considered. Professional judgement has been used to consider the significance of effects, having regard to the influence and validity of assumptions adopted when undertaking the prediction of impacts.

Cumulative Effects

14.76 The future baseline in 2030, which has been used in the assessment of effects during the operational phase of the Development, includes any potential cumulative traffic emission effects. The data used in the assessment includes any committed development as detailed and provided in the traffic data provided in Chapter 13: Access and Traffic.

BASELINE CONDITIONS

14.77 This section summarises the background air quality within the study area. Data has been gathered for the most recent year of diffusion tube monitoring (2018) and a future year when the Development would be operational (2030).

14.78 Baseline air quality is the air quality in the absence of the Development. This is comprised of background pollutant concentrations (concentrations present in the wider area) and contributions from baseline traffic levels.

Local Air Quality Management Review

14.79 Following monitored exceedances of the annual mean NO_2 objective, Harrogate Borough Council declare the following Air Quality Management Areas (AQMAs):

- The Knaresborough AQMA No 1
- The Ripon AQMA No 1
- The Harrogate AQMA No 1
- The Knaresborough AQMA No 2

14.80 All AQMAs in the borough fall significantly outside the study area, the closest being The Harrogate AQMA No 1 located approximately 3.8 km east of the Development site. Consequently, the sensitivity of AQMAs within the borough have not been taken into account when considering the impact of traffic contributions attributed to the Development on existing annual average concentrations of NO_2.

Local Air Quality Monitoring

14.81 Harrogate Borough Council does not undertake any automatic monitoring of NO_2 or PM_{10} but does undertake NO_2 diffusion tube monitoring at 51 sites; results of this monitoring are presented in the 2019 Air Quality Annual Status Report (ASR)[35].

14.82 The closet diffusion tube monitoring point is '27 Harlow Crescent' (429313, 453820) monitoring urban background and is located approximately 770 m north of the Development site. This tube provides urban background concentrations and is set back

[35] Harrogate Borough Council. (2019). 2019 Air Quality Annual Status Report. [Online]. Available at: https://www.harrogate.gov.uk/download/downloads/id/5330/2019_air_quality_annual_status_report.pdf [Accessed 02/04/2020]

5 m from the kerb in an area away from major sources of traffic pollution. PM_{10} is not monitored by Harrogate Borough Council. Data is provided in Table 14.9.

Table 14.9 Diffusion Tube Concentrations 2014 – 2018

Site ID	NO_2 Annual Mean Concentration (µg/m3)				
	2014	2015	2016	2017	2018
H28 – 77 Harlow Crescent	10.43	10.89	12.62	10.78	10.4

14.83 The background concentrations are well below the respective annual mean Air Quality Objectives in 2030 and are remaining stable over time (no substantial change since 2014 with only a minor increase in 2016).

Background Air Quality

14.84 Background concentrations of NO_2 and PM_{10} are taken from DEFRA modelled data (2017 dataset), which is based on a resolution of 1 km grid squares, for each relevant modelling scenario year. Average background concentrations have been taken from the grid location 428500, 452500 which is approximately 175 m west of the Development site. Data is provided in Table 14.10.

Table 14.10 Background Concentrations from DEFRA

Pollutant Concentration (µg/m3) 428500, 452500	2018	2030
Nitrogen dioxide (NO_2)	7.22	5.26
Particulates (PM_{10})	9.14	8.40

14.85 The background concentrations are well below the respective annual mean Air Quality Objectives in 2018 and are forecast to reduce still further by 2030.

14.86 Following analysis of the council monitoring data, it was concluded that background concentrations from DEFRA modelled data would be used to provide baseline air quality for the assessment. This is due to the absence of any automatic background monitoring, with only diffusion tube data being available. The nearest diffusion tube is 770 m away from the Development site and is in a residential area that does not represent the current rural nature of the Development site.

Receptors – Construction Dust Assessment

14.87 Receptors sensitive to dust emissions in the Construction Dust Study Area were identified (Step 1).

Residential Receptors

14.88 Approximately 239 high sensitivity receptors (residential properties) were identified within 350 m of potentially dust-creating activities. Within the Study Area, the areas in all directions of the Development site are mainly comprised of open green space with the exception of adjacent residential dwellings to the north east. In the eastern section of the Study Area, there is a group of 217 properties associated with Whinney Lane,

Castle Hill Drive, and Yew Tree Lane located approximately 0 – 200m from the Development Site. 22 Detached dwellings and farm buildings are scattered across the Study Area in all directions from the Development site.

Ecological Receptors

14.89 There are no sites of ecological interest with statutory designations within the Study Area. The closest designations in the vicinity include the Rossett Local Nature Reserve located 790 m to the north east of the Site and The Woods Ancient Woodland located 740 m to the south of the Site. It is highly unlikely that either of these sites will be impacted by additional dust from the Development and ecological impacts have therefore been scoped out from the rest of the assessment.

Summary

14.90 As sensitive receptors (principally residential properties) were identified within the Construction Dust Study Area, it is necessary to proceed to Step 2 of the assessment and assess the risk of dust arising from these receptors.

Receptors – Operational Traffic Assessment

14.91 Locations representative of sensitive receptors were identified within the Study Area for operational traffic effects. Of these, 26 represented existing residential properties along roads links on which Development traffic would travel, 4 represented new receptors being introduced as part of the Development, both residential and school. These receptors were chosen based on their proximity to the assessed road network, representing locations at which emissions from operational phase traffic were predicted to have the greatest effect on air quality, above the baseline.

Assessed Road Links

14.92 The road links that were modelled are those with the potential to affect the identified receptor locations. ADMS Roads requires traffic information for use in the model; this was provided as Annual Average Daily Traffic (AADT) data by the transport consultant and is provided in Table 14.11. This was converted to hourly flows for use in the model, as detailed in Appendix 12.

Table 14.11 AADT Traffic Data						
Scenario	**2018**		**2030 (incl. committed developments and sensitivity)**		**2030 with Development (incl. committed developments and sensitivity)**	
Road	**AADT**	**% HGV**	**AADT**	**% HGV**	**AADT**	**% HGV**
Whinney Lane (W)	973	1.3	1,321	1.1	1,525	1.1
Lady Lane	2,864	1.3	5,108	0.8	5,312	0.8
Howhill Road	1,608	1.3	2,985	0.8	3,171	0.8
Otley Road (W)	12,972	2.0	18,470	1.6	18,647	1.6
Whinney Lane (E)	2,205	1.3	7,456	0.4	8,459	0.4
Pannal Ash Road	5,785	1.2	9,378	0.8	9,933	0.8
Green Lane	5,658	1.3	9,705	0.8	9,922	0.8
Yew Tree Lane	3,913	1.3	6,914	0.8	7,135	0.8
Burn Bridge Road	6,702	1.3	10,334	0.9	10,555	0.9
A61 (S)	21,896	3.0	28,320	2.6	28,541	2.6
Otley Road (E)	16,078	2.0	21,573	1.7	22,017	1.7

Meteorological Conditions

14.93 Hourly sequential meteorological data for the calendar years 2015-2019 was input to the model. The data were provided by the Met Office, and were taken from measurements recorded at Leeds Bradford Airport.

14.94 For prediction purposes, to ensure a worst-case approach is taken to deal with uncertainty in meteorological conditions, the model was run with the five data sets and the met data set giving rise to the greatest pollutant concentrations at the worst-case receptor was used for all modelling scenarios. This was found to be the 2016 data.

14.95 Hourly sequential met data representing the same year as the most recent diffusion tube monitoring results (2018) was used for model verification.

14.96 Analysis of the meteorological data shows that the Development site is subject to dominant westerly winds with other small wind contributions from the northeast. A wind rose for the worst case year is presented in Appendix 12.

Baseline Air Quality

14.97 The baseline air quality has been modelled using ADMS, for each of the assessed receptors, in 2030 (future baseline, without the Development). The modelling was based on traffic data provided in Table 14.11.

ASSESSMENT WITHOUT MITIGATION

Construction Phase Dust Assessment

14.98 Earthwork activities such as excavation, haulage of materials around the site on stone roads, tipping and stockpiling, site levelling and clearing, bund formation and landscaping are potential sources of dust emission if not properly controlled. The formation of Sustainable Urban Drainage Systems (SUS's) is proposed within the Development in addition to landscaping. The potential effect on sensitive receptors will vary depending on where within the Development site the dust-raising activity takes place, the nature of the activity and controls and meteorological dispersion conditions. The potential for sensitive receptors to be affected by on-site construction activities depends on construction method(s), materials and the duration of the construction works.

Receptor sensitivity

14.99 There are 22 residential property receptors, which have high sensitivity to dust, within 100 m of the onsite construction and earthworks activities, and 237 within 350 m. The closest properties, The Old Poor House and Linton Cottage are situated 4 m to the south of the site boundary on Whinney Lane. A further two properties are located within 100 m of the 500 m trackout from the eastern Site entrance towards the roundabout at the top of Whinney Lane.

14.100 The sensitivity of the area to human health impacts is low due to the fact that there are 22 human receptors within 100 m of the earthworks and construction activities and the ambient PM10 concentrations of the study area are low, according to Table 14.4.

14.101 The sensitivity of the area to dust soiling effects on people and property receptors is low due to the fact there are 22 high sensitivity human and property receptors within 100 m of the earthworks and construction activities, in accordance with Table 14.5.

Magnitude and Significance

Earthworks

14.102 The dust emission class for earthwork activities has been determined with reference to Table 14.3 and professional judgement. The area of site works will be more than 10,000 m^2, and the nature of the works, involving earthworks, is considered to be potentially dusty. The dust emission magnitude is therefore considered to be **large**, in accordance with Table 14.3.

14.103 During earthworks activities, before mitigation, the risk to human health, dust soiling to human and property receptors is assessed, in accordance with Table 14.7, as being **low.**

Construction

14.104 On-site construction work with a potential to produce dust includes the construction of 269 new residential dwellings, a new primary school, playground, Sustainable Urban Drainage Systems (SUDs) and landscaping to produce additional green infrastructure and new habitats for wildlife. The total construction area for these purposes, has a volume of between 25,000 and 100,000 m^3 and the dust emission magnitude is therefore classed as **medium**, according to Table 14.3.

14.105 During construction activities, before mitigation, the risk to human health and of dust soiling to human and property receptors and ecological receptors is considered to be **low**, in accordance with Table 14.7.

Trackout

14.106 The exact number of vehicles accessing the site, which may track out dust and dirt, is currently unknown. However, given the size of the Development site, it is expected that there could be more than 50 outward heavy vehicle movements per day during peak periods of construction and the length of any unpaved road through the Development site could be long, between 50 and 100 m. The dust emission magnitude for trackout is therefore considered to be **large**, according to Table 14.3.

14.107 During construction activities, before mitigation, the risk to human health and of dust soiling to human and property receptors and ecological receptors is considered to be **low** in accordance with Table 14.7.

Summary

14.108 Table 14.12, summarises the potential overall significance in terms of construction dust without any mitigation measures applied.

14.109 Construction dust emissions may have an effect on the short term PM10 objective in close proximity of dust raising activities. However, existing baseline PM10 concentrations are well below the annual mean PM10 objective, which is unlikely to be exceeded during the temporary construction period.

Table 14.12 Summary of the Impacts of Construction Dust

Source	Risk of Development giving rise to dust effects	Risk of Development giving rise to dust soiling	
	Human Health Impacts	Ecological Receptors	Human and Property Receptors
Demolition	N/A	N/A	N/A
Earthworks	Low Risk/ Not Significant	N/A	Low Risk / Not Significant
Construction	Low Risk / Not Significant	N/A	Low Risk / Not Significant
Trackout	Low Risk / Not Significant	N/A	Low Risk / Not Significant

Construction Phase Emissions - Non Road Mobile Machinery (NRMM)

14.110 Engine exhaust emissions from off-road vehicles known as NRMM have the potential to affect local air quality. The main pollutants of concern from these emissions are those relating to fuel combustion such as NO_2, PM_{10}, carbon monoxide (CO), and sulphur dioxide (SO_2).

14.111 Air quality in close proximity to the Study Area is likely to be affected by emissions from NRMM operating during construction of the Development. However, the effect will be local and short term, lasting for the duration of activities within that locality, and only when plant and machinery are being operated. At the distances to properties, and given the rural area with low levels of baseline pollution, effects from NRMM are expected to be negligible, based on professional judgement, but as a worst-case have been assessed as slight, in the absence of mitigation. Emissions from NRMM used during construction are predicted to have a slight adverse and not significant effect on local air quality impacts in terms of NO_2, PM_{10}, CO and SO_2.

Operational Phase Traffic Assessment

14.112 The ADMS modelling is detailed in full in Appendix 12. A summary of the modelling results is replicated and discussed below.

Air Quality Assessment 2030: Baseline

14.113 Baseline pollutant concentrations for the first year of Development operation were predicted using ADMS. Baseline conditions include traffic flows from future Developments that have already been committed to.

14.114 For NO_2, the predicted road source contribution was calculated from the modelled concentration of NO_X using DEFRA's NO_X to NO_2 calculator v6.1. The NO_2 value was added to the background value (which was doubled for short-term concentrations) to give the total predicted concentration of NO_2 at each receptor location for each scenario.

14.115 For PM_{10}, the predicted total concentration from modelled sources was added to the background value (which was doubled for short-term concentrations) to give the total predicted PM_{10} concentration at each receptor location for each scenario.

14.116 The modelling is based on the traffic data provided in Table 14.11, added to the background concentrations for each pollutant provided in Table 14.10.

14.117 The "2030: Baseline" scenario results are presented in Tables 14.13 and 14.14.

Table 14.13 2030: Baseline NO2 Modelled Concentrations				
Receptor	**Annual Mean**		**1-hour mean**	
	Limit Value	**2030 Baseline**	**Limit Value – (not to be exceeded > 18 times per year)**	**2030 Baseline**
New Development 1	40	5.5	200	12.8
New Development 2	40	5.6	200	13.1
New Development 3	40	5.4	200	12.6
New Development School	40	5.4	200	12.7
Castle Hill Farm	40	5.4	200	12.1
The Squinting Cat	40	5.4	200	12.0
Bark Mill Cottage	40	5.7	200	15.8
Pennyclose	40	5.5	200	13.7
Glendevon House	40	6.7	200	20.0
Cardale Estate	40	7.3	200	25.3
201 Otley Road	40	6.7	200	20.2
66 Otley Road	40	8.0	200	28.0
4 Otley Road	40	7.3	200	25.1
12 Leeds Road	40	7.7	200	29.6
45 Leeds Road	40	7.2	200	23.8
3 Walton Place	40	7.0	200	21.6
29 Burn Bridge Road	40	6.1	200	16.5
198 Yew Tree Lane	40	5.9	200	16.0
1 Blackthorn Lane	40	5.8	200	16.8
Valley Rise	40	6.3	200	17.8
1905 Yew Tree Lane	40	6.0	200	17.8
32 Yew Tree Lane	40	7.1	200	21.9
4 Whinney Lane	40	6.2	200	17.9
4 Beckwith Road	40	5.6	200	16.3
Wellfield Court	40	5.9	200	19.2
8 Whinney Lane	40	6.2	200	19.1
21 Green Lane	40	6.6	200	19.6
76 Green Lane	40	5.8	200	17.0
68 Pannal Ash Drive	40	6.0	200	16.9
27 Pannal Ash Road	40	6.7	200	20.7

Table 14.14 2030: Baseline PM10 Modelled Concentration				
Receptor	**Annual Mean**		**24-hour mean**	
	Limit Value	**2030 Baseline**	**Limit Value – (not to be exceeded > 35 times per year)**	**2030 Baseline**
New Development 1	40	8.6	50	17.1
New Development 2	40	8.6	50	17.2
New Development 3	40	8.5	50	17.0
New Development School	40	8.5	50	17.0
Castle Hill Farm	40	8.5	50	17.0
The Squinting Cat	40	8.5	50	17.0
Bark Mill Cottage	40	8.7	50	17.5
Pennyclose	40	8.6	50	17.1
Glendevon House	40	9.2	50	18.2
Cardale Estate	40	9.4	50	18.8
201 Otley Road	40	9.1	50	18.2
66 Otley Road	40	9.7	50	19.4
4 Otley Road	40	9.3	50	18.6
12 Leeds Road	40	9.6	50	19.7
45 Leeds Road	40	9.4	50	18.7
3 Walton Place	40	9.3	50	18.4
29 Burn Bridge Road	40	8.9	50	17.6
198 Yew Tree Lane	40	8.8	50	17.5
1 Blackthorn Lane	40	8.7	50	17.7
Valley Rise	40	8.9	50	17.8
1905 Yew Tree Lane	40	8.8	50	17.8
32 Yew Tree Lane	40	9.3	50	18.4
4 Whinney Lane	40	8.9	50	17.7
4 Beckwith Road	40	8.6	50	17.4
Wellfield Court	40	8.7	50	17.7
8 Whinney Lane	40	8.8	50	17.8
21 Green Lane	40	9.0	50	17.9
76 Green Lane	40	8.7	50	17.5
68 Pannal Ash Drive	40	8.8	50	17.6
27 Pannal Ash Road	40	9.1	50	17.9

Air Quality Assessment 2030: With Development

14.118 Pollutant concentrations for the first year of Development operation were predicted using ADMS including traffic flows from the Development and future Developments that have already been committed to.

14.119 For NO_2, the predicted road source contribution was calculated from the modelled concentration of NO_X using DEFRA's NO_X to NO_2 calculator v6.1. The NO_2 value was added to the background value (which was doubled for short-term concentrations) to give the total predicted concentration of NO_2 at each receptor location for each scenario.

14.120 For PM_{10}, the predicted total concentration from modelled sources was added to the background value (which was doubled for short-term concentrations) to give the total predicted PM_{10} concentration at each receptor location for each scenario.

14.121 The modelling is based on the traffic data provided in Table 14.11, added to the background concentrations for each pollutant provided in Table 14.10.

14.122 The "2030: With Development" scenario results are in Tables 14.15 and 14.16.

Table 14.15 2030: With Development NO2 Modelled Values				
Receptor	Annual Mean		1-hour mean	
	Limit Value	2030 with Development	Limit Value – (not to be exceeded > 18 times per year)	2030 with Development
New Development 1	40	5.5	200	12.9
New Development 2	40	5.6	200	13.2
New Development 3	40	5.4	200	12.7
New Development School	40	5.4	200	13.0
Castle Hill Farm	40	5.4	200	12.3
The Squinting Cat	40	5.4	200	12.1
Bark Mill Cottage	40	5.7	200	16.0
Pennyclose	40	5.6	200	13.7
Glendevon House	40	6.8	200	20.1
Cardale Estate	40	7.3	200	25.4
201 Otley Road	40	6.8	200	20.3
66 Otley Road	40	8.0	200	28.3
4 Otley Road	40	7.3	200	25.3
12 Leeds Road	40	7.9	200	30.6
45 Leeds Road	40	7.4	200	24.6
3 Walton Place	40	7.1	200	22.2
29 Burn Bridge Road	40	6.1	200	16.6
198 Yew Tree Lane	40	5.9	200	16.1
1 Blackthorn Lane	40	5.9	200	17.0
Valley Rise	40	6.3	200	18.0
1905 Yew Tree Lane	40	6.1	200	18.0
32 Yew Tree Lane	40	7.1	200	22.2
4 Whinney Lane	40	6.3	200	18.3
4 Beckwith Road	40	5.6	200	16.6
Wellfield Court	40	6.0	200	19.6
8 Whinney Lane	40	6.3	200	19.9
21 Green Lane	40	6.6	200	19.9
76 Green Lane	40	5.9	200	17.1
68 Pannal Ash Drive	40	6.0	200	17.2
27 Pannal Ash Road	40	6.8	200	21.1

Table 14.16 2030: With Development PM10 Modelled Values				
Receptor	Annual Mean		24-hour mean	
	Limit Value	2030 with Development	Limit Value – (not to be exceeded > 35 times per year)	2030 with Development
New Development 1	40	8.6	50	17.1
New Development 2	40	8.6	50	17.2
New Development 3	40	8.5	50	17.0
New Development School	40	8.5	50	17.0
Castle Hill Farm	40	8.5	50	17.0
The Squinting Cat	40	8.5	50	17.0
Bark Mill Cottage	40	8.7	50	17.5
Pennyclose	40	8.6	50	17.1
Glendevon House	40	9.2	50	18.2
Cardale Estate	40	9.4	50	18.8
201 Otley Road	40	9.2	50	18.2
66 Otley Road	40	9.7	50	19.4
4 Otley Road	40	9.3	50	18.6
12 Leeds Road	40	9.7	50	19.9
45 Leeds Road	40	9.5	50	18.9
3 Walton Place	40	9.4	50	18.5
29 Burn Bridge Road	40	8.9	50	17.6
198 Yew Tree Lane	40	8.8	50	17.5
1 Blackthorn Lane	40	8.8	50	17.7
Valley Rise	40	8.9	50	17.8
1905 Yew Tree Lane	40	8.8	50	17.8
32 Yew Tree Lane	40	9.3	50	18.4
4 Whinney Lane	40	8.9	50	17.7
4 Beckwith Road	40	8.6	50	17.4
Wellfield Court	40	8.8	50	17.7
8 Whinney Lane	40	8.9	50	17.9
21 Green Lane	40	9.0	50	17.9
76 Green Lane	40	8.7	50	17.6
68 Pannal Ash Drive	40	8.8	50	17.6
27 Pannal Ash Road	40	9.1	50	18.0

DESCRIPTION OF IMPACTS

14.123 Tables 14.17 and 14.18 shows the increase in pollutant concentrations between the 2030 Baseline and 2030 With Development scenarios.

Table 14.17 Baseline vs with Development NO_2 Concentrations						
Receptor	**Annual Mean**			**1-hour mean**		
	2030 Baseline	**2030 with Dev't**	**Impact**	**2030 Baseline**	**2030 with Dev't**	**Impact**
New Development 1	5.5	5.5	0	12.8	12.9	0.1
New Development 2	5.6	5.6	0	13.1	13.2	0.1
New Development 3	5.4	5.4	0	12.6	12.7	0.1
New Development School	5.4	5.4	0	12.7	13.0	0.3
Castle Hill Farm	5.4	5.4	0	12.1	12.3	0.2
The Squinting Cat	5.4	5.4	0	12.0	12.1	0.1
Bark Mill Cottage	5.7	5.7	0	15.8	16.0	0.2
Pennyclose	5.5	5.6	0.1	13.7	13.7	0
Glendevon House	6.7	6.8	0.1	20.0	20.1	0.1
Cardale Estate	7.3	7.3	0	25.3	25.4	0.1
201 Otley Road	6.7	6.8	0.1	20.2	20.3	0.1
66 Otley Road	8.0	8.0	0	28.0	28.3	0.3
4 Otley Road	7.3	7.3	0	25.1	25.3	0.2
12 Leeds Road	7.7	7.9	0.2	29.6	30.6	1.0
45 Leeds Road	7.2	7.4	0.2	23.8	24.6	0.8
3 Walton Place	7.0	7.1	0.1	21.6	22.2	0.6
29 Burn Bridge Road	6.1	6.1	0	16.5	16.6	0.1
198 Yew Tree Lane	5.9	5.9	0	16.0	16.1	0.1
1 Blackthorn Lane	5.8	5.9	0.1	16.8	17.0	0.2
Valley Rise	6.3	6.3	0	17.8	18.0	0.2
1905 Yew Tree Lane	6.0	6.1	0.1	17.8	18.0	0.2
32 Yew Tree Lane	7.1	7.1	0	21.9	22.2	0.3
4 Whinney Lane	6.2	6.3	0.1	17.9	18.3	0.4
4 Beckwith Road	5.6	5.6	0	16.3	16.6	0.3
Wellfield Court	5.9	6.0	0.1	19.2	19.6	0.4
8 Whinney Lane	6.2	6.3	0.1	19.1	19.9	0.8
21 Green Lane	6.6	6.6	0	19.6	19.9	0.3
76 Green Lane	5.8	5.9	0.1	17.0	17.1	0.1
68 Pannal Ash Drive	6.0	6.0	0	16.9	17.2	0.3
27 Pannal Ash Road	6.7	6.8	0.1	20.7	21.1	0.4

Table 14.18 Baseline vs with Development PM_{10} Concentrations						
Receptor	Annual Mean			1-hour mean		
	2030 Baseline	2030 with Dev't	Impact	2030 Baseline	2030 with Dev't	Impact
New Development 1	8.6	8.6	0	17.1	17.1	0
New Development 2	8.6	8.6	0	17.2	17.2	0
New Development 3	8.5	8.5	0	17.0	17.0	0
New Development School	8.5	8.5	0	17.0	17.0	0
Castle Hill Farm	8.5	8.5	0	17.0	17.0	0
The Squinting Cat	8.5	8.5	0	17.0	17.0	0
Bark Mill Cottage	8.7	8.7	0	17.5	17.5	0
Pennyclose	8.6	8.6	0	17.1	17.1	0
Glendevon House	9.2	9.2	0	18.2	18.2	0
Cardale Estate	9.4	9.4	0	18.8	18.8	0
201 Otley Road	9.1	9.2	0.1	18.2	18.2	0
66 Otley Road	9.7	9.7	0	19.4	19.4	0
4 Otley Road	9.3	9.3	0	18.6	18.6	0
12 Leeds Road	9.6	9.7	0.1	19.7	19.9	0.2
45 Leeds Road	9.4	9.5	0.1	18.7	18.9	0.1
3 Walton Place	9.3	9.4	0.1	18.4	18.5	0.1
29 Burn Bridge Road	8.9	8.9	0	17.6	17.6	0
198 Yew Tree Lane	8.8	8.8	0	17.5	17.5	0
1 Blackthorn Lane	8.7	8.8	0.1	17.7	17.7	0
Valley Rise	8.9	8.9	0	17.8	17.8	0
1905 Yew Tree Lane	8.8	8.8	0	17.8	17.8	0
32 Yew Tree Lane	9.3	9.3	0	18.4	18.4	0
4 Whinney Lane	8.9	8.9	0	17.7	17.7	0
4 Beckwith Road	8.6	8.6	0	17.4	17.4	0
Wellfield Court	8.7	8.8	0.1	17.7	17.7	0
8 Whinney Lane	8.8	8.9	0.1	17.8	17.9	0.1
21 Green Lane	9.0	9.0	0	17.9	17.9	0
76 Green Lane	8.7	8.7	0	17.5	17.6	0.1
68 Pannal Ash Drive	8.8	8.8	0	17.6	17.6	0
27 Pannal Ash Road	9.1	9.1	0	17.9	18.0	0.1

Long-term Impacts

NO_2

14.124 Long-term average NO_2 concentrations predicted at new and existing receptors (both the baseline and "with Development" scenarios) are less than 20% of the AQO. As this is less than 75% of the AQAL, the top row of the Table 14.8 for assessing significance applies to all receptors.

14.125 The maximum increase in long term NO_2 concentrations at any receptor as a result of Development traffic is 0.2 µg/m^3 which is less than 1% of the AQAL for the purposes of Table 14.8. All impacts are therefore described as "negligible".

PM_{10}

14.126 Long-term average PM_{10} concentrations predicted at new and existing receptors (both the baseline and "with Development" scenarios) are less than 25% of the AQO. As this is less than 75% of the AQAL, the top row of the Table 14.8 for assessing significance applies to all receptors.

14.127 The maximum increase in long term PM_{10} concentrations at any receptor as a result of Development traffic is of 0.1 µg/m^3, which is <1% of the AQAL for the purposes of Table 14.8. All impacts are therefore described as "negligible".

Short-term Impacts

14.128 The maximum increase in NO_2, measured by the appropriate statistic for short-term peak concentrations, at any receptor is 1.0 µg/m^3, which is 2.5% of the AQAL, and hence short term NO_2 impacts are described as "negligible".

14.129 The maximum increase in PM_{10}, measured by the appropriate statistic for short-term peak concentrations, at any receptor is 0.3 µg/m^3, which is 0.6 % of the AQAL, and hence short term PM_{10} impacts are described as "negligible".

Summary of Effects

14.130 In the case of the Development:

- Future baseline air quality in 2030 is significantly below all AQOs at existing receptors and the proposed new receptor locations introduced by the Development;
- There will be a negligible increase in short-term and long-term pollutant concentrations as a result of the Development;
- The assumptions made when undertaking the prediction of impacts have been a combination of best-estimate (i.e., most accurate) and worst-case assumptions. The influence these will have is to over-estimate impacts. This has been done in order to account for uncertainties inherent in modelling; the results are therefore conservative, and in reality the impacts are expected to be lower than predicted.

14.131 Given the above, the effects on human health associated with air quality at the Development are assessed as **not significant**.

MITIGATION

Construction Dust

14.132 Step three of the dust assessment process identifies appropriate site-specific mitigation. These measures are related to whether the site is a low, medium or high-risk site. The mitigation measures outlined below are applicable to construction and decommissioning of all elements of the Development.

14.133 Additional guidance has been provided by the IAQM in relation to dust and air mitigation measures. As some elements and activities of the Development have been assessed as high risk it is recommended that the good practice measures outlined in the IAQM guidance and Greater London Authority's (GLA) guidance on the *control of dust and emissions from construction and demolition* (2006) are followed.

14.134 A number of best practice mitigation measures could be employed to minimise dust emissions during construction and decommissioning. Measures such as, but not limited to, the following should be considered:

- Excavation and earthworks areas will be stripped as required in order to minimise exposed areas;
- During excavation works, drop heights from buckets will be minimised to control the fall of materials reducing dust escape;
- Completed earthworks and other exposed areas will be covered with topsoil and re-vegetated as soon as it is practical in order to stabilise surfaces.
- During stockpiling of loose materials, stockpiles shall exist for the shortest possible time;
- Material stockpiles will be low mounds without steep sides or sharp changes in shape;
- Material stockpiles will be located away from the site boundary, sensitive receptors, watercourses and surface drains;
- Material stockpiles will be sited to account for the predominant wind direction and the location of sensitive receptors;
- Water bowsers will be available on site and utilised for dust suppression during roadworks/ vehicle movements when and where required;
- Daily visual inspections will be undertaken to assess need for use of water bowsers, with increased frequency when activities with high potential to generate dust are carried out during prolonged dry or windy conditions;
- Shielding of dust-generating activities;
- Use of enclosed chutes, conveyors and covered skips;
- Covering vehicles carrying dry spoil and other wastes to prevent escape of materials;
- Provision of wheel washing and wet suppression during loading of wagons/vehicles; and
- Daily visual inspections will be undertaken to assess the condition of the junction of the site track with Whinney Lane and its approaches.

14.135 Such measures are routinely and successfully applied to construction projects throughout the UK. They are capable of significantly reducing the potential for adverse nuisance dust effects associated with the various stages of construction work.

14.136 Table 14.19 provides an overall summary of the potential impacts with mitigation measures in place, in relation to construction dust for each element of the Development as discussed above.

Table 14.19 Summary of Residual Significance (Post Mitigation)			
Source	**Risk of Development giving rise to dust effects**	**Risk of Development giving rise to dust soiling**	
	Human Health Impacts	**Ecological Receptors**	**Human and Property Receptors**
Demolition	N/A	N/A	N/A
Earthworks	Negligible Risk / Not Significant	N/A	Negligible Risk / Not Significant
Construction	Negligible Risk / Not Significant	N/A	Negligible Risk / Not Significant
Trackout	Negligible Risk / Not Significant	N/A	Negligible Risk / Not Significant

Construction Emissions - Non Road Mobile Machinery

14.137 Recommended mitigation measures in relation to Non Road Mobile Machinery (NRMM) are detailed below:

- All NRMM should use fuel equivalent to ultra-low sulphur diesel (fuel meeting the specification within EN590:2004);
- All NRMM should comply with either the current or previous EU Directive Staged Emission Standards (97/68/EC, 2002/88/EC, 2004/26/EC). As new emission standards are introduced the acceptable standards will be updated to the most current standard;
- All NRMM should be fitted with Diesel Particulate Filters conforming to defined and demonstrated filtration efficiency (load/duty cycle permitting);
- The on-going conformity of plant retrofitted with Diesel Particulate Filters, to a defined performance standard, should be ensured through a programme of on-site checks;
- Implementation of energy conservation measures including instructions to throttle down or switch off idle construction equipment; switch off the engines of trucks while they are waiting to access the site and while they are being loaded or unloaded; and ensure equipment is properly maintained to ensure efficient energy consumption; and
- NRMM and plant should be well maintained. If any emissions of dark smoke occur then the relevant machinery will stop immediately and any problem rectified.

14.138 Successful implementation of the above mitigation measures would ensure that emissions from NRMM used during construction are not significant. Implementation of the measures recommended for the mitigation of impacts from NRMM, will reduce the effect on air quality at sensitive receptors to negligible and not significant.

Operational Phase Mitigation Measures

14.139 As a result of air dispersion modelling, AQOs are not predicted to be exceeded and all air quality effects are predicted to be negligible. As such no mitigation measures are proposed or considered necessary for the protection of human health from air quality pollution effects.

SUMMARY AND CONCLUSIONS

14.140 This assessment has found that, following mitigation, construction phase dust emissions are predicted to lead to negligible and not significant effects on sensitive receptors.

14.141 Baseline air quality in the absence of the Development is significantly below the AQOs in both 2018 and 2030.

14.142 Vehicle emissions from operational traffic will not result in any exceedances of the air quality objectives for NO_2 and PM_{10} at any assessed receptors in either the 'with Development' or 'without Development' scenarios. Modelled concentrations of the with Development scenario predict only small changes in NO_2 and PM_{10} concentrations, which are well below the respective Air Quality Objectives in 2030. The predicted effects are negligible for NO_2 and PM_{10}, and not significant.

14.143 Emissions from NRMM to be utilised during construction are predicted to have a slight adverse and not significant effect on air quality. However, successful implementation of robust management and control measures will reduce the local air quality effect associated with NRMM to negligible and not significant.

15. DRAINAGE & FLOOD RISK

INTRODUCTION

15.1 Wardell Armstrong LLP were commissioned to undertake a Flood Risk Assessment (FRA) which is Appendix 13. The aim of this report was to demonstrate that the site is appropriate, in terms of flood risk and drainage, for the proposed development. At the outline stage the surface water management strategy presented in the report is indicative and subject to further consideration at the reserved matters stage. However it is considered sufficient to demonstrate that a drainage strategy for the site is feasible.

NATIONAL PLANNING POLICY

15.2 The report sets out the national policy position which was updated in 2019 via National Planning Policy Framework (NPPF) and Planning Practice Guidance. These seek to ensure that flood risk is taken into consideration at all stages of the planning process in order to avoid inappropriate development in areas at medium to high risk of flooding. Flood risk is defined as follows:

Table 15.1: **Flood Zones**

Flood Zone	Flood Zone	Classification Description
Flood Zone 1	Low Probability	Land having a less than 1 in 1,000 annual probability of river or sea flooding
Flood Zone 2	Medium Probability	Land having between a 1 in 100 and 1 in 1,000 annual probability of river flooding; or Land having between a 1 in 200 and 1 in 1,000 annual probability of sea flooding.
Flood Zone 3a	High Probability	Land having a 1 in 100 or greater annual probability of river flooding; or Land having a 1 in 200 or greater annual probability of sea flooding.
Flood Zone 3b	Functional Floodplain	This zone comprises land where water has to flow or be stored in times of flood. Local planning authorities should identify in their Strategic Flood Risk Assessments areas of functional floodplain and its boundaries accordingly, in agreement with the Environment Agency.

15.3 The Environment Agency (EA) has produced Flood Hazard and Flood Risk Maps for England and Wales which indicate areas which may be affected by a 1 in 100 year fluvial flood or a 1 in 200 year tidal/coastal flood, i.e. Flood Zone 3 as defined in the NPPF. It also indicates which areas may be affected by an extreme flood, i.e. Flood Zone 2 as defined in NPPF. The flood risk mapping for this area is reproduced in Appendix 2 of Appendix 13. This shows that the site is located within Fluvial Flood Zone 1 (an annual probability of less than 1 in 1000 in any year).

15.4 The Government's Long Term Flood Risk Assessment for Locations in England shows the centre of the site being at risk of surface water flooding which is consistent with the location of the watercourse within the site boundary. The surface water flow is shown to be travelling through the site in a south-easterly direction, entering from the centre of the north western boundary, and exiting the site to the south western boundary.

SITE CHARACTERISTICS AND EXISTING DRAINAGE REGIME

15.5 A topographical survey of the site has been undertaken which is reproduced at Appendix 7 of Appendix 13. The site slopes downwards from high points at the northeast and southwest to meet at the watercourse (Clark Beck) which runs through the centre of the development area in a north west to south east direction. The site is

greenfield, consisting of grassland which is used primarily as a livestock pasture. Existing surface water runoff from the site drains via infiltration and overland flow routes to the watercourse in the centre of the site discharging from the site to the southeast.

15.6 Appendix 3 of Appendix 13 provides detailed estimates for the discharge rate from the site which equates to 5.11 litres per second per hectare (l/s/ha).

15.7 No details of any flooding within the site was identified during the preparation of this report. The council's Strategic Flood Risk Assessment does not identify any specific areas of historical flooding on the site.

Geology and Ground Conditions

15.8 Geological plans indicate that the site is underlain by clay, sandy and gravelly glaciofluvial superficial deposits of the Harrogate Hill Formation. The solid geology beneath the site predominantly comprises of mudstone of the Bowland Shale formation of the carboniferous period. The superficial deposits are classified as a Secondary Undifferentiated Aquifer. There are no borehole records located within the vicinity of the site. The site is not in an area affected by coal mining and does not lie within a source protection zone. There is one recorded groundwater abstraction within 1000m of the site.

PROPOSED DEVELOPMENT

15.9 The proposed development on the site is 270 homes and a new school. The vulnerability class for the proposed development is 'more vulnerable' for residential and education establishments. NPPF permits development for residential and education use on this site because it is in Flood Risk Zone The Sequential and Exception Tests are therefore not required for this development.

SURFACE WATER MANAGEMENT STRATEGY

15.10 The drainage hierarchy set out in the building regulations, states that the ideal approach is for surface water to be discharged to the ground, followed by a watercourse if discharge to the ground is not possible, followed by a sewer if both ground and watercourse discharge are not possible. At Castle Hill West the ground discharge (infiltration method) has been discounted following the conclusions of a Preliminary Risk Assessment carried out by Shadbolt Environmental. It is considered that the use of ground filtration will not be feasible as a result of the prevalence of low permeability clays across the site. The infiltration rate within the superficial materials and into the underlying rock could not be relied upon for the design life of this development.

15.11 As the site is considered to discharge to the existing watercourse (Clark Beck) which runs through the centre of the development and exits the site to the southeast, it is proposed that this discharge can be appropriately used to serve the development. Discharge to this watercourse will not need to cross third-party land, thereby facilitating the drainage connection to be installed. Using the water course will mean there is no need to discharge to a sewer.

15.12 From the indicative site development masterplan, approximately 10.5ha of the site is to be developed. Assuming a 50% impermeable area, the total contributing area is 4.75ha.

15.13 The development proposals are split in to three distinct catchment areas. Firstly the school to the north of the watercourse, followed by the residential development area north of the watercourse, and finally the residential development area south of the watercourse.

15.14 It is known that there are further flood issues downstream on the Clark Beck, and therefore this drainage strategy aims to provide betterment to flows by reducing the discharge from the site below the greenfield run off rate. The calculated greenfield run off rate for the site is 5.11 l/s/ha, however it is proposed to reduce the flows to 4.5 l/s/ha for all return periods up to and including the 1 in 100 year plus a 40% allowance for climate change. The below table details the betterment this provides in various storm return periods:

Table 15.2: Existing and Proposed Run Off Rates

Storm Event	Existing Greenfield Run Off Rate (l/s/ha)	Proposed Run Off Rate (l/s/ha)	Betterment (l/s/ha)
1 in 2	5.11	4.5	0.61 reduction
1 in 30	8.98	4.5	4.48 reduction
1 in 100	10.62	4.5	6.12 reduction

15.15 Reduction to discharge rates lower than those proposed is not achievable due to the drain down time required for the attenuation features. The CIRIA SuDs Manual states that the maximum drain down time for attenuation features should be 48 hours. The proposed discharge rate results in drain down times of approximately 50 hours, and therefore no further reduction is proposed. This ensures the attenuation is likely to have drained down before the next storm event.

15.16 Within each of the catchments, the following is proposed. The detail is shown in Appendix 5 of Appendix 13:

- The primary school is to discharge at a rate of 3.6 litres per second in to the northern residential site. Based on the preliminary masterplan, the school has an impermeable area of 0.8ha, meaning there is a requirement for approximately 670m3 of storage within the school site. The exact nature of the storage required will be determined at the detailed design stage however there is sufficient space available within the school curtilage to provide this attenuation.

- The residential area to the north of the watercourse has an estimated impermeable area of 1.71ha, and therefore the total discharge for this area will be 7.7 litres per second, however, this will be increased to 11.3 litres per second to allow for the additional 3.6 litres per second from the Primary School to pass through the development. Approximately 1440m3 of storage will be required to ensure the flow rate is restricted for all return periods up to and including the 1 in 100 year event, plus 40% for climate change, plus an additional 10% on the area for urban creep.

- The residential area to the south of the watercourse has an estimated impermeable area of 2.22ha, and therefore the total discharge for this area will be 10 litres per second. Approximately 1800m3 of storage will be required.

15.17 Two new headwall structures will be constructed on the Clark Beck, one to the north and one to the south, to allow for the two drainage networks to discharge at the rates shown.

15.18 It is proposed that the drainage system external to the school and private curtilages, will be adopted and maintained by Yorkshire Water under a Section 104 agreement. Yorkshire Water have strict adoption criteria following the Sewers for Adoption guidance. Currently, Yorkshire Water do not adopt attenuation basins located within clay ground conditions, and therefore it is proposed for the attenuation required up to the 1 in 30 year storm event to be contained within tanks and oversized pipes, adopted by Yorkshire Water. For attenuation volumes above the 1 in 30 year event up to and including the 1 in 100 year event plus 40% for climate change and 10% on the area for urban creep, to be contained within an offline, privately maintained attenuation basin. The exact design of this system will be confirmed at the detailed planning application, however drawing PA13 shows how it is proposed that the attenuation basins be arranged on the site, along with indicative drainage routes through the site.

15.19 It is considered that there are no reasons why the development cannot be designed to meet the current regulatory requirements and that appropriate Sustainable Drainage Systems (SuDs) can be used. At this stage, the main surface water storage and water treatment will be provided by a mix of basins, swales, permeable paving, filter trenches appropriate for the layout design and highway adoption requirements. These will be considered in further detail at the detailed planning application stage.

15.20 All surface water drainage will be designed to meet adoption and maintenance requirements.

15.21 Flood exceedance will be managed by directing flood flows away from the existing and proposed development and to the existing watercourse as it currently occurs.

15.22 The development will be designed to ensure any surface water runoff will be routed to the surface water management system and away from buildings. Safe emergency access through the site will be provided.

15.23 Overall it is considered that a robust and sufficient surface water management strategy for the site can be achieved to mitigate flood risk on and off the site.

FOUL WATER STRATEGY

15.24 Following a pre-planning enquiry Yorkshire Water have confirmed that the local sewerage network has capacity to accept the flows from the development and have provided a point of connection. Their response can be found in Appendix 8 of Appendix 13.

15.25 To achieve connection to the public sewer, a pumping station is required. This is to be located on the low point of the site, and accessed from Whinney Lane. The foul water drainage outside of private curtilage including the pumping station will be put forward for adoption by Yorkshire Water under a section 104 application.

FLOOD RISK

Flood Risk from External Sources

15.26 Table 15.3 below summarises the potential risk of flooding from the different potential sources.

Table 15.3: Sources of Flood Risk			
Flood Source	**Presence at site**	**Potential risk at site**	**Description**
Tidal	No	N/A	The site is not affected by tidal water.
Fluvial	Yes	Low	The development is within Flood Zone 1 and therefore the risk of this flood source is considered low.
Groundwater	No	Low	There is no evidence that groundwater flooding has affected the site. The preliminary flood risk assessment notes that the area is not considered to be prone to groundwater flooding based on ground conditions and indicates that the site does not lie within 50m of groundwater flooding susceptible areas.
Sewers	No	Low	There are no existing Yorkshire Water sewers within the site. There are however existing sewers within the development to the north of the site. These sewers are maintained by Yorkshire Water and therefore are maintained. House finished floor levels as part of the exceedance routing will be raised above external levels which will mitigate this risk.
Pluvial/Overland Flow	Yes	Low	Government flood risk maps show that there is a risk of surface water flooding in the centre of the site which is consistent with the location of the existing watercourse. These flows enter the site from the north west and flow following the route of the watercourse, towards the south east. It is proposed to not interfere with this flow route, and all development / SuDs features are to be set back and above the flow path. Overall it is considered this flood source is a low risk.
Artificial Sources	No	Low	Government flood mapping shows that the site is located in Government flood mapping shows that the site is not located in an area considered to be at risk of flooding from a reservoir failure or breach.

15.27 Overall, it is considered that the risk from flooding is low

Flood Risk from the Development

15.28 On sites where there is an increase in impermeable area, or development within the flood zone, there is always the potential to increase the risk of flooding because of the development. With the proposed surface water management, it is considered that there is an overall reduction in on or off-site flood risk from the proposals due to the proposed discharge rate being smaller than the overall greenfield runoff rate.

15.29 There are no likely impacts on any floodplain.

15.30 The design of the drainage system will provide protection for storm events up to and including the 1 in 100 year plus climate change, plus 40% for climate change. Any excess flows above this level of protection will be directed away from any proposed buildings.

Climate Change

15.31 In assessing the potential flood risk at the site over the lifetime of the development, climate change will be considered and taken into account.

15.32 Currently climate change allowance is based on the guidance provided by the EA and is based on their predicted change for different scenarios of carbon dioxide (CO2) emissions to the atmosphere. There are different allowances for different time periods during the next century.

15.33 The guidance assesses a range of allowances based on percentiles and these statistically describe the proportion of possible CO2 scenarios that fall below a climate change allowance level, i.e. a 50th percentile is the point at which half of the possible climate change scenarios fall below it and half fall above it. The guidance assesses a central allowance which is based on a 50th percentile, higher central is based on the 70th percentile and upper end is based on the 90th percentile.

15.34 It is considered that a design life of 100 years would apply to this development.

15.35 The site is not affected by fluvial or coastal flooding and therefore climate change allowance related to these sources are not applicable.

15.36 The guidance does consider climate change relating to peak rainfall intensity and assesses this on a range of allowances as listed in the Table 15.4 below.

Table 15.4: Peak rainfall intensity allowance in small and urban catchments

Applies Across all of England	Total potential change anticipated for 2010-2039	Total potential change anticipated for 2040-2059	Total potential change anticipated for 2060-2115
Upper end	+10%	+20%	+40%
Central	+5%	+10%	+20%

15.37 At this stage, it is considered that a climate change allowance of 40% on peak rainfall intensity is a reasonable provision for a development of this type and locality.

15.38 The surface water attenuation volumes included in the surface water management assessment includes this level of climate change allowance and demonstrates that this has no impact on the proposal.

15.39 Consideration of urban creep will also be required at the detail design stage however the contributing area used in this preliminary storage estimation has been increased by 10% to allow for this potential requirement.

RESIDUAL RISKS

15.40 There is always a possibility of a flood in excess of that allowed for which might conceivably cause some flooding to the development. However, such an event would have a very low probability and the risk of flooding to development would be extremely small. It is therefore considered that the residual risks associated with flooding are not significant.

15.41 It is considered that, the mitigation and control measures detailed in this report can ensure that the residual risk of flooding to and from the development will be within permitted current design standards.

CONCLUSION

15.42 The development will be located within Flood Zone 1.

15.43 The risk of flooding to the site from sewers, surface water, reservoir and groundwater is considered to be low.

15.44 The proposed discharge rate from the attenuation basin to the existing watercourse is to provide betterment in terms of the flood risk for the development area as it is lower than the greenfield runoff rate.

15.45 The surface water management strategy presented demonstrates that the development can satisfactorily mitigate the development proposals and ensure the development meets all regulatory requirements.

15.46 Overall, it is considered that there are no local site-specific risks that would adversely affect the Flood Zone categorisation. Similarly, there are considered to be no significant increased off-site flooding risks as a result of the development. The site is therefore considered suitable, in terms of flood risk, for the type of development proposed.

16. GROUND CONDITIONS

SITE INVESTIGATION WORKS

16.1 Shadbolt Group were appointed to carry out an intrusive site investigation to establish likely ground conditions which will impact on development. The full report is Appendix 14 of the ES. The following is a summary of the report:

16.2 The proposed site investigation comprised:

- 18 No. Windowless Sample Boreholes to a maximum depth of 3.45m bgl
- 3 No. Cable Percussive Boreholes to a maximum depth of 9.30m bgl
- 50 No. Mechanically Excavated Trial Pits to a maximum depth of 3.00m bgl

16.3 The exercise was interrupted by site constraints and is expected to be completed in summer 2020.

16.4 The ground encountered during the Site Investigation generally comprised:

- Topsoil
- Soft grey slightly sandy slightly gravelly clay to an average of 0.30m bgl.

Superficial Strata

16.5 Cohesive material was encountered in the north, east and south east of the site. The cohesive material generally comprised of soft, becoming firm with depth, yellowish brown occasionally mottled grey slightly sandy slightly gravelly Clay with moderate cobble content. This was generally encountered between 0.30m bgl and 1.00m to 1.50m bgl. This stratum overlay a firm to stiff, becoming stiff with depth, greyish brown to grey slightly sandy slightly gravelly Clay (Glacial Till) with occasional sand lenses and proven to 9.75m (CP02). Granular material was encountered in several exploratory holes generally in the south west of the site. This material generally consisted of yellowish brown very gravelly fine to coarse Sand to yellowish brown Sand and Gravel. Sand is fine to coarse. Gravel is angular to sub-angular, fine to coarse of sandstone. Granular material was encountered between 0.30m bgl 3.00m bgl.

Solid Geology

16.6 The solid geology was encountered in four exploratory holes in the south west of the site, TP14, WS12, WS13 and WS18. The solid geology comprising weak distinctly weathered sandstone. The depth to the solid geology variable across the site from 1.7m bgl (WS18) to 2.90m bgl (WS13) to in excess of 9.75m bgl in CP02.

CONTAMINATION ASSESSMENT

16.7 Chemical testing of samples taken from the site showed concentrations of potential contaminants reported to be within screening values for a Residential with Home Grown Produce end use with the exception of an individual sample from the topsoil at TP13 which showed slightly elevated Arsenic. Statistical analysis of the chemical testing results indicated that this sample was an outlier but the overall risk to human health remains low. A remediation strategy is not required.

ENGINEERING CONSIDERATIONS

16.8 The geotechnical laboratory results are currently outstanding, and this report will be updated once they have been received. However:

- Structures will require full gas protection measures with respect to Radon
- Formal drainage to be adopted across the site, soakaways unlikely to provide sufficient drainage.
- Design CBR value to be confirmed once geotechnical laboratory results have been received.
- Foundations type required to be confirmed once geotechnical laboratory results have been received.
- Excavations should be inspected for potential soft strata prior to pouring for foundations.
- Sulphate resistant concrete is considered appropriate based on testing from across the Castlehill Farm site.

RECOMMENDATIONS

16.9 Groundworkers should remain vigilant for the presence of potential contaminants and should seek specialist advice if required. The ongoing scheduled ground gas monitoring should be completed to enable the gas risk assessment to be updated.

CONCLUSIONS

16.10 The provision of intrusive site investigation results is not normally required at the outline planning application stage as most planning decisions can rely on adoption of a conceptual model for subsequent site investigation – particularly on site such as Castle Hill West where there is no record of any activity other than farming over its recorded history. However in this instance the applicant has expedited the investigation to provide sufficient reassurance to decision makers and potential builders that the risks to human health or structural engineering on this site are low and manageable subject to completion of the survey and recommendations outlined above which include full radon protection.

17. AGRICULTURAL LAND VALUE

17.1 Robert Sullivan of GSC Grays was commissioned to prepare an Agricultural Land Classification Report on the site. The high level DEFRA mapping of the area shows land west of Harrogate as being Grade 3 but does not differentiate between Grade 3a and 3b, the former being considered best and most versatile.

17.2 A total of 22 soil pits were dug on the site in December 2017 to make the finer grain assessment of land value. The report at Appendix 15 includes photographs of all of these pits and a sol pit location plan.

17.3 The assessment covers the following four potential limiting factors;

- Climatic limitations
- Site limitations
- Soil limitations
- Interactive limitations

17.4 Climate was not considered to be a factor which significantly limits agricultural land value on this site.

17.5 The site includes two fields which have gradient in excess of 10% but the overall average across the site is 5-7% which is not considered to be a limiting factor.

17.6 The majority of the site has soil which is assessed as a sandy clay loam/clay loam. The soil structure is moderate within the top and sub soils. There is evidence of standing water on the site and based on the pit information the wetness of the soil is considered to be in range of 3 to 6. This means that the site will be at best Grade 3b and in pockets could be classified Grade 4.

17.7 Grade 3b is deemed to be moderate quality capable of producing moderate yields of narrow range crops, principally cereals and grass. All the land is in permanent grass which correlates with the findings of the assessment.

17.8 NPPF (para 170) requires planning authorities to recognise the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland. Given that the site does not fall within this category there is no reason to consider this a limiting factor in the overall planning balance. Also the site has been allocated for development in the newly adopted Harrogate Local Plan which indicates that the principle of the loss of agricultural land to meet development needs is established. The Borough benefits from extensive areas of Grade 2 agricultural land in the Vale of York so the choice of this site for development generally supports national planning policy.

18. SUSTAINABLE DEVELOPMENT AND CLIMATE CHANGE

INTRODUCTION

18.1 The purpose of the planning system, as national planning guidance states, is to contribute to achievement of sustainable development and its three overarching objectives: economic, social and environmental. In the context of decision-making, paragraph 11 of NNPF states:

"Plans and decisions should apply a presumption in favour of sustainable development"

18.2 Paragraph 38 of the National Planning Policy Framework (NPPF3, 2019) notes the following:

"Local planning authorities should approach decisions on proposed development in a positive and creative way. They should use the full range of planning tools available, including brownfield registers and permission in principle, and work proactively with applicants to secure developments that will improve the economic, social and environmental conditions of the area. Decision-makers at every level should seek to approve applications for sustainable development where possible".

UNITED NATIONS' SUSTAINABLE DEVELOPMENT GOALS

18.3 Adopted by all United Nations Member States, 'The 2030 Agenda for Sustainable Development', provides a shared blueprint for peace and prosperity for people and the planet. At the core of the agenda are seventeen Sustainable Development Goals (SDGs) which address global challenges relating to poverty, inequality, climate change, environmental degradation, peace and justice. The seventeen SDGs are all interconnected and set a target of 2030 for delivery.

18.4 The following assessments link the sustainability and corporate social responsibility activities of the proposed Castle Hill West development to the United Nations' Sustainable Development Goals (SDGs) and each of these are assessed in turn.

Table 18.1: UN Sustainable Development Goals

UN SDG	Contribution from Castle Hill West Development
 ***End Poverty in all its Forms, Everywhere***	• Castle Hill West development would create 48 construction jobs for the six year build period along with 121 spin-off jobs. • The school would have a minimum of 40 permanent jobs • 40% of the houses would be affordable addressing housing poverty in the Borough

 ***End Hunger, Achieve Food Security and Promote Sustainable Agriculture***	• Castle Hill West is a good site to develop because the land is not best or most versatile productive arable farm land (which would tend to be located to the east of the town).
 ***Ensure Healthy Lives and Promote Wellbeing for All at All Ages***	• 2.6 hectares of land would be set aside for public open space. • Footpath and cycle links would be created to encourage healthy modes of transport.
 ***Ensure Inclusive and Equitable Education and Promote Lifelong Learning Opportunities for All***	• New primary school to meet needs of the development but also other developments in the area. • Working with the County Council to ensure the site is ready early in the development
 ***Achieve Gender Equality and Empower all Women and Girls***	• Good design takes into account the needs of parents including 2 metre wide footpaths where two push chairs may pass easily • Provision of the school on-site will make this an excellent place for young residents to share parenting duties
 ***Ensure Availability and Sustainable***	• Foul and surface water disposal will be fully segregated in accordance with Yorkshire Water requirements.

Management of Water and Sanitation for All	
 ***Ensure Access to Affordable, Reliable, Sustainable and Modern Energy for All***	• High standards of energy efficiency in the new homes will reduce energy demands in line with the hierarchy of measures to address climate change. • Though not directly related to these proposals Banks Group delivers clean energy to the National Grid through its 79 working wind turbines including the five at Micklefield, Leeds
 ***Promote Sustained, Inclusive and Sustainable Economic Growth, Full and Productive Employment and Decent Work for All***	• Castle Hill Farm will improve the economic prospects for Harrogate Borough Council through increased employment and custom for local businesses. The development would help deliver the Council's strategy for economic growth.
 ***Build Resilient Infrastructure, Promote Inclusive and Sustainable Industrialisation and Foster Innovation***	• Infrastructure provided on site includes roads, drainage, school and houses themselves. • The road network will be enhanced through the construction of roundabout and bus routes. • Green Infrastructure will be provided on site with links to other developments.
 ***Reduce Inequalities Within and Among Countries***	• 40% affordable housing on-site would deliver on a policy which is designed to reduce inequality in the housing market, enabling young people to get a foot on the housing ladder.

 ***Make Cities and Human Settlements Inclusive, Safe, Resilient and Sustainable***	• Indicative layout of the houses provides natural surveillance of open spaces • Layout encourages cycling and walking away from busy roads • Harrogate is a town with full range of facilities for sustainable living with good public transport services to the city of Leeds
 ***Ensure Sustainable Consumption and Production Patterns***	• Banks Group prioritises the procurement of construction materials and services as locally as possible. • The housing and school will be designed to supply enable the recycling of waste materials arising.
 ***Take Urgent Action to Avoid Climate Change and Its Impacts***	• Modern houses require less heating than existing older homes. • The development will have electric car charging points • The development will be directly served by bus and encourage walking and cycling
 **Conserve and Sustainably Use the Oceans, Seas and Marine Resources for Sustainable Development**	• The drainage strategy for the development is to create a sustainable urban drainage system which treats water and attenuates discharge rates at times of heavy rainfall taking into account likely effects of climate changes. • The SUDs design will also help biodiversity on the site.
 ***Protect, Restore and Promote Sustainable***	• The development includes proposals for new habitat creation • The development will preserve most trees and hedgerows on the site • The development will preserve and enhance the beck which runs through the site.

Use of Terrestrial Ecosystems, Sustainably Manage Forests, Combat Desertification, and Halt and Reverse Land Degradation and Halt Biodiversity Loss	• The intention is to create net biodiversity gain through this development.
 ***Promote Peaceful and Inclusive Societies for Sustainable Development, Provide Access to Justice for All and Build Effective, Accountable and Inclusive Institutions at All Levels***	• The Banks Group values highly its relationship with local communities living near our developments. We aim to recycle some of our profits back into those communities so that they experience benefits from development. • The Castle Hill West development will be carried out in consultation with local community and institutions giving them a full say in decision making. • The Banks Group is accountable through its feedback procedures and adherence to planning conditions and policies.
 ***Strengthen the Means of Implementation and Revitalise the Global Partnership for Sustainable Development***	• The development will rely on partnership working between the Banks Group, a chosen builder, registered social landlord, Harrogate Borough Council, North Yorkshire County Council and local residents' groups. • The quality of those relationships will be borne out in the quality of development.

CLIMATE CHANGE

Limiting Emissions

18.5 As noted above the development at Castle Hill West has been designed to address the global challenge of climate change through:

- Connecting the development to a bus service
- Enhancing pedestrian and cycling routes to encourage sustainable modes of transport
- Providing electric car charging points

- Building houses which conserve heat to a much greater extent than the existing housing stock

18.6 Planning is a major tool in tackling climate change because it has the power to direct development to more sustainable locations and require more sustainable building standards. However in so doing it has to acknowledge the needs of the market to sell houses where people wish to live and for a price they can afford. The choice of Castle Hill West as a new housing site was made by the Borough Council in its Local Plan. In order to meet district wide housing needs a range of sites was put forward which collectively achieved the most sustainable form of new development, including a new settlement.

18.7 It is inevitable that construction of 270 dwellings and a school will give rise to emissions of greenhouse gases through the production and transportation of bricks, cement and concrete etc. There is no established methodology for calculating the impact of new building in this sense because the need for the new housing would fundamentally exist with or without this particular development. The principle of sustainable development is to continue to meet such needs through methods which reduce, if not eliminate harm to the environment. It is undoubtedly true that some modern methods of construction can significantly reduce the impact on climate change such as the greater use of wood. The Castle Hill West application is in outline with all matters of building design reserved matters. As Banks Group is not a house builder it would not be possible to commit at this stage to specific methods other than those which are required through regulations.

Climate Change Resilience

18.8 New developments need to demonstrate that they are resilient to climate change also. The Castle Hill West drainage proposals have been designed to take into account the likely increased occurrence of heavy rainfall over the life of the development.

CONCLUSIONS

18.9 The Banks Group is committed to promoting Sustainable Development in all its projects across three business areas of mining, renewable energy and property development. The company has adopted the UN SDGs listed above as a yardstick against which to measure the sustainability of projects. The Castle Hill West development is a good example of the combination of positive contributions new development can make to these goals across a spectrum of economic, social and ecological factors.

19. SOCIO-ECONOMIC IMPACTS

INTRODUCTION

19.1 The purpose of this chapter is to assess the likely significant socio-economic effects of the proposed development on the human population in the surrounding area. In particular it considers changes to local population numbers, employment, expenditure, effects on community services, and provision of housing.

19.2 Where appropriate mitigation measures are identified which would reduce negative effects, before the residual effects are assessed. An assessment of the cumulative impacts of other consented developments is also provided.

POLICY CONTEXT

National Guidance

19.3 NPPF establishes a presumption in favour of sustainable development at the heart of the English planning system. To achieve sustainable development, the framework identifies three overarching objectives which should be delivered through the preparation and implementation of plans: economic, social and environmental.

19.4 Paragraph 8(b) defines the ***social objective*** of sustainable development as to "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 and safe built environment, with accessible services and open spaces that reflect current and future needs and support communities' health, social and cultural well-being."

19.5 The economic objective of sustainable development is defined as contributing to building a strong, responsive and competitive economy while the environmental objective contributes to the protection and enhancement of the natural, built and historic environment.

Local Policy

19.6 The Harrogate Local Plan (HLP) will guide development in the borough up to 2035. The Local Plan sets the quantity and location of new housing, employment provision, shops and social facilities together with transport and other infrastructure provision over the Plan period. The Plan draws upon strategic policy in the Leeds City Region Strategic Economic Plan (SEP) and North Yorkshire Plan for Economic Growth,

19.7 The Local Plan's overarching vision is that:

"Harrogate district will be a progressive, vibrant place to live, work and visit. The district will have a sustainable and resilient economy that features new, higher value jobs. The district's high quality built and natural environment continues to be a defining feature".

19.8 This vision will be supported by strategic objectives which include:

- Contribute to sustainable patterns of development
- Support business, enterprise, and job creation in order to build a strong and sustainable economy

- Increase the supply of new housing to address housing needs for all
- Facilitate the delivery of the infrastructure necessary to support a strong local economy, reduce the impacts of transport on the environment and communities
- Manage the use of natural resources and respond positively to address climate change
- Create successful places that provide quality environments and enable communities and individuals to enjoy an excellent quality of life
- Safeguard the natural environment for the benefit of present and future generations

19.9 Harrogate is a relatively affluent town, particularly in the context of the North of England. However this brings with it a different set of problems to those experienced by relatively deprived local authorities where regeneration and population stability might be key drivers. Harrogate has become established as a desirable town from which to commute to highly paid jobs in Leeds. This has had the effect of pushing house prices up, beyond the reach of many local people including those working in service industries such as shops, health or education. The Local Plan seeks to address this issue, in part through the provision of a range of houses which is not dominated by executive dwellings and includes 40% affordable homes, according to the definition set out in NPPF.

19.10 Policy GS1 sets a target to build 14,049 new homes over the 21 year period to 2035 (equating to an average annual build of 669 dwellings.

19.11 Policy HS1 relates to the range and choice of housing, promoting 25% accessible or adaptable homes where viable.

19.12 Policy HS2 sets a requirement for 40% affordable homes on new site.

19.13 Policy GS1 also sets a target for 38 hectares additional employment land in the borough. Although the application site does not meet this need it is part of a wider development allocation which will provide employment development, estimated to be 3.28 hectares.

19.14 Policy GS2 states that Harrogate, Knaresborough and Ripon are the most sustainable locations for development because of the services provided. These “main towns” will accommodate most of the district's growth. They offer the greatest range of jobs, shops and services. They are well connected to each other and to areas outside the district by public transport

19.15 Policy GS7 states that development should promote, support and enhance health and wellbeing by creating high quality, attractive and safe public realm to encourage social interaction and facilitate movement on foot and cycle.

19.16 The Leeds City Region Enterprise Partnership (LEP) is a public, private and education partnership. It covers ten local authority areas around the city of Leeds, including Harrogate. The LEP’s Strategic Economic Plan (SEP) sets out the objectives for growing the sub-regional economy for the period 2016-2036 and is the principle economic policy document for this area. It outlines the medium term economic plan and identifies interventions and investments to support economic growth and create more and better (i.e. higher skilled) jobs for the local economy.

19.17 Key aims and targets of the SEP include:

- Delivering upwards of 35,000 additional jobs and an additional £3.7 billion of annual economic output by 2036
- Developing and regenerating integrated spatial priority areas, supporting employment, quality environments and the building of 10,000-13,000 new homes per year

ASSESSMENT METHODOLOGY AND SIGNIFICANCE CRITERIA

19.18 In the absence of any formal guidance on the assessment of socio-economic effects for EIA this assessment seeks to establish the potential significant economic and social effects of the proposed development and assess these against current baseline conditions.

19.19 As the development would include residential and education uses the following headline indicators have been included in this assessment of likely significant effects:

- Demographic change;
- Direct and indirect employment change;
- Local expenditure effects;
- Housing effects;
- Local Authority fiscal effects; and
- Effects on local social infrastructure and associated services.

19.20 Effects are considered as either positive (beneficial) or negative (adverse), whilst their magnitude can be considered under the following categories:

- ‘‘negligible/neutral’
- ‘minor’
- ‘moderate’ or
- ‘substantial’

19.21 Socio-economic effects are divided between those that are temporary and those that are permanent. The construction phase creates effects which are temporary and the operational phase is permanent.

Assumptions and Limitation of assessment

19.22 The limitations of this assessment are identified, where applicable, throughout the chapter. As the planning application is in outline the exact numbers of dwellings and types of dwellings cannot be guaranteed at this stage. This assessment has assumed 270 dwellings will be built over a period of six years (45 per annum). It is assumed that in the fullness of time the school will be 2 form entry with 420 pupils although this would take time to fill and maybe 1 form entry for a period.

BASELINE CONDITIONS

19.23 This section provides the baseline assessment of socio-economic context in Harrogate Borough. Where data availability permits these are also benchmarked against regional and national averages. The factors which are assessed are as follows:

- Labour Market Factors (i.e. population and employment conditions)
- Deprivation;
- Housing;
- Health provision;
- Education provision; and
- Services and facilities.

Labour Market Factors

19.24 According to ONS Mid-year Estimates 2018, the resident population of Harrogate Borough at June 2018 is estimated to be 160,533. The population of the Borough grew by 1.5% between 2014 and 2018, equating to 2,300 additional residents. This rate of growth is slower than regional and national averages during this period.

19.25 Harrogate has a higher proportion of residents over the age of 65 than is the case nationally or regionally; 23% compared to 18% and 19% respectively. It is conjectured that high house prices are linked to the age profile of Harrogate Borough which is not helpful when trying to attract new businesses into the area.

19.26 The 2016-based Subnational Population Projections (SNPP) forecast the population of Harrogate to increase to 162,537 residents by 2035. This represents an increase of 1.1% or 1,748 people; a significantly lower rate of change than that forecast for the Yorkshire region (7.4%) and the country as a whole (7.1%). This small increase masks very significant variations according to age, with 87 year olds increasing by 120% but 31 year olds decreasing by 24%. An aging population continues to place a strain on the availability of houses to purchase as well as local services. There is no doubt many younger people would like to live in the Borough but are prevented from doing so by the lack of availability of housing at a price which is affordable.

19.27 The total level of employment in Harrogate Borough, as recorded by the Business Register and Employment Survey in 2017 equates to around 78,200 jobs. The biggest employment sectors in the borough are Retail (17%) Health (14%), professional and scientific (11.5%) and accommodation & food sectors (11.5%). The construction industry comprises a sector share of 3.2% equating to 2,500 construction jobs.

19.28 NOMIS derived statistics for economic activity for the year to June 2018 show that 89% of Harrogate's working age population are economically active. This is significantly higher than the rate for the region (77%) and the UK (79%), despite it being an older population.

19.29 The level of unemployed people receiving Job Seekers Allowance (JSA) was 0.2% in October 2018 which equates to just 150 residents. This is much lower than the regional or national averages which are 1.5% and 1.1% respectively.

19.30 With regards to educational attainment 44% of Harrogate's residents aged 16-64 hold degrees or higher qualifications (NVQ level 4 or higher), which is significantly higher than the region (33.3%) and national level (39.3%).

19.31 Harrogate residents earn £642 per week (median average) whereas people working in Harrogate earn significantly less (£564). By contrast the UK average is £587. This statistic demonstrates the contrast in economic means between residents (who often work in Leeds) and workers (who often live outside the Borough).

Deprivation

19.32 The Indices of Multiple Deprivation (IMD) are a set of indicators which assess relative deprivation over several different themes; the most recent release was in 2019. The IMD places Harrogate at 278th out of 317 local authorities in England, ranking it amongst the 15% least deprived authorities in the country. However, this does mask some variations with Woodfield ward to the east of Harrogate falling in the 10% most deprived in England.

Commuting

19.33 Data from the 2011 Census shows that Harrogate has a positive commuting balance, with more people commuting into the borough to work than are commuting out to work elsewhere. In total 19,528 people commute into Harrogate from other local authorities, compared to 18,668 residents commuting out to other authorities.

19.34 The greatest relationships is with Leeds City which accounts for 45% of outward journeys and 31% inward. Neighbouring Hambleton and York also register significant movements in both directions.

19.35 Overall, commuting results in a population increase of under 1,000 people each day so the net impact is not very large compared with other centres of employment.

Housing Provision

19.36 According to recently published MHCLG Housing Delivery data Harrogate Borough has seen 1,641 housing completions over the period 2016-2019. The annual average of 547 is significantly below the Local Plan target of 669 but in the last of the three years this target was marginally exceeded. It is clear that Harrogate is making significant strides towards a planned boost in house building. It is also notable that most of the sites which have been delivered have been able to provide 40% affordable housing.

Health and Wellbeing

Primary Healthcare

19.37 Information from the NHS shows that within a 5km radius of the site there are ten GP practices and nine dental surgeries. Table 19.1 below is taken from https://www.nhs.uk/service-search/find-a-gp.

19.38 Research by the Department of Health and NHS London (Best Practice Guide, 2010) which found an average operating ratio in urban areas of 1 doctor per 1,800 registered patients. Based on this ratio, detailed in Table 19.1 six of the practices are operating with considerable surplus capacity.

Table 19.1: GP Surgeries registered patients and indicative capacity						
Surgery	**Approx. distance from site**	**Number of GPs**	**Number of Patients**	**Accepting New NHS Patients?**	**Deficit/surplus patient spaces**	**Date info updated**
The Leeds Road Practice	1.2 miles	9 (across 2 surgeries)	13,824	Yes	+2,376	21/9/17
The Moss Practice	2 miles	11 (across 2 surgeries)	19,974	Yes	-174	2/6/16
Park Parade Surgery	2.2 miles	6	7,186	Yes	+3,614	27/12/18
The Spa Surgery	2.2 miles	13	15,170	Yes	+8,230	22/11/18
East Parade Surgery	2.2 miles	7	7,753	Yes	+4,847	28/6/12
Kingswood Surgery	2.3 miles	4	6,736	Yes	+464	25/9/18
Church Avenue Medical Group	2.8	9	10,864	Yes	+5,336	12/218

19.39 The combined surplus in the area is over 24,000 patients. Only one practice appears to be oversubscribed. This information is consistent with published NHS data which indicates that Harrogate Borough is in the top 10% of local authority areas for GP provision per 100,000 residents https://digital.nhs.uk/data-and-information/data-tools-and-services/data-services/general-practice-data-hub. The national average is 47 doctors per 100,000 patients whereas in HBC it is 57.

Wider Health

19.40 The 2018 health profile for Harrogate Borough, produced by Public Health England, indicates that the overall health of people in Harrogate is generally better than the England average. Life expectancy is 1.4 years longer and mortality rates from cardiovascular disease and cancer are lower. The one indicator which was negative compared with England was the suicide rate.

Education

19.41 There are seven primary schools within 3 km of the application site and two secondary Schools. There is also a private education establishment at Ashville College. Locations of schools are shown on drawing PA09.

19.42 Primary school admissions relate to catchment areas. At present the application site is split between two catchments. North of the Clark Beck the site is in Pannal and south of the beck it is in Beckwithshaw. Both are village schools outside the main town of Harrogate so neither represents a long term option for the number of new pupils arising on this and the various other housing sites to the south west of Harrogate. This is why a new primary school is planned within the site. However in the short term a proportion

of pupils will need to be accommodated within existing schools. Table 19.2 below provides information on schools.

Table 19.2: Local Schools

Primary School	Capacity	Pupil Numbers
Pannal Primary School	**420**	**442**
Beckwithshaw Primary School	**99**	**83**
Rossett Acre Primary School	**420**	**407**
St Peter's C of E Primary School	**280**	**283**
Western Primary School	**472**	**501**
Oatlands Infants	**270**	**238**
Oatlands Juniors	**360**	**298**
Secondary School	**Capacity**	**Pupil Numbers**
Harrogate Grammar School	**1954**	**1961**
Rossett School	**1418**	**1449**

Source: Ofsted

19.43 Beckwithshaw Primary has capacity for 16 pupils which would be the number expected to arise from 64 houses while Pannal is due for some expansion to accommodate new pupils. A new primary school at Castle Hill West will create 210 places if it is one-form entry and 420 if it is two-form.

Community Facilities

Open Space, Leisure and Recreation

19.44 The NPPF recognises that access to high quality open spaces and opportunities for sport and recreation can make an important contribution to the health and well-being of communities.

19.45 The Harrogate Local Plan contains policy HP7 which sets out the requirements for various types of open space per 1,000 head of population. This is then assessed in relation to each proposal to see whether there is any spare capacity in the local area, whether the development is supplementing that capacity and hence whether it can meet its own needs or alternatively needs to make a financial contribution which the Council will spend on increasing provision.

19.46 New housing and mixed use developments will be required to provide new sports, open space and recreational facilities to cater for the needs arising from the development in line with the provision standards set out as follows:

- Parks and gardens: 0.15 ha per 1000 people.
- Natural and semi-natural greenspace: 4.07 ha per 1000 people.

- Amenity greenspace: 1.63 ha per 1000 people.
- Provision for children and young people: 0.13 ha per 1000 people.
- Allotments and community gardens: 0.35 ha per 1000 people.
- Outdoor sports facilities: 1.16 ha per 1000 people.
- Cemeteries, disused churchyards and other burial grounds: 0.5ha per 1000 people

19.47 In April 2019 North Yorkshire County Council carried out this assessment for the Castle Hill East development of 130 dwellings. This would lead to an estimated population of 386 people bringing the population within 1km to 2707. Within 3km the population will be 24,692. Existing provision of open space within 1km (or 3km where appropriate) is estimated to be as follows:

- Parks and gardens <1km: 0 ha for 2707 people (a deficit of 0.41 hectares).
- Natural and semi-natural greenspace <3km: 99 ha per 2,707 people (a surplus of 89 ha)
- Amenity greenspace <1km: 5 ha per 2,707 people (surplus 0.6 ha)
- Provision for children and young people <1km: 0.35 ha per 2,707 people (on target)
- Allotments and community gardens <1km: 1.57 ha per 2,707 people (surplus 0.6 ha)
- Outdoor sports facilities <3km: 31.6 ha per 2,707 people (surplus 28.4 ha).
- Cemeteries etc. <3km: 2.85ha per 2,707 people (deficit 9.5 ha)

19.48 From the numbers above it would appear that the existing residential area around the application site enjoys a provision of open space which exceeds the policy except for children's play which has no surplus, parks/gardens which have no provision whatsoever, and cemeteries. It is worth noting on the last point that Harlow Carr gardens are within 1km but are not free to the public. Also Harrogate enjoys very high standard and quantity of parks and gardens beyond the 1km radius.

Community Facilities

19.49 There will also be increased demand for a range of community facilities arising from the development. Within a 3 km radius there are:

- A number of places of work a number of places of worship;
- A number of public houses;
- A library and a theatre in the town centre;
- Two community centres (Harlow Hill and Oatlands); and
- Two pre-schools/day nurseries (Busy Bees, Little Crickets).

19.50 Police and Fire Stations are also located within Harrogate which would serve the site.

POTENTIAL LIKELY SIGNIFICANT EFFECTS

Construction Phase of development

Direct Employment

19.51 The construction phase of the development is expected to generate a range of construction jobs, including site management, skilled trades and general labour over the build period of the scheme.

19.52 The accepted way of estimating the amount of work created by construction is to estimate the build cost of the project. This assessment has taken the average residential build cost of £11,107 per square metre which was included in the Harrogate CIL viability assessment of January 2019, assumed an average house size of 87 square metres (giving a build cost per house of £96,513). School construction costs are derived from a recent NYCC consultation document entitled Developer Contributions for Education which states the cost of providing new primary education is £18,630 per pupil. Even allowing for costs which are not construction it is conservative to expect the school would cost at least £4 million meaning that the combined cost of constructing one school and 270 dwellings would be at least £30 million.

19.53 Annual Business Survey data compiled by ONS (November 2018) indicates that the expenditure (total purchases of goods, materials and services) to jobs ratio in the construction industry over the period 2013-2017 averaged £103,914 for every job. Applying this to the anticipated construction cost indicates that the proposals will generate approximately 289 person-years of construction work. The development is proposed to come forward across a six year construction period, based on an average build rate of 45 dwellings. On this basis it is estimated that the development could directly support an average of 48 construction jobs per annum over the six year construction period; although it is acknowledged that levels of employment will not remain constant over time with different stages of the build requiring more intensive labour than others (e.g. school) and economic fluctuations influencing build rates.

19.54 The extent to which construction opportunities created by the development will be taken up locally cannot be accurately estimated. However, in the Yorkshire & Humber region, research published by the UK Construction Industry Training Board (CITB) shows that the mean (average) distance from a construction workers' home to their current site was 20 miles. As noted above 2,500 residents of Harrogate Borough are employed in the construction industry. It is therefore highly likely that for many of these workers the site will provide welcome employment and that with the noted increase in house building in Harrogate the numbers employed will increase significantly.

Indirect and Induced Employment

19.55 Positive economic effects from the development will extend beyond direct construction employment and also include indirect benefits for the local, regional and national economy through additional 'spin-off' expenditure in the construction supply chain. This will include considerable expenditure on construction materials, goods and other services. This expenditure will bring a number of benefits as it filters through the construction supply chain with the result being that the initial construction investment is 'amplified'; sustaining additional employment in local businesses. In addition local

businesses would be expected to benefit from a temporary increase in demand resulting from expenditure by direct and indirect workers during the construction phase.

19.56 Recent studies have identified a range of these 'economic multipliers' to calculate indirect or induced employment effects flowing from the construction sector. Research by CEBR on behalf of the National Housebuilders Federation in (2013) indicates that for every one construction job, 2.51 indirect and induced jobs are created elsewhere. Applying this multiplier to the estimated 48 construction jobs anticipated to arise from the development, indicates that up to an additional 121 indirect and induced jobs could be created throughout the supply chain per year of the construction.

Summary

19.57 The proposed development would give rise to the following temporary impacts during the construction phase:

- £30 million investment in construction with wider benefits for the supply chain;
- 48 jobs per annum across the six year build period;
- 121 indirect/induced jobs per annum across the construction supply chain and in local businesses over the build period; and

19.58 Overall, the development Proposal is therefore considered to have a temporary moderate beneficial effect on employment and economic output during the construction phase

Operational Phase of development

Direct Operational Employment

19.59 In addition to 270 new homes the proposals provide a new primary school. NYCC have indicated that their preference would be for this to be a 2 Form Entry (2 FE) Primary School, with an indicative capacity for 420 pupils. Data from the Department for Education's "*Schools, Pupils and their characteristics: January 2017*" indicates that there is on average 1 trained teacher for every 21 pupils in a state funded Primary School in England; on this basis 20 (gross) FTE teaching jobs in the education sector have been calculated for 1FE and 40 for 2FE. The statistics also show that in primary schools support staff outnumber teaching staff taking into account teaching assistants, administration, general support and technicians.

19.60 It is estimated that the Castle Hill West development will generate between 40 and 80 jobs full time equivalent jobs during its operational phase. Because the school is an entirely new institution required to meet increasing demand there is considered to be minimal potential for net transfer of workforce from other schools.

Net Additional Employment

19.61 It is however recognised that the gross employment figure will be subject to a degree of 'leakage' (i.e. jobs taken up by non-Harrogate residents), 'displacement' (employment lost, moved or adversely affected by the development) and subject to 'multiplier effects' (i.e. additional economic benefit from increased employment and supply chain linkages); collectively referred to as 'additionality'. To enable a true understanding of employment effects of the development during the operational phase

additionality needs to be factored into the assessment. Guidance on how to account for additionality is contained within the HCA Additionality Guide (2015).

19.62 The development would involve the termination of one agricultural tenancy. The fields are currently used for grazing with a hay crop. The site therefore supports a negligible level of local employment which would be displaced by development.

19.63 For the purposes of this assessment, mindful of the commuting ratios identified in the baseline section, a leakage rate of 50% is assumed; that is half of all positions will be filled by residents outside of Harrogate. This is described in the HCA Additionality Guide as a "high" leakage rate, and is indicative of a cautious approach to this assessment. The policy of providing more housing in Harrogate including 40% affordable is itself aimed at reducing leakage and in-migration.

19.64 The Additionality Guide also provides direction as to how to account for multiplier effects of new employment in the local economy through increased spending and supply chain benefits. It suggests that education jobs have a multiplier effect of 1.8. This should be discounted for the local neighbourhood effects. The average multiplier of 1.1 has therefore been assumed in this case.

19.65 Taking into account the effects of leakage and displacement a worst-case scenario total of 40 new jobs are estimated to be generated across the operational phase of the development. When economic multipliers are considered a further 44 indirect and induced jobs are anticipated to be generated as a result of the development.

19.66 Overall, the development will have a **permanent minor beneficial** effect on employment.

Effects on Population and Housing

19.67 As stated above the SNPP anticipates an overall population increase of 1.1% by 2035, equivalent to 1,748 additional people. This is a trend-based prediction which is constrained by historic house building rates and aging population. The development will provide a mix of quality homes in an attractive environment supported by a range of key facilities which should encourage working-age residents and their families to Harrogate in support of the Council's policy to address affordability and housing supply in the town.

19.68 The development would provide 270 additional dwellings. As noted above the assumed population of this number of houses (based on district wide averages) would be 645. It is unlikely that 100% of this population would be new to Harrogate. Research contained within the HCA Additionality Guide (2014) indicates that new housing development results in, on average, around 38% displacement at the district level. It is therefore likely that around a third of residents to a new housing scheme will already be residents in the District in which it is located. On this basis it is anticipated that the development may introduce circa 425 additional residents to the Borough.

19.69 It is proposed that the development will be brought forward over a six year construction period. This will provide HBC with an average of 45 dwellings per annum out of a target of 669. In fact the site is part of a mosaic of allocated housing land to the south east of Harrogate which will provide far more housing – in the order of 2,500 dwellings. Taken as a whole the benefits/impacts of this expansion area will inevitably be much larger. By collaborating in joined up master planning of the area BPL is helping with the larger strategic plan for population growth in Harrogate.

19.70 The Local Plan was adopted in 2020 following its Examination in Public by an independent Inspector, who found its policies to be justified and based on sound, up to date evidence. The provision of new homes to exceed population projections was supported.

19.71 The development is therefore considered to have a permanent **moderate beneficial** social economic effect on population and housing.

Local Expenditure

19.72 Expenditure from new residents living at Castle Hill West will help sustain local shops and businesses, which themselves are important sources of local employment (17% of all jobs in Harrogate are retail-based). A choice of shops and services also contributes to the creation and maintenance of sustainable and thriving communities helping to attract households that are considering where to live. Household spending power is critical to sustaining such local amenities.

19.73 Peter Brett Associates published a Harrogate Retail Study Update 2016 on behalf of the borough council which indicated that residents in the southern part of Harrogate town (Zone 3) spend an average of £3,576 per annum on comparison goods and £2,099 on convenience goods. On this basis it is calculated that the total spending power of new residents at Castle Hill West will be approximately £3.66 million.

19.74 Furthermore research by the HBF suggests that occupiers of new homes generate additional one-off spending of approximately £5,000 per home through the purchase of furnishing and decorating supplies. Based on this evidence the development would generate a total of £1.35 million in first occupation expenditure. It is not possible to accurately quantify how much of this will be retained locally but Harrogate does boast a number of retail outlets for household purchases e.g. St James Retail Park.

19.75 Effects on local expenditure are therefore assessed as being permanent (with the exception of initial 'home-making' purchases which are temporary) with a **moderate beneficial** effect.

LPA Fiscal Effects

19.76 The Castle Hill West development would increase revenue streams for Harrogate Borough Council through additional New Homes Bonus (NHB) payments and increased Council Tax receipts.

19.77 The NHB is a grant paid by Central Government to local councils to incentivise housing growth in their areas. It is based on the amount of extra Council Tax revenue raised for new-build homes and is paid annually over 6 years. Local Authorities are not obliged to spend NHB funding on housing development so the funding provides local authorities with the opportunity to reinvest this additional revenue in supporting public services and infrastructure where they are most needed.

19.78 Assuming an average Council Tax banding of D for the 270 sites it can be assumed the development would yield around £500,000 per annum in NHB for six years leading to a gross sum of £3 million.

19.79 The annual receipts from Council Tax payments would be of similar magnitude but not time limited.

19.80 Section 106 contributions will also be collected by HBC for the benefit of residents and the community. These will be confirmed during the determination of the planning application and will be for infrastructure such as education, public open space and highways. At this stage this assessment is unable to quantify the effects of developer contributions. However, given the scale of the development, these will not be insignificant although they will need to be balanced against viability considerations. Other developers will contribute to the cost of the school.

19.81 Overall, the development will result in permanent moderate beneficial impact as a result of increased revenue streams open to HBC through Council Tax receipts, and will have a temporary moderate beneficial effect as a result of New Homes Bonus funding and S106 contributions.

Health and Wellbeing: Primary Healthcare

19.82 Assuming a worst case scenario in which all residents are new to the local area and thereby not already registered to local GP practices, Castle Hill West will have the potential to generate in the region of 645 new patients either from people moving to the development or from general population growth facilitated by the development. This generates a need for at least ½ an additional GP (based on the standard doctor-patient ratio of 1:1800). The baseline section however, shows that at the time of writing seven GP surgeries within 5km of the Site have operational capacities to accommodate the new residents arising from the proposals without the requirement to increase staffing numbers.

19.83 It is therefore considered that upon completion the development will have a permanent negligible/minor adverse effect on primary healthcare facilities at the local level.

Health and Wellbeing: Wider Health

19.84 As identified in the baseline assessment Harrogate scores relatively well in terms of deprivation and public health statistics when compared with the rest of the country. The development will aim to improve the health and wellbeing of existing and future residents through a range of measures. The development include extensive areas of quality amenity open space for the use of the community to supplement the facilities already available.

19.85 The indicative layout for the site includes 2.6 hectares of amenity space which is considered to be above average in terms of quantity as well as quality. The Parameters Plan ensures that the open space will connect to other new housing and employment development via an extensive network of footpaths and cycle routes. There is also proposed to be an upgraded path linking the Castle Hill East housing site to Yew Tree Lane which will mean cyclists can travel in a more direct route to Oatlands Railway Station. Overall the open space provision and footpath/cycle network will encourage a greater level of resident activity, provide for informal meeting opportunities helping to foster a sense of community, and will reduce dependence on the private car for many day to day activities.

19.86 The healthier lifestyle opportunities presented, coupled with increased job opportunities and new education facilities are considered to be of permanent minor beneficial effect.

Education

19.87 NYCC has published a pupil yield formula which suggests that the 270 dwellings of 2 or more bedrooms will generate 0.25 primary pupils per dwelling (68 total) and 1.3 secondary school pupils per dwelling (35 total). Section 106 money will be collected from the development to finance the provision of additional spaces. As noted above the primary schools in the area have very little spare capacity and so a new school is proposed on the application site. This will have capacity for at least 210 pupils, potentially rising to 420. This far exceeds the 68 generated on the application site so the development will make a significant contribution to meeting local needs.

19.88 Regarding secondary education provision, the baseline assessment has identified insufficient capacity in the nearest two secondary schools, Rosset and Harrogate Grammar. However financial contributions will be capable of adding to the capacity at those institutions. Building a new secondary school for the south west of Harrogate is not considered as a serious proposition because there would not be sufficient pupil numbers to sustain a third secondary school. Other factors are trends towards a reduction in secondary age population (after a current population bulge has passed through the system). Also, as has been noted above, a proportion of the new homes will be bought by families who are already living in the local area and are therefore would remain part of the secondary catchments which are larger than primary catchments. This is one of the reasons that each new home is expected to generate 0.13 secondary pupils compared with 0.25 primary pupils.

19.89 Overall, the development is considered to generate a permanent **negligible to minor adverse** effect on existing secondary school provision and a **moderate beneficial** effect on existing primary school provision.

Open Space, Leisure and Recreation

19.90 It is estimated that the development will increase the local population by approximately 645 residents. This is likely to result in increased demands on existing open space, play areas and leisure facilities near the site as identified in the baseline assessment.

19.91 In terms of sports facilities, the Sport England Facilities Calculator estimates that the proposed maximum population increase will give rise to a very minor increase in demand equating to 5 sqm of swimming pool space (equivalent to 0.09 lanes), 0.04 of a sports hall, and 0.01 of an artificial turf pitch. There are numerous sports facilities in the vicinity of the development including:

- Beckwith Health Club
- Police College (currently closed but due to be redeveloped)
- Beckwithshaw Playing Field
- Pannal Ash Cricket Club
- Harlow Hill Sports Club (squash, bowling etc.)
- Harrogate Cricket Ground
- Harrogate Racquets Club
- Ashville College

- Rosset School & Sports Centre
- Harrogate Grammar School

19.92 The new school at Castle Hill West will have playing facilities which may be more widely accessible out of school hours. Given this information, the proposals are deemed to have a negligible effect on existing leisure facilities.

19.93 With regards to increased usage of open space, parks and playgrounds the development include extensive areas of amenity public open green space including informal children's play space, which will be knitted into surrounding developments by a network of footpaths and cycle routes. The quantum of provision and its accessibility for residents will reduce pressure on existing parks and open space.

19.94 Overall, with respect to sports facilities and open space provision it is considered that the development will have a negligible effect on existing baseline conditions in Harrogate. The development will have a permanent negligible/minor beneficial effect in increasing the amount of public open space, and children's play facilities in the District.

Community Facilities

19.95 The new residents at Castle Hill West will result in increased pressure on existing community facilities such as places of worship, libraries, community centres and day nurseries. There is no indication that these facilities would not be able to cope with an increase in patronage and indeed many may benefit from greater use. Overall, effects on existing community facilities as a result of the development are considered to be negligible / neutral.

Summary

19.96 With all cumulative benefits and disbenefits considered together, upon completion the operational phase of the development would be expected to generate long-term moderate beneficial effects on local employment, retail expenditure and fiscal benefits for the local area resulting from the creation of the following:

- At least 40 direct jobs in the school;
- An additional 44 indirect and induced jobs across a range of employment sectors through increased supply chain expenditure;
- £3.66 million in additional spending power each year associated with new residents;
- Additional one-off expenditure of £1.35 million by residents on first-occupation of new homes; and
- Approximately £3 million in New Homes Bonus payments and £0.5 million each year in Council Tax payments.

MITIGATION MEASURES

19.97 This section considers the need for mitigation measures having regard to potential effects identified in previous section.

19.98 No mitigation measures are required where impacts are already assessed to be beneficial or neutral which are:

- Direct and indirect employment during construction and operational phases
- Population and Housing
- Local Expenditure
- Local Authority Fiscal Effects
- Health and Wellbeing

Education

19.99 The development have been assessed as having a moderate beneficial impact on primary education given the on-site provision of a new primary school which will meet needs arising from the development and residual pupil space needs from population growth. Therefore no mitigation measures are required. Nevertheless, it is also noted that discussions regarding the provision of the proposed Primary School on the Site are ongoing with NYCC. Should the anticipated Primary School not come forward as part of the proposals and capacity issues in existing primary school provision come to light during the determination of the application, this can be reviewed and where necessary appropriate contributions can be secured via S106 mechanisms to improve capacity at existing facilities. As a consequence no additional mitigation measures are required.

19.100 The development has been assessed as having negligible effect on secondary education because S106 moneys will be sought to improve capacity and existing facilities. This is satisfactory mitigation for the impact.

Open space, Leisure and Recreation

19.101 The effect of the development on existing sports facilities are considered to be negligible. However, S106 moneys will be provided according to local policy which will be used to improve existing facilities. Therefore no mitigation measures are required.

19.102 Through provision of areas of quality open space no mitigation measures are required for open space as the effects will be beneficial.

Community Facilities

19.103 With regards to additional pressures on existing community facilities and services, it is considered that the effects of the development will be negligible / neutral. It is also considered that the increase in population may also support the continued provision of some services and facilities therefore no mitigation is considered necessary.

RESIDUAL EFFECTS

19.104 Table 19.3 below summarises all the effects of the proposed development and completes the assessment with the residual effects, taking into consideration the baseline position, potential effects arising from the proposals and proposed mitigation measures.

19.105 The scale and significance of the residual effects likely to arise from the development have been assessed as predominantly beneficial; in particular regarding employment, expenditure, population, open space and primary education facilities. The residual effects following implementation of appropriate mitigation measures relating to secondary school pupil places and primary health, if they are found to be adversely affected by the proposals during the determination of the application, are considered to be negligible.

Table 19.3: Likely significant effects of the development

Potential Effect	Nature of Effect	Significance	Mitigation Measures	Residual Effects
Demolition and Construction Phase				
Effects on Employment	Temporary	Moderate beneficial	None Required	Moderate beneficial
Operational Phase				
Effects on Employment	Permanent	Minor beneficial	None Required	Minor beneficial
Effects on Population and Housing	Permanent	Moderate beneficial	None Required	Moderate beneficial
Effects on Local Expenditure	Temporary/Permanent	Moderate beneficial	None required	Moderate beneficial
Local Authority Fiscal Effects	Temporary/Permanent	Moderate beneficial	None required	Moderate beneficial
Effects on Health and Wellbeing	Permanent	Negligible/Minor adverse	None required / Contributions could be secured through S106 to alleviate impacts.	Negligible
Effects on Education Provision	Permanent	Negligible/minor adverse (secondary) Moderate beneficial (primary)	Contributions secured through S106 to alleviate impacts. None required	Negligible (Secondary) Moderate beneficial (Primary)
Effects on open space and leisure	Permanent	Negligible	None required	Negligible
Effects on community facilities	Permanent	Negligible	None required / Contributions could be secured through S106 to alleviate impacts.	Negligible

CUMULATIVE EFFECTS

19.106 This section assesses the cumulative effects of the development having regard to other similar committed large-scale developments. The objective of the section is to identify whether effects from the development and other committed developments in the area could, when considered together, cause significant cumulative effects requiring additional mitigation.

Cumulative Schemes

19.107 The following sites are proposed to be considered in this section. There are those sites which benefit from planning permission (two of which have commenced construction) and those which are identified in the Adopted Local Plan.

Table 19.4: Committed development schemes

Scheme Details	Local Plan Reference	Planning Reference	Planning Status
Castle Hill Farm East 130 dwellings	H70 (part)	17/05595/OUTMAJ	Under Construction
Beckwith Head Road 450 dwellings, local centre and primary school	H45	15/00798/EIAMAJ	Granted 2016
Police Training Centre 161 dwellings	H36	14/02970/FULMAJ	Granted 2018

19.108 In addition the following sites are allocated in the Local Plan and are contained within the Parameters Plan for South West Harrogate:

Table 19.5: Allocated development schemes

Scheme Details	Local Plan Reference	Planning Reference	Planning Status
Lady Lane 480 dwellings, local centre and employment	H51 (part)	18/05202/EIAMAJ	Planning Application
Otley Road Scoping Report for 1,000 dwellings, school and local centre	H49	19/00294/SCOPE	Pre-application
Whinney Lane Residual allocation around 100 dwellings	H70 (part)	None	Allocated

19.109 In summary the combined development for the committed schemes listed above and the Castle Hill West development total:

- Approximately 2,500 dwellings
- Three new primary schools
- Land for employment purposes (approximately 2 hectares)
- Three village centres with a mixture of uses such as small retail

- Extensive provision of amenity open space, playing fields, equipped play space, and new/enhanced bus, pedestrian and cycle routes.

19.110 Because many of these sites have yet to come to fruition there may be some rationalisation of development, such as the reduction of schools from three to two new primary schools. This is outside the control of BPL.

Construction Phases of development

Direct and Indirect Employment

19.111 It is acknowledged that negative cumulative impacts could arise if all the proposed developments were to come forward concurrently, resulting in a shortage of available labour or significant additional commuting into Harrogate from the wider regional area or nationally.

19.112 However, the identified cumulative developments are of various scales and at various stages in the planning and development process. Construction of the development is anticipated to commence in 2021/2 and will be delivered over a six year period. As such the demand for labour and specific skills will be staggered and will coincide with the completion of other development schemes; thereby supporting the long-term employment opportunities of those in the construction trades and indirect employment through the continued benefits from multiplier effects throughout the construction supply chain.

19.113 Overall, it is considered that the cumulative effects from the committed development schemes and the development will result in long-term temporary moderate beneficial impact during their construction phases through the continued support of long term direct and indirect employment opportunities across the construction supply chain as development phases come forward.

Operational Phases of development

Population and Housing

19.114 In combination, these developments (including Castle Hill West) provide in the region of 2,500 dwellings. This level of housing will greatly assist HBC in achieving their Local Plan housing target of 14,049 homes for the Borough by 2035 (representing 17% of the total).

19.115 The scale of the committed development schemes will provide for increased housing choice in the Borough and will encourage greater retention of working-age residents and their families in Harrogate and the relocation of others to the town, thereby assisting HBC in addressing the challenges posed by an aging population.

19.116 Overall, the development schemes are considered to be complementary rather than conflicting with the Castle Hill West proposals and will cumulatively have a permanent moderate beneficial effect on population and housing provision in the Borough.

Operational Employment

19.117 As noted above Castle Hill West will provide operational employment in the primary school (teachers and ancillary staff). In addition the other developments will provide further primary schools, retail and employment land.

19.118 It is not realistic to try to predict the cumulative additional operational employment from these proposals due to many variables but it is considered that there will be a moderate beneficial effect on employment in the area.

Local Expenditure

19.119 Cumulatively the developments will introduce new residents to the Borough and consequently will increase local spending power, a proportion of which will be spent within shops and services in Harrogate thereby supporting local businesses and the continued vitality and vibrancy of the town centre and local centres. Overall, it is considered that cumulatively the schemes will have a permanent substantial beneficial effect through increased spending power in local shops and services within Harrogate.

Local Authority Fiscal Effects

19.120 All of the schemes identified will result in payment of NHB. Cumulatively this will be a considerable source of additional funding for the Council, spread over several years. In addition, the new homes will also increase Council Tax receipts for HBC. Non-residential elements of the committed schemes (employment and retail) will generate business rates payable to HBC.

19.121 It is therefore considered that there will be temporary substantial beneficial effect as a result of new homes bonus payments, permanent substantial beneficial impact through increased Council Tax receipts and permanent moderate beneficial impact from increased business rates.

Social and Community Infrastructure

19.122 The population arising from the development schemes will lead to increased demand for education, healthcare, open-space, sport and community facilities. It is considered that the cumulative effect of the developments on existing socio-economic infrastructure in the proximity of the identified schemes is no different to the scheme in isolation. Even with increased demand arising from the developments it is assessed that this can be accommodated by either current capacity in existing provision in the vicinity of the developments or through new community infrastructure planned to support each of the individual proposals, for example the provision of new education facilities. Where provision is not proposed on site (e.g. secondary education) contributions towards off-site provision are secured within Section 106 Legal Agreements to mitigate against any negative impacts. Committed schemes already benefit from S106 agreements which include:

- Provision of 40% affordable housing;
- On-site provision of one new primary school (H45), and off-site contributions towards improvements to existing primary and secondary education facilities;
- On-site provision of playing pitches (H45)
- Contributions towards enhance provision of open space and sports facilities;
- Contributions towards improved bus services (H45)

- Contributions towards off-site highways improvements (H45)

19.123 The provision of a parameters plan covering the south west of Harrogate allocations will enable a more coherent approach to the provision of infrastructure going forward.

19.124 On this basis it is considered that no residual negative socio-economic impacts will arise from the schemes considered as part of this cumulative assessment. It is considered that the cumulative effects on the different aspects of socio-economic infrastructure will be moderate beneficial through the provision of new education facilities and extensive areas of open space and play space or minor beneficial through financial contributions towards the on-going maintenance or improvements to existing facilities.

SUMMARY AND CONCLUSIONS

19.125 An assessment has been made of the likely significant effects of the development on the environment with respect to socio-economic issues. The assessment has considered the construction and operational phases employment effects together with operational effects on population and housing, local expenditure, healthcare, education, open space and recreation and community facilities. The assessment has also considered the likely cumulative effects of other large-scale developments permitted. Table 19.6 provides a summary of the significant effects considered likely to arise from the development.

19.126 The Castle Hill West development would provide up to 270 residential dwellings that could provide homes for up to 645 people. The development will generate direct and indirect employment during the construction phase and during the operational phase through the provision of a new school.

19.127 The development provides for primary school to address need arising from the proposals and future capacity issues from population growth. Overall, following completion of the development there are expected to be moderate beneficial effects on primary education and negligible impacts on secondary education.

19.128 Negligible effects are anticipated on primary health care, with wider health benefits anticipated to arise from the provision of areas of amenity open space and play space and on-site sports facilities. This will encourage a healthy lifestyle and offer chances for social interaction helping to build community spirit.

19.129 The development is considered to have a positive effect on the socio-economic characteristics of the local area. Key effects have been identified as:

Table 19.6 Likely Significant Effects of the development including Cumulative Effects

Potential effect	Nature of Effect	Significance	Mitigation Measures	Residual Effects	Cumulative Effect
Construction Phase					
Effects on Employment	Temporary	Moderate beneficial	None Required	Moderate beneficial	Moderate beneficial
Operational Phase					
Effects on Employment	Permanent	Minor beneficial	None Required	Minor beneficial	Minor beneficial
Effects on Population and Housing	Permanent	Moderate beneficial	None Required	Moderate beneficial	Moderate beneficial
Effects on Local Expenditure	Temporary/ Permanent	Moderate beneficial	None required	Moderate beneficial	Moderate beneficial
Local Authority Fiscal Effects	Temporary/ Permanent	Moderate beneficial	None required	Moderate beneficial	Moderate beneficial
Effects on Health and Wellbeing	Permanent	Negligible/Minor adverse	None required / Contributions could be secured through S106 to alleviate impacts.	Negligible	Negligible
Effects on Education Provision	Permanent	Negligible/minor adverse (secondary) Moderate beneficial (Primary)	Contributions could be secured through S106 to alleviate impacts. None required	Negligible (Secondary) Moderate beneficial (Primary)	Moderate beneficial
Effects on open space and leisure	Permanent	Negligible	None required	Negligible	Minor beneficial
Effects on community facilities	Permanent	Negligible	None required / Contributions could be secured through S106 to alleviate impacts.	Negligible	Minor beneficial

20. CONCLUSIONS

20.1 This Environmental Statement provides the information needed to conclude that there are no overriding reasons to refuse permission for 270 dwellings and a school at Castle Hill West. The Planning Statement outlines the reasons why there is a clear need and justification for permitting the development. The site complies with the key considerations for new housing proposals outlined within NPPF and will provide a valuable contribution to the delivery of new housing in a sustainable location. There are no policies in NPPF that would preclude development at the site and it is considered to be suitable for residential development in the context of NPPF.

20.2 The Council has acknowledged the suitability of this location for new housing by allocating it in the Local Plan which has now been adopted following an independent examination.

20.3 The Local Plan policy requires three different developers to work together on a Parameters Plan for the West of Harrogate because of the likely cumulative impacts of development. The District and County Councils have facilitated meetings which have led to agreement of a Parameters Plan and the formulation of an allocation-wide masterplan for the allocation known as H51. This shows that the two parts of the allocation will be linked by a bus service, cycle and pedestrian connections. It also allocated land for a new primary school which will ensure H51 meets the educational needs of the population which will live there as well as providing choice for the existing community.

20.4 Harrogate has been seen as one of the most suitable location for housing and employment growth in the borough because of the concentration of services and facilities located within the town. The application site is located relatively close to the town centre. It is certainly close to important facilities such as education and bus services.

20.5 This application includes an indicative layout for 270 dwellings, including a range of house types and sizes, particularly focusing on providing new family accommodation and meeting local housing needs. New open spaces, landscaping, drainage and shared surfaces have all been considered as part of the design process albeit indicatively at this stage.

20.6 The Environmental Assessment in chapters 8-19 of this document (supplemented with Appendices 3-15 have addressed all technical environmental matters relating to highways, drainage and flooding, ecology, landscape, archaeology and ground conditions etc. There are no substantial likely environmental effects identified or technical reasons why the proposals should not be granted consent.

20.7 The proposals will bring significant benefits to the local community the main areas to benefit would include:

Social Benefits – Providing much needed new homes for local people, promoting walking, cycling and public transport, supporting existing local facilities and contributing to improvements to local schools.

Economic Benefits – 48 new temporary construction jobs as well as additional 121 'spin off' jobs during the six years construction period, 40 permanent jobs in the school with further spin-off, significant additional expenditure from future residents anticipated

in the local area, New Homes Bonus of around £3 Million in addition to £0.5 million per annum in additional Council Tax payments.

Environmental Benefits - Creation of new green spaces, biodiversity enhancements and management of surface water and creation of new modern efficient homes

20.8 The significant benefits delivered by the development are considered to balance heavily in favour of supporting the scheme and demonstrate that the proposal will contribute to all three dimensions of sustainable development.

20.9 The proposal complies with national and local planning and will provide a valuable contribution to new much needed housing at a local and national level.