F.D. Attwood & Partners

Land at East Hill, North Dane Way, Chatham, Kent

Environmental Statement: Volume 3, Non-Technical Summary

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Revision	Date	Notes	Author	Checked	Approved
1.1	08-04-2019	E2256	Various	Alison Banks	Dr Nick Davey

Entran Limited
7 Greenway Farm
Bath Road
Wick
Bristol
BS30 5RL

T: 0117 937 4077
www.entranltd.co.uk

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1 INTRODUCTION

1.1 This document provides a non-technical summary of the findings of the Environmental Statement (ES), which has been prepared on behalf of F.D. Attwood & Partners to accompany a planning application for a Proposed Development at Land at East Hill, North Dane Way, Chatham, Kent (the 'Site').

1.2 The ES identifies and records the results of assessments of the construction and operational phases of the Proposed Development and considers the potentially significant environmental effects the Proposed Development will create. The ES suggests a range of measures to mitigate the identified effects and, where opportunities exist, to introduce improvement measures.

1.3 This report provides a Non-Technical Summary of the ES findings.

2 SITE DESCRIPTION

2.1 The Site covers an area of approximately 49.47ha and is situated adjacent to North Dane Way on the outskirts of Chatham and is comprised of arable fields. To the west is North Dane Way and beyond that a residential area, to the north are residential properties and recreational land beyond. To the east is Capstone Farm Country Park which comprises primarily open fields and to the south is agricultural land.

2.2 The Site lies within the administrative area of Medway Council (MC).

2.3 The topography of the Site rises to the west and ranges between 40 to 100m AOD. The Site is located on part of an elevated ridge plateau and is set within a wider undulating chalk downland landscape consisting of ridge crests and extensive dip slopes that overlook steep-sided narrow valleys.

2.4 The Site is not subject to any nature conservation designations, although a number of designated sites are located within the vicinity of the Site, including the Medway Estuary and Marshes Ramsar Site, Special Protection Area (SPA) and Site of Special Scientific Interest (SSSI) which is located approximately 3.5km to the north of the Site. There are four other SSSIs and nine local nature reserves (LNRs) within 5km of the Site.

2.5 The Site and its immediate setting are not included in any statutory landscape designation for the protection of scenic quality and is not located within Green Belt. It does lie within an area identified as an 'Area of Local Landscape Importance' within the Borough.

2.6 The Site is not located within an Air Quality Management Area (AQMA), the nearest AQMA is located approximately 500m to the northwest of the Site.

2.7 A small proportion of the Site (some 1.2% of the total Site area) which corresponds with the lowest lying portion of the Site lies within an area of overland flow and for this reason is identified within the EA mapping Flood Zones 2 and 3. The remainder of the Site lies within Flood Zone 1.

3 DEVELOPMENT DESCRIPTION

3.1 The Proposed Development covers an area of approximately 49.47 hectares (ha).

3.2 The application is submitted in Outline with all matters other than access reserved. The Planning Application seeks planning permission for the following:

- The erection of up to 800 dwellings (C3) including a mix of sizes, types and tenures including affordable housing;
- A Doctors Surgery to accommodate at least two doctors;
- Up to four shops such as local convenience shop / café;
- A two-form entry Primary School;
- Open space; and
- Road infrastructure.

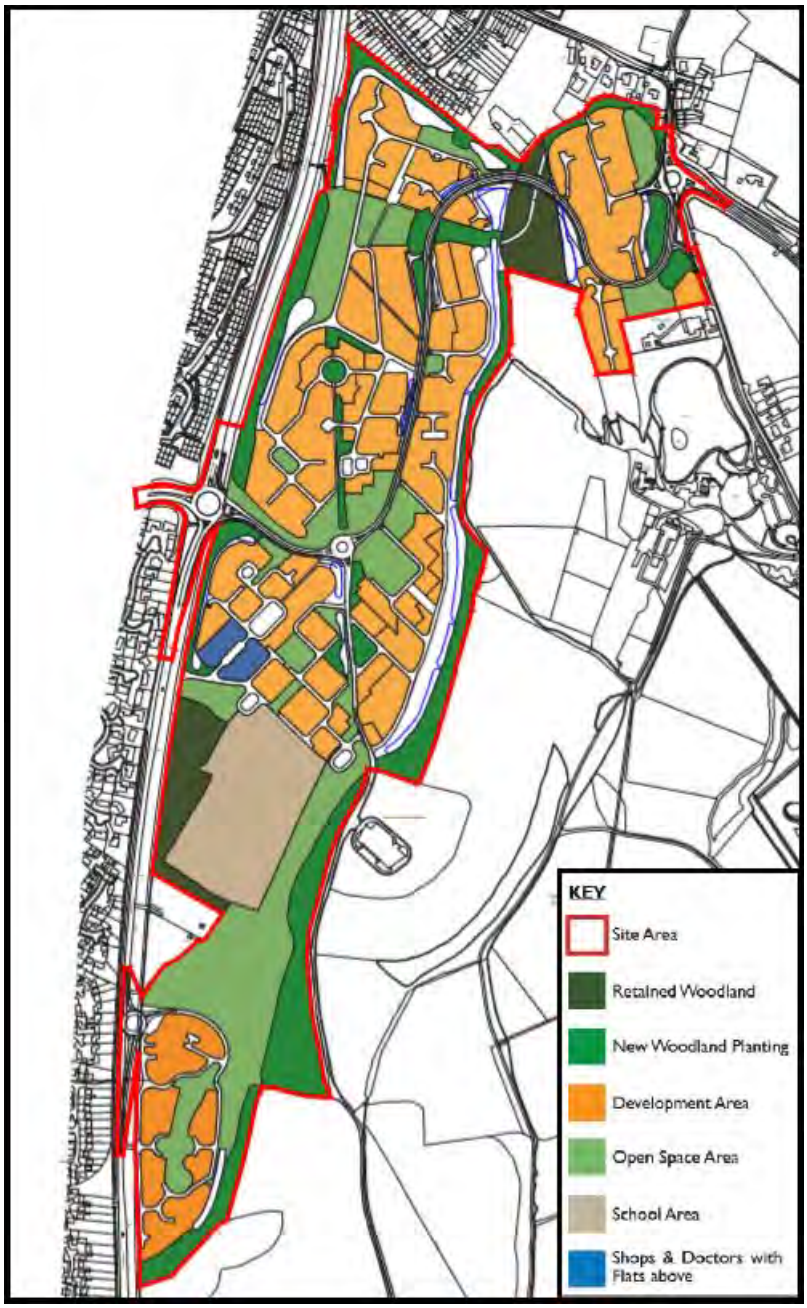
3.3 A proposed Site layout is presented in Figure 3.1. Further plans are provided in **Appendix 5**.

Figure 3.1: Proposed Site Plan

Land Use

3.4 The proposed land use within the Proposed Development is illustrated in Figure 3.2 below:

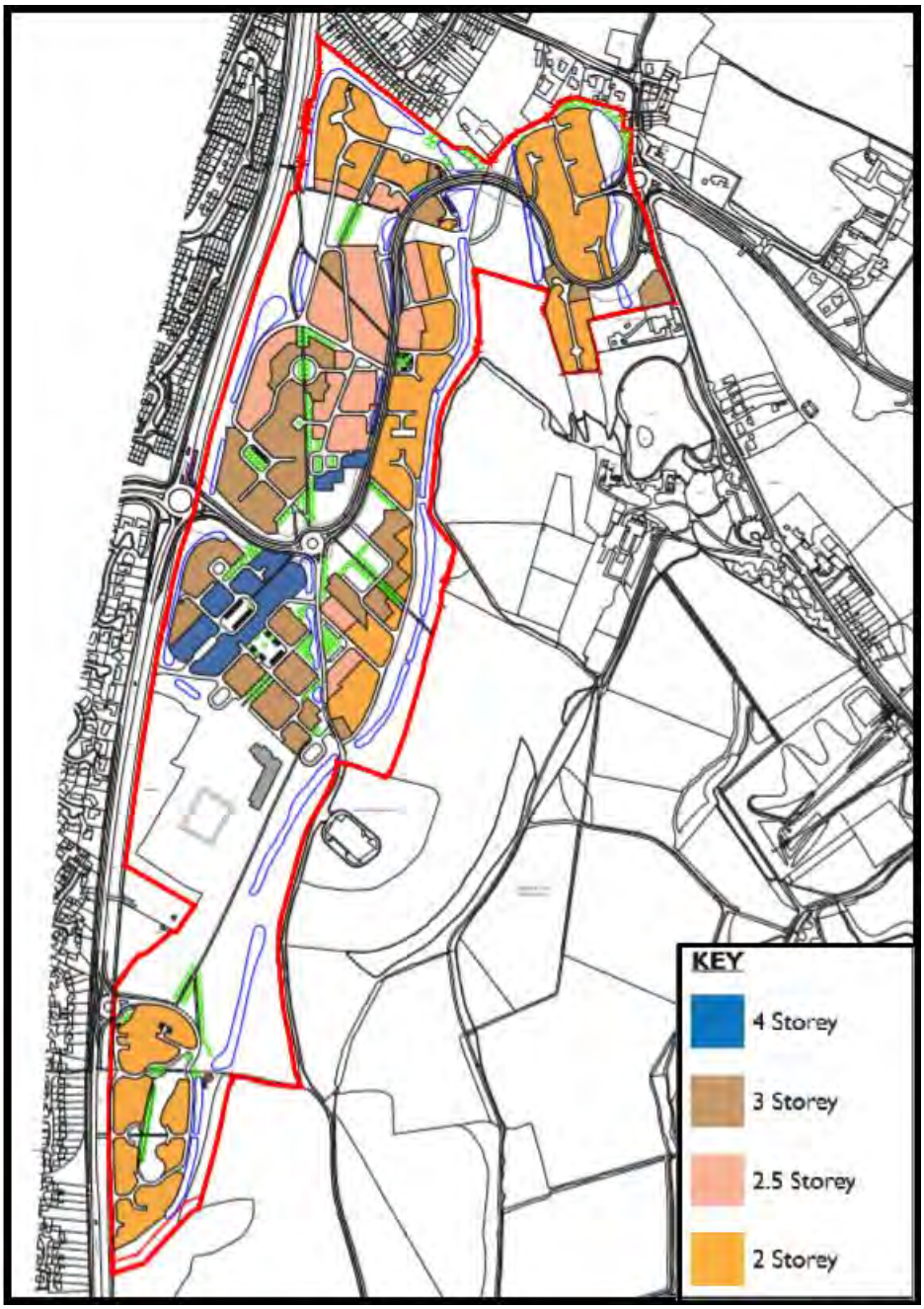
Figure 3.2: Proposed Land Use



Scale and Massing

3.5 The Proposed Development is predominantly two storeys in height which is in-keeping with the surrounding districts and no building will exceed four storeys in the urban area. A small proportion of apartments will be four storeys high and up to a maximum height of 14m to the ridge. These buildings will only be located in certain key locations away from the edges of the Site, where their increased mass would benefit the overall streetscapes and give emphasis and interest to the Proposed Development.

Figure 3.3: Building Heights



Density

3.6 The residential element of the Proposed Development will have an overall density of approximately 42 dwellings per hectare, but will vary across the Site.

Quantum of Development

3.7 Table 3.1 identifies the quantity of the land proposed for the uses to be provided by the Proposed Development.

Table 3.1: Land Budget Summary

	Land Budget Summary
Site Area	49.47 ha
Development Area	16.3 ha
Open Space / Landscaping	19.15 ha
Other (including road infrastructure)	14.02
Residential	
Density	42 dwellings per ha
Total no of dwellings	Up to 800
Public Amenities and Facilities	
Shops / Cafes	150 m^2
Primary School	3 ha
Doctors Surgery	300 m^2
Open Space / Landscaping	
Retained Woodland	2.2 ha
New Woodland Planting	6.95 ha
Open Space (including LEAP, NEAP and Trim Trail)	10 ha

Residential Uses

3.8 The residential component of the Proposed Development forms a significant part of the development proposals and will provide up to 800 new homes.

3.9 The Proposed Development will comprise a range of housing types, sizes and tenures.

Public Amenities and Facilities

3.10 The proposed scheme will provide the following:

- up to four shops / cafes and doctors located in a central location in the Site, near the school / surgery and accessible from North Dane Way;
- a two form entry Primary School with sufficient land to accommodate a third form if required to meet future pupil demand;
- a Doctors Surgery with at least 2 doctors and flats above. It could accommodate a larger surgery with 6 to 8 doctors if necessary.

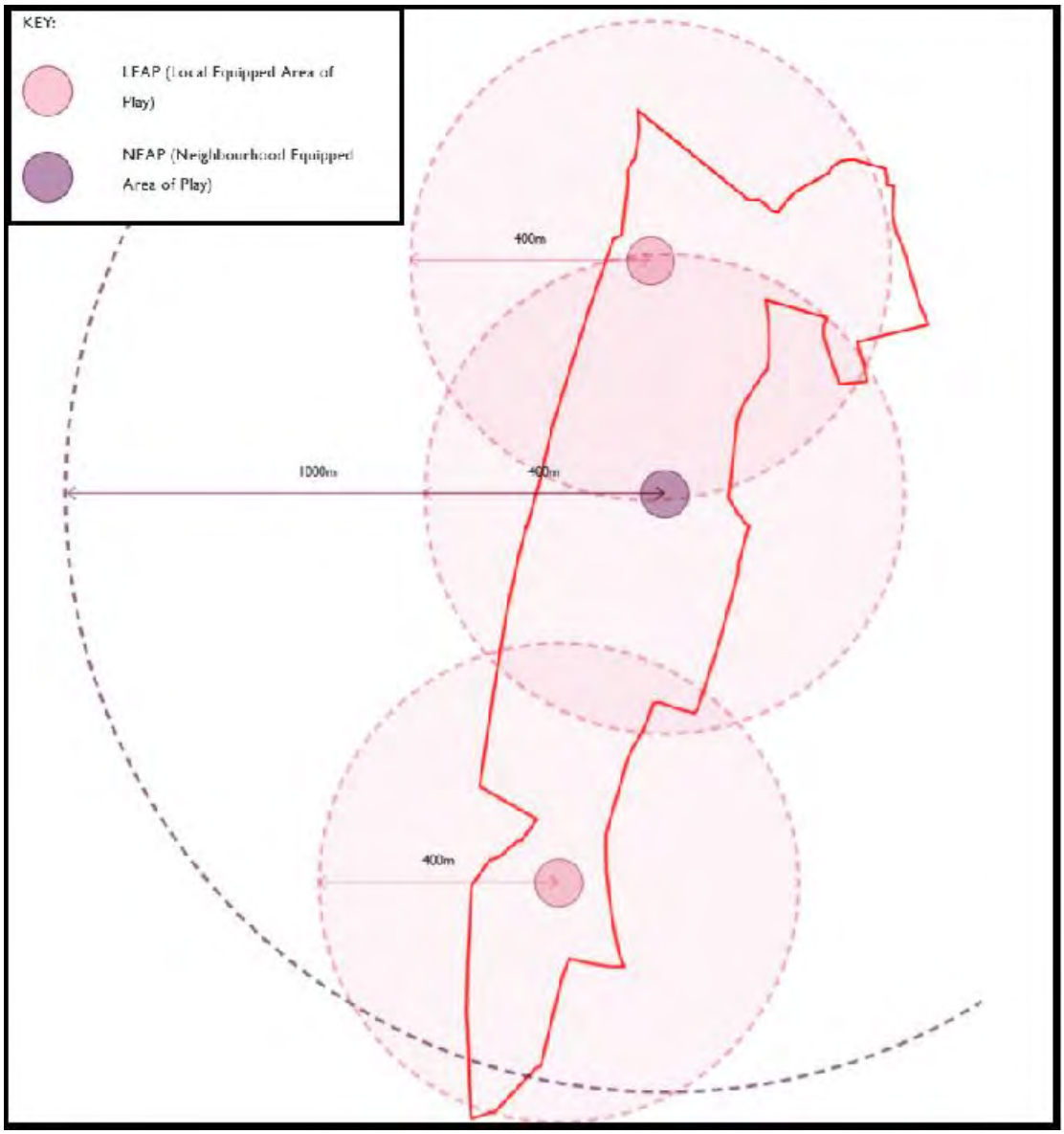
3.11 The location of the proposed public facilities is illustrated in Figure 3.4 below.

Figure 3.4: Public Facilities

Open Spaces

3.12 The Proposed Development will include the provision of two Local Equipped Areas of Play, a Neighbourhood Equipped Area of Play, a Community allotment and Trim Trails and small play features along a central green route.

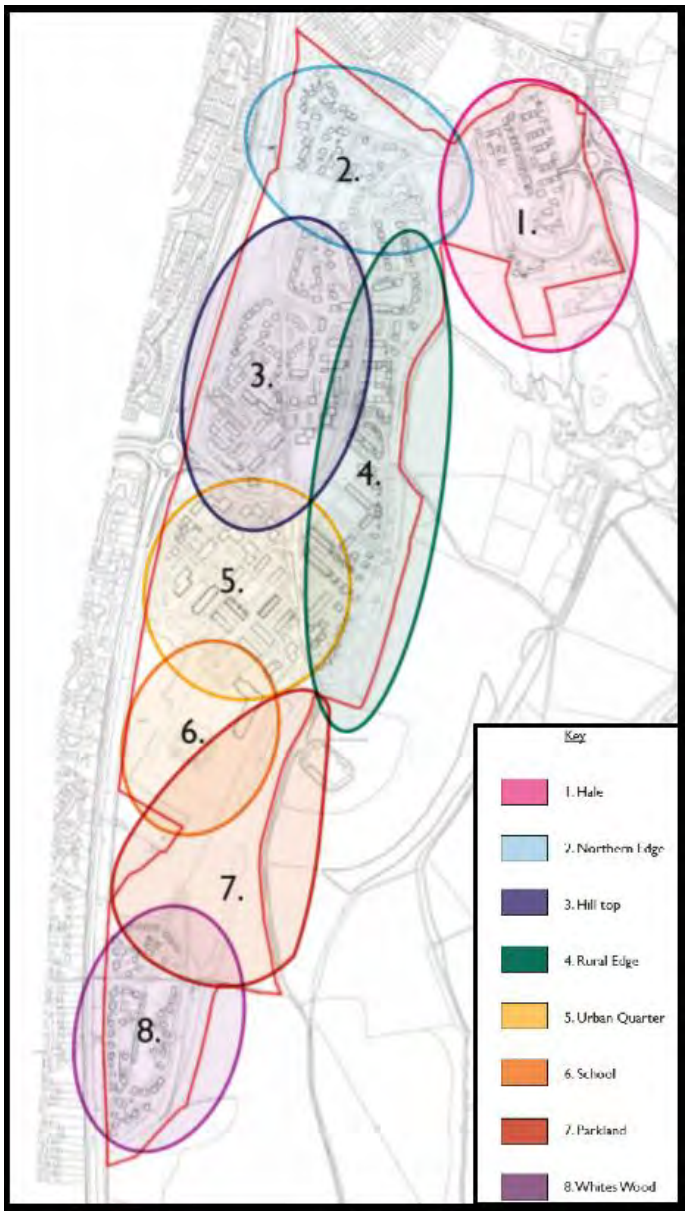
Figure 3.5: Play Spaces



Character and Design

3.13 In terms of design, the Proposed Development can be considered to be divided into a series of character zones which are illustrated in Figure 3.6.

Figure 3.6: Character Zones



3.14 The Proposed Development will include the following areas:

- A Park – offering views to the countryside beyond which will communicate that health and wellbeing are integral to lifestyle;
- An Urban Centre – containing a local convenience store/units, a doctors' surgery, primary school and parking around an urban/community hub close to North Dane Way, making it useful for existing and new residents and encouraging integration between the existing and new communities;
- The Rural Edge – using unique site conditions to create exceptional places to live, this generously sized linear element establishes pedestrian priority in key areas and defines

places that are very desirable for residents who want to live away from the hustle and bustle.

- Hale – a self-contained area which establishes a new balance for the road dominated existing cluster of homes, creating new routes and leisure opportunities while defining the most desirable housing location within the development.

- Sub-urban Areas – these locations offer a mix of tenure opportunities and house type.

- Main Route – establishing rhythm and flexing character creates interesting variety along the main access artery through the Site.

3.15 The areas within the character zones have been further divided into smaller character areas as illustrated in Figure 3.7. A description of each area and the type of housing proposed within each area is described in Table 3.2 below.

Figure 3.7: Character Zones

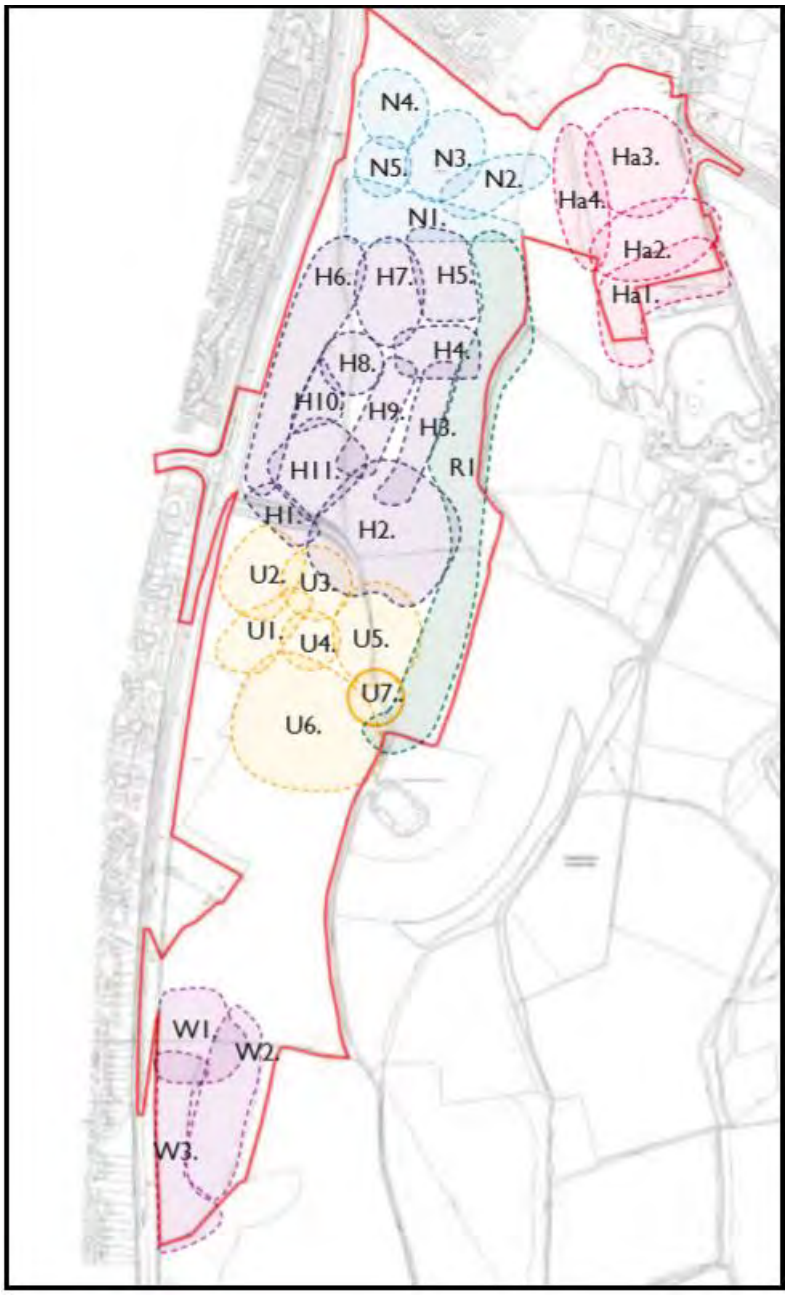


Table 3.2: Character Areas

Character Area	Description	Proposed Dwellings
N1: Green Wedge	A large landscaped space that narrows to focus routes towards the rural edge.	A very high value location, an opportunity to provide some large 'Grand Design' homes with excellent views.
N2: Threshold	Landscape is still dominant. Buildings are tall.	A mixed community due to the variety in unit types.
N3: SUDS	Located in the northern part of the Site, it contains the largest SUDS feature. This makes the landscape dominant	A quieter location with views over landscaped areas. Buildings are clustered and set

Character Area	Description	Proposed Dwellings
	and attractive.	back from the road.
N4: Destination	Located in the north western part of the site.	A secluded location with a suburban character with south and west facing gardens.
N5: Road	Located towards the north of the Site on the boundary with North Dane Way.	A cluster of semi-detached and terraced homes and two high value detached properties
H1: Arrival	Steep banks on either side of the road.	A contemporary urban location with long views of townhouses and flats within parkland. This are provides a balanced community.
H2: Urban Park	Good orientation and long views both within and beyond the development. Visible from the road but not dominated by it.	A contemporary urban location with key focal apartment blocks defining the corners of the spaces and terraces of townhouses that address each other across the park.
H3: Road	Arrival in the housing area.	A tree lined street with tall houses defining its edge.
H4: Square	The first big place you arrive at along the main route through East Hill.	Terraces are smaller here but they create a place. A focal location with a strong sense of community.
H5: Avenue	A well defined part of the route where the houses make a strong edge.	The geometry of the road and the houses is intentionally different, so the road is less dominant. Houses sit at the top of the bank formed by the cutting for the road.
H6: North Dane Way Threshold	Has ecological value.	Landscaped area is large to create a buffer from North Dane Way. Most homes are semi-detached, an apartment block to the north has amazing views over the two landscaped areas.
H7: Grand Designs	A visible and prominent area either side of the main west-east pedestrian leisure route.	Design quality is showcased in this area. Homes are modern, simple and stylish.
H8: The Circus	This is one of the highest and most visible areas of the Site, the Circus will form a new landmark.	Created to define the gateway into the more urban area of the development as you walk south along the line of the existing pedestrian route. Large detached houses with visible gaps between.
H9: Axis	This series of spaces links the brow of the hill with the urban park to the south.	The predominant house type will be terraces.
H10: Street	Located on the western side of the Site. It links the main pedestrian route to the urban park with the Circus to the north.	Terraced and semi-detached homes are staggered to define interesting spaces along the roadway.
H11: Southern Cluster	Located immediately above the new entrance.	A dense urban area characterised by well defined

Character Area	Description	Proposed Dwellings
		spaces.
U1: Public Square	Located in the heart of the urban area, it is the focal arrival point from the slip road south of the roundabout.	Will comprise four storey apartment blocks and a landscaped square. There will be a parade of shops on the right side with three storeys of apartments above.
U2: Urban Homes	Located on the western edge of the urban area bordering North Dane Way.	Three storey contemporary townhouse facing south and east.
U3: Apartments	Located adjacent to the main public square.	Four storey apartment blocks overlooking a south facing square.
U4: Square	Located to the east of the main public square	Three storey houses and four storey flats.
U5: Transition	A landscaped space either side of the main route heading north.	Three storey townhouses varying in size.
U6: Primary School	Located at the gateway to the parkland	Houses in this area are three storey and predominantly south facing with outstanding views from upper floors.
U7: Arrival / Threshold	Marks the arrival into East Hill heading north.	Houses in this area will be terraced, semi-detached or detached.
R1: Rural Edge	Located on the eastern fringe of the Site. Leisure routes run the length of the Site on the eastern boundary.	Mainly detached housing.
W1: Arrival	Accessed from a new roundabout to the south of North Dane Way with outstanding views of the parkland.	Detached housing with kerb appeal.
W2: Secluded	Located on the eastern corner of the White Woods area.	Detached houses in clusters overlooking landscaped areas.
W3: North Dane Way	Located on the western edge and southern cluster.	A mixture of semi-detached and detached houses.
Ha1. Exclusive	Located at the top of the hill	Detached high value houses
Ha2: Arrival	Located at the entrance to the Site	Homes vary in size and orientation.
Ha3: Village Green	Located near to roundabout	Detached houses overlooking the green
Ha4: Woodside	Located at the top of the slope	A cluster of detached homes in a prime leisure location adjacent to woodland and pedestrian routes.

Access

3.16 The Site lies between Luton & Wayfield and the Capstone Country Park. The development of the Site provides an opportunity to provide a strategic link for pedestrians and

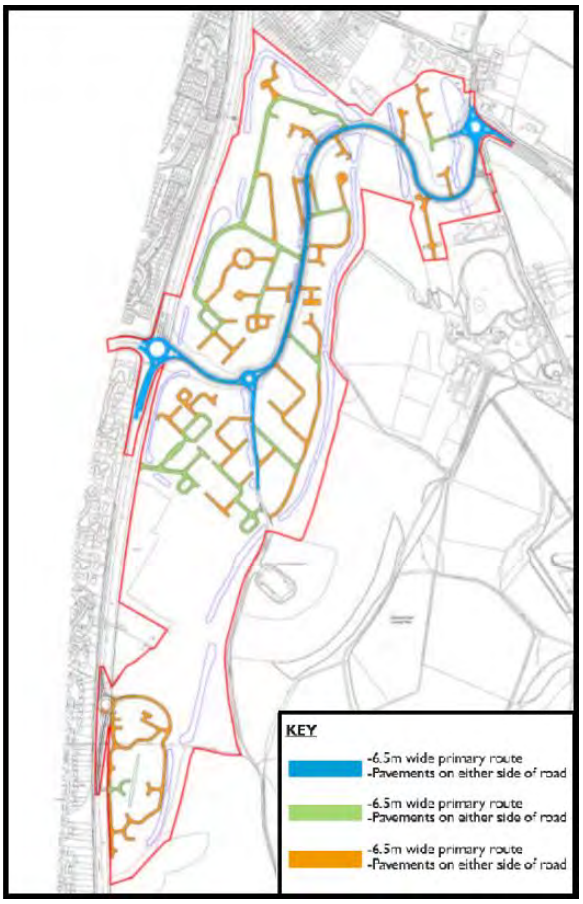
cyclists from the urban areas of Luton and Gillingham via the Capstone Farm Country Park to the network of paths and roads in the Kent Downs AONB.

3.17 The Proposed Development will connect to the surrounding road network via junctions on North Dane Way to the west and Capstone Road / Peartree Lane to the east. The Proposed Development will include a new link road which will provide relief to the Capstone Road around the Ash Tree Lane junction.

3.18 The link road will also facilitate a sustainable transport corridor between the east and west, linking either side the valley without reliance on the A2 or rural lanes and allowing enhanced sustainable travel modes including new bus links and footway/cycleway connections.

3.19 The proposed access points and road network are illustrated in Figures 3.8.

Figure 3.8: Proposed Road Layout



4 ALTERNATIVES AND DESIGN EVOLUTION

INTRODUCTION

4.1 This Chapter sets out the need for the Proposed Development and the reasonable alternatives considered by the developer. The EIA Regulations **(Ref 1.1)** states that an ES should include:

"a description of the reasonable alternatives studied by the developer, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the development on the environment."

4.2 The following sections describe the reasonable alternatives considered by the developer in addition to the Proposed Development. Consideration has been given to and commentary is provided on the following:

- The 'No Development' alternative;
- Alternative Sites; and
- Alternative Designs and Layouts.

'NO DEVELOPMENT' ALTERNATIVE

4.3 The 'No-Development' option refers to leaving the Site in its current state, which comprises an area of undeveloped land. This alternative would not contribute positively to housing delivery in the area, which falls below the rate required to meet objectively-assessed housing need.

4.4 As the Proposed Development can contribute up to 800 dwellings to future housing supply and the Site is under the Applicant's control, the 'No Development' scenario has been dismissed.

ALTERNATIVE SITES AND LAYOUTS

4.5 The application has been prepared because it lies within the applicants control and is available for development. MC is currently in the process of reviewing its local plan to meet its future development needs. MC is hoping to publish a Regulation 19 Stage Local Plan later this year (2019) that has been prepared taking account of an extensive evidence base platform taking account of the constraints and opportunities for growth affecting the whole administrative

area. Higher order constraints such as the Green Belt and SSSI as well as environmental, highway capacity and sustainability of alternative spatial strategies to meet the housing requirements combined with matters of deliverability and site viability which are particularly important in Medway because of low levels of historic completions. The emerging plan when adopted will replace the adopted Medway Local Plan from 2003 and has been the subject of a number of stages of public consultation and assessment by the LPA or a range of options following an earlier 'call for sites' of opportunities and site assessment from the Strategic Housing Land Availability Assessment. The Site is included as an allocation in three of the four development options in the emerging Medway Local Plan, which has identified the range of alternatives available itself underpinned by Sustainability Appraisal. This background demonstrates that Medway Council has reviewed a wide range of alternative options following which the Site has been identified along with other opportunities as part of a wider spatial strategy to meet the development needs of Medway in a sustainable way.

4.6 The final scheme design as described in Chapter 5 of this ES was determined following a review of the Site and surrounding area including the topography, ecology, history of the area, and surrounding road infrastructure and consideration of the likely requirements of future occupants. Further details of the issues considered in the design process are provided in the Design and Access Statement (**Appendix 4.1**).

4.7 The initial design showed a central spine road with development parcels throughout the Site and the school in a central location. Following a meeting with the Lead Drainage Authority and the Environment Agency, the outline layout was revised. Further assessment also shaped key views although it was accepted that the layout occupying a ridge line position would be visible like other residential areas nearby when MC identified the Site for housing in its development options document.

4.8 The design was then modified to move the school was moved to a more southern location and properties in the main residential area were arranged either side of a stronger pedestrian route with taller properties (3 to 4 storeys) located in the central locations and lower properties (2 to 2.5 storeys) located at the edges of the Site. Further refinements of the layout followed after additional analysis of key vantage points and following feedback from the South East Design Panel Review. Ecological and transport input from the team also strongly influenced the emerging layout proposals.

4.9 Further changes to the layout design were driven by the desire to create strong character areas and a central urban hub focused around a small number of local shops and a doctors surgery. The need for strong pedestrian/cycleway connectivity as part of a strong landscaped

framework within which the development would be set whilst working with the level changes and woodland buffers of the Site also led the layout to be further refined.

4.10 The evolution of the Proposed Development has responded to a variety of design and environmental issues and the resultant proposals are considered to offer the most advantageous design solution to demonstrate that the Site has a realistic capacity of upto 800 dwellings. However, it should be highlighted that the proposal is in outline form and the submitted layout is illustrative since all matters(except access) are reserved for later consideration.

4.11 The final layout of the Proposed Development is identified in Chapter 5 and **Appendix 5, Volume 2**. It is relevant that although the illustrative layout material sets a strong design framework that is based on a strong evidence platform, other layout options within the red line area could be examined for their design quality at the reserved matters stage.

5 DEVELOPMENT PROGRAMME AND CONSTRUCTION

5.1 The construction period is anticipated to be approximately seven years to complete the Proposed Development in its entirety.

5.2 The construction effects of the Proposed Development would be managed through the development of a project and site-specific Construction Environmental Management Plan (CEMP).

5.3 The CEMP would outline methods for contractor and general public liaison, hours of work, methods to deal with complaints and outline management practices to control dust, traffic and access, waste, water resources, ecological and archaeological effects, ensuring a high level of control throughout the construction works.

5.4 The procedures within the CEMP would ensure the delivery of a high level of environmental control throughout the construction phase, thereby minimising the potential for adverse effects.

6 TRANSPORT AND ACCESS

Introduction

6.1 This chapter documents the assessment of the likely significant effects of the Proposed Development with respect to transport. Information has been taken from the Transport Assessment accompanying the planning application to inform it and the topics considered include: severance; driver delay; pedestrian delay; pedestrian amenity; fear and intimidation and accident and safety.

Predicted Impacts

6.2 The scope of the assessment includes an assessment of both construction and operational phases.

6.3 The magnitude of the environmental effect for each topic area has been evaluated on the basis of the Institute of Environmental Assessment guidelines which includes evidence gathered from a number of sources. The overall environment effect on the links/junctions considered were determined on the basis of the magnitudes and the sensitivity to changes in traffic on different types of locations and groups of people based on a matrix (taken from DMRB guidance).

6.4 The “Do Minimum” (base line) and “With Development” scenarios are compared throughout the ES chapter to understand the impact of development on the network. The peak hour flows are considered to be the worst case scenario for the assessment as this is the busiest time on the network, and for the Proposed Development. In some of the topics considered there is a need to understand the 18 hour traffic flows and so the peak hours have been converted to this flow type for both scenarios.

6.5 The environmental effects are generally classified as major beneficial to neutral (depending on the sensitivity) for the operational phase of the Proposed Development and neutral to slight adverse for the construction phase.

Effect during construction phase: short to medium term

6.6 An assessment of the potential impacts during the construction phase has been carried out which indicates a neutral or slight adverse impact on pedestrians in relation to severance, fear and intimidation, delay and amenity and a moderate adverse impact on drivers and pedestrians in relation to accidents and safety on the road network.

Effect during operational phase: long term

6.7 The change in magnitude between the baseline and 'with development' scenario is 'moderate' for pedestrians in terms of delay, amenity, and fear and intimidation. Hence, the effect is considered moderate adverse for pedestrians associated with these topics.

Mitigation

6.8 Enhancements including the new link road, between North Dane Way and Capstone Road, will deliver notable benefits with environmental effects related to the relevant topics, including enhanced pedestrian delay, amenity by virtue of the new links established. Similarly driver delay would be subject to moderate beneficial effect, arising from other mitigation measures in the form of junction improvements.

Summary of Effects

6.9 In summary, the residual impact of the Proposed Development for pedestrians during the operational phase is major beneficial effect in terms of delay, amenity and severance. However, for drivers the impact is generally considered to be moderately beneficial as a result of new link road and junction improvements more than mitigating the driver delay impact of the development.

6.10 During the construction phase the impact is neutral (with some slight adverse) for pedestrians in all topic areas. However, for drivers there is a moderate adverse impact in terms of delay, whilst there is a neutral impact in relation to accidents and safety.

7 AIR QUALITY

Introduction

7.1 This chapter assesses the likely significant effects of demolition, construction and operation of the Proposed Development on air quality. It describes the existing air quality within the study area, considers the suitability of the Site for residential development, and assesses the impact of the demolition, construction and operation of the Proposed Development on air quality in the surrounding area. The main air pollutants of concern related to construction are dust and particulate matter (PM_{10}), and for road traffic are nitrogen dioxide (NO_2) and particulate matter (PM_{10} and $PM_{2.5}$).

Predicted Impacts

7.1 The scope of the assessment includes an assessment of both the construction and operational phases.

Effect during construction phase: short to medium term

7.2 An assessment of the potential impacts during the construction phase has been carried out. This has shown that during this phase of the Proposed Development releases of dust and PM_{10} are likely to occur during site activities. Through good site practice and the implementation of suitable mitigation measures, the impact of dust and PM_{10} releases may be effectively mitigated and the resultant impacts are considered to be negligible.

Effect during operational phase: long term

7.3 The ADMS model has been used to predict the impact of the Proposed Development on local nitrogen dioxide (NO_2) and particulate matter (PM_{10} and $PM_{2.5}$) concentrations and assess the suitability of the Site for residential use. The assessment found that concentrations of these pollutants would be below the relevant objective levels at all locations, and traffic generated by the Proposed Development would result in a medium to low / imperceptible impact on local air quality. At a number of receptors, a beneficial impact is predicted as a result of the Proposed Development.

Mitigation

7.4 During the construction phase, a high risk of dust soiling impacts and a low risk of human health effects is predicted at adjacent receptors during construction of the Proposed Development. Appropriate mitigation measures for the Site have therefore been identified following the IAQM guidance. It is recommended that the measures identified are incorporated into a Construction Environmental Management Plan (CEMP) and approved by the Local Authority prior to commencement of any work on site.

7.5 For the operational phase, mitigation has been recommended based on the findings of the assessment. To reduce the impacts of traffic associated with the development the standard Kent and Medway Air Quality Planning Guidance mitigation measures are proposed:

- All gas-fired boilers to meet a minimum standard of < 40 mg NO_x/kWh
- 1 Electric Vehicle charging point (best available technology) per dwelling with dedicated parking or 1 charging point per 10 spaces (unallocated parking).
- Travel plan (where required) including mechanisms for discouraging high emission vehicle use and encouraging the uptake of low emission fuels and technologies;
- A Welcome Pack available to all new residents online and as a booklet, containing information and incentives to encourage the use of sustainable transport modes from new occupiers;
- Improved cycle paths to link cycle network;
- Adequate provision of secure cycle storage; and
- Using green infrastructure, in particular trees to absorb dust and other pollutants.
- Infrastructure improvements including new reducing pollutant concentrations at existing receptors.

7.6 Furthermore, based on Kent and Medway Air Quality Planning Guidance methodology to quantify the road traffic emissions damage costs, the total estimated damage costs to be spent on mitigation measures is £1,097,400 over a five-year period. The measures identified above will exceed this figure.

Summary of Effects

7.7 Construction phase impacts are considered to be negligible when appropriate mitigation measures are applied through a CEMP for the Site.

7.8 Concentrations of NO_2, PM_{10} and $PM_{2.5}$ have been predicted for a number of worst-case locations representing existing properties adjacent to the road network. Predicted concentrations are well below the relevant objectives at all of the existing receptor locations with the Proposed Development in place. Furthermore, air quality for future residents within the Site will be below the national air quality objectives.

7.9 In accordance with the Kent and Medway Air Quality Partnership Air Quality Guidance, the impact of the operation of the Proposed Development is considered to be medium to low / imperceptible. Following the implementation of the recommended mitigation measures, the impact of the operation of the Proposed Development is considered to reduce to low / imperceptible. In accordance with the EPUK & IAQM significance criteria, the impact is considered to be negligible.

7.10 Overall, it is concluded that there are no air quality constraints to the Proposed Development.

8 NOISE AND VIBRATION

Introduction

8.1 This chapter has considered the potential impact of noise and vibration generated during the construction phases, whether the Site is suitable for the Proposed Development when taking into account the existing environmental noise conditions and the potential impact of the Proposed Development from changes to road traffic.

Predicted Impacts

8.2 The scope of the assessment has been agreed with the Local Authority and includes an assessment of both construction and operational phases.

Effect during construction phase: short to medium term

8.3 The appraisal of noise and vibration levels associated with the construction phases of the Proposed Development shows that potential noise impacts associated with enabling, ground-works and super-structure activities may occur during those times when activities are being undertaken in close proximity to existing residential receptors. However, whilst such impacts may provide a minor to moderate noise effect, they would be of a temporary and intermittent nature.

8.4 There will be no other significant noise or vibration impacts associated with the construction works.

Effect during operational phase: long term

8.5 Noise sensitive receptors along the road network serving the Proposed Development are not likely to experience a significant increase in noise levels as a result of the predicted increase in vehicle movements. The magnitude of the effects would not exceed any recognised or statutory objectives and are considered to be negligible at the nearest affected receptors.

8.6 The likelihood of adverse impacts from the operation of the nearby waste centre is calculated to be low, with a ‘worse case’ calculated specific sound level falling below the average background and ambient sound levels.

8.7 The potential for cumulative impact of other proposed or committed developments is low and is assessed to be negligible.

Mitigation

8.8 Measures to limit noise emissions will be included within a CEMP which will be agreed with the local authority.

8.9 For the operational phase, proportional and adequate acoustic treatments (e.g. mechanical ventilation or acoustic air bricks) will be included into the Proposed Development in order to achieve an appropriate acoustic environment.

Summary of Effects

8.10 The impact of noise and vibration during construction of the Proposed Development has been predicted and assessed in accordance with BS 5228. Generic mitigation measures have been recommended, which when implemented are capable of ensuring that the impact of noise and vibration during the construction of the Proposed Development is adequately controlled and will provide a minor or negligible effect.

8.11 An assessment has been carried out in accordance with the adopted criteria to determine the suitability of the Site for residential accommodation. Proposed units will require appropriate glazing and ventilation specification, in order to achieve the required internal noise levels and the resultant noise effect will be negligible at proposed residential properties.

8.12 The impact of the existing waste centre on the proposed residential properties has been assessed and the likelihood of adverse impact has been calculated to be low.

8.13 The impact of development associated traffic has been assessed. It is predicted that on this basis, no significant increase in road traffic noise will be experienced at existing receptors adjacent to the surrounding roads and the noise effect will be negligible.

9 LANDSCAPE AND VISUAL AMENITY

Introduction

9.1 This chapter reports on the potential effects of the Proposed Development on landscape character and visual amenity. The Site is located on part of an elevated ridge plateau and is set within a wider undulating chalk downland landscape consisting of ridge crests and extensive dip slopes that overlook steep-sided narrow valleys. The proposed area for development consists of a series of fields in arable agricultural use that form part of an extensive area of farmland adjacent to the Medway towns of Chatham, Gillingham and Hempstead.

9.2 The Site is located within an area designated by Medway Council as 'Area of Local Landscape Importance' (ALLI) but does not lie within any statutory designation or landscape of recognised national significance.

Predicted Impacts

9.3 The landscape character and visual study includes an assessment to understand the potential temporary and residual effects of development over three distinct phases: (i) during construction; (ii) after completion of the Proposed Development at Year 1 (first year of being fully operational); and, (iii) at Year 15 (when the mitigation measures and design intent of the development would have been achieved).

9.4 The assessment has been undertaken in two stages: firstly, a desk-top study and on-site investigations to establish the landscape and visual sensitivity of the study area and its planning context; and secondly, an assessment of the magnitude of change brought about by the Proposed Development and significance of these changes on the Site and its setting.

9.5 The effects on landscape character have been assessed against published landscape character assessments and in accordance with recognised assessment guidelines. The study includes the Site and six surrounding character areas, consisting of three predominantly rural landscapes and three urban areas.

9.6 The scope of the visual assessment has been agreed with the Local Authority in an area where the possible zone of visual influence is extensive. The effects of the Proposed Development for surrounding visual receptors was first assessed by creating a 'bare terrain' computer model to define the 'Study Area' and identify potential publicly accessible viewpoints.

This information was then used during visits to refine the study area and focus on a total of 27 key representational viewpoints from which the Site is visible.

Effect during construction phase: short term

9.7 The assessment for the construction stage shows that the effects on landscape character would range from 'Substantial' to 'Neutral' in significance while the 'direction' of these effects (positive or negative) would range from 'Adverse' to 'Neutral'. The effects are generally of greater magnitude closer to the Site and more noticeable for adjacent rural areas because of the change in appearance of the Site area, loss of some existing on-site vegetation and the presence of construction activity. The assessment established that the distance and intervening topography meant that there were no significant effects on the Kent Downs AONB, situated approximately 1.7 kilometres to the south and south west of the Site.

9.8 The appraisal of the potential visual effects concluded that during construction, the majority of the effects are predicted to be 'Moderate' or 'Minor' and 'Adverse' in 'direction' for surrounding receptors because of the moderating influence of the undulating topography and intervening natural and man-made features. However, only 9 neighbouring receptors are predicted to experience 'Substantial' and 'Adverse' effects, primarily due to their proximity to the Site boundary and construction activities. The change in appearance of the Site area would be a noticeable element in all views, albeit these changes would be temporary and views of construction activities would only be short lived.

Effect during operational phase: short to medium term

9.9 During the initial operational phase after completion of the Proposed Development the more adverse effects of construction will recede. The benefits from the retained landscape features and careful location of the new green amenity spaces incorporated into the layout will have a positive and progressively increasing influence on the appearance and perception of the Site, and assimilation of the Proposed Development into the wider urban setting.

9.10 During Year 1 the new green open areas will have established and be visible but new tree and hedgerow planting will have little physical presence. The landscape and visual effects during Year 1 and the initial stage of occupation will be similar or slightly improved on those experienced in the construction period. There will be little difference to the effects on the wider landscape and townscape character areas although the effects for some of the closer visual receptors will start to reduce while the effects for more distant receptors will stay 'Minor' and

‘Adverse’ or ‘Neutral’. Again the proximity to the Site and intervening topography strongly influences or moderates the significance of the effects.

Effect during operational phase: medium to long term

9.11 The rapidly establishing hedgerows, tree groups, avenues and shelterbelts included in the scheme proposals will combine with the existing adjacent large blocks of woodland and hedgerows to provide a strong and enduring framework for the development. By Year 15 the new planting will have reached a sufficient stage of maturity to soften the profile of the built form, define the public areas and fully assist the integration of the whole scheme into its setting.

9.12 For the Site, as a character area, the change will remain ‘Substantial’ but the significance of the effects will become a positive and ‘beneficial’ element that contributes to the wider setting. For the surrounding landscape and townscape character areas any residual effects will be reduced to ‘Minor’ or ‘Neutral’ but by Year 15 the contribution made by the Proposed Development to the character of the area is considered to be positive.

9.13 For the visual receptors the residual effects are similar in direction to those predicted for the character areas. For visual receptors neighbouring the Site the effects by Year 15 will remain ‘Substantial’ but the positive impact of the landscape treatments and the positioning of the major green spaces, particularly around the perimeter of the Site, will mean the long term effects on the perception of the Proposed Development will be ‘Beneficial’. From more distance receptors the Proposed Development is likely to be absorbed into the wider urban setting with the significance of any effects being ‘Minor’ or ‘Neutral’.

Cumulative Effects

9.14 The cumulative effects of three other new development proposals in the area were also assessed. This indicated that only one comparatively small scheme at Darland Farm, off Pear Tree Lane in Hale, would have any significance effect for a small number of visual receptors where the Site and this other development were both seen in the same view. However, the wooded nature of the valley floor at Hale and good level of both physical and visual separation between the two sites meant any cumulative effects would be negligible.

Mitigation

9.15 The landscape mitigation measures are an integral part of the landscape proposals for the Site. The incorporation of these elements into the scheme layout has been an essential part

of design development and the objective of reducing the effects on surround residents, footpaths, roads and other community facilities, such as the Capstone Farm Country Park.

9.16 The scheme is designed to set the areas of development into a substantial and robust landscape framework. This green infrastructure will provide an inter-connecting series of public amenity areas and other open spaces for formal and informal recreation. These areas will incorporate a sustainable urban drainage system that run throughout the green areas in a network of swales and ponds that will enhance the appearance of the open spaces, increase habit creation and improve biodiversity.

9.17 The layout is designed to be enjoyed by the wider community by increasing pedestrian connectivity throughout the development and enhancing links with the wider footpath network.

Summary of Effects

9.18 The change of an existing piece of agricultural land into an area of residential development will inevitably have a substantial effect on the character and appearance of the landholding. However, it is predicted that the scheme proposals and integral landscape treatments will progressively have a positive effect on both the landscape character of the area and views of the Site. While the early effects of construction and new built form will be adverse, this perception of the development will change to beneficial as the influence of the substantial new amenity open spaces and landscape mitigation measures are fully appreciated.

9.19 The Proposed Development will bring an exciting range of new recreational facilities to the area with the layout creating increased opportunities for habitat creation, enhanced biodiversity and greater pedestrian connectivity to the wider footpath network. New planting treatments will complement the retained vegetation and be used to define new route ways and areas of public open space as well as give a distinctive appearance to the whole development.

9.20 The attractive green infrastructure will allow the early integration of the development into the wider urban setting and provide year-round visual interest for users. The Proposed Development will create a natural transition between the retained rural edge around the Capstone Valley and the existing suburban settlement boundary, as well as providing an appropriate and enduring new perimeter to the south-eastern section of the Medway towns.

10 ECOLOGY/ BIODIVERSITY

Introduction

10.1 This chapter reports on the effects of the Proposed Development on ecology and nature conservation. The chapter is informed by ecology surveys of the Site, including a desk study, an extended Phase 1 Habitat survey and a range of Phase 2 faunal surveys.

Predicted Impacts

10.2 The scope of the assessment has been agreed with the Local Authority and includes an assessment of both construction and operational phases.

10.3 A number of ecological designations within the surrounds of the Site have been identified by the desk study. Potentially significant effects have been identified on Medway Estuary and Marshes Ramsar Site, Special Protection Area (SPA) Site of Special Scientific Interest (SSSI) is located 3.3km north of the nearest Site edge, as a result of recreational activity and disturbance. Darland Bank Local Nature Reserve is located 140m to the east and effects as a result of recreational activity and disturbance and pollution from construction activities have been identified.

10.4 The Site is dominated by large arable fields, considered to be of low ecological value, with other habitats within and surrounding the Site considered to be of higher value in the context of the Site including all boundary vegetation with ancient woodland, hedgerows, field margins and scrub. The habitats which are considered to be of elevated value in the context of the Site comprise of the field margins and established ancient woodland, tree lines, scrub and native hedgerows at the Site boundaries and between fields. These are largely retained under the Proposed Development, although permanent loss of native vegetation at the boundaries for new access links and risk of damage from construction activities would result in a potentially significant effect.

10.5 Surveys of protected species have found that the Site supports: roosting, foraging and commuting bats, Dormouse, reptiles, badgers and a range of breeding birds and terrestrial invertebrates. Priority habitat for botanical interest was found with man orchids being present. Potentially significant effects have been identified in relation to botanical species, Dormouse, birds and reptiles due to habitat losses and risk of injury during construction works.

Mitigation, Compensation and Enhancement

10.6 The potential effects, of the Proposed Development have been assessed for designated sites and the various ecological features within the Site. A range of mitigation measures are proposed in relation to the proposed adverse effects on the habitats and ecological features, ensuring that retained habitats of high value are protected by the Development. In addition, under the Development there will be provision of enhancements in the form of semi-natural greenspace across the Site, comprising large areas of chalk grassland, new hedgerows, woodland planting and attenuation basins. These measures will provide new areas of valuable wildlife habitat, providing benefits to a wide variety of faunal species. Measures are also proposed to avoid effects relating to human influences and lighting.

10.7 Mitigation, compensation and enhancement measures are therefore proposed, including construction safeguards, new habitat and open space provision and drainage and lighting design. Notably, habitat enhancement measures could provide an overall gain in biodiversity across the Site, including substantial habitat creation and enhancement and provision of new nesting, foraging, commuting and shelter opportunities for faunal species.

10.8 The Development and mitigation scheme have been designed to achieve compliance with relevant legislation and planning policy in respect of protected faunal species. Measures are proposed to protect and avoid killing or injury of protected species such as dormice, bats, badger, reptiles and birds (protected under the Wildlife and Countryside Act 1981), and the Conservation of Habitats and Species Regulations) and opportunities for enhancements to biodiversity are also proposed, in accordance with NPPF, the NERC Act 2006 and local policy, which will ensure that opportunities for such species are maintained and enhanced under the Development. The Development also accords with BAP objectives, specifically in relation to creation of new habitats.

Summary of Effects

10.9 Following mitigation, compensation and enhancement measures, it is considered that the Development will have moderate beneficial effects on habitats within the Site, while beneficial effects of minor to moderate significance will occur in respect of faunal species. Overall, therefore following the implementation of proposed mitigation and enhancement measures the effects on ecology will be neutral to moderate beneficial at the local level.

11 WATER QUALITY, HYDROLOGY AND FLOOD RISK

Introduction

11.1 This chapter presents an assessment of the likely effects of the Proposed Development on water quality, hydrology and flood risk.

Predicted Impacts

11.2 The scope of the assessment includes an assessment of both the construction and operational phases.

11.3 From reviewing the baseline conditions within and surrounding the Site, groundwater, surface water and flooding are considered to be the key receptors in terms of the Proposed Development. For groundwater, this is due to the Site being situated on a Principal Aquifer and within an Source Protection Zone (SPZ) 1 and 2. For surface water, the findings of the FRA show that the majority of the Site (some 98.8% of the 49.7 ha) is Flood Zone 1. The lowest part of the Site located in the north east area, comprises of a north /south strip of land (comprising 1.2% of the total Site area) is located within Flood Zone 2 and 3 (the zone of highest flood risk) on the EA Flood Map. Consequently, this portion of the Site is at Medium risk of flooding from surface water, as a consequence of local topography and the surrounding catchment.

11.4 With regards to flood risk and drainage, the Site is considered to be low sensitivity receptor.

11.5 The key effect during the construction phase is the potential for mobilisation of contaminants into the groundwater from the construction activities at the Site, and without mitigation is expected to have a Moderate impact. The potential risk of local flooding at the Site during extreme pluvial events or during decommissioning is also considered to have a Minor impact without measures put into place.

Mitigation

11.6 The construction phase environmental effects will be managed using measures outlined in a Construction Environmental Management Plan (CEMP). With these mitigation measures the residual effect in relation to construction activities and flood risk is considered to be Minor.

11.7 The Proposed Development will result in a reduction to the peak rate at which surface water is discharged from the Site when compared to the current greenfield runoff rates. The Proposed Development has also been designed to manage surface water runoff for events up to and including the 1 in 100 year return period, including a 30% increase to account for climate change. The additional water will be contained onsite, and therefore the Proposed Development will have a beneficial effect on local flooding.

Summary of Effects

11.8 In conclusion, given the location and nature of the receptors, the overall environmental effect of the Proposed Development in relation to groundwater, surface water and flooding risk following the implementation of mitigation measures is considered to have a Negligible residual effect with the exception to pollution which is considered to have a Minor impact.

12 SOILS, GEOLOGY AND CONTAMINATED LAND

Introduction

12.1 This chapter reports on the effects of the Proposed Development on the soils and geology, with particular regards to land contamination.

Predicted Impacts

12.2 The scope of the assessment has been agreed with the Local Authority and includes an assessment of both construction and operational phases.

Effect during construction phase: short to medium term

12.3 An assessment of the potential impacts during the construction phase has been carried out. This has shown that during this phase of the Proposed Development land contamination is unlikely to worsen during site activities. Through good site practice and the implementation of suitable mitigation measures, such as Personal Protective Equipment (PPE) and implementing techniques as part of the Construction Environmental Management Plan (CEMP), any potential temporary impact may be effectively mitigated and the resultant impacts are considered to be neutral.

Effect during operational phase: long term

12.4 ST Consult's Desk Study & Preliminary Site Investigation (Ref J13752, October 2018) identified contaminant concentrations below selected Tier 1 screening values with the exception of Benzo[a]pyrene (BaP). The exceedances of the BaP Tier 1 screening level coincide with areas of shallow made ground (i.e. brick and clinker fragments). Given that the investigation was preliminary and limited in scope it is unclear the likely density with which made ground will exist across the wider 49.47 ha Site. As a result, a more detailed assessment will be required. Where required, localised replacement of existing topsoil shall be undertaken in areas of proposed private gardens and communal landscaping. Removal and/or replacement of impacted soils would be enough to break the pollutant linkage. As such, the resultant impacts (post mitigation) are considered to be negligible.

12.5 Ground gas concentrations were classified as Characteristic Situation 1 i.e. no gas protection measures are deemed necessary. It is important to note that this assessment is

based on two visits. Further visits will be required in order to provide a full and complete assessment. The resultant impacts are considered to be negligible

Mitigation

12.6 During the construction phase, good site practice and the implementation of suitable mitigation measures, such as construction workers wearing suitable PPE and implementing techniques as part of the CEMP, will be required.

12.7 For the operational phase, a more detailed ground assessment will be required in conjunction with further gas monitoring visits.

12.8 No further mitigation measures are required for the operational phase.

Summary of Effects

12.9 The residual impact of the Proposed Development on land contamination is considered to be negligible/neutral during both the construction and operational phases.

13 ARCHAEOLOGY AND CULTURAL HERITAGE

Introduction

13.1 This Chapter reports on the effects of the Proposed Development on heritage assets.

Effect during construction phase: short to medium term

13.2 An assessment of the potential impacts during the construction phase has been carried out. This has shown that it is possible that archaeological remains of Romano-British date associated with known burial sites to the north, could survive within the Site. Study of desk-based sources indicate that it is unlikely, although not impossible, that significant archaeology of other periods is present within the Site, although the foundations of a building known as Maunder's House which was present within the Site by 1839 may well survive. The effect of the Proposed Development on archaeology is predicted to be minor to moderate adverse.

Effect during operational phase: long term

13.3 There will be no operational effects as the settings of listed buildings located within 1km and the scheduled monument of Fort Luton approximately 1.2km to the west will be unaffected by the Proposed Development.

Mitigation

13.4 Because of the potential presence of Romano-British archaeology, and possibly archaeology of other periods, within the Site it is proposed that a programme of archaeological fieldwork be carried out in order to establish the nature, date, and extent of any surviving archaeology. Should significant archaeology be identified further archaeological works may be required. All archaeological work will be carried out in accordance with a scope of works approved by the archaeological advisors to Medway Council. Once mitigation has been completed the overall effect on archaeology will be minor adverse.

Summary of Effects

13.5 The overall effect of the Proposed Development on heritage assets is predicted to be minor adverse due to the potential permanent loss of archaeological remains.