Suffolk Coastal District Council Local Plan Examination

Matter Statement 3
Area Specific Strategies – Development Allocations

Responses on behalf of Pigeon Capital Management 2 Ltd and their Landowners

Policy SCLP12.29 – South Saxmundham Garden Neighbourhood

August 2019
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**Client**
Pigeon Capital Management 2 Limited

**Our reference**
PIGC3011
1. Introduction

1.1 This Hearing Statement is prepared by Turley on behalf of Pigeon Capital Management 2 Ltd (‘Pigeon’) and Sir Peter Ghislain Batho and Richard Ghislain Batho (the ‘Landowners’), who have engaged in the preparation of the Emerging Local Plan throughout the Plan-making process.

1.2 Pigeons’ specific interest in this Matter relates to Land at South Saxmundham Garden Neighbourhood, which is proposed to be allocated (SCLP12.29, formally SCLP12.26) in the Local Plan Submission Version (Regulation 19) for an education led development comprising primary school provision, community facilities, employment land and open space alongside a variety of residential development. The proposed allocation continues to be welcomed and fully supported. There are no known abnormal site conditions as demonstrated through the supporting technical documentation which would prevent this site from being constructed.

1.3 Pigeon is a private company operated by five directors and a team of professionals from the built environment sector who each bring considerable experience of delivering high quality schemes within the East of England. Pigeon is working with a number of landowners across Suffolk and the East of England to deliver high quality schemes ranging from larger sustainable urban extensions, such as Kingsfleet in Thetford (which will deliver 5,000 homes, 20 hectares of employment land, Primary School provision, community facilities and public open space) through to smaller sustainable developments, such as land north of Mill Close (High Road, Trimley St Martin) where Pigeon is working with Flagship Homes to deliver a scheme of 69 new homes.

1.4 Pigeon is also working with Suffolk County Council elsewhere within the County to deliver land for education use, such as a site for a new 2 Form Entry primary school with pre-school in Thurston.

1.5 Pigeon’s experience demonstrates that it has a proven track record of planning and delivering mixed-use sustainable schemes.

1.6 As per our representations to the Regulation 19 consultation;

- Pigeon support the allocation of SCLP12.29 for mixed use development; but

- Pigeon maintains its objection to the current wording of Policy SCLP12.29 with respect to the following points:
  - The quantum of land required for SANG provision;
  - Reference to site areas within the Policy for educational facilities;
  - Amended the Site Allocation (as shown on the Policies Map) to remove land to the east of the railway line from the mixed use designation;
  - To include within the Site Allocation the A12 Service Area to the south of the employment allocation;
— To include the southern parcel (Site 715) of land between the A12 and the railway line for Suitable Alternative Natural Greenspace (SANG); and

— To amend the settlement boundary to **include** the service area and the employment allocation and to **exclude** land identified as open space.

1.7 The Site is formed from a number of parcels which were assessed individually in the Council’s SHELAA 2018 and to which reference has been made in representations. These include:

- 714 – Promoted by Pigeon for 32.85 ha (excludes 715).
- 716 – Promoted by Pigeon for 7.25 ha.
- 717 – Promoted by Pigeon for 9.5 ha.
- 1012 – Promoted by Hopkins Homes for 17.08 ha.

1.8 The following appendices accompany this hearing statement:

- Appendix 1: Delivery Statement
- Appendix 2: Highways and Transportation Statement
- Appendix 3: Flood Risk and Surface Water Drainage Statement
- Appendix 4: Heritage Assessment
- Appendix 5: Landscape and Visual Appraisal
- Appendix 6: Noise and Vibration Constraints Assessment
- Appendix 7: Phase 1 Contamination Report
- Appendix 8: Preliminary Ecological Appraisal
- Appendix 9: Utilities Statement
- Appendix 10: Site Capacity Study
- Appendix 11: Greenspaces Plan
- Appendix 12: Public Rights of Way Plan
- Appendix 13: Hopkins Ecology Technical Note on SANG Requirements

1.9 Pigeon has requested the right to participate in the relevant Matter 3 Hearing Session to further articulate the concerns raised in this Hearing Statement.
2. Response to Policy SCLP12.29

Issue: Are the proposed Area Specific Strategies, allocations and policies justified, effective and consistent with national policy?

General Questions relevant to all proposed site allocations:

1. Is each site allocation and its criteria justified and appropriate in all aspects, having regard to the likely impacts of the development and potential constraints?

2. Are there any significant factors that indicate any of the sites should not be allocated? Is there a risk that site conditions, infrastructure or access requirements or constraints might prevent development or adversely affect viability and delivery?

2.1 To support the Regulation 18 Representations, a Delivery Statement for the Site (Appendix 1) was provided to demonstrate that this site was achievable and developable. Since September 2018, further technical work has been undertaken, which was included with our Regulation 19 representations and are appended to this Statement (Appendices 2-9) to demonstrate to the Inspector that this continues to be the case. This technical work has informed discussions with the District and County Councils, which remain on-going.

2.2 A Viability Appraisal of the Plan has been undertaken by Aspinall Verdi. Within this Appraisal it tested the three largest sites in the Plan, including SCLP12.29. The analysis took the requirements of policy such as 33% affordable housing, together with an allowance for external works such as the construction of the A12 access and concluded that the scheme was viable.

2.3 Pigeon confirm that there are no requirements or constraints for this site allocation which would prevent the development from being delivered or considered as not viable.

Policy SCLP12:29: South Saxmundham Garden Neighbourhood

Question 3.35: Is the allocation of land for approximately 800 dwellings achievable within the area indicated for housing between the A12 road and railway line on the indicative draft masterplan:

2.4 Policy SCLP12.29 states that the site allocation comprises a site area of 66.6 ha. The Site Capacity Plan at Appendix 10 of this Statement confirms the exact sizes of the land parcels, which form this allocation. These are:

- Employment land west of A12;
- Land between A12 and the Railway Line;
- Land to East of Railway Line in Pigeon Control; and
• Land to East of Railway Line in Hopkins Homes Control.

2.5 Land between the A12 and the railway line measures 32.85 ha in size, excluding the southern parcel. The table below identifies that a net area of 23.45 ha is available for delivering homes on this allocation. On this basis, 800 homes can be delivered at an average density of 34 dwellings per hectare, which is an appropriate density of development for this context taking into consideration the landscape character of the site and making efficient use of the land in accordance with the Framework (2019).

<table>
<thead>
<tr>
<th>Parameters</th>
<th>0075 Saxmundham (PIGEON)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Area; Site(Ha)</td>
<td>32.85</td>
</tr>
<tr>
<td>Total Area; SUDs and Open Space(Ha)</td>
<td>4.64</td>
</tr>
<tr>
<td>Total Area; Spine Road(Ha)</td>
<td>2.56</td>
</tr>
<tr>
<td>Total Area; Primary School and Early Years Provision(Ha)</td>
<td>2.20</td>
</tr>
<tr>
<td>Total Housing Area(Ha)</td>
<td>23.45</td>
</tr>
<tr>
<td>Homes units per scheme</td>
<td>800</td>
</tr>
<tr>
<td>Density (units/Ha)</td>
<td>34.12</td>
</tr>
</tbody>
</table>

2.6 Land for the purposes of the Community Hub has been excluded from the table given that there will be the opportunity to consider a design led approach that integrates homes above these uses. The Community Hub is to be located where housing densities will be higher.

2.7 Therefore, Pigeon confirm that land between the A12 and the railway line has the ability to deliver approximately 800 homes.

*Question 3.36: Is the indication of the area to the east of the A12 road for mixed use development justified given that it would be used to provide open space?*

2.8 Pigeon believe that with respect to this question, it should refer to land east of the railway line rather than the A12.

2.9 Within the Policy Allocation and Policies Map, land for SCLP12.29 is identified for the purposes of employment to the west of the A12 and mixed use for land east of the A12. Within the supporting text to the policy, there is an Indicative Draft Masterplan, which identifies land to the east of the railway line as informal/formal open space with pockets of woodland and the developable area for housing and associated uses between the A12 and the railway line. The Indicative Draft Masterplan is in conflict with the Policy Allocation.

2.10 For the avoidance of doubt, Pigeon consider that the Policy would benefit from greater clarity for decision making purposes if it were to indicate land to the east of the railway line for informal open space, with the land for mixed use development identified between the A12 and the railway line.
Question 3.37: In the context of Policy SCP3.3 Settlement Boundaries, is the definition of the settlement boundary to include land which would solely be used for informal/open space justified? Why is the proposed employment land outside of the settlement boundary?

2.11 Pigeon consider that informal/open space is a ‘Countryside’ use and in accordance with the wording of the Policy, should be located outside the settlement boundary.

2.12 In contrast, the employment land to the west of the A12 should be included in the settlement boundary. The land will provide jobs for local residents and in order to safeguard the employment allocation in the future, the allocation should be within the settlement boundary.

2.13 Pigeon consider that the section of A12 between the employment and mixed use allocation should be included in the settlement boundary. This is to simplify the delivery of the access into the site and to ensure that all parts of the site which will be subject to infrastructure improvements are included within the settlement boundary.

2.14 As set out in their Regulation 19 representations, Pigeon have put forward the suggestion that land to the south of the employment allocation to the west of the A12, is included in the settlement boundary for the purposes of delivering a new service area for the A12. See Concept Plan at Appendix 10.

2.15 The inclusion of the new service area would provide further employment opportunities and widens the provision of services within Saxmundham.

Question 3.38: Would the provision of the SANG to the east of the railway be effective given the limited crossing points of the railway? Is the extent of land indicated for informal/formal open space to the east of the railway justified?

2.16 There are two existing crossing points over the railway that could be improved as part of the proposals for pedestrians and cyclists. These are located to the north and south of the SANG. As such, the provision of these crossing points are effective as they are in situ and their upgrades can be delivered over the Plan period. The crossings are not required to be upgraded as they already provide very good access.

2.17 The effectiveness of these crossing points is also dependent upon the routes and pathways that are laid out within the scheme, connecting the residential development to the crossing points that then connect to the open spaces and SANG. This is embodied within the text of the policy and would be considered as part of the Masterplan and future planning application. The scheme seeks to deliver high quality open spaces of varying characters with every home located within 400 m of a green space as shown on the Plan at Appendix 11.

2.18 The quantity of land set aside for SANG has been questioned by Pigeon in paragraph 2.14 of their Regulation 19 Representations. The Council have followed a quantities measure for SANG using those authorities in the Thames Basin SPA as a guide. Within the Thames Basin, the requirement is that 8ha of SANG is required per 1,000 people. However, Pigeon have questioned the application of the Thames Basin SPA requirement in Suffolk
Coastal when the average density of residents in the Thames Basin is 1,000 per/km² and in Suffolk Coastal it is 140 per/km². That is approximately 7 times more people in the same area, which naturally results in a greater pressure on these sensitive areas. Pigeons point is that taking a direct transfer of the standards is not considered to be appropriate in the context of Suffolk Coastal District Council and the Council’s evidence base is silent on its justification. It appears to be a quantitative assessment, applying the same standard in vastly different contexts and not giving any weight to the qualitative benefits of these areas.

2.19 Therefore Pigeon maintain an objection to the policy on the grounds that the allocation does not require all of the land to the east of the railway line for SANG. The Site Capacity Plan at Appendix 10 identifies that on land within Pigeons control, an area of 15.46 ha (8ha per 1000 people) can be provided to the south and east. In addition to these areas, a further two parcels of SANG are provided in the north eastern corner of the development and to the south of the A12 services. From the western side of the A12, the site has good access to the countryside and its extensive PRoW network, which is shown at Appendix 10.

2.20 Notwithstanding this, a technical note produced by Hopkins Ecology (Appendix 12) concludes that as set out in paragraph 2.19 above, a smaller SANG area is justified in this location.

2.21 Therefore, the proposed site allocation can be delivered in full on land within Pigeon’s control. This will provide effective delivery of the site allocation as set out in the policy, given that it will be in a single ownership.

Question 3.39: Would the Policy give rise to coalescence with Benhall village?

2.22 We would refer the Inspector to paragraphs 2.7 to 2.9 in our Regulation 19 representations on this matter.

2.23 In summary, as indicated on the Illustrative Masterplan within Policy SCLP12.29, the developable area is contained within existing physical transport corridors including the A12 and the railway line, which prevents coalescence with Behall village. The provision of SANG land to the east of the railway, and if included land in the southern parcel will ensure that land remains free from development and as such will not result in coalescence with Benhall village.

Question 3.40: Would the policy be effective in achieving the provision of required education facilities? Is it justified to include early years provision within both criteria a) and b)?

2.24 This matter has been discussed at length with the County Council and the principle of delivering educational facilities within the allocation at the required time during the Plan period is achievable.

2.25 However, Pigeon maintain an objection that the Policy is prescriptive. It specifies the site area for the primary school and early years provision. As such, in line with other
draft site allocation policies within the emerging Local Plan, a modification to the Policy is requested:

a) Provision of a one form entry primary school with capacity to enable further expansion and early years provision;

b) If required, 0.1ha of land on the site should be reserved for a new early years setting or a contribution made towards a new early years setting off-site.

2.26 This suggested wording has been written having regard to the wording in Policies 12.3 and 12.29 which both require new school provision but does not reference the size of the site. Furthermore, in terms of early years provision, there are a number of policies for site allocations (12.5, 12.25, 12.51 and 12.61) which make reference to providing this facility only if required at a later date, in agreement with Suffolk County Council. This suggested modification reflects the approach adopted in other policies within the draft Local Plan and maintains a consistent approach in that regard.

*Question 3.41: Are there any factors which would mean that the site is not ‘deliverable’ or ‘developable’ as per the definitions in the Framework?*

2.27 The nature of strategic development is that it often has infrastructure or enabling works that need to be completed in order allow the site to begin delivery. This is not uncommon and is why the Draft Local Plan has a range of sites, which deliver throughout the Plan period. As such, the timescales for delivery as set out in the housing trajectory in Appendix D of the Draft Local Plan reflects this.

2.28 SCLP12.29 is the second largest within the emerging Local Plan. The Local Plan does not rely on this site to start delivering within the first five years of the Plan, recognising the scale of it and that Pigeon have not pre-empted the Local Plan process with an early planning application. Following adoption of the Local Plan, Pigeon intend to submit an application thereafter, given that technical work is up to date in order to support this examination.

2.29 In saying this, Pigeon consider that the trajectory in Appendix D of the Draft Local Plan is conservative and that it is feasible that the site could deliver its first 50 homes in 2022/23 as set out in the delivery table below. The rate of delivery set out in the trajectory is at a pace that the market would support in this area. It does not go above 150 homes per year which is consistent with local absorption rates.
<table>
<thead>
<tr>
<th>Year</th>
<th>Activity</th>
<th>Cumulative Dwelling Completions</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020/21</td>
<td>Masterplan Approved and Planning Application Submitted</td>
<td>0</td>
</tr>
<tr>
<td>2021/22</td>
<td>Application Approved and all Conditions Discharged</td>
<td>0</td>
</tr>
<tr>
<td>2022/23</td>
<td>Construction of new A12 Access and pre-commencement site works</td>
<td>0</td>
</tr>
<tr>
<td>2023/24</td>
<td>50 Dwellings Completed from one outlet</td>
<td>50</td>
</tr>
<tr>
<td>2024/25</td>
<td>100 Dwellings Completed from two outlets</td>
<td>150</td>
</tr>
<tr>
<td>2025/26</td>
<td>100 Dwellings Completed from two outlets</td>
<td>250</td>
</tr>
<tr>
<td>2026/27</td>
<td>150 Dwellings Completed from three outlets</td>
<td>400</td>
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<tr>
<td>2027/28</td>
<td>150 Dwellings Completed from three outlets</td>
<td>550</td>
</tr>
<tr>
<td>2028/29</td>
<td>150 Dwellings Completed from three outlets</td>
<td>700</td>
</tr>
<tr>
<td>2029/30</td>
<td>100 Dwellings Completed from two outlets</td>
<td>800</td>
</tr>
</tbody>
</table>

2.30 While the scheme is delivering the new roundabout access from the A12, the site does benefit from an existing junction on the A12 from Kiln Lane. Pigeon acknowledge that this cannot be used as the primary access to the site, but what it provides is an access for a haul route. This provides the opportunity for an access into the site for the purposes of enabling works, while the roundabout is constructed. The site is not dependent upon the roundabout to gain access to commence development.

2.31 The site does meet the Framework’s definition of developable. The site is within a single ownership, who have a long term option agreement with Pigeon that if the site allocation is adopted, it can be brought forward in accordance with the allocation for development.

2.32 The Council have undertaken an independent viability assessment of their Plan by Aspinall Verdi, which has concluded that the site is viable for the proposed quantum of development identified in the Plan, taking into account the other requirements within the Plan including 33% affordable housing and the delivery of external works such as the A12 access and provision of Suitable Alternative Natural Greenspace.

Question 3.42: Is it justified that the site is accessed via a single vehicular access?

2.33 This site has a principle vehicular access, but there are alternative routes for emergency purposes.
2.34 The new four arm roundabout on the A12 will provide a link road into the mixed use scheme. The link road will be formed from a wide single carriageway road designed to allow emergency vehicle movements at all times along a central hatched strip.

2.35 A second (existing) point of access will be via the existing A12 – Kiln Lane junction with a new right turning lane formed on the A12.

Question 3.43: Would the Policy be effective in addressing the needs for off-site infrastructure requirements arising from the development?

2.36 Pigeon consider that the Policy would not be effective in addressing the needs for off-site infrastructure requirements as presently worded.

2.37 Pigeon suggest that the Policy is modified in order to refer to the Community Infrastructure Levy and the associated 123 List, which sets out infrastructure that can be funded via CIL rates. Any site specific requirements which are not set out in the 123 List would then be secured via an appropriately worded Section 106 Agreement.
Appendix 1: Delivery Statement
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EXECUTIVE SUMMARY

Turley have prepared this Delivery Statement on behalf of Pigeon Capital Management 2 Ltd (‘Pigeon’) and Sir Peter Ghislain Batho and Richard Ghislain Batho (‘the Landowners’). The Statement supports the delivery of a new sustainable extension to the south of Saxmundham known as the ‘Site’.

Saxmundham is geographically well placed in the District to provide employment and housing growth. It is well related to the A12 and the East Suffolk Railway Line, both of which provide the opportunities to utilise these transport connections along the East Suffolk coast between Ipswich and Lowestoft. A scheme for land south of Saxmundham will help to sustain both the existing town of Saxmundham and the surrounding rural hinterland seeking to reduce the levels of out-commuting by delivering a truly sustainable scheme where residents can live and work.

The Concept Masterplan (Appendix 1) includes provision for:

• 800 new homes (including affordable and self-build homes together with homes for older and younger people);
• A new 2 Form Entry Primary School including early years provision which benefits from a close relationship to the secondary school, delivering all through education;
• A new Local Centre serving the day to day retail and service needs of the local community;
• Employment provision (predominately B2 and B8 uses) on land to the west of the A12 together with service facilities such as a petrol filling station;
• A new junction on the A12; and
• Suitable Alternative Natural Greenspace including strategic landscaping which will contribute to enhanced green infrastructure and biodiversity and which maintains a permanent strategic gap between Saxmundham and Benhall.

The scheme provides the ability to deliver much needed infrastructure to the A12 corridor. A new junction on the A12 will provide access into and out of the new scheme without relying on the local transport network within Saxmundham and provides the opportunity to deliver a petrol filling station and associated services on this well used transport corridor.

Furthermore, a network of new and enhanced pedestrian and cycle routes will be provided as part of the scheme. A comprehensive series of routes will seamlessly connect the Site with the existing town, allowing existing and future residents to reach key services and facilities on both the east and west sides of the A12. A further extensive network of new Public Rights of Way will be created linking the Site to the wider countryside improving access to informal recreation opportunities. This is in conjunction with upgrades to the level crossing over the railway line at Kiln Lane which will be delivered as part of this scheme improving safety at this crossing point.
The scheme provides an opportunity to enhance existing hedgerows, tree belts and wooded areas and also to improve the setting of existing Public Rights of Way through the incorporation of green corridor routes so that the community can enjoy the extensive green infrastructure provided by the scheme. All of these features have been incorporated within the Concept Masterplan and proposed landscape strategy for the Site whilst maintaining visual and physical separation between the settlements of Saxmundham and Benhall.

This Statement demonstrates that there are no known constraints to development of this site. The delivery of the Site would contribute to the three dimensions of sustainability through the provision of both market and affordable homes; a new Primary School with early years provision; employment provision and a new Local Centre in a location that is well served by an existing foot and cycleway network, with excellent access to jobs, services and local facilities.

The proposed scheme includes a mix of housing types and tenures which will reflect the position of the Site to services and facilities together with excellent public transport links to Ipswich and Felixstowe.

In conclusion, land to the south of Saxmundham presents the opportunity to create a new high quality mixed-use scheme that will be a great place to live and work, with a new Primary School and early years provision fully integrated within the development.
Suffolk Coastal District Council (the ‘Council’) has included land to the south of Saxmundham in the Final Draft of its new Local Plan, identified as South Saxmundham Garden Neighbourhood (Ref: SCLP12.29). This Statement sets out the key benefits and main attributes of the proposals for land to the south of Saxmundham and demonstrates how the delivery of this southern extension will benefit the long-term viability and vitality of the existing town.

The key benefits of these proposals are the provision of 800 new market and affordable homes (including self-build), together with new long-term employment and community infrastructure provision, including a new 2-Form Entry Primary School with early years provision. The proposals will also provide additional economic benefits in terms of new employment opportunities during the construction phase and related additional demand upon local services. Further economic benefits include the additional expenditure by new occupants which will contribute to the local economy of the town.

The vision for land to the south of Saxmundham is to create a modern, high-quality, accessible scheme, which is both self-sustaining and which also contributes positively to the vitality and long-term viability of the existing town. The opportunity exists to create a new scheme which is of benefit to the whole community and which will create a lasting legacy for the town.

As part of their representations to the Final Draft Plan, Pigeon and the Landowners are proposing a modified approach to the delivery of the growth proposed to the South of Saxmundham to that set out in the draft allocation. The Site proposes to accommodate the same quantum of development as that set out in draft policy SCLP12.29 but additionally includes a triangular land parcel to the south of the proposed allocation, between the railway line and the A12. This revised proposal will remain a cohesive and self-contained (by the railway line and A12) southern extension of Saxmundham, which will maintain the existing separation between the settlements of Saxmundham and Benhall but offer greater flexibility at the detailed design stage to, for example, deliver a lower overall density of development. The alternative southern growth strategy, proposed by Pigeon and the Landowners, is set out in the Concept Masterplan contained within this Statement.

In addition the Concept Masterplan makes provision for an additional area of informal open space/SANG to the west of the A12, south of the employment allocation. Land to the West of the A12 is rural in character and benefits from an extensive Public Rights of Way network. This allows for delivery of a SANG, including car park provision, directly next to a main transport corridor with easy access to the PRoW network. Providing a high quality SANG within easy access by car will encourage dog walkers to use this facility thus relieving pressure on ‘heavy pet’ destinations closer to the intended sites.
This Statement and accompanying Concept Masterplan demonstrates how the Site can be brought forward within the Final Draft Local Plan period to deliver high quality mixed-use sustainable growth comprising:

- 800 new homes (including affordable and self-build homes together with homes for older and younger people);
- A new 2-Form Entry Primary School including early years provision which benefits from a close relationship to the secondary school, delivering all through education;
- A new Local Centre serving the day to day retail and service needs of the local community;
- Employment provision (predominately B2 and B8 uses) on land to the west of the A12;
- A new junction on the A12; and
- Suitable Alternative Natural Greenspace including strategic landscaping which will contribute to enhanced green infrastructure and biodiversity and which maintains a permanent strategic gap between Saxmundham and Benhall.

This Delivery Statement demonstrates that the Site is available and deliverable and that all relevant technical matters can be fully addressed. Furthermore, that there are no constraints to the early delivery of the Site.

The delivery of the Site will provide much needed housing and employment growth as identified and set out in the Final Draft Local Plan. This confirms that the Council needs to provide a deliverable supply of at least 10,900 homes during the plan period. Therefore, in order to deliver a sound and truly sustainable Local Plan, there also needs to be a range of new employment opportunities which are accessible to those new homes.

The following Statement describes the Site’s characteristics and demonstrates that it is achievable, available and deliverable, with no known constraints. The Statement sets out how the Site is capable of delivering a new high-quality mixed-use scheme over the course of the forthcoming Local Plan period to meet the growth needs and economic aspirations of the Plan.

Finally, this Statement and the accompanying Concept Masterplan, has been informed by a robust and up to date evidence base, including:

- Landscape Visual Appraisal (Liz Lake Associates);
- Preliminary Ecological Appraisal (Hopkins Ecology);
- Heritage Assessment (Dr Richard Hoggett);
- Highways and Transportation Statement (Willow);
- Flood Risk & Surface Water Drainage Statement (Willow);
- Noise & Vibration Constraints Assessment (REC);
- Utilities Statement (Willow);
- Phase 1 Contamination Assessment (MLM)
Suffolk Coastal District Council is currently consulting on a Final Draft Local Plan that, once adopted, will replace the Core Strategy and Development Management Policies (2013), the Site Allocations and Area Specific Policies (2017), the Felixstowe Peninsula Area Action Plan (2017) and the remaining ‘saved’ policies in the 2001 Local Plan.

The Local Plan will set out the future housing, employment and infrastructure requirements of the District up to 2036, allocating sites to meet its identified housing and employment need during the Local Plan period.

The most recent assessment of Objectively Assessed Need (OAN) for both market and affordable housing in Suffolk Coastal is set out in the Ipswich and Waveney Housing Market Areas Strategic Housing Market Assessment (SHMA), September 2017. The SHMA concludes that the OAN for housing over the period 2014 – 2036 is 10,111 dwellings (460/year) in Suffolk Coastal.

In 2017 the Council published a Preferred Options Local Plan which set out three options for growth in the District, including a requirement for at least 10,111 dwellings to be built between 2014 and 2036 (460 dwellings/year).

Since the initial consultation, the Council has taken the decision to use the government’s standard methodology for calculating housing need. Using this, the baseline would be 9,900 dwellings between 2016-2036 (495 dwellings/year).

The Council has set out in the draft Local Plan that they are looking to provide for at least 10,900 dwellings between 2016-2036 (545 dwellings/year).

The Final Draft Local Plan is also concerned with allocating employment land. The Council have also chosen to provide employment allocations within the draft Local Plan period above the baseline trend. The Ipswich Economic Area Sector Needs Assessment was prepared for local planning authorities within Suffolk in 2017. This identified that within the A12 corridor, growth was anticipated for business and professional services, construction firms and manufacturing, sectors which typically need good transport links.

The Council has identified that the broad locations for accommodating housing and employment growth include the A12 corridor, including Saxmundham, Felixstowe, including The Trimleys, together with the Market Towns. In order to meet this requirement, the Council has allocated sites across the District to deliver the required number of homes and jobs across the Plan Period. In its revised form, the Site will contribute towards meeting housing and employment needs for Saxmundham and the wider District.

Saxmundham is geographically well placed in the District to provide employment and housing growth. It is well related to the A12 and the East Suffolk Railway Line, both of which provide the opportunities to utilise these transport connections along the East Suffolk coast between Ipswich and Lowestoft.
A scheme for land south of Saxmundham will help to sustain both the existing settlement of Saxmundham and the surrounding rural hinterland seeking to reduce the levels of out-commuting by delivering a truly sustainable scheme where residents can live and work.

The delivery of key infrastructure on this Site including a new 2 Form Entry Primary School and early years provision, care home, Local Centre and new junction on the A12 to facilitate access to the Site fulfil a need in current infrastructure provision within the locality as identified by the Council in the Final Draft Local Plan.

Open space provision, access to green space, and opportunities for play, physical activity and informal recreation are fundamental to a successful sustainable scheme. The Final Draft Local Plan highlights the benefits of green infrastructure and open space for community health and well-being. Open space and landscaping are an integral part of the Concept Masterplan and will reinforce the separation between Saxmundham and Benhall as well as improving access to the PRoW network west of the A12.
The Landowners have entered into a partnership with Pigeon to progress the Site through the planning process. As such the Site can be considered to be ‘available’ as defined by the National Planning Policy Framework.

Pigeon has been selected by the landowner for their expertise in bringing together teams of leading designers and specialist advisors to deliver high quality residential and mixed-use sustainable communities. Pigeon is a private company operated by five directors and a team of professionals from the built environment who each bring considerable experience of delivering high quality schemes within the East of England.

Pigeon is working with a number of landowners across Suffolk and the East of England to deliver high quality schemes ranging from larger sustainable urban extensions, such as Kingsfleet in Thetford (which will deliver 5,000 homes, 20 hectares of employment land, Primary School provision, community facilities and Public Open Space) through to smaller sustainable schemes, such as land north of Mill Close (High Road, Trimley St Martin) where Pigeon is working with Flagship Homes to deliver a scheme of 69 new homes. Pigeon is also working with Suffolk County Council elsewhere within the County to deliver land for education use, such as a site for a new 2FE Primary School with pre-school in Thurston.

Pigeon’s experience demonstrates that it has a proven track record of planning and delivering high quality mixed-use sustainable schemes, such as the proposed Site on Land South of Saxmundham.
4.0 PHYSICAL CONTEXT

The Site is approximately 63.3 hectares in size and is formed by land to the south of Saxmundham immediately adjoining the built-up area of the town. Broadly, the Site is separated into four parcels of land by the A12, the railway line and to a lesser extent Kiln Lane. The Site is mainly arable farmland with some blocks of woodland, hedgerow and hedgerow trees.

The central and largest parcel of land is bordered by the A12 to the west and the railway line to the east. It is formed from a number of agricultural fields and an area of woodland to the northeast. Although defined by transport corridors on two boundaries, the internal boundaries of the fields are marked out mainly by low hedgerows. The northern boundary of this parcel adjoins the existing settlement boundary of Saxmundham. Along this boundary it lies adjacent to both residential development as well as the playing fields associated with Saxmundham Free School, which is a Secondary School. This boundary is defined by mature hedgerow with trees providing some screening.

Along the northern edge of the Site are estate scale residential homes which are typical of the late twentieth century. Within the centre of Saxmundham there are a variety of properties, both in type and age, given the historic age of the town. The nearest listed properties to the site are Benhall Cottage 150m to the south, Crown House and White House are 200m to the north, and Hurts Hall, 400m to the east of the site, all of which are Grade II listed.
The southern parcel of land is formed from a single agricultural field which is triangular in shape due to the meeting of the A12 and the railway line. Whilst separated from the central parcel to the north by Kiln Lane, this narrow carriageway is not prominent in the landscape and as such this land parcel is viewed as a continuation of the central parcel.

To the east of the East Suffolk Railway line there is a single agricultural field with a block of woodland trees running east to west across part of the site. The field is bounded by native trees and hedgerows and the eastern boundary adjoins land known as ‘The Layers’.

Finally, the fourth parcel comprises two fields on the western side of the A12. The A12 is a busy vehicular route linking Ipswich with the Suffolk Coast. The Market Town of Framlingham is 7.5 miles to the west and Leiston 4.5 miles to the east. The core of Saxmundham lies to the north of the site between the A12 to the west and the railway line to the east.

A number of Public Rights of Way pass through the site affording connections to Saxmundham and to the wider network of footpaths across the rural landscape in all directions. One footpath runs up the western most boundary, another along the easternmost boundary and a third runs diagonally from the town centre in a south westerly direction.

Saxmundham is on the local bus network with buses leaving from outside the railway station to Ipswich, Leiston, Framlingham and Aldeburgh and other surrounding villages.

Development of the Site would therefore deliver a new sustainable mixed-use scheme on the southern side of Saxmundham, close to existing employment opportunities, services and facilities, and public transport links. It will also form a natural extension to the town on land which is physically and visually contained by the A12 and the railway line, whilst the additional employment provision would relate well to the site with access taken of the same junction.
5.0 INFRASTRUCTURE

5.1 Transport and Access

A transport assessment has been undertaken by Willow Consulting in liaison with Suffolk County Council as the Highway Authority.

The scheme on land south of Saxmundham allows the delivery of transport infrastructure and improved transport connections as part of the Concept Masterplan. These include the following:

- A new roundabout on the A12 with new arms serving land to the east and west of the A12;
- A secondary access will be provided on to the A12 at the southern end of the scheme for emergency vehicles with access restricted by locked bollards.
- Existing Public Rights of Way within the area will be retained and enhanced to encourage walking on these routes.
- Approximately 3km of new Public Rights of Way will be created around the perimeter and through the Site.
- New and enhanced footpath and cycle links will be delivered to provide access between existing areas of Saxmundham and the scheme, including through to the employment provision west of the A12.
- Pigeon and the Landowners will work with Network Rail to seek to upgrade the current level crossing at Kiln Lane in line with Network Rail national policy.

The scheme on land south of Saxmundham provides the opportunity to harness new pedestrian and cycle links between the town and the new scheme. These routes will enable access to employment and educational sites together with the centre of Saxmundham and the railway and bus stations.

All footpaths and cycleways where appropriate will be formed with all-weather surfaces to encourage use by mobility-impaired users. Where appropriate these routes will be provided with lighting, and to enhance safety the development layout will ensure overlooking by neighbouring properties meeting standards set by Secured by Design.

The transport strategy for the scheme has been informed by traffic modelling which was commissioned by Suffolk County Council. This modelling specifically considered the capacity at Chantry Road in Saxmundham and the Kiln Lane/A12 junction in respect of providing the primary access into the Site to the south of Saxmundham.

The assessment identified that a new roundabout on the A12 has the capacity to serve land to the east and west of the A12 for the purposes set out in the Concept Masterplan in a way that will ensure that it is deliverable in highway safety terms.

Access to land south of Saxmundham from the A12 has the benefit of ensuring that all vehicular traffic from the scheme will enter and exit via the A12 junction. Services and facilities offered within Saxmundham will be accessible through cycle and pedestrian access routes, reducing impact on existing traffic flows within the town.

The position of the new Primary School and early years provision has been located to the north of the site where it relates to the existing Secondary School. These two schools will be accessible directly from the site along the upgraded pedestrian and cycle routes situated on the eastern boundary of the Secondary School site. Car based journeys will be actively discouraged.
Use of the new roundabout for the employment provision and informal green space to the west of the A12 will allow direct access onto the transport network. The design of this new junction will include provision for safe walking and cycling from the uses on the eastern side of the A12.

The delivery of this Site to the south of Saxmundham has the opportunity to provide much needed transport upgrades not only in relation to the A12 but also through an enhanced network of walking and cycling routes. This includes upgrading the railway crossing at Kiln Lane improving safety. These are significant benefits for existing and future residents of Saxmundham, allowing them to easily access the wider countryside.

5.2 Flood Risk and Drainage

The Site is located entirely within Flood Zone 1 (less than 1 in 1,000 annual probability of river or sea flooding) and is predominantly underlain with Red Crag Formation – Sand.

This soil type group is suitable for infiltration drainage, which is the preferred method for managing surface water drainage on the Site. The proposed strategy for surface water includes a series of infiltration basins/swales which will provide a means of soakaway at a rate which will be no greater than the greenfield run off rate including an allowance for climate change.

The Site has existing ditches which will be enhanced to form green corridors with ditches, where appropriate, opened up to form landscaped swales. Swales will provide surface water runoff treatment to remove trace contaminants and ensure there is no detrimental impact from the scheme on the wider water environment.
5.3 Noise

A noise and vibration assessment has been undertaken by Resource and Environmental Consultants (REC) to support this Statement. The Assessment identified that the key noise sources are road traffic from the A12 and noise and vibration from trains on the East Suffolk railway line.

The results of the noise assessment identifies that during the day and night time, the majority of the Site experiences negligible levels of noise disturbance. There are some areas adjacent to the A12 which experience higher noise levels, which is to be expected.

The use of standard acoustic design principles at both Masterplanning and detailed design stage will ensure that noise and vibration considerations do not represent a constraint on development of this site.

The Concept Plan reflects good acoustic design through:

- A green corridor has been introduced parallel with the A12 allowing housing parcels to be set back from the road.

As the scheme progresses to a more detailed stage, standard design principles will be followed which include:

- Plots bounding the road to be orientated such that their garden areas are protected by the building envelope;
- Gaps between dwellings along the boundaries with the roads should be kept to a minimum to avoid noise creep into the gardens behind;
- Where possible, mews dwellings would be ideal along the roads; and
- Wherever possible, windows for habitable rooms should face away from the noise source.

With respect to rail vibration, the assessment determined that there was minor disturbance and the potential adverse impacts were negligible.

The Site can be laid out and designed in such a way that future residents will not be affected by the road and rail corridors to the east and west of the Site. The levels of noise disturbance are generally low and can be mitigated through applying standard acoustic design principles.
5.4 Utilities and Services

The Site is within close proximity to all of the requisite services required for a scheme of the proposed scale and size.

Consultations with UK Power Networks (UKPN) has identified that there is capacity at the Benhall Primary Substation for the scheme proposed. Some upgrade works may be required to the Substation but with no abnormal costs involved.

The required gas network is located within close proximity to the site and discussions are ongoing with Cadent Gas to establish the availability of gas supplies for the proposed scheme. From information provided capacity can be provided with typical upgrade costs.

Essex and Suffolk Water has confirmed that there is adequate capacity within their system to supply the proposed number of homes and employment uses. Furthermore, Essex and Suffolk Water have confirmed that the work to connect the proposed scheme to their existing systems can be achieved.

The Site will be served by fibre for all new homes and business within the scheme. The benefit of this is that all uses will be provided with ultra-highspeed broadband.

Electricity, gas, potable water, and telecom services can all be provided from local networks with no significant capacity infrastructure upgrades required. There is no significant utility infrastructure crossing the Site that cannot be diverted or accommodated within the schemes layout.
A Landscape and Visual Appraisal has been undertaken by Liz Lake Associates (LLA) as part of the proposed landscape strategy. The Appraisal finds that the field boundaries mainly comprise of hedgerows with hedgerow trees. The presence of the A12 to the west and the railway line to the east provide physical confinement and easily identifiable boundaries to the Site.

The A12 is lined with mature hedgerow and trees which restrict views of the site from this route and limit inter-visibility between the respective parcels either side of this corridor. The boundary to the railway is more open and allows inter-visibility between the central parcel of land and the land to the east of the railway line, as well as long distance views across to the east.

Suffolk Coast and Heaths Area of Outstanding Natural Beauty is located approximately 3.6km to the southwest.

The Site is located within the Suffolk Coast and Heaths Landscape Character Area as defined by Natural England. At a local level, the Site lies within two Landscape character areas as identified in the Suffolk Coastal Landscape Character Assessment (2018).

The western part of the Site is situated in the L1 Heveningham and Knodishall Estate Claylands, a large character area within the District. The eastern part of the Site is situated within O1-The Benhall Estate Sandlands. The Site reflects characteristics of these character areas but is heavily influenced by the transport corridors of the A12 and the East Suffolk railway line.
The site is typical of the wider landscape character areas as it is formed of a series of large, irregular fields with straight boundaries. It is visually well contained by the local topography and existing pattern of vegetation of small woodlands, hedgerows and hedgerow trees. Due to the topography, the central and southern area of the site between the A12 and railway line is particularly contained in views from the wider landscape. These traffic corridors have also severed the landscape, creating a sense of containment in the central parcel and reducing an overall sense of openness from the wider landscape.

In this context the Appraisal identifies that there is high capacity within the landscape to absorb the proposed change and that there are few constraints in the landscape or in visual terms that prevent the Site being delivered.

The site provides good opportunities for mitigation which could include:

- Retention of the existing landscape features within the Site, including woodland blocks, tree belts, hedgerows, hedgerow trees and ponds.
- Significant quantities of open space and new planting. These are located in key positions such as at the southern tip of the Site and to the east of the railway line to provide visual containment between the Site and the village of Benhall.
- Use of green infrastructure corridors along the existing and new public footpath network to incorporating SuDS which links to existing landscape features within the Site (woodland blocks, hedgerows, trees and ponds) to improve both recreational and ecological connectivity.

The scheme provides an excellent opportunity to enhance existing hedgerows, tree belts and other features and also to improve the setting of existing Public Rights of Way routes so that the community can enjoy the extensive green infrastructure provided by the scheme. All of these features could be incorporated whilst maintaining separation between the settlements of Saxmundham and Benhall.
An ecological assessment of the Site and its potential to support wildlife has been undertaken by Hopkins Ecology. There are no wildlife designations on the Site and the use of the site as arable farmland means that much of the existing habitat is of very low or negligible ecological value. Habitats included within the Site include largely arable cropland, with some small blocks of deciduous woodland, two ponds, scrub and improved grassland; many of the fields are bounded by hedgerows including standard trees.

The species that have been scoped into the ecological assessment given the presence of these habitats are great crested newts and reptiles which if present are likely to be located on the periphery of the Site. Roosting bats may be present in the hedgerow trees.

Notwithstanding this, if any of these species are present on the Site, this would not preclude the scheme coming forward given the mitigation that would be provided through the proposed Concept Masterplan. This includes retaining existing features including hedgerows and woodland with new areas of greenspace buffering these from development areas. Including these features will enhance connectivity between existing green spaces for wildlife with the aspiration that it will deliver a net gain in biodiversity.

The Concept Masterplan provides significant opportunities to provide enhancements with a greater area of semi-natural habitat and to also provide greater connectivity between existing and proposed areas of habitat.

Furthermore, consideration has been given to any recreational impact created by the Site on International and European sites such as the Alde-Ore SPA & SAC. The site includes meaningful on-site green space to both the west of the A12 and the east of the railway line which can be used for a range of recreational purposes and enhancement of existing footpaths leading from the Site towards neighbouring farmland. As such, the scheme provides adequate mitigation for future residents to undertake recreational activities on-site through the use of the open spaces and network of footpaths and cycle routes.
8.0 HERITAGE

A Heritage Assessment has been undertaken by Dr Richard Hoggett to clearly demonstrate that the development of the study area would not impact on any known heritage assets.

This assessment supports the conclusions of the Council’s Draft Strategic Housing and Economic Land Availability Assessment published in July 2018 which identified that the potential development of the parcels of land within the Site were given a green rating, meaning that the development of each site would not have an impact on heritage assets.

There are no designated heritage assets located on the Site. The nearest listed building is Benhall Cottage, a Grade II property, which lies some 150m to the south of the southern extent of the Site. The north-eastern extremity of the Site lies approximately 100m from the south-western extremity of the Saxmundham Conservation Area.

Historically, much of the Site has been separated from the Conservation Area by the railway cutting and the ridge of high ground which forms the watershed between the Site and the valley within which the town is situated. The Concept Plan for the proposed development of the site reinforces this with the use of open space to the east of the railway track and planting along its length.

The assessment concludes that recorded archaeological evaluation and geophysical surveys demonstrate that the immediate area around the Site is largely devoid of archaeological features, and that where they may exist this would not be a constraint.
9.0 CONCEPT

The Concept Masterplan that accompanies this Statement is based upon the conclusions of the technical studies which have been summarised above. These studies have identified the Site’s opportunities and constraints and illustrates how the Site can provide a new high-quality sustainable scheme on the southern side of Saxmundham.

The Concept Masterplan includes provision for:

- 800 new homes (including affordable and self-build homes together with homes for older and younger people);
- A new 2 Form Entry Primary School including early years provision which benefits from a close relationship to the secondary school, delivering all through education;
- A new Local Centre serving the day to day retail and service needs of the local community;
- Employment provision (predominately B2 and B8 uses) on land to the west of the A12 together with service facilities such as a petrol filling station;
- A new junction on the A12;
- Suitable Alternative Natural Greenspace including strategic landscaping which will contribute to enhanced green infrastructure and biodiversity and which maintains a permanent strategic gap between Saxmundham and Benhall;
- Enhanced PROW provision both on and around the site; and
- A new Service Area on the A12 at Saxmundham a petrol filling station, a variety of A uses, associated parking and green infrastructure.

The Site is within walking and cycling distance of services and facilities within the town and the new facilities and job opportunities which will be delivered by the scheme. The inclusion of land to the west of the A12 for employment and services will make this new community a highly sustainable place to live and work encouraging future residents to use active modes of travel (cycling and walking) and use of public transport.

The key objectives that have informed the preparation of the Concept Masterplan can be summarised as follows:

- To provide an attractive high-quality scheme that retains and enhances the Site’s existing landscape features.
- To provide a range of new homes to meet the District’s housing requirements, including affordable homes and the provision of bungalows and self-build housing, which will be at lower a density.
- To provide a new 2 form entry Primary School with early years provision in order to address the identified shortfall in school places.
- To provide a new Local Centre with uses which deliver day to day services for local residents together with employment opportunities.
- To provide a wider range of employment opportunities on land to the west of the A12 as an integrated business/employment park for residents of Saxmundham and beyond.
• To retain and enhance the existing Public Rights of Way, on and off the Site so that they can be used by pedestrians and cyclists to access the town centre, railway and bus services, schools, places of employment, countryside and open space.

• To encourage sustainable travel patterns and encourage cycling and walking through design and the provision of new cycle way and footpath links.

• To provide a large area of open space with woodland areas to the east of the railway to provide visual containment between the Site and the village of Benhall.

• To provide a sustainable drainage strategy, to ensure that surface water is attenuated to the greenfield rate.

• To integrate informal recreational space within the proposed layout, utilising the existing landscape features, whilst providing opportunities for play and biodiversity enhancement.

• A new Service Area on the A12 at Saxmundham a petrol filling station, a variety of A uses, associated parking and green infrastructure.

9.1 Housing

The Concept Masterplan includes provision for up to 800 new homes. The scale of the houses will be predominantly 2/3 storeys, at an overall density in keeping with the town. There will be the opportunity for properties to be between 3 – 4 storeys around the new Local Centre, which will be at the heart of the overall scheme and a meeting place for new and existing residents of
Saxmundham.

A mix of housing types and tenures will be provided on the site reflecting the position of the Site to services and facilities together with excellent public transport and footpath links to Ipswich and Felixstowe.

The proposed scheme will deliver a range of homes varying in size. These will include smaller homes for those looking to start on the property ladder through to larger family homes recognising the position of the Site within the town and its close proximity to the new Primary School and early years provision and existing Secondary School.

In addition to this, the Concept Masterplan identifies housing for older people and those wishing to downsize around the new Local Centre. These uses relate well to one another and provides the opportunity for a scheme to be delivered which responds to the needs of the older population.

The Concept Masterplan identifies the provision of land for serviced self-build plots for those seeking to design and build their own homes. These plots would provide a number of serviced plots, around the 5% requirement set out in the draft Local Plan. The inclusion of these plots would represent a significant benefit of the scheme.

The scheme will provide affordable housing in accordance with policy providing a significant contribution towards meeting affordable housing needs within Saxmundham and the wider District.
9.2 Education

A key part of the proposed development is the provision of a new Primary School with early years provision. The Concept Masterplan includes a site that can accommodate a new 2 Form Entry Primary School and early years provision. It has been positioned on the northern side of the scheme so that it shares a relationship with the Secondary School.

It is recognised that the proposed scheme will generate a need for this facility. It has been designed as a 2 Form Entry in order to also provide additional capacity for the catchment of the area and to accommodate children from around the area.

The proposed site meets the requirements of the Local Education Authority for a 2 form entry Primary School along with early years provision and its inclusion within the scheme has been informed by discussions with Suffolk County Council.

9.3 Local Centre

Within the centre of the site, towards the western boundary will be a new Local Centre. This area will provide a mixture of uses which provides new services and facilities for residents of the scheme together with existing residents who will be able to access the new Local Centre by the enhanced walking and cycling links between the new and existing residential areas.
The Local Centre will include day to day needs such as appropriate retail provision without detracting from town centre trade. These will all provide employment opportunities for new and existing residents and support and complement the new Services proposed to the west of the A12.

9.4 Employment Provision

The land to the west of the A12, accessed from the new junction, will provide new employment uses which can be targeted at start up enterprises or to provide new premises for existing businesses to expand. The uses on this land can utilise the full range of B use classes including those which are noisier and not compatible with nearby residential uses such as storage and warehousing or light industrial uses. There is the opportunity to provide land for the new Services proposed along the A12.

To provide such a mix of uses will enable many residents to consider locally accessible jobs which will contribute to the vitality and sustainability of Saxmundham.

The location of this site along the A12 will contribute to strengthening the economic role of this corridor, which the Norfolk and Suffolk Economic Strategy 2017 identifies will grow over the Local Plan period given the global focus on the Norfolk and Suffolk Energy Coast in delivering sustainable and clean energy solutions. Employment provision in this location means a greater level of employment can be brought forward in the Local Plan period and reduce the need for local residents to commute to other centres for employment opportunities.

9.5 Access from the A12

In order to serve the proposed development a new roundabout will be provided on the A12 with arms to the east and west serving development parcels to either side.

The delivery of this new junction on the A12 will enable access into and out of the site directly from the transport network and does not rely on residents using the local highway network through Saxmundham.

9.6 Green Infrastructure

The Concept Masterplan is landscape-led. The result is a strong landscape structure which will be integral to the design. Existing landscape features will be incorporated into the design where possible, with existing boundary features retained and significant amounts of new landscaping will be introduced, particularly along the southern and western site boundaries.

Native planting will be used to enhance and strength the southern, western and northern boundaries of the site along existing field boundaries of the site. This will develop a softer and less exposed settlement edge to the village allowing the development to blend into the existing landscape through the use of a sensitive design approach.

The Concept Masterplan proposes that the southern point of the site be planted with a strong landscape buffer thereby ensuring that Saxmundham and Benhall do not coalesce. Furthermore, the area for self-build plots which are of a low density and can be landscaped to reinforce the segregation between the two settlements.

The built line will be set back from the A12 and further planting with new Public Rights of Way will be incorporated into the proposed layout.

Public Open Space and SuDS features will be integrated into the overall layout of the site providing useable spaces for both existing and futures residents of Saxmundham. The Primary School will have its own playing field and
playground within the boundary of the school.

These spaces will all provide pleasant and inviting spaces that will also incorporate biodiversity enhancements including:

- Opportunity to provide larger areas of semi-natural habitat which will provide greater connectivity between existing and new areas of habitat;
- Retention and enhancement of existing hedgerows and woodland;
- New areas of Public Open Space and woodland to the east of the railway line and west of the A12 to provide a green buffer to other areas of development and facilitate access to the countryside;
- Green corridors will provide habitats and feeding opportunities for birds and bats;
- Planting mix which will provide food sources for mammals as well as opportunities for pollinating insects; and
- SANG provision which will mitigate impact on International/European designations.

Healthy exercise using networks of Public Rights of Way

Native plants to encourage local wildlife
This Statement has set out a modified approach to delivering a new high quality mixed-use neighbourhood on land to the south of Saxmundham. The scheme as set out on Pigeon’s Concept Masterplan identifies how the same quantity of new homes and community assets, as set out in the draft Local Plan policy SCLP12.29, can be delivered on the proposed Site.

The vision for land to the south of Saxmundham is to create a modern, high-quality, accessible scheme, which is both self-sustaining and which also contributes positively to the vitality and long-term viability of the existing town. The opportunity exists to create a new scheme which is of benefit to the whole community and which will create a lasting legacy for the town.

As part of their representations to the Final Draft Plan, Pigeon and the Landowners are proposing an alternative spatial approach to the delivery of the growth proposed for Saxmundham to that set out in the draft allocation. The Site proposes to accommodate the same quantum of development as that set out in draft policy SCLP12.29 but to also include additional land parcels to the south and west of the A12. This revised proposal will remain cohesive and self-contained southern extension of Saxmundham, which will maintain the existing separation between the settlements of Saxmundham and Benhall. The alternative southern growth strategy, proposed by Pigeon and the Landowners, is set out in the Concept Masterplan contained within this statement.

The Concept Masterplan makes provision for additional new employment in the form of a new Services area to be located to the west of the A12 providing, further jobs for existing and future residents of Saxmundham.

Furthermore, a network of new pedestrian and cycle routes will be provided as part of the new scheme. A comprehensive series of routes will seamlessly connect the proposed scheme with the existing settlement, allowing existing and future residents to reach key services and facilities on both the east and west sides of the A12. Over 3km of new Public Right of Way will be created and delivered as part of this scheme.

The scheme provides an opportunity to enhance existing hedgerows, tree belts and other landscape features and also to improve the setting of existing Public Rights of Way routes on and off site so that the community can enjoy the extensive green infrastructure provided by the scheme.

All of these features have been incorporated within the Concept Masterplan and proposed landscape strategy for the Site whilst maintaining visual and physical separation between the settlements of Saxmundham and Benhall.

An appropriate sized SANG provision will be accommodated which will mitigate the recreational impact arising from the Scheme.

This Statement demonstrates that there are no known constraints to delivery of this site. The following Statement describes the Site’s characteristics and demonstrates that it is achievable, available and deliverable, with no known constraints. The Statement sets out how the Site is capable of delivering a new high-quality mixed-use scheme over the course of the forthcoming Local Plan period to meet the growth needs and economic aspirations of the Plan.
In conclusion, land to the south of Saxmundham presents the opportunity to create a new high quality mixed-use scheme that will be a great place to live and work, with a new Primary School and early years provision fully integrated within the development. The new Garden Neighbourhood will make a lasting contribution to Saxmundham.
Appendix 2: Highways and Transportation Statement
Land South of Saxmundham

Regulation 19 Consultation

Highways & Transportation Statement

February 2019
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Appendices

Appendix A: Concept Plan

Appendix B: Transport Technical Note and Highway Plan (MLM Group)
Executive Summary

This Highways & Transportation Statement provides information for the Regulation 19 Suffolk Coastal Local Plan Consultation. The purpose of this Statement is to provide information on vehicular, pedestrian, and cycle access to the scheme; review the impact on the local highway network, and accessibility to local facilities.

Policy matters raised in the Suffolk Coastal Local Plan Draft (January 2019) are addressed.

The Concept Plan provides for 800 dwellings located between the A12 and railway line, and south of the town. A primary school is located towards the northern edge of the scheme close to the existing secondary school.

Land to the west of the A12 will comprise employment uses potentially including a fuel filling station, drive-through hot food outlet, and B1/B8 class development.

Primary access to residential and employment land will be from a new roundabout on the A12. A right turning junction will be formed to provide access via Kiln Lane to the southern part of the scheme.

Preliminary design of a new A12 roundabout has been undertaken to demonstrate that this will have capacity to serve the residential and employment areas.

Existing PROW’s will be upgraded, and new paths provided to encourage walking and cycling through the scheme to the town centre, schools, shops, and open space. The scheme benefits from close access to the railway station with excellent connections through to Ipswich, Lowestoft, and more distant destinations.

Transport modelling undertaken by WSP on behalf of Suffolk Coastal District Council has demonstrated that the A12 has capacity to accommodate the scheme. No traffic will be routed through the town centre and hence will not exacerbate current congestion issues at the Chantry Road signalled junction.

A Travel Plan will be prepared as part of a future planning application to provide strategies for encouraging walking and cycling and use of bus and rail services.

This Highways and Transportation Statement demonstrates that the scheme has a low residual impact on the local highway infrastructure and will not detrimentally affect highway safety.
Provision of excellent walking and cycling connections to the town centre and public transport, and promotion of bus services within the town, ensure compliance with NPPF criteria for sustainable and deliverable development.

This Highways and Transport Statement demonstrates that the scheme meets the policy objectives set out in SCLP12.29.
1 Introduction

1.1 This Highways and Transportation Statement (the ‘Statement’) has been prepared by Willow Consulting for Pigeon Capital Management 2 Ltd (‘Pigeon’) and the landowners in support of a proposed new sustainable scheme on land south of Saxmundham (the ‘Site’). The Statement provides information on highways and transportation matters to demonstrate that the Site is sustainable in transportation terms and capable of delivering 800 homes, employment and education, for the period up to 2036.

1.2 The South Saxmundham scheme is allocated in the Suffolk Coastal District Council Local Final Draft (January 2019).

1.3 The area being promoted by Pigeon for allocation in the Local Plan is shown in Figure 1, below. The Site extends from the west of the A12 across to the railway, to the north the Site borders the existing urban extent of Saxmundham. The Concept Plan is provided in Appendix A.

1.4 Open space is provided to the east of the railway with access via the existing rail crossings at the Kiln Lane level crossing, and the public footpath bridge to the north.

1.5 Suffolk County Council commissioned WSP to undertake Traffic Modelling of the highway network to inform Local Plans’ on capacity issues, and the impact of development allocations on the network. Modelling considered planned highway improvement schemes and identified potential restrictions. In relation to allocation of land in Saxmundham the Report specifically assesses capacity at the Chantry Road junction in Saxmundham, and the Kiln Lane – A12 junction in relation to access to the scheme.

1.6 This Statement provides information on the following matters:

Impact Assessment

a) Current vehicle and pedestrian links and connections

b) Highway junctions and internal distribution

c) Connectivity
d) Preliminary design of the A12 roundabout access to the main part of the scheme, and access to the southern area of the scheme from Kiln Lane.

e) Preliminary design of the internal road layout

**Sustainability Assessment**

a) Provision for walking and cycling connections

b) Public transport

c) Travel Plan

**Figure 1: Site location**

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**Consultations**

1.7 Pigeon met with Suffolk County Council (Growth, Highways and Infrastructure) on 16 August 2018 to gain an understanding of their preferences and requirements for access, connections, and local highway capacity issues. A further consultation meeting was held on 7th February 2019 to discuss the form of access to the scheme, internal circulation, and emergency access.

1.8 Principal issues arising from the consultations are:
a) That the proposal for provision of a roundabout on the A12 to access to the main residential area and employment area affords the most appropriate means of access;

b) That a single point of access to the residential development from the roundabout is acceptable subject to the road between the A12 roundabout and 1st internal roundabout being of sufficient width to accommodate an emergency vehicle to access the scheme with traffic in both lanes; and if possible that a 2nd emergency access is provided;

c) A suitable form of pedestrian/cycle crossing at the A12 is provided to encourage these forms of travel between the residential and employment areas. It was agreed that the most appropriate form of crossing is likely to be an at-grade signalised crossing located a short distance from the roundabout.

d) A right turning lane junction to service the southern area of land affords the most appropriate means of access to this land;

e) Where swales are provided on internal roads that the swale can be located between the carriageway and footpath, and that SCC will adopt the swale. Carriageway drainage to be ‘over the edge’ directly to the swale, gullies to be provided in swales to drain runoff to a piped carrier system;

f) To encourage non-car journeys, particularly to the railway station and town centre that an app based on call bus service such as ArrivaClick is promoted.

Limitations

1.9 This document has been prepared for the titled project and should not be relied upon or used for any other project. Willow Consulting accepts no responsibility or liability for the consequences of this document being used for a purpose other than that for which it was commissioned. The assessments and judgments contained herein should not be relied upon as legal opinion.
2 Policy Context

National Planning Policy Framework

2.1 The purpose of this Highways & Transportation Statement is to demonstrate that the development will meet and satisfy the requirements set out in the NPPF\(^1\) 2018 and relevant policies in the Suffolk Coastal Local Plan Draft.

2.2 Section 9 of the NPPF 2018 advises that sustainable transport should be considered at the earliest stages of a project to ensure that:

a) the potential impacts of development on transport networks can be addressed;

b) opportunities from existing or proposed transport infrastructure, and changing transport technology and usage, are realised – for example in relation to the scale, location or density of development that can be accommodated;

c) opportunities to promote walking, cycling and public transport use are identified and pursued;

d) the environmental impacts of traffic and transport infrastructure can be identified, assessed and taken into account – including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains; and

e) patterns of movement, streets, parking and other transport considerations are integral to the design of schemes and contribute to making high quality places.

2.3 Furthermore, the NPPF states that development should only be prevented or refused on highway grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road networks would be severe.

2.4 The NPPF states that in this context applications for development should:

a) give priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas; and second – so far as possible – to facilitating access to high quality public transport, with layouts that maximise the catchment area for

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\(^1\) National Planning Policy Framework
bus or other public transport services, and appropriate facilities that encourage public transport use;

b) address the needs of people with disabilities and reduced mobility in relation to all modes of transport;

c) create places that are safe, secure and attractive – which minimise the scope for conflicts between pedestrians, cyclists and vehicles, avoid unnecessary street clutter, and respond to local character and design standards;

d) allow for the efficient delivery of goods, and access by service and emergency vehicles; and

e) be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations.

Suffolk Coastal Local Plan Draft: Policy SCLP12.29

2.5 Objectives in this Policy relevant to highways and transport are:

a) Provision of a new vehicular access point from the A12 supported by safe access for cyclists and pedestrians

b) Significant pedestrian and cycle accessibility throughout the site, with connections and improvements to networks beyond the site, including to the station and town centre.
3 Highway Infrastructure

3.1 A consultation meeting was held with Suffolk County Council (SCC) Highways officers. A range of issues relating to the allocation were discussed as described in the following sections.

Transport Modelling

3.2 The WSP Forecasting Report – Volume 1: Suffolk Coastal and Ipswich (Section 3.3) advises there are no junctions within Saxmundham and the surrounding area where Volume/Capacity ratios are currently in excess of 0.85 hence indicating that no junctions are currently at capacity.

3.3 WSP has modelled the Saxmundham and local road capacity with scenarios for development at ‘south Saxmundham’, and ‘Land north and east of the Manor House’. Provision has been made in modelling for up to 800 dwellings at the ‘south Saxmundham’ Site and 250 dwellings at the ‘land north and east of The Manor House’. In particular the Chantry Road signal controlled junction has been modelled. This junction is shown as currently operating just within capacity. The Report advises that inclusion of the Manor House land results in the Chantry Road junction reaching capacity with increased congestion.

3.4 WSP has modelled the A12 - Kiln Lane junction, this junction is located towards the Benhall junction on the A12. The junction is formed from a short link road between Kiln Lane and the A12 which now provides access for the small number of dwellings along Kiln Lane. Modelling assumed that the link road would be used for the access from the A12 to the south Saxmundham scheme. Modelling has shown that this link road would experience increased congestion if used to provide access to the Site.

3.5 SCC advised that the principal local concern relates to the impact of additional scheme generated traffic on the Chantry Road junction. The junction is constrained by close proximity of existing buildings and footpaths preventing any significant alterations to the junction to improve capacity. Chantry Road at the junction is effectively single carriageway with the traffic signals set back some distance from the junction. This extends the interphase waiting period causing significant traffic delays. The set-back
distance can also result in vehicles crossing the junction on a red light which on occasion
has resulted in accidents. SCC has considered the option of making Chantry Road into a
one-way street but this would have very significant impacts on traffic movements and
congestion around the town and would not improve overall traffic flows and
management around the town.

Highway Infrastructure

3.6 Access to the land within the Regulation 19 Draft Consultation Plan will be from a new 4
arm roundabout on the A12 providing direct access to the land east and west of the
A12, a second point of access serving the southern area of the scheme will be provided
via Kiln Lane with this also providing an emergency access for the northern development
area.

3.7 The initial section of internal estate road leading from the A12 roundabout to the
residential area will be a wide (7.3m) single carriageway allowing emergency vehicle
access. On this basis the roundabout can provide access for the whole of the northern
area of the site comprising between 700 and 800 dwellings. A secondary emergency
access will be provided through to Kiln Lane, this access will be constructed as a
footway/cycle link with dropping or removable bollards.

3.8 Preliminary designs for the A12 roundabout serving the residential site and employment
area, and Kiln Lane/A12 junction have been prepared. Full junction details and capacity
calculations are provided in the Technical Memorandum and Highway Plan (MLM:
February 2019) – see Appendix B.

3.9 An internal loop road will extend from the roundabout at the end of the initial wide
entrance road continuing through the scheme with a 6m wide carriageway serving the
school and reducing to a 5.5m wide carriageway.

3.10 The estate roads will be designed to provide a 20mph zone with appropriate traffic
calming.

3.11 Subject to the extent of additional land proposed for allocation the roundabout may be
relocated further to the south as indicated on the relevant Concept Plan. Similar criteria
apply in terms of roundabout size as for access to the Regulation 19 consultation land, and a similar size roundabout is anticipated to serve the extended land area.
Pedestrian & Cycling Links

3.12 Existing public rights of way (PROW’s) will be retained to give excellent permeability through the scheme for walking and providing opportunities for pedestrian access to the schools, town centre, and railway station.

3.13 The Kiln Lane level crossing will be upgraded with Mini Stop Lights (MSL’s) to improve safety for pedestrians and cyclists. This crossing will provide access to the open space located to the east of the railway, this open space will also be accessible from the existing public footpath crossing the railway further to the north.

3.14 Improvements to the Kiln Lane level crossing and cycling and pedestrian permeability through the scheme will enhance non-car travel between Benhall and Saxmundham town centre and railway station.

3.15 Off-highway cycle routes (combined footway/cycleways) will be provided on the entrance road and the road serving the school. Other roads will be designed with a suitable low speed environment to allow safe cycling on the carriageway. Cycleways and footpaths will link to the existing public footpaths leading north into the town. These footpaths will be upgraded to all-weather surfaces and widened where this is achievable within the scheme ownership. Where public footpaths are located outside the scheme ownership Pigeon will work with the local authority to improve access. Existing footpaths provide direct links from the scheme to the town centre, Free School, and railway station.

3.16 The excellent pedestrian and cycling routes through the scheme will encourage non-car journeys between the scheme and town centre facilities and give access to the open space east of the railway, and to Benhall.

Public transport

3.17 SCC acknowledge that Saxmundham is a bus route hub with services radiating out from the town to surrounding villages. As such there are no town based services that will currently benefit the scheme. However, opportunities will be taken to encourage bus travel where appropriate, including the offer of bus vouchers, dial-a-ride schemes and other community based transport models. Pigeon will work with bus operators to seek
opportunities for developing a circular bus route through the town and linking in with the scheme. A circular bus route would provide significant wider benefits in addition to encouraging non-car based journeys to the town.

3.18 ArrivaClick operate app based local bus services in a number of trial areas in the country. These services are on-demand mini-bus services operating with virtual bus stops and routes, customers are able to call up a service to the nearest virtual bus stop and know when the bus will arrive. Currently the business model does not work for rural areas such as Saxmundham. However ArrivaClick have plans to extend their services to more rural areas in the near future. Pigeon will work with ArrivaClick to promote this form of public transport service should the opportunity arise.

3.19 Saxmundham is on the East Suffolk Line (Greater Anglia services) – this line provides regular services to Lowestoft, Felixstowe and Ipswich. The scheme is close to the train station, pedestrian and cycling links will encourage access to the station particularly for commuters.
4 Scheme Proposals

4.1 The Concept Plan is provided in Appendix A. Highway infrastructure is proposed as follows:

a) A new roundabout on the A12 with arms into the residential scheme on land east and employment on land to the west of the A12, the position of the A12 roundabout is shown provisionally on the Concept Plan to service the land allocated within the Local Plan Draft.

b) Facilities to be provided adjacent to the A12 roundabout potentially include a local store and fuel filling station.

c) Subject to any extension of the land west of the A12 being allocated for employment use the roundabout may be moved further to the south. Similar criteria will apply in terms of roundabout capacity and it anticipated that the relocated roundabout would be of similar sized to the currently proposed roundabout.

d) A 7.3m wide carriageway road will be provided between the A12 roundabout and beginning of the internal loop road leading in to the residential scheme. The road width will be sufficient to give space for emergency vehicles to enter and depart whilst both lanes are full. An internal loop road will be provided through the scheme with local parcels of up to 300 dwellings and mixed use areas served from Major Access Roads.

e) A secondary access at Kiln Lane will be formed with a right turning lane on the A12 to give access to the southern area of the scheme and functioning as an emergency access for the northern part of the scheme. The emergency link between the northern and southern areas will be via a combined footway/cycleway with rising or removable bollards.

f) The Concept Plan provides an area for self-build dwellings on land to the south of Kiln Lane. The self-build scheme will be served from the upgraded junction on the A12.
g) Existing PROW’s within the area will be retained and enhanced to encourage walking on these routes. Numerous of these PROW’s are formed by existing drainage routes which will be enhanced as part of the drainage strategy hence providing excellent green routes through the scheme. New and enhanced existing PROW’s will benefit residents of the scheme and existing residents in Saxmundham and further afield many of whom currently use this area for walking recreation.

h) The existing public footpath to the east of the school playing fields will be upgraded with an all-weather surface suitable for pedestrians, cyclists, and mobility-impaired users. The existing PROW crossing the railway via the existing overbridge will be similarly upgraded.

i) Pigeon will work with Network Rail to review options (including provision of MSL’s) for improving safe access for crossing the railway to gain access to the informal open space east of the railway.
5 Impact Assessment

5.1 This Section sets out the likely impact of the scheme on the highway network and methods by which any impacts are mitigated.

5.2 The new roundabout on the A12 will provide a safe junction with capacity to serve the land east and west of the A12. The roundabout will have the added benefit of traffic calming (speed reduction) on the A12. The WSP Transport Modelling identified that the existing Kiln Lane junction was not suitable to serve the scheme. Upgrading of this junction with a right turning lane will provide safe access to the southern part of the scheme serving approximately 100 dwellings.

5.3 The WSP Transport Modelling identified that the existing Chantry Road junction was close to capacity, and that any increased development east of the junction would result in further congestion. No traffic from the scheme will be routed via the Chantry Road junction and hence there will be no adverse impact on the junction.

5.4 All scheme generated traffic will access and egress the site via the A12 roundabout or the upgraded Kiln Lane junction with the majority of this traffic expected to be travelling to destinations served from the A12. No traffic will be routed through the town centre and consequently the scheme will have no adverse impact on current traffic in the town centre.

5.5 Strategies to encourage walking and cycling journeys to the town centre, and potential provision of a bus service, will limit the need for car journeys to the town.

5.6 The WSP Transport Modelling notes that, other than the Chantry Road signal controlled junction, there are currently no junctions close to capacity in the wider area. The modelling predicts that the allocated scheme will have no adverse impact on the wider road network.

5.7 The scheme will include a new primary school and pre-school located near to the existing secondary school. The primary school and existing secondary school are accessible directly from the scheme via upgraded walking and cycling routes. Car based journeys to the school will be discouraged hence minimising the impact of school journeys on local highway infrastructure.
5.8 The B use employment area is located to the west of the A12 with access from the A12 roundabout. This area benefits from this direct access to the A12 and ensures there is no impact of HGV\(^2\) and LGV\(^3\) traffic on residential areas. The roundabout will include provision of safe walking and cycling crossing routes from the residential scheme hence encouraging these travel modes.

5.9 A future planning application will include a Travel Plan. The Travel Plan will provide strategies for encouraging non-vehicle based journeys, and reductions in car ownership. The Travel Plan will set out targets for reductions in this form of travel, and methods to incentivise sustainable transport modes. Typically, these will include the following:

a) Car Club – provision of communal (electric) cars available for residents for short term use such as shopping trips. The purpose is to encourage reductions in car ownership.

b) Encourage cycle use including provision of short term cycle hire, these can include electric cycles.

c) Contribution to installation of secure cycle parking at the station.

d) Strategies developed in conjunction with the schools to encourage walking and cycling to school

e) Provision of a circulatory bus service around the town

f) App based on-demand bus service

Summary

5.10 This assessment demonstrates that the scheme complies with NPPF criteria of not having an unacceptable impact on the highway network and safety, and that the residual cumulative impacts will be low.

5.11 The scheme will be accessed directly from the A12 which has ample capacity to accommodate scheme generated traffic flows without impacting on the town centre and with no significant adverse impact on the local highway network. The proposed

\(^2\) Heavy Goods Vehicle
\(^3\) Light Goods Vehicle
roundabout on the A12 will have a positive beneficial impact on traffic speeds on the A12.
6 Sustainability Assessment

6.1 This Section provides information to demonstrate that the scheme is sustainable in transportation terms hence meeting criteria set out in Section 9 of the NPPF.

6.2 The Concept Plan provides extensive walking and cycling routes permeating the scheme making maximum use of existing PROW’s which will be upgraded to provide suitable all-weather surfaces. These existing routes, enhanced with new paths, provide strong connections to the town centre, and school. A local convenience store will be provided at the employment area which is accessible within good walking and cycling distance from all areas of the scheme and hence encouraging residents to access these facilities by foot or cycle.

6.3 There are currently no local bus services within the town (currently all services link Saxmundham to surrounding settlements). Pigeon will work with local bus operators to consider options for provision of a circulatory town bus route serving both the scheme, and outer areas of the town linking to the town centre and station.

6.4 All footpaths and cycleways will be formed with all-weather surfaces to encourage use by mobility-impaired users. Where appropriate these routes will be provided with lighting, and to enhance safety the scheme layout will ensure overlooking by neighbouring dwellings meeting standards set by Secured by Design.

6.5 The scheme benefits from close proximity to the railway station in the town centre. Frequent (generally hourly) services are provided to Ipswich and Lowestoft, and intermediate stations. The station is accessible by cycle and foot from the scheme. The station currently lacks secure and covered cycle storage, Pigeon will work with Network Rail and Greater Anglia to provide appropriate cycle storage and to encourage commuters to use this travel mode.

6.6 The NPPF requires suitable provision to be made for charging electrical vehicles, dwellings will be provided with charging points, and plug-in points will be provided at communal facilities.
Summary

6.7 This assessment demonstrates scheme compliance with NPPF criteria and SCLP12.29 by prioritising pedestrian and cycle movements, and discouraging car based journeys both within the scheme and in neighbouring areas. Provision of public transport services will be targeted benefitting the scheme and wider areas of the town. High quality walking and cycling routes will be provided with these suitable for mobility impaired users.
Appendix A: Concept Plan
Appendix B: Highways Technical Note and Highways Plan
(MLM: February 2019)
Introduction

1.1 This Technical Note relates to land south of Saxmundham in Suffolk and assesses its main proposed accesses from the A12. The concept plan attached at Appendix 1 shows an early version of the development layout but highlights its proposed roundabout access to the A12 and its use of the Kiln Road T-junction at the southern end of the Site.

1.2 Land to the east of the A12 will be for a total of 800 dwellings and will include a primary school and a community centre/hub. 100 of these dwellings are expected to be accessed via the Kiln Road junction to the south with a proportion of these dwellings being self-build properties. This smaller southern residential area is expected to have an emergency vehicle access link to the larger northern residential area.

1.3 The Site area to the west of the A12 will be for employment uses. Apart from general ‘B’ class planning uses there could be other uses, such as a hotel and a petrol filling station.

Proposed A12 Accesses & Site Access Roads

2.1 Refer to Appendix 2 for a plan showing detailed accesses for the proposed A12 roundabout and improvements to the existing Kiln Road T-junction. This plan also shows the main network of proposed access roads within the eastern residential area with road and internal junction types. The alignment and width of the internal roads have been designed in accordance with the ‘Suffolk Design Guide for Residential Areas’ document.

2.2 The proposed A12 roundabout is a 4-arm 55m ICD roundabout that has been sized to accommodate an expected development quantum which is explained in the next section. It has been positioned centrally on the existing A12 carriageway and has been designed in accordance with DMRB standards. Pedestrian/cycle links will be required at or near this proposed junction between the proposed residential and employment site areas. The exact form of these A12 crossing links are not known at this stage but the preferred method would be by signalised controlled crossings, this would require a reduction in speed limit local to the junction. Subject to the final area allocated, the roundabout may be located further to the south.

2.3 The Kiln Road junction has been shown with a possible right turn lane junction designed in accordance with DMRB standards. This improvement requires carriageway widening on the A12 of up to 1.2m which can be accommodated on the east of the road. It also does requires widening of Kiln Road and associated junction radii amendments. For the proposed 100 dwellings to be served off this junction a right turn lane is not required for capacity reasons but due to the 60mph speed limit of the A12 in this area it is considered necessary for safety reasons.
3 Development Trips

3.1 With the uncertainty of the actual development quantum, apart from dwelling numbers, a preliminary assessment of the likely development trips has been undertaken. To ensure a robust assessment a generic trip rate for the dwellings has been used (0.7 2-way vehicle trips per dwelling per peak hour) which is typically much higher than TRICS based trip rates for dwellings in comparable edge of town areas. It is assumed that the majority of trips for the community uses are linked with trips from/to the development but an additional trip allowance has been made to ensure further robustness.

3.2 There are no floor areas available for the expanded employment/commercial uses of the western part of the Site; a preliminary area of 14 Hectares has been used in the calculations. To determine vehicle trips for this part of the Site it is assumed that 30% of the overall site area will be building floorspace. This equates to a considerable 42,330 sqm of building floor area and this floor space is used to predict vehicle trips based on a business park use. Other proposed uses are likely to be incorporated within this employment area but the business park use, which primarily consists of B1 office use, gives more onerous peak hour trip rates for new trips than other land uses. Refer to Appendix 3 for this ‘Business Park’ TRICS data.

3.3 Table 1 below summarises the quantum of development trips predicted for the development that will use the A12 roundabout. There are no discounts in trips due to linked trips between the employment and residential areas and this assessment is considered highly robust.

<table>
<thead>
<tr>
<th>Residential Vehicle Trip Rates &amp; Development Vehicle Trips</th>
<th>Weekday AM peak hour</th>
<th>Weekday PM peak hour</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>In</td>
<td>Out</td>
</tr>
<tr>
<td>Vehicle Trip Rates per dwelling</td>
<td>0.2</td>
<td>0.5</td>
</tr>
<tr>
<td>Vehicle Trips for 700 dwellings</td>
<td>140</td>
<td>350</td>
</tr>
<tr>
<td>Additional Vehicle Trips allowance for Primary School/Community Hub</td>
<td>53</td>
<td>40</td>
</tr>
<tr>
<td>Vehicle Trip Rates (per 100sqm) for Mainly B1 use (Business Park use from TRICS)</td>
<td>1.493</td>
<td>0.161</td>
</tr>
<tr>
<td>Vehicle Trips for 42,330sqm Business Park</td>
<td>632</td>
<td>68</td>
</tr>
<tr>
<td>Total Development Trips</td>
<td>825</td>
<td>458</td>
</tr>
</tbody>
</table>

4 Capacity Assessment of Proposed A12 Roundabout Site Access

4.1 Vehicle flows from the nearest A12 DfT traffic count point (CP16191) have been used to determine weekday AM and PM peak hour base vehicular flows of the A12 past the Site. For both AM and PM peak hours these are about 1,500No 2-way vehicle movements in 2017.

4.2 A 2029 assessment year has been assumed by when the development could realistically be built and fully occupied. Growth from the base 2017 traffic figures has been calculated using Tempro/NTM methodology for predicting growth. Growth factors from 2017 to 2029 are 1.147 indicating a 14.7% increase.
4.3 The roundabout capacity assessments have been modelled using ARCADY computer programs using the ‘OD Tab’ method. For the ‘OD Tab’ option the program constructs peak synthesised demand profiles for each arm by estimating the flow parameters, given peak hour flows in the form of an origin-destination table. This effectively synthesises a peak within the peak hour, therefore generally producing a worst-case scenario and hence making the traffic analysis further robust. All the traffic models have been used to forecast capacities at the identified junctions, using RFC’s (Ratio of Flow to Capacity) and maximum queue lengths. The theoretical capacity of a junction is taken at the RFC value of 1.0 and the design capacity as a value of 0.85 i.e. 15% reserve capacity. Values in excess of these values may lead to queuing problems.

4.4 The results of the junction capacity assessment are shown in Table 2 below. Full ARCADY outputs are attached at Appendix 4.

<table>
<thead>
<tr>
<th>Arm</th>
<th>Queue (PCU)</th>
<th>Delay (s)</th>
<th>RFC</th>
<th>LOS</th>
<th>Queue (PCU)</th>
<th>Delay (s)</th>
<th>RFC</th>
<th>LOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2029 + Dev</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arm 1</td>
<td>1.3</td>
<td>11.17</td>
<td>0.56</td>
<td>B</td>
<td>0.3</td>
<td>5.28</td>
<td>0.21</td>
<td>A</td>
</tr>
<tr>
<td>Arm 2</td>
<td>5.5</td>
<td>16.95</td>
<td>0.85</td>
<td>C</td>
<td>2.6</td>
<td>7.66</td>
<td>0.72</td>
<td>A</td>
</tr>
<tr>
<td>Arm 3</td>
<td>0.1</td>
<td>3.66</td>
<td>0.07</td>
<td>A</td>
<td>1.2</td>
<td>8.06</td>
<td>0.54</td>
<td>A</td>
</tr>
<tr>
<td>Arm 4</td>
<td>4.7</td>
<td>11.31</td>
<td>0.82</td>
<td>B</td>
<td>2.4</td>
<td>7.70</td>
<td>0.70</td>
<td>A</td>
</tr>
</tbody>
</table>


4.5 The results of the ARCADY modelling for the proposed roundabout indicate that the junction operates at the design capacity of the junction (RFC = 0.85) in the AM peak hour and comfortably within for the PM peak hour with the Development. The maximum RFC at the junction occurs on the A12 south arm with a maximum car queue length of 5.5 vehicles. The assessments demonstrate that the proposed 55m ICD A12 roundabout can accommodate the proposed development but it should be noted that there is ample land to increase the size of this roundabout further and its capacity should the eventual development accommodation prove to generate higher vehicle trips. It should be reiterated that the trip assessment is considered highly robust due to no discount in linked/bypass trips and the high residential and business park trip rates used.

5 Conclusions

5.1 This Technical Note relates to land south of Saxmundham and assesses its main proposed accesses from the A12; a new roundabout and the conversion of the existing Kiln Road T-Junction to a right turn lane junction. Internal access roads and junction types of the residential part of the Site are also considered.

5.2 Land to the east of the A12 will be for a total of 800 dwellings and will include a primary school and a community centre/hub. Land to the west of the A12 will be for employment uses.

5.3 The proposed A12 roundabout has been sized to accommodate an expected development quantum based on robust assumptions, modelling methods and high trip rates. Capacity assessments for a future assessment year with development of 2029 demonstrate that the proposed A12 roundabout can accommodate the development within design capacity.
5.4 As part of any Transport Assessment supporting a future planning application for the Site, more detailed analysis would be required to prove that proposed junctions can accommodate the proposed development when an exact accommodation schedule is known. Even if the eventual development exceeds that assessed in this Technical Note there is ample room within the development/A12 frontage to enlarge the proposed 55m diameter to increase junction capacity further.

Appendices

Appendix 1 – Concept Plan
Appendix 2 – Proposed Accesses & Internal Roads
Appendix 3 – Business Park TRICS data
Appendix 4 – ARCADY output, Proposed A12 Roundabout
TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
Category : B - BUSINESS PARK

VEHICLES

Selected regions and areas:

02 SOUTH EAST
HC HAMPSHIRE 1 days

06 WEST MIDLANDS
HE HEREFORDSHIRE 1 days

07 YORKSHIRE & NORTH LINCOLNSHIRE
WY WEST YORKSHIRE 1 days

08 NORTH WEST
GM GREATER MANCHESTER 1 days

09 NORTH
TW TYNE & WEAR 1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Secondary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Gross floor area
Actual Range: 3300 to 55000 (units: sqm)
Range Selected by User: 2000 to 142687 (units: sqm)

Parking Spaces Range: Selected: 7 to 4167 Actual: 7 to 4167

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/10 to 22/11/17

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Tuesday 1 days
Thursday 1 days
Friday 3 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count 5 days
Directional ATC Count 0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Suburban Area (PPS6 Out of Centre) 4
Neighbourhood Centre (PPS6 Local Centre) 1

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Industrial Zone 2
Village 1
No Sub Category 2

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.
Secondary Filtering selection:

**Use Class:**
- B1

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

**Population within 1 mile:**
- 1,001 to 5,000: 1 days
- 20,001 to 25,000: 1 days
- 25,001 to 50,000: 3 days

This data displays the number of selected surveys within stated 1-mile radii of population.

**Population within 5 miles:**
- 50,001 to 75,000: 1 days
- 250,001 to 500,000: 3 days
- 500,001 or More: 1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

**Car ownership within 5 miles:**
- 0.6 to 1.0: 5 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

**Travel Plan:**
- No: 5 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

**PTAL Rating:**
- No PTAL Present: 5 days

This data displays the number of selected surveys with PTAL Ratings.
<table>
<thead>
<tr>
<th>No.</th>
<th>Site Code</th>
<th>Background Info</th>
<th>Selected Parameters</th>
<th>Gross Floor Area</th>
<th>Survey Date</th>
<th>Survey Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GM-02-B-04</td>
<td>BUSINESS PARK</td>
<td>GROSS FLOOR AREA</td>
<td>3300 sqm</td>
<td>22/10/15</td>
<td>MANUAL</td>
</tr>
<tr>
<td>2</td>
<td>HC-02-B-02</td>
<td>BUSINESS PARK</td>
<td>GROSS FLOOR AREA</td>
<td>55000 sqm</td>
<td>18/10/13</td>
<td>MANUAL</td>
</tr>
<tr>
<td>3</td>
<td>HE-02-B-01</td>
<td>BUSINESS PARK</td>
<td>GROSS FLOOR AREA</td>
<td>18808 sqm</td>
<td>13/09/11</td>
<td>MANUAL</td>
</tr>
<tr>
<td>4</td>
<td>TW-02-B-05</td>
<td>BUSINESS PARK</td>
<td>GROSS FLOOR AREA</td>
<td>7926 sqm</td>
<td>13/11/15</td>
<td>MANUAL</td>
</tr>
<tr>
<td>5</td>
<td>WY-02-B-01</td>
<td>BUSINESS PARK</td>
<td>GROSS FLOOR AREA</td>
<td>4078 sqm</td>
<td>20/09/13</td>
<td>MANUAL</td>
</tr>
</tbody>
</table>

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.
This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.
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Parameter summary

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trip rate parameter range selected:</td>
<td>3300 - 55000 (units: sqm)</td>
</tr>
<tr>
<td>Survey date date range:</td>
<td>01/01/10 - 22/11/17</td>
</tr>
<tr>
<td>Number of weekdays (Monday-Friday):</td>
<td>5</td>
</tr>
<tr>
<td>Number of Saturdays:</td>
<td>0</td>
</tr>
<tr>
<td>Number of Sundays:</td>
<td>0</td>
</tr>
<tr>
<td>Surveys automatically removed from selection:</td>
<td>0</td>
</tr>
<tr>
<td>Surveys manually removed from selection:</td>
<td>0</td>
</tr>
</tbody>
</table>

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.
Summary of junction performance

<table>
<thead>
<tr>
<th>Arm</th>
<th>Queue (PCU)</th>
<th>Delay (s)</th>
<th>RFC</th>
<th>LOS</th>
<th>Queue (PCU)</th>
<th>Delay (s)</th>
<th>RFC</th>
<th>LOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arm 1</td>
<td>1.3</td>
<td>11.17</td>
<td>B</td>
<td>0.56</td>
<td>0.3</td>
<td>5.28</td>
<td>0.21</td>
<td>A</td>
</tr>
<tr>
<td>Arm 2</td>
<td>5.5</td>
<td>16.95</td>
<td>C</td>
<td>0.85</td>
<td>2.6</td>
<td>7.66</td>
<td>0.72</td>
<td>A</td>
</tr>
<tr>
<td>Arm 3</td>
<td>0.1</td>
<td>3.66</td>
<td>A</td>
<td>0.07</td>
<td>1.2</td>
<td>8.06</td>
<td>0.54</td>
<td>A</td>
</tr>
<tr>
<td>Arm 4</td>
<td>4.7</td>
<td>11.31</td>
<td>B</td>
<td>0.82</td>
<td>2.4</td>
<td>7.70</td>
<td>0.70</td>
<td>A</td>
</tr>
</tbody>
</table>

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

<table>
<thead>
<tr>
<th>Title</th>
<th>A12/Proposed Site Access Roundabout</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>Saxmundham</td>
</tr>
<tr>
<td>Site number</td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td>04/02/19</td>
</tr>
<tr>
<td>Version</td>
<td></td>
</tr>
<tr>
<td>Status</td>
<td>-</td>
</tr>
<tr>
<td>Identifier</td>
<td></td>
</tr>
<tr>
<td>Client</td>
<td></td>
</tr>
<tr>
<td>Jobnumber</td>
<td>6100303</td>
</tr>
<tr>
<td>Enumerator</td>
<td>MLMIPS/matthewsi</td>
</tr>
<tr>
<td>Description</td>
<td></td>
</tr>
</tbody>
</table>

Units

<table>
<thead>
<tr>
<th>Distance units</th>
<th>Speed units</th>
<th>Traffic units input</th>
<th>Traffic units results</th>
<th>Flow units</th>
<th>Average delay units</th>
<th>Total delay units</th>
<th>Rate of delay units</th>
</tr>
</thead>
<tbody>
<tr>
<td>m</td>
<td>kph</td>
<td>PCU</td>
<td>PCU perHour</td>
<td>s</td>
<td>-Min</td>
<td>perMin</td>
<td></td>
</tr>
</tbody>
</table>

Analysis Options

<table>
<thead>
<tr>
<th>Calculate Queue Percentiles</th>
<th>Calculate residual capacity</th>
<th>RFC Threshold</th>
<th>Average Delay threshold (s)</th>
<th>Queue threshold (PCU)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>0.85</td>
<td>36.00</td>
<td>20.00</td>
</tr>
</tbody>
</table>
### Demand Set Summary

<table>
<thead>
<tr>
<th>ID</th>
<th>Scenario name</th>
<th>Time Period name</th>
<th>Traffic profile type</th>
<th>Start time (HH:mm)</th>
<th>Finish time (HH:mm)</th>
<th>Time segment length (min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>D1</td>
<td>2029 + Dev</td>
<td>AM</td>
<td>ONE HOUR</td>
<td>07:45</td>
<td>09:15</td>
<td>15</td>
</tr>
<tr>
<td>D2</td>
<td>2029 + Dev</td>
<td>PM</td>
<td>ONE HOUR</td>
<td>16:45</td>
<td>18:15</td>
<td>15</td>
</tr>
</tbody>
</table>

### Analysis Set Details

<table>
<thead>
<tr>
<th>ID</th>
<th>Network flow scaling factor (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>100.000</td>
</tr>
</tbody>
</table>
Data Errors and Warnings
No errors or warnings

Junction Network

Junctions

<table>
<thead>
<tr>
<th>Junction</th>
<th>Name</th>
<th>Junction Type</th>
<th>Junction Delay (s)</th>
<th>Junction LOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A12 / Proposed Site Access</td>
<td>Standard Roundabout</td>
<td>13.24</td>
<td>B</td>
</tr>
</tbody>
</table>

Junction Network Options

<table>
<thead>
<tr>
<th>Driving side</th>
<th>Lighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Left</td>
<td>Normal/unknown</td>
</tr>
</tbody>
</table>

Arms

Arms

<table>
<thead>
<tr>
<th>Arm</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Site Access E</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>A12 S</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Site Access W</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>A12 N</td>
<td></td>
</tr>
</tbody>
</table>

Roundabout Geometry

<table>
<thead>
<tr>
<th>Arm</th>
<th>V - Approach road half-width (m)</th>
<th>E - Entry width (m)</th>
<th>θ' - Effective flare length (m)</th>
<th>R - Entry radius (m)</th>
<th>D - Inscribed circle diameter (m)</th>
<th>PHI - Conflict (entry) angle (deg)</th>
<th>Exit only</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3.65</td>
<td>7.00</td>
<td>9.0</td>
<td>25.0</td>
<td>55.0</td>
<td>29.0</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>3.65</td>
<td>7.50</td>
<td>17.0</td>
<td>30.0</td>
<td>55.0</td>
<td>34.0</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3.65</td>
<td>7.50</td>
<td>16.3</td>
<td>30.0</td>
<td>55.0</td>
<td>37.0</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>3.65</td>
<td>7.50</td>
<td>24.0</td>
<td>30.0</td>
<td>55.0</td>
<td>25.0</td>
<td></td>
</tr>
</tbody>
</table>

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

<table>
<thead>
<tr>
<th>Arm</th>
<th>Final slope</th>
<th>Final intercept (PCU/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.568</td>
<td>1590</td>
</tr>
<tr>
<td>2</td>
<td>0.601</td>
<td>1787</td>
</tr>
<tr>
<td>3</td>
<td>0.592</td>
<td>1756</td>
</tr>
<tr>
<td>4</td>
<td>0.637</td>
<td>1940</td>
</tr>
</tbody>
</table>

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

<table>
<thead>
<tr>
<th>ID</th>
<th>Scenario name</th>
<th>Time Period name</th>
<th>Traffic profile type</th>
<th>Start time (HH:mm)</th>
<th>Finish time (HH:mm)</th>
<th>Time segment length (min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>D1</td>
<td>2029 + Dev</td>
<td>AM</td>
<td>ONE HOUR</td>
<td>07:45</td>
<td>09:15</td>
<td>15</td>
</tr>
</tbody>
</table>

Vehicle mix source | PCU Factor for a HV (PCU) | HV Percentages |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>2.00</td>
</tr>
</tbody>
</table>
Demand overview (Traffic)

<table>
<thead>
<tr>
<th>Arm</th>
<th>Linked arm</th>
<th>Use O-D data</th>
<th>Average Demand (PCU/hr)</th>
<th>Scaling Factor (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>✔</td>
<td>✔</td>
<td>390</td>
<td>100.000</td>
</tr>
<tr>
<td>2</td>
<td>✔</td>
<td>✔</td>
<td>1109</td>
<td>100.000</td>
</tr>
<tr>
<td>3</td>
<td>✔</td>
<td>✔</td>
<td>68</td>
<td>100.000</td>
</tr>
<tr>
<td>4</td>
<td>✔</td>
<td>✔</td>
<td>1386</td>
<td>100.000</td>
</tr>
</tbody>
</table>

Origin-Destination Data

Demand (PCU/hr)

<table>
<thead>
<tr>
<th>From</th>
<th>To 1</th>
<th>To 2</th>
<th>To 3</th>
<th>To 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
<td>218</td>
<td>0</td>
<td>172</td>
</tr>
<tr>
<td>2</td>
<td>85</td>
<td>0</td>
<td>284</td>
<td>740</td>
</tr>
<tr>
<td>3</td>
<td>0</td>
<td>36</td>
<td>0</td>
<td>30</td>
</tr>
<tr>
<td>4</td>
<td>108</td>
<td>930</td>
<td>348</td>
<td>0</td>
</tr>
</tbody>
</table>

Vehicle Mix

Heavy Vehicle Percentages

<table>
<thead>
<tr>
<th>From</th>
<th>To 1</th>
<th>To 2</th>
<th>To 3</th>
<th>To 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>3</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>3</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

Results

Results Summary for whole modelled period

<table>
<thead>
<tr>
<th>Arm</th>
<th>Max RFC</th>
<th>Max delay (s)</th>
<th>Max Queue (PCU)</th>
<th>Max LOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.56</td>
<td>11.17</td>
<td>1.3</td>
<td>B</td>
</tr>
<tr>
<td>2</td>
<td>0.85</td>
<td>16.85</td>
<td>5.5</td>
<td>C</td>
</tr>
<tr>
<td>3</td>
<td>0.07</td>
<td>3.66</td>
<td>0.1</td>
<td>A</td>
</tr>
<tr>
<td>4</td>
<td>0.82</td>
<td>11.31</td>
<td>4.7</td>
<td>B</td>
</tr>
</tbody>
</table>

Main Results for each time segment

07:45 - 08:00

<table>
<thead>
<tr>
<th>Arm</th>
<th>Total Demand (PCU/hr)</th>
<th>Circulating flow (PCU/hr)</th>
<th>Capacity (PCU/hr)</th>
<th>RFC</th>
<th>Throughput (PCU/hr)</th>
<th>End queue (PCU)</th>
<th>Delay (s)</th>
<th>LOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>294</td>
<td>986</td>
<td>1030</td>
<td>0.285</td>
<td>292</td>
<td>0.4</td>
<td>5.110</td>
<td>A</td>
</tr>
<tr>
<td>2</td>
<td>835</td>
<td>389</td>
<td>1553</td>
<td>0.538</td>
<td>830</td>
<td>1.2</td>
<td>5.263</td>
<td>A</td>
</tr>
<tr>
<td>3</td>
<td>51</td>
<td>746</td>
<td>1314</td>
<td>0.039</td>
<td>51</td>
<td>0.0</td>
<td>2.992</td>
<td>A</td>
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<tr>
<td>4</td>
<td>1043</td>
<td>92</td>
<td>1881</td>
<td>0.555</td>
<td>1038</td>
<td>1.3</td>
<td>4.401</td>
<td>A</td>
</tr>
<tr>
<td>Time</td>
<td>Arm</td>
<td>Total Demand (PCU/hr)</td>
<td>Circulating flow (PCU/hr)</td>
<td>Capacity (PCU/hr)</td>
<td>RFC</td>
<td>Throughput (PCU/hr)</td>
<td>End queue (PCU)</td>
<td>Delay (s)</td>
</tr>
<tr>
<td>-------</td>
<td>-----</td>
<td>-----------------------</td>
<td>---------------------------</td>
<td>-------------------</td>
<td>-------</td>
<td>--------------------</td>
<td>----------------</td>
<td>-----------</td>
</tr>
<tr>
<td>08:00</td>
<td>1</td>
<td>351</td>
<td>1180</td>
<td>920</td>
<td>0.381</td>
<td>350</td>
<td>0.6</td>
<td>6.621</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>997</td>
<td>466</td>
<td>1507</td>
<td>0.662</td>
<td>994</td>
<td>2.0</td>
<td>7.417</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>61</td>
<td>893</td>
<td>1227</td>
<td>0.050</td>
<td>61</td>
<td>0.1</td>
<td>3.241</td>
</tr>
<tr>
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<td>4</td>
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<td>110</td>
<td>1870</td>
<td>0.666</td>
<td>1243</td>
<td>2.0</td>
<td>5.926</td>
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<tr>
<td>08:15</td>
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<td>351</td>
<td>1180</td>
<td>920</td>
<td>0.381</td>
<td>350</td>
<td>0.6</td>
<td>6.621</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>997</td>
<td>466</td>
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Traffic Demand

Demand Set Details

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Vehicle mix source PCU Factor for a HV (PCU)
HV Percentages 2.00

Demand overview (Traffic)

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Origin-Destination Data

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Vehicle Mix

Heavy Vehicle Percentages

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## Results

### Results Summary for whole modelled period

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### Main Results for each time segment

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Land South of Saxmundham

Regulation 19 Consultation

Flood Risk and Surface Water Drainage Statement

February 2019
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Appendices

Appendix A: Concept Plan
Appendix B: Surface Water Drainage Strategy Plan
Executive Summary

This Flood Risk & Surface Water Drainage Statement provides information for the Regulation 19 Suffolk Coastal Local Plan Consultation.

The Concept Plan provides for 800 dwellings located between the A12 and railway line, and south of the town. A primary school is located towards the northern edge of the scheme close to the existing secondary school.

Land to the west of the A12 will comprise employment uses potentially including a fuel filling station, drive-through hot food outlet, and B1/B8 class development.

Access to residential and employment land will be from a new roundabout on the A12.

There are no flood risks associated with the Site. Areas of surface water ponding are shown on relevant mapping; these areas are associated with watercourse drainage routes. These routes will be retained and enhanced as part of the surface water runoff management.

Surface water runoff will be managed sustainably as close to source as possible, and in accordance with the surface water drainage hierarchy. Infiltration drainage will be utilised where ground conditions are demonstrated to be suitable. Alternatively runoff will be discharged to a SuDS system comprising swales and attenuation basin discharging via culverts under the railway towards the River Fromus. Runoff will be restricted to natural (greenfield) runoff rates and allowance made for the reduced permeability of the land by provision of long term storage, and allowance made for predicted climate change. These SuDS methods will ensure that new dwellings are not a risk of flooding, and that there is no increased offsite flood risk.

Surface water runoff will receive treatment through vegetated swales and other systems to remove trace contaminants and ensure there is no detrimental impact on the wider water environment.

Exceedance runoff i.e. runoff in excess of the design storm, will be routed through swales, green corridors, and roads, to areas of least vulnerability including attenuation basins and the existing Kiln Lane sand pit. This will ensure that in the event of rainfall in excess of the design storm that properties on and offsite will not be put at increased risk of flooding.

This Flood Risk and Surface Water Drainage Strategy Statement demonstrates that the scheme is not at risk of flooding, and that surface water runoff will be managed sustainably.
The provision of a SuDS based surface water drainage system restricting runoff to existing natural runoff rates will ensure that there is no increased flood risk to offsite receptors hence meeting objectives set out in SCLP12.29.
1. **Introduction**

1.1 This Flood Risk and Surface Water Drainage Statement (the ‘Statement’) has been prepared by Willow Consulting for Pigeon Capital Management 2 Ltd (‘Pigeon’) and the landowners in support of a proposed new sustainable scheme on land south of Saxmundham (the ‘Site’). The Statement provides information on flood risk and drainage matters to demonstrate that the Site is sustainable in flood risk and drainage terms and capable of delivering 800 homes, employment and education, for the period up to 2036.

1.2 The South Saxmundham scheme is allocated in the Suffolk Coastal District Council Local Final Draft (January 2019).

1.3 The area being promoted by Pigeon for allocation in the Local Plan is shown in Figure 1, below. The Site extends from the west of the A12 across to the railway, to the north the Site borders the existing urban extent of Saxmundham. The Concept Plan is provided in Appendix A.

1.4 This Statement provides information on the following matters:

   a) Flood risk

   b) Sustainable surface water drainage
Limitations

1.5 This document has been prepared for the titled project and should not be relied upon or used for any other project. Willow Consulting accepts no responsibility or liability for the consequences of this document being used for a purpose other than that for which it was commissioned. The assessments and judgments contained herein should not be relied upon as legal opinion.
2. Policy Context

2.1 The purpose of this Flood Risk and Drainage Statement is to demonstrate that the scheme will meet and satisfy the requirements set out in the NPPF 2018 and relevant policies in the Suffolk Coastal Local Plan Draft.

2.2 Section 14 of the NPPF 2018 advises that plans should take a proactive approach to mitigating and adapting to climate change, considering the long-term implications for flood risk, coastal change, water supply, biodiversity, and landscapes, and the risk of overheating from rising temperatures. Policies should support appropriate measures to ensure the future resilience of communities and infrastructure to climate change impacts, such as providing space for physical protection measures, or making provision for the possible future relocation of vulnerable development and infrastructure.

2.3 Furthermore, the NPPF states that:

a) within the site, the most vulnerable development is located in areas of lowest flood risk, unless there are overriding reasons to prefer a different location;

b) the development is appropriately flood resistant and resilient;

c) it incorporates sustainable drainage systems, unless there is clear evidence that this would be inappropriate;

d) any residual risk can be safely managed; and

e) safe access and escape routes are included where appropriate, as part of an agreed emergency plan.

and

Major developments should incorporate sustainable drainage systems unless there is clear evidence that this would be inappropriate. The systems used should:

f) take account of advice from the lead local flood authority;

g) have appropriate proposed minimum operational standards;

h) have maintenance arrangements in place to ensure an acceptable standard of operation for the lifetime of the development; and
i) where possible, provide multifunctional benefits.

Suffolk Coastal Local Plan Draft: Policy SCLP12.29

2.4 Objectives in this Policy relevant to flood risk and surface water drainage are:

a) A site specific Flood Risk Assessment which considers the cumulative impact on receptors off-site

b) Sustainable Drainage Systems (SuDS) to reduce the risk of surface water flooding and sewer flooding
3. Flood Risk

Fluvial Flood Risk

3.1 The Plan provided in Figure 2 shows that the Site is located entirely in Flood Zone 1. In accordance with Table 2: Flood Risk vulnerability classification all forms of development are acceptable within Flood Zone 1 and application of the Sequential and Exception Tests is not required.

Figure 2: Fluvial & tidal flood risk

Long Term (Surface Water) Flood Risk

3.2 Surface water flooding results from overland flow due to precipitation. It should not be considered as highly accurate due to the effect of local features that will not be allowed for in the modelling. Surface water flooding mapping gives a general indication of overland flow and ponding.

1 Planning Practice Guidance: Flood Risk and Coastal Change
3.3 The Plan provided in Figure 3 shows that limited areas of the Site are affected by surface water flooding. Surface water flooding follows existing drainage ditches towards a culvert under the railway at the Kiln Lane level crossing.

3.4 Existing drainage ditches will be retained within the scheme layout and enhanced to form green corridors and swales. Surface water flooding will be routed through the scheme to ensure there is no resulting flood risk to the scheme, or to offsite properties.

Figure 3: Surface water flood risk

Flood Risk from Reservoirs

3.5 The Site is not at risk of flooding from reservoirs and canals – refer to Figure 4.
Summary

3.6 This site specific Flood Risk Assessment demonstrates that the site is not at risk of flooding and meets the requirement of the NPPF in directing development to areas of lowest flood risk, and meeting objectives set out in SCLP12.29.
4. **Sustainable Surface Water Drainage Strategy**

4.1 This Section provides information on the surface water drainage strategy to manage runoff from developed areas in a sustainable manner.

**Site Description**

4.2 The Site is currently undeveloped agricultural land with the A12 passing in a north-south direction towards the west of the Site. The land falls generally towards the south and away from the current limit of urban development in the north. The undulating landscape is formed by valleys with ditch drainage systems leading south towards the Kiln Lane level crossing. A surface water drainage culvert under the railway forms the principal drainage outlet for the area. The watercourse downstream from the culvert continues towards the east to its confluence with the River Fromus as shown in Fig. 5.

4.3 The northern field falls towards the north and the cemetery. Development, including the school, on the southern edge of Saxmundham is drained via a surface water drain through the cemetery and under the railway and continuing across to an outfall at the River Fromus.

*Figure 5: Watercourse from the Site to River Fromus*

**Geology**

4.4 BGS mapping shows that bedrock underlying Saxmundham is formed of the Red Crag Formation (Sand) with Superficial deposits formed from Lowestoft Formation
(Diamicton). The Lowestoft Formation comprises mixed sands and clays and with widely varying characteristics typical of glacial deposits. The Red Crag Formation is designated as Principal Aquifer.

4.5 The Lowestoft Formation is anticipated to have variable suitability for infiltration drainage depending on the local geology. Percolation testing will be required to establish areas suitable for this form of drainage.

**Surface Water Drainage Strategy**

4.6 Management of surface water runoff must conform to the Surface Water Hierarchy as set out in the SuDS Manual 2015 and that where achievable surface water is controlled and disposed of at source. The SuDS Hierarchy is in order of acceptance:

a) to the ground via infiltration

b) to a watercourse

c) to a surface water sewer

4.7 The preliminary surface water drainage strategy is shown on the Drainage Strategy Plan - see Appendix B.

4.8 As noted above ground conditions can be expected to be variable, with some areas suitable for infiltration drainage, and other areas having poor infiltration and being unsuitable for this form of drainage. An extensive programme of ground testing will be undertaken targeted at potentially suitable areas with the results used to inform the drainage strategy.

4.9 An initial surface water drainage strategy has been prepared based on a restricted discharge to the downstream watercourse via the culvert under the railway at Kiln Lane as shown in Fig. 5. Development in the northern field will be discharged via the surface water drain through the cemetery and to the River Fromus. Runoff will be drained to attenuation basins sized for the 100 year storm event, with appropriate allowance for climate change, and also for long term storage to compensate for the reduced land permeability resulting from development. The discharge from attenuation basins will be restricted to the natural (greenfield) runoff rate for equivalent storm events. At a later stage and following permeability testing the drainage strategy will be revised to allow
for infiltration where suitable ground conditions are proven to exist. Preliminary sizing of attenuation basins has been undertaken using Microdrainage software.

4.10 Consequently to meet SuDS requirements the preliminary surface water drainage strategy will comprise the following:

a) A piped conveyance network within each catchment area draining to an attenuation basin located within the catchment area. The outlet from the attenuation basin will be restricted to the natural runoff rate in accordance with parameters set out in the SuDS Manual 2015. Additional allowance will be made for long term storage to mitigate the impact of the reduction in permeable area within the catchment. The discharge from each attenuation basin will be piped via the existing culvert and surface water drain crossing under the railway and then on to the River Fromus.

b) Subject to suitability of ground conditions at each basin provision will be made for infiltration to the ground.

c) Runoff from the principal roads will be discharged to swales adjacent to the roads. These swales will ensure removal of trace contaminants from highway runoff. Runoff from swales will be drained into the piped conveyance network and then on to the attenuation basins.

d) Treatment of runoff from lower order roads will be provided in the attenuation basis with runoff discharged through grass swales within each basin.

e) Exceedance flooding (i.e. flooding from storm events in excess of the design 100 year event) will be routed through the scheme using green corridors formed by retained ditches, public footpaths, swales, and roads leading to areas of least vulnerability. The existing sand pit located adjacent to the Kiln Lane level crossing will provide temporary storage for exceedance flood events with this water able to infiltrate into the permeable ground once the storm has abated. Exceedance flooding routes will be designed to avoid new and existing properties ensuring these are not put at increased flood risk.
Summary

4.11 This Section provides options for sustainable management of surface water runoff and demonstrates that this is achievable based on criteria set out in the NPPF and SuDS Manual 2015.

4.12 The provision of a SuDS based surface water drainage system restricting runoff to existing natural runoff rates will ensure that there is no increased flood risk to offsite receptors hence meeting objectives set out in SCLP12.29.

4.13 No surface water will be drained to the foul sewer network hence meeting objectives set out in sCLP12.29 requiring no increase in sewer flooding.
Appendix A: Concept Plan
Appendix B: Surface Water Drainage Strategy Plan
Appendix 4: Heritage Assessment
Heritage Assessment
Land South of Saxmundham, Suffolk

prepared for
Pigeon Capital Management 2 Ltd and the Landowners
Project Reference Number: 0075

February 2019
Executive Summary

This heritage assessment considers the developmental history and archaeological record of a parcel of land to the south of Saxmundham put forward for allocation in the emerging Suffolk Coastal District Local Plan, and assessed the likely impact which the proposed development study area would have upon the heritage assets which lie within and around it.

Historically, the study area has been a peripheral area of agricultural land to the south of the settlement of Saxmundham, and that, with the exception of the Benhall Brick Works and a single farm, the area has remained largely undeveloped throughout the 19th and 20th centuries. The construction of the railway in 1859 and the A12 Saxmundham Bypass in 1987–8 has sub-divided the area, but not altered its character to any great extent.

There are no designated heritage assets within the study area. Several non-designated heritage assets lie within it, including the site of the former brick works (now an agricultural field) and stray-finds of prehistoric worked flints, and Roman and medieval pottery sheds. The latter are very few in number and all of these non-designated heritage assets are considered to be of low significance. An extensive geophysical survey commissioned by the Promotor and undertaken in February 2019 has revealed traces of numerous former field boundaries, field drains, the former brick works and a former farmyard, all of which can be identified from 19th-century mapping, and has confirmed the low archaeological potential of the study area.

The proximity of the Saxmundham Conservation Area to the north-eastern corner of the study area requires due consideration in the design approach. Historically, much of the study area has been separated from the Conservation Area by the railway cutting and the ridge of high ground which forms the watershed between the study area and the valley within which the town is situated. The current Concept Plan for the proposed development of the site accentuates this divide with the use of open space to the east of the railway track and planting along its length.

Overall, the potential impact of any development within the study area on any known heritage assets is considered to be low, and in the light of the geophysical survey the potential for the discovery of unknown heritage assets within the study area is also thought to be low.
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1 Introduction

1.1 This Heritage Assessment has been prepared by Dr Richard Hoggett MCIfA FSA at the request of Pigeon Capital Management 2 Limited (the Promoter) on behalf of the landowner. It pertains to several contiguous parcels of land to the south of Saxmundham, Suffolk (hereafter ‘the study area’), which have been proposed to be allocated in the Final Draft Suffolk Coastal Local Plan (Figures 1 and 2).¹

1.2 Specifically, these parcels are referred to under policy SCLP 12.29 South Saxmundham Garden Neighbourhood. A copy of the latest version of the concept plan for the site at the time of writing, featuring indicative areas of land-use, roads, open space and planting, is included here for reference as Appendix I.

1.3 In the published Draft Strategic Housing and Economic Land Availability Assessment published by Suffolk Coastal District Council in July 2018,² the impact on the historic environment of the potential development of each of these parcels of land was given a green rating, meaning that the development of each site would not have an impact on heritage assets. This Heritage Assessment has been produced to provide a more detailed evidence base for these conclusions and to demonstrate clearly that the development of the study area would not impact on any known heritage assets.

1.4 This report addresses the National Planning Policy Framework’s (NPPF) requirement that planning applicants ‘describe the significance of any heritage assets affected, including any contribution made by their setting’ (NPPF para. 189). The Framework goes on to stipulate that ‘the level of detail should be proportionate to the assets’ importance and no more than is sufficient to understand the potential impact of the proposal on their significance’ (NPPF para. 189). In preparing this heritage assessment, due regard has been paid to the guidance set out in the Chartered

¹ http://www.eastsuffolk.gov.uk/assets/Planning/Suffolk-Coastal-Local-Plan/First-Draft-Local-Plan/Draft-SHELAA.pdf

1.5 Section 2 presents the framework of legislation, planning policy and guidance which applies to the site and ensures that proposals are developed and considered with due regard to their impact on the historic environment. Section 3 describes and characterises the geology, soils, topography and history of the study area. Section 4 considers the designated and non-designated heritage assets within and around the study area, including those recorded in the Suffolk Historic Environment Record. Section 5 summarises the results of a recent geophysical survey of the study area commissioned by the Promotor. Section 6 assesses the likely impact of the proposed development of the study area on the historic environment and identifies suitable mitigation measures. Section 7 presents the conclusions of this report.

1.6 This report has been prepared for the joint benefit of Pigeon Capital Management 2 Ltd and the landowners and should not be relied upon by others without the express written authority of Richard Hoggett Heritage. If any unauthorised third party makes use of this report they do so at their own risk and Richard Hoggett Heritage owe them no duty of care or skill.
Figure 1. The location of the study area, centred on TM 3796 6247, at 1:20,000. Contains OS data © Crown copyright and database right 2018.
Figure 2. The study area, showing major topographic features, place-names and street names, at 1:10,000. Contains OS data © Crown copyright and database right 2018.
2 Legislation, Policy and Guidance

2.0.1 Where any development may affect designated or non-designated heritage assets, there is a framework of legislation, planning policy and guidance to ensure that proposals are developed and considered with due regard to their impact on the historic environment. Only those pieces of legislation, policy and guidance of relevance to the study area are presented here.

2.1 Legislation

2.1.1 Ancient Monuments and Archaeological Areas Act (1979)

2.1.1.1 Under the terms of the act, an archaeological site or historic building of national importance can be designated as a Scheduled Monument under the terms of the Ancient Monuments and Archaeological Areas Act (1979). Any works, including development, which might affect a Scheduled Monument are subject to the granting of Scheduled Monument Consent alongside any planning permission which may be required.

2.1.2 Planning (Listed Buildings and Conservation Areas) Act 1990

2.1.2.1 Legislation pertaining to buildings and areas of special architectural and historic interest is contained within the Planning (Listed Buildings and Conservation Areas) Act 1990. Section 66 of the 1990 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.’

2.2 Planning Policy

2.2.1 National Planning Policy Framework

2.2.1.1 Designated and non-designated heritage assets are given protection under the National Planning Policy Framework (NPPF). A revised version of the NPPF was published by the Ministry of Housing, Communities and Local Government in July
Provision for the historic environment is considered in Section 16 of the NPPF, which directs Local Planning Authorities to set out ‘a positive strategy for the conservation and enjoyment of the historic environment, including heritage assets most at risk through neglect, decay or other threats’ (NPPF para. 185). The aim is to ensure that Local Planning Authorities, developers and owners of heritage assets adopt a consistent approach to their conservation and to reduce complexity in planning policy relating to proposals that affect them.

Paragraph 189 of the NPPF states that ‘In determining applications, local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets’ importance and no more than is sufficient to understand the potential impact of the proposal on their significance.’ (NPPF, para. 189).

Paragraph 190 of the NPPF instructs Local Planning Authorities to ‘identify and assess the particular significance of any heritage asset that may be affected by a proposal (including by development affecting the setting of a heritage asset) taking account of the available evidence and any necessary expertise’ (NPPF para. 190).

Paragraph 193 states that ‘When considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset’s conservation (and the more important the asset, the greater the weight should be). This is irrespective of whether any potential harm amounts to substantial harm, total loss or less than substantial harm to its significance’ (NPPF para. 193).

Paragraph 194 explains that ‘Any harm to, or loss of, the significance of a designated heritage asset (from its alteration or destruction, or from development within its

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3 https://www.gov.uk/guidance/national-planning-policy-framework
setting), should require clear and convincing justification’ (NPPF para. 194) and as a corollary, paragraph 196 states that ‘Where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal including, where appropriate, securing its optimum viable use’ (NPPF para. 194).

**2.2.2 Suffolk Coastal Core Strategy & Development Management Policies**

2.2.2.1 Published in July 2013, the Core Strategy and Development Management Policies are the central part of the Suffolk Coastal District Local Plan and set out the vision and strategy for development in the district to 2027.\(^4\)

2.2.2.2 Paragraph 3.150 explains that with regard to designated heritage assets, the Core Strategy provides ‘general advice supporting their retention and enhancement whilst minimising any significant adverse impacts upon them’ and continues that ‘decisions on development proposals affecting heritage assets will be informed as appropriate by Conservation Area Appraisals, information from the Historic Environment Record and Archaeological Assessments.’

**2.3 Guidance**

**2.3.1 National Planning Practice Guidance**

2.3.1.1 The NPPF is complemented by a series of National Planning Practice Guidance documents, which includes specific guidance on Conserving and Enhancing the Historic Environment, published in 2014.\(^5\) On the subject of how proposals can avoid or minimise harm to the significance of a heritage asset, the guidance states that ‘a clear understanding of the significance of a heritage asset and its setting is necessary to develop proposals which avoid or minimise harm. Early appraisals, a conservation plan or targeted specialist investigation can help to identify constraints and opportunities arising from the asset at an early stage. Such studies can reveal


alternative development options, for example more sensitive designs or different orientations, that will deliver public benefits in a more sustainable and appropriate way.’

2.3.2 The Setting of Heritage Assets

2.3.2.1 More specific advice is set out by Historic England in The Setting of Heritage Assets (2015), which defines a staged approach to assessing setting:

- Step 1: identify which heritage assets and their settings are affected;
- Step 2: assess whether, how and to what degree these settings make a contribution to the significance of the heritage asset(s);
- Step 3: assess the effects of the proposed development, whether beneficial or harmful, on that significance;
- Step 4: explore the way to maximise enhancement and avoid or minimise harm;
- Step 5: make and document the decision and monitor outcomes.
3 The Site and Surroundings

3.1 The study area occupies an approximately triangular area of land situated to the south-west of Saxmundham at TM 379 624 (Figures 1 and 2). The study area straddles the boundary of the parishes of Saxmundham itself and Benhall to the south, with the boundary traversing the site diagonally from north-west to south-east across the northernmost third of the study area.

3.2 To the west, the study area is bounded by open farmland of mixed arable character, while to the south it is bounded by the line of the southern and northern arms of Kiln Lane and the railway line (Figure 3). The eastern boundary of the study area is partially formed by the railway line to the north and south, but is also bounded by an area of open farmland known as The Layers.

3.3 To the north, the study area is bounded by the small wooded area of Park Farm Covert, and the heavily developed area of Franklin Road, Mayflower Avenue, Lincoln Avenue and what is now the Saxmundham Free School (formerly the Modern School), which marked the extension of the town in late 1960s and early 1970s. To the north-east the study area is bounded by Mill Rise and Fisher Close, built between 1975 and 1990.

3.4 The only extant buildings within the study area are those pertaining to Kiln Farm, in the south-west of the area, and isolated properties located along Kiln Lane. The eastern third of the study area is bisected north-south by the embanked track of the railway line, which was established in 1859 and which remains in active use. The western third of the study area is bisected north-south by the line of the A12 Saxmundham Bypass, which was constructed in 1987–88, rerouting traffic around the west of the town.

3.5 The underlying geology of the study area comprises sedimentary Crag bedrock, overlain by diamicton deposits of the Lowestoft formation. The study area straddles two distinct soil-types. The northern and western part of the area, as approximately delineated by the railway line and Kiln Farm, is the slowly permeable, clayey soil of
the Ragdale soil association (712g). The part of the study area which lies predominantly to the east of the railway line and to the south-east of kiln Farm comprises the dell, well-drained sandy soils of the Newport 4 soil association (551g). A series of boreholes sunk along the line of the A12 before its construction indicated that the topsoil in the area was between 0.2 and 0.3m deep, which then overlay the stiff brown-yellow sandy clays. None of the boreholes reached the water table.

3.6 Topographically, the landscape of the study area is gently undulating, being at its highest in the north-western corner of the area, which lies at c. 33m aOD. Environment Agency Lidar data from 2011 indicates that the central part of the site is lower lying, at c. 25m aOD, and forms a gentle north-south valley basin (Figure 3). This valley turns to the south-east outside the boundary of the study area and merges into the larger area of north–south river within which the historic core of Saxmundham is situated, and which flows away southwards and eastwards. The Lidar data also indicates that the eastern boundary of the study area runs along the crest of a ridge of higher ground, which serves to separate the smaller valley within the study area from the larger valley to the east. This ridge also serves to screen the study area from the lower-lying historic core of the town itself.

3.7 An assessment of the earliest reliable historic mapping of the area demonstrates that in the mid-19th century the study area comprised a collection of small, irregular agricultural fields at the extremity of the two parishes, within which were located some isolated farmsteads and the Benhall Brick Works. The northern part of the study area is depicted on the Saxmundham tithe map of 1840 (TNA: IR 30/33/347) (Figure 5), while the Benhall tithe map of c. 1846 (TNA: IR 30/33/39) shows the southern two-thirds of the study area (Figure 6).

3.8 While many of the features of the area have been altered by subsequent landscape changes, not least the construction of the railway and the A12, several features in

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6 http://www.landis.org.uk/services/soilsguide/mapunit.cfm?mu=71207
7 https://www.landis.org.uk/services/soilsguide/mapunit.cfm?mu=55107
8 http://scans.bgs.ac.uk/sobi_scans/boreholes/514963/images/12110975.html
the modern landscape are identifiable on the tithe maps, including the line of Kiln Lane in the centre of the study area and what was then known as Howard’s Covert (now Park Farm Covert) to the north-west.

3.9 Following the creation of the tithe map, the landscape of the study area was dramatically changed by the construction of the railway line, which opened in 1859. The study area sits at the corner of four different 1-to-25 inch Ordnance Survey map sheets, which combined give a very clear picture of the landscape during the later 19th and early 20th centuries (Figure 7).

3.10 To the south-west, OS sheet Suffolk LIX.4, surveyed and published in 1883, presents a detailed view of the Benhall Brick Works, including its kiln and long drying sheds, as well as related sand pits and clay pits (Figure 8). This map also shows the small railway cottage constructed immediately adjacent to the level crossing where the trainline crossed Kiln Lane.

3.11 To the south-east, sheet Suffolk LX.1, surveyed in 1881 and published in 1882 shows that by the late 19th century the smaller fields indicated in the eastern part of the tithe maps had been combined and enclosed into an large, open, lightly wooded pastural field.

3.12 To the north-east, sheet Suffolk L.13, surveyed in 1881 and published c. 1884, shows the deep cutting in which the railway line sits as it enters the town of Saxmundham itself, and also shows details of Howard’s Farm, the only other buildings standing within the study area at this time.

3.13 To the north-west, sheet Suffolk XLIX.16, surveyed in 1881 and published in 1883 shows a similar late 19th-century trend towards the amalgamation and enclosure of the smaller, irregularly-shaped fields illustrated on the tithe maps into larger, more regular fields.

3.14 Comparison with later Ordnance Survey maps and the modern aerial photographs (Figure 3) indicates that very little has changed within the landscape of the study area during the 20th century. The Benhall Brick Works were still extant on OS maps
of the late 1940s and early 1950s, although with many of its outbuildings having been taken down, and the brick works were no longer included on the 1970 OS map. Today, the buildings of Kiln Farm are the last remnant of the complex, and these are not part of the proposed allocations.

3.15 Likewise, Howard’s Farm went out of use during the 1940s, with some of the buildings still standing in 1957, where they were referred to as Park Farm cottages, but these too had been completely removed by 1975.

3.16 The new A12 Saxmundham bypass was constructed in 1987–8, which had an effect on the shape of the fields either side of it, but otherwise had little effect on the landscape of the wider study area.
Figure 3. A modern aerial photographic view of the study area showing its arable character and that of the surrounding area and highlighting the late-20th-century development to the north.
Figure 4. False-colour image mapping of the relative ground heights within and surrounding the study area, derived from the 2011 1m-resolution LIDAR DSM. Red areas are higher ground and blue areas are lower. Environment Agency copyright and/or database right 2015. All rights reserved.
Figure 5. Extract from the 1840 Saxmundham tithe map, highlighting the northern part of the study area (TNA IR 30/33/347).
Figure 6. Extract from the c. 1846 Benhall tithe map, highlighting the southern part of the study area (TNA IR 30/33/39).
Figure 7. Composite extract from the Ordnance Survey maps of c. 1900, showing the simplified field-scape of the study area at this time, the Benhall Brick Works and the line of the railway.
Figure 8. Detailed view of the Benhall Brick Works complex from the 1883 1-to-25 inch Ordnance Survey map (Suffolk LIX.4).
4 Heritage Asset Assessment

4.0.1 In the light of the legislation, policies and guidance discussed above, this section presents an assessment of the designated and non-designated Heritage Assets to be found within and around the study area, and quantifies the potential impact of the proposed development upon them. This discussion is informed by a data extract from the Suffolk Historic Environment Record obtained on 14th August 2018, complemented by a site visit undertaken by the author on 22nd August 2018 and the National Heritage List for England, consulted on 22nd August 2018.

4.1 Designated Heritage Assets

4.1.1 The National Heritage List for England indicates that there are no designated heritage assets within the study area.\(^9\)

4.1.1 Scheduled Monuments

4.1.1.1 There are no Scheduled Monuments near to the study area, the closest being the ruins of Leiston Abbey some 6.5km to the east of the site (National Heritage List No. 1014520).

4.1.2 Listed Buildings

4.1.2.1 The nearest listed building is the Grade II listed Benhall Cottage (National Heritage List No. 1030908) which lies some 150m south of the southern extent of the study area. A larger cluster of listed buildings is situated slightly further away from the north-eastern extremity of the study area, within the historic core of Saxmundham.

4.1.3 Registered Parks and Gardens

4.1.3.1 The nearest Registered Park and Garden is Glemham Hall, which is listed at Grade II and the nearest corner of which lies 3.8km to the south-west of the study area (National Heritage List No. 1001461).

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\(^9\) [https://historicengland.org.uk/listing/the-list/](https://historicengland.org.uk/listing/the-list/)
4.1.4 Conservation Area

4.1.4.1 The north-eastern extremity of the study area lies approximately 100m from the south-western extremity of the Saxmundham Conservation Area, which focusses on the historic core of the town to the north-east, which was last appraised in 2016.10

4.2 Non-designated Heritage Assets

4.2.1 In addition to Designated Heritage Assets, the NPPF also recognises the status of Non-designated Heritage Assets, being assets which are not formally designated but which are of archaeological, historical or architectural significance. The Suffolk Historic Environment Record is the definitive database of known archaeological sites in the county, and it contains details of several sites and findspots which lie within the vicinity of the proposed development site (Figure 9).

4.2.2 Within the study area, HER record BNL 022 refers to the Benhall Brick Works, the extent of which has been included in the records based on the historic mapping discussed above. As has been discussed, the main buildings from the complex depicted in the 19th century had all been removed by the second half of the 20th century and are now ploughed fields. The western part of the complex was cut through by the line of the A12 in the late 1980s.

4.2.3 In the eastern part of the study area, record BNL 006 records the discovery of a medieval iron axehead in 1959. Artefacts of this kind are common losses, especially in wooded areas, and the large extent of the polygon on the map reflects the uncertainty surrounding the location of the find.

4.2.4 Running north–south, linear record SUF 067 records the line of the East Suffolk Railway, which was constructed in the 1850s and opened in 1859. As discussed, this railway is still in active use, sits on an slight embankment across the southern part of the study area and runs in a cutting through the ground to the north.

In the southern part of the study area, record BNL 040 records the discovery prior to the construction of the A12 of a small scatter of four medieval pottery sherds and an additional two sherds which were thought to be Roman. Similarly, record BNL 045 to the north records the discovery during a fieldwalking survey conducted ahead of the dualling of the A12 in 1992 of a ‘light scatter of worked flint’ and two sherds of medieval pottery. Archaeological ‘background noise’ of this kind is typical of the peripheral nature of the study area, being typical of the widespread prehistoric exploitation of the landscape and as a result of the spreading of domestic refuse as manure during the Roman, Anglo-Saxon and medieval periods.

Outside the study area, record BNL 002 to the west records the cropmark of a possible gazebo or summer house, which is marked on early Ordnance Survey maps as a ‘cupola’. Further to the west, a group of records within the centre of Benhall itself record the medieval church (BNL 016), the former deer park (BNL 019) and scatters of medieval artefacts from within the settlement core (BNL 008 and BNL 009). Traces of earlier, Roman material have also been recovered from the vicinity (BNL 001 and BNL 009).

To the north of the study area, record SXM 030 records the results of an archaeological evaluation which was undertaken before the construction of new housing on the site. This work revealed further background evidence of prehistoric worked flints, as well as identifying post-medieval field boundaries and pits, confirming the identification of this area as having historically always been peripheral to main settlements of Saxmundham.

To the north-east, record SXM 005 records the discovery of several Iron Age sherds from the garden of Park House in 1968–9, while SXM 044 relates to the results of an archaeological evaluation undertaken within the southern edge of the town which have yet to be fully added to the HER.

Immediately to the east of the study area, record SXM 050 pertains to the area of open ground to the south of Saxmundham town centre named on historic maps as The Layers. This area forms the southern approach to the town, and is thought to
have been used for 'laying up' horses before bringing them into the town for horse fairs. A geophysical survey was undertaken of The Layers and land to the east of the main road in September 2017. This survey revealed evidence for a former trackway and settlement to the east of the main road, but revealed no geophysical anomalies identifiable as archaeological features in the area to the west of the main road, contiguous with the study area which forms the focus of this report.
Figure 9. Data extracted from the Suffolk Historic Environment Record showing archaeological monuments and findspots in the vicinity of the study area © Suffolk County Council
5 Archaeological Evaluation

5.1 In order to evaluate the archaeological potential of the study area, the Promoter commissioned a geophysical survey of the portion of the study area bounded by the A12 to the west and the railway line to the east. The survey was conducted by Suffolk Archaeology CIC between 4th–15th February 2019. During the survey two teams equipped with Bartington DualGRAD 601-2 fluxgate gradiometers surveyed approximately 45ha using a 20m grid, with sampling intervals set at 0.25m and recorded along 1m traverse intervals (Schofield 2019).

5.2 An overview of the results of the geophysical survey is presented in Figure 10, with the individual fields which make up the survey area labelled as Fields 1 to 7. The survey revealed clear results and identified agricultural field drains and extensive traces of former field boundaries, many of which are depicted on the First Edition Ordnance Survey map (cross-reference Figure 7).

5.3 Features of note revealed during the geophysical survey included the following. In Field 1, at the southern tip of the study area, the traces of a dry west–east river channel were identified. In Field 2, to the south-west, the heavy disturbance caused by the former Benhall Brick Works which stood on the site until at least the 1950s was clearly defined (cf. Figures 7 and 8). In Field 3 foundations and enclosures relating to the former Howard’s Farm, abandoned in the 1940s, were identified at the northern end of the field (cf. Figure 7). A series of property enclosures fronting onto Kiln Lane was identified at the southern edge of the Field 3 and these may also relate to the brickworks. The former continuation of Kiln Lane, as depicted on the First Edition Ordnance Survey map, was clearly traceable within Field 4 (cf. Figure 7). Fields 5 and 6, at the northern edge of the study area, contained traces of numerous linear field boundaries depicted on historic mapping (cf. Figure 7). Finally, Field 7, at the very north of the study area, revealed traces of a large depression containing ferrous debris. This feature does not correlate with any known historical features, but may relate to the residential development of the area immediately to the north.
Figure 10. Greyscale plot of magnetometer survey data, showing historical landscape features identified during the survey (© Suffolk Archaeology CIC, reproduced with permission).
5.4 Overall, the results of the geophysical survey identified very few features which do not correlate with known historic land use and/or features depicted on historic mapping. Consequently, the results of the survey can be taken to confirm the assessment of low archaeological potential within the study area presented in the previous section.
6 Heritage Impact Assessment

6.1 The preceding sections have described and characterised the development of the historic landscape of the study area, and have systematically identified and discussed the heritage assets which lie within and adjacent to it. This section considers the likely impact of proposed development within the study area upon these heritage assets.

6.2 The historic map evidence indicates that the study area was a peripheral part of agrarian landscape between the settlements of Saxmundham and Benhall.

6.3 There are no designated heritage assets within the boundary of the study area, therefore any development within the study area would have no direct impact upon any designated heritage assets.

6.4 There are several non-designated heritage assets recorded within the study area, upon which proposed development could have a potential impact, but in none of these cases is the impact thought to be significant. The three findspots of medieval and possibly Roman material (BNL 006, 040 and 045) should not be taken to be indicative of the presence of buried archaeological deposits and are interpreted here as archaeological ‘background noise’. The main non-designated heritage asset within the study area is the site of the former Benhall Brick Works, but, as has been seen, this site was extensively cleared following the closure of the works and has subsequently been ploughed and is partially overlain by the line of the A12. It is not known to what extent remains of the works buildings might survive below the ground, but given the later land-use of the site it is thought that their survival is likely to be minimal.

6.5 As an arable and largely undeveloped area, it is recognised that there is the potential for unknown buried archaeological sites to lie within the study area, although in the light of the geophysical survey commissioned by the Promoter this likelihood is considered to be very low (Schofield 2019). Archaeological evaluation immediately to the north (SXM 030) and geophysical survey to the east (SXM 050) have
demonstrated the immediate environs of the study area to be largely devoid of archaeological features.

6.6 In terms of archaeological mitigation within the study area, it is acknowledged that any development of land within the study area would need to be subject to a programme of archaeological works. Given the low archaeological potential of the study area and the geophysical evaluation already undertaken, it is suggested that this further work should be secured by suitable conditions placed on any planning permission granted. Such works should comprise trial-trenching informed by the results of the geophysical survey. This would enable the identification of any as-yet-unidentified archaeological deposits, and allow for the development of a suitable mitigation strategy for the site, should any be deemed to be necessary.

6.7 In terms of the impact of development within the study area on surrounding heritage assets, again there are no Scheduled Monuments or Registered Parks and Gardens within several kilometres of the site, but the relationship between the study area, the Saxmundham Conservation Area and the Listed Buildings contained within it does need to be considered.

6.8 As has been discussed, at their closest points, the boundaries of the study area and the Conservation Area are just over 100m apart, but although lying in close proximity, this short distance is severed by the line of the railway cutting and track, which already serve to create a clear separation between the landscape to its east and west. This separation has existed since the mid-19th century and within the townscape to the north there is a distinct division between the historic core to the east of the railway line and the modern developments to its west. As a consequence, the foci of the study area and the Conservation Area lie in opposite directions. Similarly, development within the study area would not have an impact upon the setting of any of the individual Listed Buildings within the Conservation Area, as these are separated from the site by some considerable distance and a sizeable body of more recent development.
6.9 With the use of considered design and sympathetic architecture at these closest points the proposed development within the study area would have no impact on the setting of the Conservation Area. As can be seen in the Concept Plan included here as Appendix I, it is the intention that the vast majority of the study area to the east of the railway line would be left as open space, with tree planting along both sides of the railway track creating both a green screen and physically emphasising the established division between the land to the east and west of the railway track.

6.10 Finally, consideration needs to be given to the relationship between the study area and the area of The Layers, with which it shares a contiguous eastern boundary. It is understood that The Layers is currently the subject of a designation application to protect what is seen as an historic area of open ground which forms an intrinsic part of the setting of the Conservation Area. However, the outcome of this application has not yet been determined and it remains to be seen whether this is successful. What is more certain is that an archaeological geophysical survey of the site has not revealed any archaeological features of note within the area, and its archaeological potential should therefore be considered to be low.

6.11 In terms of the impact which any development within the study area might have on The Layers, again it is important to note that the ridge of high ground which lies to the east of the study area means that the study area and The Layers are effectively on the opposite sides of the watershed to one another, meaning that there is little or no indivisibility between the two areas. As is discussed above and illustrated in Appendix I, it is proposed that a buffer of open land be left between The Layers and the railway line, creating a contiguous block of open ground to the south of the historic core of the town and ensuring that the proposed development would have no impact upon The Layers.
7 Conclusion

7.1 This heritage assessment has considered the developmental history and archaeological record of a block of land to the south of Saxmundham put forward for allocation in the emerging Suffolk Coastal District Local Plan, and assessed the likely impact which the proposed redevelopment of the site would have upon the heritage assets which lie within and around the study area.

7.2 This assessment has revealed that historically the study area has been a peripheral area of agricultural land between the settlements of Saxmundham and Benhall, and that, with the exception of the Benhall Brick Works and a single farm, the area has remained largely undeveloped throughout the 19th and 20th centuries. The construction of the railway in 1859 and the A12 Saxmundham Bypass in 1987–8 has sub-divided the area, but not altered its character to any great extent.

7.3 There are no designated heritage assets within the study area, and those non-designated heritage assets which have been identified, including the site of the former brick works, are considered to be of low significance. It is acknowledged that there is still the potential for archaeological features to lie buried within the study area, although in the light of the geophysical survey commissioned by the Promoter this likelihood is considered to be very low. A programme of archaeological evaluation comprising trial trenching informed by the geophysical survey would be expected to be part of any future development of the study area, and it is suggested that this further work should be secured by suitable conditions placed on any planning permission granted.

7.4 Outside the study area, the proximity of the Saxmundham Conservation Area to the north-eastern corner of the study area would require due consideration to be paid in the design approach employed in this area. The fact that much of the study area has been historically separated from the Conservation Area by the railway cutting and the ridge of high ground which forms the watershed between the study area and the river valley within which the town is situated mean that the two areas are largely screened from each other by the existing topography. The current Concept Plan for
the proposed development of the site accentuates this divide with the use of open space to the east of the railway track and planting along its length.

7.5 Overall, the potential impact of any development within the study area on any known heritage assets is considered to be low, and in the light of the assessment presented here and the recently completed geophysical survey the potential for the discovery of unknown heritage assets within the study area is also thought to be very low.
8 References


9 About the Author

9.1 Dr Richard Hoggett is a freelance heritage consultant with over 20 years’ experience in the academic, commercial and local authority heritage sectors. A former Senior Archaeological Officer for Suffolk County Council, as a consultant he assesses the heritage implications of planning applications and provides specialist advice to Local Planning Authorities, developers and landowners across the eastern region. He is a Fellow of the Society of Antiquaries of London and a Member of the Chartered Institute for Archaeologists.
Appendix I: Current Concept Plan (February 2019)
Appendix 5: Landscape and Visual Appraisal
Landscape and Visual Appraisal
(for the Suffolk Coastal Regulation 19 Draft Local Plan Submission)

Land South of Saxmundham, Suffolk

For Pigeon Investment Management Ltd
(on behalf of The Landowner)

February 2019
1. Executive Summary

1.1.1 Liz Lake Associates have been commissioned by Pigeon Investment Management Ltd to prepare a Landscape and Visual Appraisal for ‘Land south of Saxmundham, Suffolk’, hereafter referred to as ‘the Site’.

1.1.2 The Site lies to the south of Saxmundham on gently undulating land which generally slopes to the south east. It is strongly divided by the A12, the East Suffolk railway line and to a lesser extent Kiln Lane, a single-track lane which criss-crosses the southern area of the Site. The total area is approximately 63.3ha. The Site is mostly arable farmland with some blocks of woodland, hedgerows and hedgerow trees.

1.1.3 The Suffolk Coastal Final Draft Local Plan provides a mixed use and employment allocation on the Site under policy SCLP12.29 and states that provision of a garden neighbourhood comprising appropriate green infrastructure is a fundamental part of the creation of a new community in this part of the District to complement the existing areas of woodland, public rights of way and the adjacent countryside. There are no designations within the Site.

1.1.4 At the local level, the Site lies within two Landscape Character Areas as identified in the Suffolk Coastal Landscape Character Assessment (2018). The western part of the Site is situated in the L1: Heveningham and Knodishall Estate Claylands, whilst the eastern part of the Site is situated within O1: Benhall Estate Sandlands. The Site is generally characteristic of the character areas, but is influenced by the transport corridors of the A12 and the East Suffolk railway line.

1.1.5 Within the Suffolk Coastal Settlement Sensitivity Assessment (2018) for Saxmundham, the Site lies within Area SX3 where,
“The sensitivity of this area lies in its elevated position on the upper valley slopes to the southwest of the town, between the 25 and 30m contour. This landscape has a rural and gently undulating character comprising arable fields defined by hedgerows and framed by skyline woodland clumps.”

1.1.6 The assessment states that,

“Land between the existing urban edge and the railway is less sensitive to residential development if associated with woodland planting to create a treed backdrop to development. Land to the east of the railway line (Area SX2) is considered more sensitive due to its “rural character, valued views and historic associations.”

1.1.7 Visually, the Site is well contained by the local topography and existing pattern of vegetation of small woodlands, hedgerows and hedgerow trees. Due to the topography and vegetation cover, the central area of the Site between the A12 and railway line is particularly well contained in views from the wider landscape. Indeed, the Council’s own assessments consider views from the area around Benhall (valley landscape to the south) and confirm that,

“This land is not especially visible from the valley landscape to the south or the A12 due to existing field hedgerows and vegetation along the railway line and A12”

1.1.8 However, there are several Public Rights of Way within and on the boundaries of the Site from which the Site is visible.

1.1.9 The site provides good opportunities to strengthen, reinforce and enhance the key features and characteristics of the LCAs. The Landscape Concept Plan has been informed by the landscape and visual baseline assessment of the Site and the guidelines for the local character areas, as well as the Suffolk Coastal Settlement Sensitivity Assessment. The key principles include:

- Retention of the existing landscape features within the Site, including woodland blocks, tree belts, hedgerows, hedgerow trees and ponds to provide a mature
landscape structure to the development and help break up the development into discreet units.

- Provision of a linear belt of planting along the western and eastern sides of the railway line, to reinforce the settlement edge, and ensure the distinct sense of separation between Saxmundham and Benhall, and to ensure that parts of the Fromus valley lying to the east of the railway line maintain a well wooded backdrop.

- Residential and mixed-use areas to be concentrated within the central area of land sandwiched between the A12 and west side of the railway line south of the town.

- In the narrowing wedge of land between the A12 and railway line, a lower density of self-build homes would be provided in larger plots, with strong green infrastructure to provide a contrast to the core areas of development and to ensure the well wooded backdrop following the railway line when seen from Benhall is maintained with open undeveloped land.

- Areas of open space and strong woodland planting at the southern tip of the Site and to the east of the railway line to provide a visual barrier between the Site and the village of Benhall.

- The existing public footpath amenity to be protected by providing an offset from built development within green infrastructure corridors incorporating SuDS, which link to existing landscape features within the Site (woodland blocks, hedgerows, trees and ponds) to improve both recreational and ecological connectivity.

- To add provision of open space and landscape planting (as you see fit) on land to western side of A12 to screen employment area.

1.1.10 In conclusion, this assessment has informed the extent of development and green infrastructure which is appropriate within the Site, to the south west of Saxmundham as shown on the landscape concept plan.
Site Location: **Land South of Saxmundham, Suffolk**

Local Planning Authority: **Suffolk Coastal District Council (SCDC)**

Approximate Site area: **63ha**

Client: **Pigeon Investment Management Ltd.**

“Liz Lake Associates” have been commissioned by ‘Pigeon Investment Management Ltd’ (“The Promoter”) on behalf of “The Landowner”, to prepare a Landscape and Visual Appraisal for ‘Land south of Saxmundham, Suffolk’, to be referred to hereafter as ‘the Site’.

This report has been prepared for the joint benefit of Pigeon Investment Management Ltd and The Landowner and the contents should not be relied upon by others without the express written authority of Liz Lake Associates. If any unauthorised third party makes use of this report they do so at their own risk and Liz Lake Associates owe them no duty of care or skill.

<table>
<thead>
<tr>
<th><strong>Landscape Planning Policy</strong></th>
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<tbody>
<tr>
<td><strong>Suffolk Coastal Final Draft Local Plan</strong></td>
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### Landscape Character Assessments

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<th>National Character Area (NCA) Area 82: Suffolk Coast and Heaths</th>
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<tr>
<td>County</td>
<td>Landscape Typology 1: Ancient Estate Claylands</td>
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<td>Landscape Typology 16: Rolling Estate Sandlands</td>
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<tr>
<td>District</td>
<td>Landscape Character Area L1: Heveningham and Knodishall Estate Claylands</td>
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<td>Landscape Character Area O1: Benhall Estate Sandlands</td>
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### Designations

**Landscape**
- Suffolk and Coastal Heaths Area of Outstanding Natural Beauty (AONB) is located approximately 7Km to the west of the Site.
- A number of Public Rights of Way pass through the site affording connections to Saxmundham and to the wider network of footpaths across the rural landscape connecting the village of Benhall to Saxmundham. One footpath runs up the western most boundary, another along the eastern most boundary and a third runs diagonally from Saxmundham in a south westerly direction through the Site.
- The Sandlings Walk, a long distance footpath, runs through the village of Friston approximately 3.5km southwest of the site connecting to the Suffolk Coastal Path, however it does not pass near to the site.
- The area is not served by a Sustrans national cycle route; however a local cycle route runs from the Saxmundham railway station, 300m north of the site, heading out to the northwest.

Refer to Figure 2 Landscape and Heritage Designations with Public Rights of Way

**Environmental**
- Apart from two small areas of deciduous woodland (priority woodland) within the Site, the Site is not covered by any environmental designations nor are there any in the immediate study area.

**Heritage**
- There are no Listed Buildings or Scheduled Monuments listed on the English Heritage within the Site, however there are some within the immediate study area, including the Grade II listed Hurts Hall (List Entry Number: 1268178) 400m to the east which affords potential views to the Site.

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1 Natural England; Landscape Character Assessments; Area 82: Suffolk Coast and Heaths
2 Suffolk County Council Landscape Character Assessment 2008; Landscape Typology 1: Ancient Estate Claylands and Landscape Typology 16: Rolling Estate Sands
3 Suffolk Coastal Landscape Character Assessment 2018; Landscape Character Area L1: Heveningham and Knodishall Estate Claylands and Landscape Character Area O1: Benhall Estate Sandlands
Approximately 200m to the north of the Site is located the Grade II listed buildings, Crown House (List Entry Number: 1268163) and White House (List Entry Number: 1268164) which have potential for views. Benhall Cottage, Grade II listed, is located approximately 150m south of the Site (List Entry Number: 1030908) and is in closest proximity to the Site off Grays Lane. The cottage is physically and visually separated from the Site.

Due to vegetation cover and placement, the Site is not visible from other listed buildings or scheduled monuments within a 2km study area.

Refer to Figure 2 Landscape and Heritage Designations with Public Rights of Way

<table>
<thead>
<tr>
<th>Element</th>
<th>Appraisal/ Review</th>
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<tr>
<td>National Character Area (NCA) profile</td>
<td>“Settlement patterns are sparse, consisting mainly of small villages and iconic coastal market towns. It remains a lightly populated, undeveloped area that is notable for its tranquility, high-quality environment and culture, and outstanding wildlife”.</td>
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</tbody>
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| Key Characteristics of the National Character Area (NCA B2) | • “A predominantly low-lying landscape with some areas along the coastal plain below or at sea level. Changes in relief are slight, but enough to distinguish the Sandlings, sandy rolling ‘upland’ between estuaries.
• Farm woodlands, plantations and field boundary trees provide a treed character with substantial coniferous forests (Rendlesham, Tunstall and Dunwich) in the core of the NCA. Ancient broadleaved woodland and parkland wood pasture cloak the southern river valley and estuary slopes. The coastal levels are largely devoid of trees.
• Inland valleys contain small-scale historic patterns of irregular drained meadow enclosure, bounded by elm hedgerows. The Sandlings and the coastal plain show 18th- to mid-19th-century large-scale regular enclosure. Pine lines and shelterbelts are characteristic of the Sandlings.
• Settlement is sparse, with small, isolated villages and farmsteads. Larger urban settlements are confined to the north and south (Lowestoft, Ipswich and Harwich). Distinctive coastal towns (Aldeburgh, Southwold and Felixstowe) enjoy a relatively unspoilt atmosphere.
• Large commercial ports (Harwich and Felixstowe), Sizewell nuclear power station, the Cobra Mist transmitting station and the Orwell Bridge all contribute landmark diversity. Major transport infrastructure includes the A14 and A12 and the main East Coast rail line”. |

Suffolk County Council Landscape Character Assessment, 2008

The site lies across two Landscape Types as identified in the Suffolk County Council Landscape Character Assessment: The Ancient Estate Claylands to the west and the Rolling Estate Sandlands on lower lying land to the east which are described below:
### Key Characteristics: Ancient Estate Claylands (1)

- Dissected Boulder Clay plateau
- Organic pattern of field enclosures
- Straight boundaries where influence of privately owned estates is strongest
- Enclosed former greens and commons
- Parklands
- WWII airfields
- Villages with dispersed hamlets and farmsteads
- Timber framed buildings
- Distinctive estate cottages
- Ancient semi-natural woodland

Refer to Figure 3 County Landscape Character Assessment

### Visual Experience: Ancient Estate Claylands (1)

“Despite the reasonably well-wooded landscape the plateau landform means that the views are open and can be long. However, the comprehensive network of winding lanes and tall hedges means that other areas can be much more intimate.”

### Condition: Ancient Estate Claylands (1)

“These landscapes are subject to considerable change which is promoted by their relationship to the A12 trunk road and the creation of airfields in the 1940’s. There is considerable intrusion of suburbanisation with horse paddocks, barn conversions and ranch-style fencing. As on other parts of the plateau claylands, industrial agricultural buildings make a significant impact, especially where there is inadequate screening.”

### Landscape Sensitivity and Change: Ancient Estate Claylands (1)

“This is a series of gently rolling plateaux along the eastern edge of the north Suffolk claylands, separated by major river valleys.

The characteristic land cover is arable farmland divided by an irregular sinuous field pattern, and scattered with woodland. There are also a series of designed parklands that usually originated as wood pasture and mediaeval deer parks, which were then extended and modified between the C17th and C20th.

Settlement is scattered widely throughout this landscape, with parishes tending to have multiple built clusters of various sizes: large groups often elongated; outlying groups often based on green side settlement; and wayside settlements and farmsteads. These historic patterns within parishes are easily lost to infill and ribbon development.”

### Settlement Expansion: Ancient Estate Claylands (1)

“Parishes in this landscape tend to consist of multiple clusters of varying sizes. The release of land for development should, if at all possible, reflect the local pattern. Ribbon development destroys this pattern and can have a considerable
Impact on the wider landscape. When vernacular styles and detailing are used for housing or other development the choice should echo that of the immediate locality or the specific cluster in which the development is proposed."

"This landscape character type occurs ... on the sides of the lower valleys of the east Suffolk rivers: Along the north side of the Orwell Estuary from Felixstowe to the margins of Ipswich."

- Rolling river terraces and coastal slopes
- Sandy and free draining soils with areas of heathland
- Late enclosure with a pattern of tree belts and straight hedges
- Landscape parklands
- A focus of settlement in the Estate Sandlands landscape
- 19thC red brick buildings with black glazed pantiles in the east
- Lark valley buildings are frequently of brick or flint with tiled or slate roofs
- Tree belts and plantations throughout
- Occasional and significant semi-natural woodlands and ribbons of wet woodland
- Complex and intimate landscape on valley sides

Refer to Figure 3 County Landscape Character Assessment

"In contrast to the surrounding ‘uplands’ of the Estate Sandlands, these landscapes are usually more complex and intimate, the managed, open, estate feel being replaced by a pattern of small streams and smaller fields. The views are shorter and more confined and settlement is more evident so the countryside feels less empty."

"Many of these valley side landscapes are under considerable development pressure because there are concentrations of settlement and land use change. However there are excellent areas of semi-natural landscapes and intact landscapes in many places."

"This is a sloping valley side landscape type that has been, and continues to be, the focus for settlement and other built structures in the Estate Sandlands, especially in coastal parts of Suffolk.

The Rolling Estate Sandlands are comprehensively settled with villages, hamlets and farmsteads. The cores of villages are generally on the valley sides although settlement change and enlargement may have encroached onto the plateau landscape.

The vernacular style can often show a degree of uniformity, with an estate style often prevalent. Farmsteads often exhibit features of C18th and C19th improvement with ranges of “model farm” type buildings

The spatial relationship of this landscape to the adjacent valley floor, as well as flat coastal landscape types such as coastal levels, saltmarsh and intertidal flats
and the beach, mean that change and development here can have an extensive visual impact.”

“In these valley side landscapes, the visual impact of new vertical elements is increased by the landform. Therefore new buildings are likely to have a significant impact on both the character and visual amenity of valley floor and valley side landscape types. The setting of specific features and elements of these landscapes, such as small-scale enclosure patterns or historic buildings and monuments, can also be significantly damaged.

The majority of development will, to some degree, be subject to this problem. Therefore, it is essential to manage this issue effectively, taking every opportunity at the earliest stages of the development of the proposal to modify and improve it, or to be clear with the applicant that the impact of the proposal is unacceptable or may be at a high risk of refusal due to landscape impacts.”

“Valley side landscapes have historically been a focus for settlement. However, large-scale expansion should be confined to the adjacent plateau. In this location the landscape and visual impact can be more easily mitigated with effective planting and design.

Settlement extension in a valley side landscape is likely to have a significant visual impact and adversely affect the character of the landscape, including that of the adjoining valley floor. A comprehensive Landscape and Visual Impact Assessment is essential to identify the risks and the options for mitigation. These developments tend to create a highly visible new “roofscape” on the sides of valleys. The effect of this can be partially mitigated by planting within the development as well as on the perimeter and offsite. It is essential to ensure that there is sufficient space within the development for effective planting, and that any requirement for offsite planting is considered at the earliest stage. The proposals for mitigation planting must always be commensurate with the scale of the development and the capacity of the landscape to absorb the development without damage to the landscape character.

It is important to maintain the existing pattern of settlement clusters on the valley sides and minimise visual intrusion on the very sensitive landscapes on the valley floor. New building here needs to be carefully located; it must be of appropriate scale and style as well as being integrated into the existing pattern of vegetation and settlement. There may also be specific styles related to a particular landed estate, which should be considered as a design option. Avoid, wherever possible, ribbon development on valley sides and slopes when this will cause settlement clusters to merge.”
**Suffolk Coastal District Landscape Character Assessment, 2018**

The Suffolk Coastal Landscape Character Assessment (2018) builds on the Landscape Types identified in the County Assessment and identifies local Landscape Character Areas. The western part of the Site is situated in the L1: Heveningham and Knodishall Estate Claylands, a large character area within the District. The eastern part of the Site is situated within 01: Benhall Estate Sandlands, which is the only Estate Sandland type within Suffolk Coastal District.

| **Summary Description:**
| Heveningham and Knodishall Estates (L1) |

“This is the largest character area in the district and is a landscape of quiet farmland with a simple, unified and deeply rural character. There are no large villages, only an irregular network of quiet lanes with only scattered farms and hamlets to provide any sense of settlement.

The experience is mile after mile of lightly settled farmland, mainly arable but with some pastures. Its deeply rural and attractive although orientation is not always easy along its narrow straight lanes without distinctive topographical features or landmarks to provide orientation. As well as the straight Roman roads that cross the area, lanes and farm drives tend to be fairly straight and roads tend to cross and link at perpendicular junctions, the lack of topography allowing direct routes between places. A network of historic green lanes and footpath routes make more organic shaped trajectories through the field systems.

The enclosure pattern is generally ancient and the underlying feel is organic, but field boundaries tend to be straight and regularised. There are some areas of post 1950s farmland where the ancient patterns have been lost more comprehensively, eg to the SW of Yoxford. Field size is generally medium to large, but there are pockets where there are distinctive small field patterns, such as east of the A12 at Darsham and at East Green and North Green. This provides a variety in visual experience from more open with long views, to intimacy in the narrow hedged lanes and away from the busy road corridors (A12 and A1120) but away from this corridor the lightly settled landscape can feel remote and isolated.

Woodland is scattered in parcels fairly evenly across the area, some of them ancient in original. In addition to the woodland, roadside trees and hedges, and field boundary vegetation, are often present and form a significant component of the tree cover... The form of the hedges varies from large, and tree dominated, to single-species hedges that are more regularly managed.

This area has long been settled...However, it is notable that despite this being the largest character area in the district, there are no villages of any size on the plateaux; ... only the fringes of valley side settlements, such as Darsham, Thorington, Saxmundham are present. Instead, only hamlets and farmsteads are found, sometimes with associated cottages. Villages are located in the adjacent valley side landscapes, where access to water was more reliable.
Vernacular architecture is seen in the scattered cottages and farms. Timber framed farmhouses and cottages are finished in coloured render. Some cottages are thatched but otherwise roofs are predominantly red pantiles, although there are examples of distinctive black pantiles. On houses and outbuildings gables can be edged with white bargeboards, sometimes ornately finished.

Refer to Figure 4 District Landscape Character Assessment

**Special Qualities and Features:** Heveningham and Knodishall Estates (L1)

"Its special qualities are its particularly unified character - a peaceful, deeply rural ‘backwater’, focused on farming.

There is little intrusion from modern development, especially in the more remote western part. Whist some conversion has taken place of agricultural buildings, the remoteness of the area has helped protect it from development pressure, and it has likely changed little in the 20th and 21st centuries."

**Condition:** Heveningham and Knodishall Estates (L1)

"Generally this is a landscape with its structure in good condition. Amalgamation and hedge loss has occurred in some parts although there is evidence of restoration in other parts with young hedges seen. Tourism along the Heritage Coast has led to some modern buildings and proliferation of signage along the A12 corridor, and ongoing developmental pressure."

**Strategy Objectives:** Heveningham and Knodishall Estates (L1)

Protect
- Protect the unspoilt, quiet, and essentially undeveloped rural character of the area.
- Protect the plateau landscape from visual intrusion of development in areas beyond this character area e.g. from new tall vertical features such as masts or turbines or new urban development.
- Protect the landscape from development of a scale that harms the prevailing light, scattered nature of the existing settlement.
- Plan for the ongoing maintenance and careful management of the highly characteristic oak trees along hedges, verges and field boundaries.

Manage
- Manage areas of semi-natural woodland through appropriate woodland management schemes.
- Manage hedgerows to retain and restore the pattern of network of field boundaries, especially where suckering elm is present – introduce coppicing is needed.

Plan
- Plan for enhancements to biodiversity in this highly agricultural landscape, perhaps opportunities that might emerge through agri-environmental schemes.
Summary Description:
Benhall Estate Sandlands (O1)

“This is a small area formed of shallow valley slopes in the wedge shaped interfluve of the Alde and Fromus. The area is bisected by the A12 corridor which creates a sense of separation ... The character has a strong Sandlings feel and away from the major transport corridors that pass through, it feels quiet and empty. It has a strong estate character, with blocks of mixed woodlands enclosing and forming a backdrop to the arable parcels or parkland.

Woodland is found in irregular small plantation blocks and rectilinear strips where it has a strong visual impact and provides containment. The species are typical sandland species - oak and ash, sweet chestnut, brought into East Anglia by the Romans, as well as conifers. The wider than usual mix of species in the estate plantations gives them more height variation, tones and texture than the more uniform clayland woodlands. Rows of Scots Pine as field boundaries are sometime seen and along with the bracken-filled verges help convey a Sandlings character. Hedgerow restoration in the south of the area means hedges are species-rich with hawthorn, hazel, field maple, elder as well as suckering elm in the older hedges, which are usually fairly well managed in the farmlands, less so along the Parkland boundaries.

Settlement is light and dispersed. Occasionally farms are found sitting alongside the roads, but are often down tracks. When tucked away from sight, the area can feel fairly devoid of settlement, but the farmsteads contribute a sense of settlement when glimpsed through vegetated settings. Visually the contribution of vernacular architecture is limited, given the hidden nature of many of the farms, but the cottages and outbuildings seen are attractive soft red brick, sometimes with ornate brickwork details on chimney stacks. As in much of this area black weather boards are seen on outbuildings but also some flint in the west. Roofs are red pantiles. Many of the cottages have unfortunately suffered unsympathetic plastic window 'upgrades'.

The visual experience is mixed. Where field boundaries are not hedged, extensive views are possible over consecutive large fields and stretch to distant wooded skylines, punctuated by pylons in the south of the area. Elsewhere there is a stronger estate feel, with more containment from woodland which forms a backdrop views over the fields, strips of Scots Pine are distinctive.”

Refer to Figure 4 District Landscape Character Assessment

Special Qualities and Features: Benhall Estate Sandlands (O1)

“Attractive estate farmland and parkland landscapes, each with strong and distinctive character, unified by the well wooded nature of the landscape and the mix of native and semi-ornamental tree species.

Away from the busy A12 corridor the area provides a quiet peaceful area of very productive countryside, overlooked by the crowds heading past to Aldeburgh, Dunwich and Southwold.”
**Condition:**
Benhall Estate Sandlands (O1)

"Generally the farmed and parkland landscapes are in a good condition, maintaining a high percentage of woodland cover, and long lengths of recently planted and restored hedgerows are in evidence. Where parkland has been reverted to arable land the character is eroded. Small holdings can have a negative effect with inappropriate ornamental tree species such as eucalyptus and a proliferation of garden structures and fencing."

**Strategy Objectives:**
Benhall Estate Sandlands (O1)

Protect
- Protect this area from development, as settlement is generally not found here. Protect the character of the historic farmsteads.
- Protect the features and elements which define the estate farm landscape character, particularly its robust structure of woodland belts and hedges.
- Protect the quiet, rural character of the narrow lanes, avoiding unnecessary signage, kerbing, or widening, for example. Resist further proliferation of signage, or highways interventions, along the A12 corridor.

Manage
- Manage elm dominated hedgerows through coppice rotations.
- Manage woodlands, via traditional methods, to ensure the existing characteristic species mixes and proportions are maintained.

Plan
- Plan for enhancements to biodiversity in the agricultural landscape, perhaps opportunities that might emerge through agri-environmental schemes.

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**Settlement Sensitivity Assessment Volume 2 : Suffolk Coastal (2018)**

**Settlement Sensitivity:**
Saxmundham (SX2)

"The sensitivity of this area lies in its pronounced valley slopes which define the setting and approach to Saxmundham from the south. To the east is an area of remnant parkland while to the west is agricultural land known as The Layers which has historically been a holding area for livestock on market days and is culturally significant to the town. This approach to the town is defining both in terms of character, sense of arrival and position in the valley landscape.

This area is sensitive to change due to its rural character, valued views and historic associations."

Refer to Figure 5 Suffolk Coastal Settlement Sensitivity Assessment

**Physical Character:**
Saxmundham (SX2)

"Rolling Estate Sandlands and Valley Meadowlands landscape types comprising open arable fields and area of pasture along the valley floor associated with former parkland at Hurst Park. Poplar plantations within the valley floor to the
<table>
<thead>
<tr>
<th>Landscape Patterns/Condition: Saxmundham (SX2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>south and woodland/hedgerow boundaries define the enclosure pattern and upper valley slopes. Topography ranges from c. 10-30m AOD</td>
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</table>

<table>
<thead>
<tr>
<th>Existing Settlement Edge: Saxmundham (SX2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Large to medium scale enclosures and open character. Some loss of hedgerow boundaries through lack of management and removal. Remnant parkland trees and perimeter planting to the manor”.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Views and Visibility: Saxmundham (SX2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>“The southern edge of Saxmundham is well vegetated and not highly visible on approaching the town. The 20th century built edge of Saxmundham to the west of the B1121 is not visible as it sits behind the vegetated railway line and field hedgerows/trees. There is no development within this landscape except for the mansion house of Hurst Park within a rural valley context.”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cultural and Natural Heritage: Saxmundham (SX2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>“The parkland landscape is open, affording memorable views to the rebuilt manor house (Hurst Hall) and church beyond. Views to water tower on upper western fringes of town.”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cultural and Natural Heritage: Saxmundham (SX2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Association of The Layers to the historic function of the market town and tradition of holding livestock here before market. Remnant historic parkland landscape and associated mansion house and church association. Cultural association between Hurst Park and Saxmundham. Veteran trees associated with Hurst Park. River Fromus previously formed a lake as part of a designed landscape but now has a natural course.”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Perceptual Qualities: Saxmundham (SX2)</th>
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</thead>
<tbody>
<tr>
<td>“Strong rural river valley character unspoilt by development and notably no linear development along the road such that gateway into Saxmundham is clearly defined.”</td>
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<table>
<thead>
<tr>
<th>Function: Saxmundham (SX2)</th>
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</thead>
<tbody>
<tr>
<td>“Important landscape as a rural approach to Saxmundham reinforcing its setting within the Fromus Valley.”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Opportunities: Saxmundham (SX2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Reinstatement of hedgerows and landscape enhancement with possible replanting of parkland trees and restoration of parkland features to enhance the character of this area and approach to the town.”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Settlement Sensitivity: Saxmundham (SX3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>“The sensitivity of this area lies in its elevated position on the upper valley slopes to the southwest of the town, between the 25 and 30m contour. This landscape has a rural and gently undulating character comprising arable fields defined by hedgerows and framed by skyline woodland clumps.”</td>
</tr>
</tbody>
</table>
Land between the existing urban edge and the railway is less sensitive to residential development if associated with woodland planting to create a treed backdrop to development. Care should be taken to ensure a soft urban edge, reinforcing historic Parish boundary and enhancing ecological corridors. New development in this area should be accessed through the existing urban edge ensuring permeability and addressing the current condition and quality of some existing housing fringing the area. Development should be kept back from the A12 and closest to the existing edge. Careful consideration should be given to building heights to avoid visibility from the B1121 on approaching the town from the south."

Refer to Figure 5 Suffolk Coastal Settlement Sensitivity Assessment

<table>
<thead>
<tr>
<th>Physical Character: Saxmundham (SX3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Rolling Estate Sandlands landscape type comprising upper valley slopes to the west of the railway line ranging from 25 to 30m AOD. Medium scale arable fields defined by hedgerows with blocks of woodland forming distinctive clumps on the skyline in the wider landscape. Landscape is gently undulating.&quot;</td>
</tr>
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<table>
<thead>
<tr>
<th>Landscape Patterns/Condition: Saxmundham (SX3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Intact pattern of pre 18th century enclosures defined by hedgerows with hedgerow trees. Some recreational land uses associated with secondary school.&quot;</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Existing Settlement Edge: Saxmundham (SX3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;This area abuts the existing western 20th century housing development of Saxmundham - some of which is poor quality both in terms of housing stock, layout and streetscape. The area lies adjacent to Saxmundham Free School and its playing fields. The topography of the site means that it relates strongly to the wider landscape to the south with the existing urban edge appearing on slightly lower slopes.&quot;</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Views and Visibility: Saxmundham (SX3)</th>
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</thead>
<tbody>
<tr>
<td>&quot;Water tower and secondary school buildings are key landmarks but much of Saxmundham is not visible. This land is not especially visible from the valley landscape to the south or the A12 due to existing field hedgerows and vegetation along the railway line and A12.&quot;</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Cultural and Natural Heritage: Saxmundham (SX3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Former farm buildings at Howards Farm now demolished. Parish boundary dissects this area. Pre 1900's woodland at Howards Covert.&quot;</td>
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</table>

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<thead>
<tr>
<th>Perceptual Qualities: Saxmundham (SX3)</th>
</tr>
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<tbody>
<tr>
<td>&quot;Rural landscape between the railway and A12 feeling remote from the town in the transition landscape between the valley and wider arable farmland plateau.&quot;</td>
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</table>

<table>
<thead>
<tr>
<th>Function: Saxmundham (SX3)</th>
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</thead>
<tbody>
<tr>
<td>&quot;This landscape forms part of the rural setting to Saxmundham. Public rights of way cross area connecting town with wider rural landscape.&quot;</td>
</tr>
</tbody>
</table>
Opportunities:
Saxmundham (SX3)  
"Opportunities exist to reinforce a wooded skyline to the town on the upper valley slopes and to improve the existing urban edge and quality of the existing housing stock on the edge of the town."

Settlement Sensitivity:
Benhall and Sternfield (B&S1)  
"The sensitivity of this area lies in its predominately loose, organic, rural scattered pattern and riverside/floodplain setting as well as the increased visual sensitivity of the upper slopes. Set within the Fromus Valley relatively close to the flood plain it has a low-lying character visually and physically associated with the river. The exception is more recent development on the upper valley slopes along Mill Lane. 20th century development along the lane is visible from a significant distance and also from B1121 breaking the skyline. Land between this existing urban edge and the road is visible from the wider landscape to the southeast while the small scale intimate character make the area sensitive to commercial development.

Land north of the school, along School Lane and between here are the B1121, is less sensitive as it is lower lying yet above the valley floor. The layout and form of any new development will need to be carefully considered to reflect the historic development of the settlement and its predominantly organic character.

Land in the vicinity of Sternfield is highly sensitive due to its historic character and river setting."

Refer to Figure 5 Suffolk Coastal Settlement Sensitivity Assessment

Physical Character:
Benhall and Sternfield (B&S1)  
"Rolling Estate Sandlands and Valley Meadowlands landscape types comprising the River Fromus valley with clearly defined areas of valley floor comprising meadows divided by wet ditches and areas of wet woodland. Pollard willows along the watercourse are characteristic. Valley sides are gently defined rising from c. 5-17m AOD on the upper slopes and transition into the wider arable plateau farmland."

Landscape Patterns/Condition:
Benhall and Sternfield (B&S1)  
"Intact pattern of valley floor pastures and wet vegetation including woodland. More open arable farmland on the upper slopes and transition into the plateau farmland beyond. Settled character with dispersed pattern of cottages and farm complexes. Some large scale farm builds are visually prominent and there are some areas of tourism development within the valley including caravan and camping sites."

Existing Settlement Edge:
Benhall and Sternfield (B&S1)  
"Both Benhall Green and Sternfield have a primarily loose organic urban form where landscape tends to flow into and through the settlement. Dwellings are viewed close to rural lanes and amongst woodland set within the gentle slopes of
the valley. The exception is 20th century linear development along Mill Lane which appears stark and regimented in comparison.”

<table>
<thead>
<tr>
<th>Views and Visibility: Benhall and Sternfield (B&amp;S1)</th>
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<tbody>
<tr>
<td>“Views across the valley from upper slopes are possible but the wooded character of the valley floor tends to foreshorten views and frame vistas to rural properties. The church at Sternfield is not widely visible set within woodland.”</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Cultural and Natural Heritage: Benhall and Sternfield (B&amp;S1)</th>
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<tbody>
<tr>
<td>“Listed buildings are dotted throughout both areas of the settlement. The church and Sternfield House are Grade II listed. Sternfield Hall has 16th century elements and is also Grade II listed as are the first three dwellings on the western edge of the settlement. Within Benhall Green there are settlements dating to the 17th century with distinctive argeting. The use of thatch on historic buildings is notable. The Wadd is an area of protected valley floor wet pastures and wet woodland and is a County Wildlife Site. Wetland sites to the south of Benhall Green from 20th century gravel and sand extraction.”</td>
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<table>
<thead>
<tr>
<th>Perceptual Qualities: Benhall and Sternfield (B&amp;S1)</th>
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<tbody>
<tr>
<td>“Rural tranquil river valley and strong sense of place associated with the valley and rural vernacular buildings. Strong sense of time depth. This section of the River Fromus Valley is noted for its scenic qualities and unspoilt rural character.”</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Function: Benhall and Sternfield (B&amp;S1)</th>
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<tbody>
<tr>
<td>“This river valley is important for recreation and includes sites for camping/caravans as well as various recreational routes along narrow rural lanes.”</td>
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<table>
<thead>
<tr>
<th>Opportunities: Benhall and Sternfield (B&amp;S1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>“There are opportunities to screen 20th century development along Mill Lane with strategic planting west of the village. There are also opportunities to screen large scale farm buildings where they appear out of scale with the subtle gentle slopes of the valley sides through strategically placed planting.”</td>
</tr>
</tbody>
</table>
The Site lies to the south of Saxmundham on gently undulating land which generally slopes to the south east. It is strongly divided by the linear transport routes of the A12 and the East Suffolk railway line. Kiln Lane, a single-track lane criss-crosses the southern area of the Site. As such, the Site can be separated into four distinct areas.

The central area which lies between the A12 corridor and the railway line, formed of seven rectilinear, medium-large agricultural fields and an area of deciduous woodland to the northeast. The landscape internally feels open and large, due to the low clipped hedgerows and lack of trees, whilst contained by the transport corridors. The northern boundary lies adjacent to the urban edge of Saxmundham, with areas of residential development and playing fields associated with Saxmundham Free School (Secondary School). This boundary is defined by mature hedgerow with hedgerow trees, providing some screening from the Site.

The area west of the A12 is formed of two medium, rectilinear fields with boundaries formed of hedgerows with mature oak trees. The area occupies higher land within the Heveningham and Knodishall Estate Character Area and has an open, rural and undeveloped character.

The area east of the railway line covers an area of approximately 9.4ha which is formed of a single agricultural field with a central woodland block. The boundaries of this area are formed of mature hedgerows, with a high density of hedgerow trees along the eastern and southern boundaries, which create a sense of enclosure from the wider landscape. Historic maps from 1956 show that the eastern boundary of the Site once formed the western edge of Hurts Hall estate.

The southernmost parcel to the south of Kiln Lane is just 4.8ha in area and is formed of a single irregular field with a small pond in the northeast corner. The A12, which forms a busy through route with traffic linking from Ipswich up along the Suffolk coast, and the railway line have an audible presence in the area, reducing tranquility. The A12 and Kiln Lane are lined with mature hedgerow and trees which restrict views of the Site from these routes and limit inter-visibility between the respective parcels either side of these corridors. The boundary to the railway is more open and allows inter-visibility between the central area and the area to the east of the railway line.

### Landscape Qualities

| Representativeness/ consistency with wider character judgement | - Highly Consistent  
| Mostly consistent | - Some key characteristics present  
| - Not representative of wider character |
| Landscape character attractiveness judgement | - Highly attractive  
| - Attractive  
| - **Pleasant**  
| - Unremarkable |
| Remoteness and tranquillity judgement | - Remote  
| - Peaceful  
| - **Some interruption from A12 and railway line**  
| - Not tranquil |
| Landscape qualities general description | The Site is typical of the wider landscape character areas, as it is formed of a series of large, irregular fields with straight boundaries. Whilst the Site retains much of its quiet and tranquil character, the A12 corridor and railway line have brought in some added interruptions. These transport corridors have also severed the landscape, creating a sense of containment in the central area of the Site and reducing the overall sense of openness from the wider landscapes to the east and west. |

| Visual Qualities | |
| Visual Prominence judgement | - High  
| - Moderate high  
| - **Moderate low**  
| - Low |
| Nature of the urban edge judgement | - No visible urban edge  
| - Soft well vegetated urban edge limited views of principally rooflines  
| - **Partially visible urban edge**  
| - Hard urban edge with no screening |
| Settlement setting and views of settlement judgement | - Highly attractive features or views  
| - **Some attractive features of views**  
| - Few attractive features of views  
| - No attractive features or views |
| Public accessibility within and immediately surrounding the potential development site judgement | - Many public views  
| - **Some public views**  
| - Limited public views  
| - No public views |
| Visual qualities general descriptions | The majority of the Site is well contained by the local topography and existing pattern of vegetation of small woodlands, hedgerows and hedgerow trees. The Site is most visible from a number of PRoW in close proximity to the Site including a footpath which bisects the western and central areas of the Site between St Mary’s Church to the west and Saxmundham. |
Views from the urban edge of Saxmundham to the north of the Site are partially restricted by the woodland block (Park Farm Covert) at the northern corner of the Site. There are potential views from Saxmundham Middle School and from residential properties along Mill Rise which overlook the Site. However, existing boundary vegetation here will filter views towards the Site.

From the east, along the B1121, South Entrance, views towards the Site are restricted by low clipped hedgerows along the road and the topography which rises to a low ridge which broadly corresponds to vegetation on the eastern Site boundary. Views from the PRoW which follows the western side of the road, on the inside of the hedgerow are also restricted by the topography. There are open views from the PRoW which broadly follows the eastern boundary of the Site through the area known locally as The Layers.

To the south, views northwards from Kiln Lane are predominantly screened by a woodland block at Bigsby’s Corner, by residential properties within large grounds and roadside vegetation. There are occasional filtered views to the southern part of the Site from Kiln Lane. From the B1121, Main Road near Benhall Green views towards the Site are restricted by strong vegetation along the railway line.

Views of both sides of the Site from the A12 are restricted by strong, tall hedgerows which bound the roadside. Views from the railway line are more open.

In views from the west, from Deadman’s Lane, the Site is predominantly screened by layers of vegetation along the road, along the boundary of the Site and within the intervening rural landscape. There are near distance views from the PRoW which follows the eastern boundary of the Site. The footpath follows the inside edge of the Site boundary along a strong hedgerow with mature (possibly veteran) oak trees. From here views towards the central and eastern parts of the Site are restricted by the tall hedgerows along the A12 and views towards the settlement edge of Saxmundham are predominantly restricted by the woodland (Park Farm Covert). In foot paths to the north west of the Site the urban edge of Saxmundham is more visible and is seen in conjunction with the A12.

Views of the Site from the wider landscape are limited by the local topography and strong pattern of vegetation especially within the Fromus Valley around Benhall. As such Benhall appears visually separate from the Site, the separation being reinforced by the presence of the railway line and vegetation which cuts across the landscape and forms a wooded backdrop. (Refer to photo location 5)
### Scope for mitigation

Yes – The Site falls predominantly towards the southeast, from the plateau at approximately 27m AOD at the north west corner of the Site to approximately 20m AOD at the most southerly point along the railway line. To the east of the railway line the land rises to a low ridge before falling towards the B1121 and the Fromus valley. The central area is well contained from the wider landscape by the local topography and layers of hedgerows and trees, some associated with the surrounding infrastructure routes such as rail and road. The western part of the Site is well screened from the A12 corridor, but more exposed from the western rural landscape and sits within a notably undeveloped rural landscape.

Existing landscape features within the Site, including woodland blocks, tree belts, hedgerows and hedgerow trees can be retained to provide a mature landscape structure to the development and help break up the development into discreet units.

A sensitive design approach would enable an appropriate edge to be created for the southern part of the Site to provide a distinct separation from the village of Benhall and for the western edge to minimise the impacts of development in the undeveloped landscape. Lower density self-build plots to be created at the southern part of the site where the wedge of land between the A12 and the railway line narrows. A narrow strip of land following the west side of the railway line to be planted to reinforce the sense of separation and reinforce the backdrop of trees on the valley side.

Public footpaths within the Site provide opportunities for green infrastructure corridors which link to existing landscape features within the Site, improving both recreational and ecological connectivity.

### Land Management Guidelines:

**Selected notes for the Heveningham and Knodishall Estates (L1), Benhall Estate Sandlands (O1), Saxmundham (SX2), Saxmundham (SX3)**

- “Protect the unspoilt, quiet, and essentially undeveloped rural character of the area.
- Protect the landscape from development of a scale that harms the prevailing light, scattered nature of the existing settlement.
- Manage hedgerows to retain and restore the pattern of network of field boundaries, especially where suckering elm is present – introduce coppicing is needed.”
- “Protect this area from development, as settlement is generally not found here. Protect the character of the historic farmsteads.
- Protect the features and elements which define the estate farm landscape character, particularly its robust structure of woodland belts and hedges.
- Protect the quiet, rural character of the narrow lanes, avoiding unnecessary signage, kerbing, or widening, for example. Resist further proliferation of signage, or highways interventions, along the A12 corridor.”
• “Reinstatement of hedgerows and landscape enhancement with possible replanting of parkland trees and restoration of parkland features to enhance the character of this area and approach to the town.”

• “Opportunities exist to reinforce a wooded skyline to the town on the upper valley slopes and to improve the existing urban edge and quality of the existing housing stock on the edge of the town.”

<table>
<thead>
<tr>
<th>Landscape Capacity</th>
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<tbody>
<tr>
<td><strong>Is there Capacity within the landscape to absorb change?</strong></td>
</tr>
</tbody>
</table>

| Yes | Given the nature, character and visual quality of the Site, it is considered that parts of the Site have a high capacity to accommodate change; this is for residential and mixed use development of varying heights and associated employment uses on part of the site, subject to a sympathetic design approach which respects the existing features of the Site, including Public Rights of Way. |

| There are few constraints or issues in landscape and visual terms that prevent the Site being considered for development. |

| The key approach would be maintaining the visual and physical separation with the village of Benhall to the south and ensuring appropriate mitigation for any development west of the A12. |

| Land to the east of the Site (The Layers) is considered more sensitive in respect to its location on the side of the Fromus valley (refer to the Suffolk Coastal Settlement Sensitivity Assessment - Area SX2). |

| Land to the east of Saxmundham, to the north of Church Hill lies on the eastern side of the Fromus valley and defines the setting of the town, separating it from the wider plateau farmland landscapes further east. The valley slopes are considered visually sensitive with little opportunity for further development (refer to the Suffolk Coastal Settlement Sensitivity Assessment - Area SX1). |

**Recommendations if the Site is to be developed (refer to Landscape Concept Plan)**

- Retention of the existing landscape features within the Site, including woodland blocks, tree belts, hedgerows, hedgerow trees and ponds to provide a mature landscape structure to the development and help break up the development into discreet units.

- Residential areas to be concentrated within the central area of land between the A12 and railway line with areas of open space and strong woodland planting at the southern tip of the Site and to the east of the railway line to provide a visual barrier between the Site and the village of Benhall.

- Lower density self-build plots to be created at the southern part of the site where the wedge of land between the A12 and the railway line narrows. A narrow strip of land following the west side of the
railway line to be planted to reinforce the sense of separation and reinforce the backdrop of trees on the valley side.

- The existing public footpath amenity to be protected by providing an offset from built development within a green infrastructure corridor incorporating SuDS, which links to existing landscape features within the Site (woodland blocks, hedgerows, trees and ponds) to improve both recreational and ecological connectivity.

- The internal street pattern should allow for the integration of planting, including street trees to help integrate the development and soften its appearance and provide visual amenity for residents.

- Development should be kept back from the A12 and closest to the existing urban edge of Saxmundham.

- Buildings, structures and hard-standing should avoid tree protection areas for existing trees and hedgerows to be retained, either on or off-site.
2. Conclusion

2.1.1 The Site lies to the south of Saxmundham on gently undulating land which generally slopes to the south east. It is strongly divided by the A12, the East Suffolk railway line and to a lesser extent Kiln Lane, a single-track lane which criss-crosses the southern area of the Site. The railway line, together with the changing landform and vegetation provides physical and visual separation from the village of Benhall to the south.

2.1.2 The site has the benefit of a mixed use and employment allocation on the Site under policy SCLP12.29 as identified in the emerging Local Plan.

2.1.3 With regards to the strong existing landscape framework between the Site and Benhall village to the south, the Council’s evidence in the Settlement Sensitivity Assessment (for SX3) acknowledges that, “This land is not especially visible from the valley landscape to the south or the A12 due to existing field hedgerows and vegetation along the railway line and A12”

2.1.4 The design approach allows for significant new green infrastructure as part of the strategic allocation, as well as allowing for a lower density of development to the south of the site, to allow for increased landscape features, together with a linear belt of vegetation to the west side of the railway line to further reinforce the physical separation of the Site, with the village of Benhall within the valley beyond the east of the railway line.

2.1.5 Overall, this appraisal has informed the approach to site layout and the extent of development and green infrastructure opportunities that is appropriate within the Site, to the south west of Saxmundham as shown on the concept plan.
Landscape Design
Urban Design
Residential
Public Realm
Masterplanning
Landscape Planning
Heritage Landscapes
Gardens and Estates
Restoration and Conversion
Places of Worship
Expert Witness
Hospitality
Education
Retail / Office
Community
Ecology
Arboriculture
3D / Graphic Design
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FIGURE 1: SITE PLAN VIEWPOINT LOCATIONS AND PHOTOGRAPHIC SHEETS (1 – 4)

FIGURE 2: LANDSCAPE AND HERITAGE DESIGNATIONS WITH PUBLIC RIGHTS OF WAY

FIGURE 3: COUNTY LANDSCAPE CHARACTER ASSESSMENT

FIGURE 4: DISTRICT LANDSCAPE CHARACTER ASSESSMENT

FIGURE 5: SUFFOLK COASTAL SETTLEMENT SENSITIVITY ASSESSMENT
Project: Land South of Saxmundham, Suffolk  
Client: Pigeon Investment Management Ltd  
Date: August 2018  
Status: FINAL

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office@lizlake.com   www.lizlake.com

2174 Figure 1
Photographic Sheets

Photo Location 1: View looking north west from B1121

Photo Location 2: View looking north west from PRoW SM19

Photo Location 3: View looking south from PRoW SM19
Photo Location 4: View looking north from PRoW SM522

Photo Location 5: View looking south west from Klin Lane

Photo Location 6: View looking north east from Klin Lane
Photo Location 7: View looking north west from PRoW SM21

Photo Location 8: View looking north east from PRoW BE25

Photo Location 9: View looking east from PRoW BE23A
Photo Location 10: View looking north east from PRoW BE19

Photo Location 11: View looking north west from Red Lane
Landscape and Heritage Designations with Public Rights of Way

Legend

- Site Boundary
- 2km Study Area
- Heritage Designations
- Grade I Listed Building
- Grade II Listed Building
- Grade II* Listed Building
- Landscape Designations
- Area of Outstanding Natural Beauty (AONB)
- Public Rights of Way
- Footpath
- Bridleway
- Restricted Byway
- Recreation Route
- Byway open to all traffic
- Local Cycle Route

Project: Land South of Saxmundham, Suffolk
Client: Pigeon Investment Management Ltd
Date: August 2018
Scale: 1:25,000 @ A3
Status: Final

2174 Figure 2

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Project: Land South of Saxmundham, Suffolk
Client: Pigeon Investment Management Ltd
Date: August 2018
Scale: Not To Scale
Status: Final

Legend
- Site Boundary
- Peripheral Area
- Peripheral Area Boundary
- Built Up Area Boundary
- Allocation - Housing
- Planning Permissions - Housing

Note: Map extracts taken from Suffolk Coastal Settlement Analysis 2018 (Online Document)
Appendix 6: Noise and Vibration Constraints Assessment
Noise & Vibration Constraints Assessment
Land south of Saxmundham, Suffolk

REC Reference: AC105952-1r1

Report Prepared For: Pigeon Capital Management 2 Limited

Date: February 2019

National Consultancy, Locally Delivered
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EXECUTIVE SUMMARY

Resource and Environmental Consultants Ltd have been commissioned by Pigeon Capital Management 2 Limited to provide a Noise & Vibration Constraints Assessment for a proposed residential and employment allocation at land south of Saxmundham.

This assessment has been undertaken to identify key noise and vibration sources in the vicinity of the Site and understand the implications of these.

Noise modelling software has been used in order to predict the noise levels in any proposed external and internal amenity areas.

The Noise & Vibration Impact Assessment has identified the key noise sources impacting upon the site are from road traffic using the A12 and noise and vibration due to train pass-bys on the railway line.

A noise risk assessment has been undertaken in order to provide an indication of the likely effects from noise on the site. This assessment concludes the vast majority of the Site is subject to negligible noise levels, with medium noise levels experienced on the extremities of the boundary with the A12. The rail vibration assessment determined a less than low probability of adverse effect due to train pass-bys. Subject to the use of standard acoustic design principles at both the masterplaning (e.g. use of green corridors providing a buffer along the A12) and detailed design stages (e.g. plot orientation) it is concluded that noise and vibration considerations do not represent a constraint on bringing forward development on this site.
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5. **FULL ASSESSMENT**  
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Appendix II Glossary of Acoustic Terminology  
Appendix III Figures  
Appendix IV Measured Background Sound Levels at NMP4
1. INTRODUCTION

Resource and Environmental Consultants (REC) Limited have been commissioned by Pigeon Capital Management 2 Ltd to undertake a Noise & Vibration Constraints Assessment for a proposed residential and employment allocation at land south of Saxmundham in Suffolk to be referred to hereafter as ‘the Site’.

This assessment has been undertaken to identify key noise sources in the vicinity of the Site which may have the potential to impact upon the proposed residential development.

All acronyms used within this report are defined in the Glossary presented in Appendix II.

1.1 Site Location and Proposed Development

The Site comprises agricultural farmlands which are bisected by the A12 and railway line, with the B1121 to the east. Existing residential dwellings and Saxmundham Free School lie to the north.

The key noise sources are vehicles using the A12 and the railway line.

The proposals are set out on the Concept Plan and include 800 dwellings and community hub located between the railway line and A12, and an employment area and Tuckshop/services west of the A12.

This assessment has been undertaken with due regard to the supplied Concept Plan

1.2 Limitations

The limitations of this report are presented in Appendix I.

1.3 Confidentiality

REC has prepared this report solely for the use of the Client and those parties with whom a warranty agreement has been executed, or with whom an assignment has been agreed. Should any third party wish to use or rely upon the contents of the report, written approval must be sought from REC; a charge may be levied against such approval.
2. ASSESSMENT METHODOLOGY

2.1 National Planning Practice Guidance

Noise needs to be considered when new developments may create additional noise and when new developments would be sensitive to the prevailing acoustic environment. When preparing local or neighbourhood plans, or taking decisions about new development, there may also be opportunities to consider improvements to the acoustic environment.

Local planning authorities’ plan-making and decision taking should take account of the acoustic environment and in doing so consider:

- Whether or not a significant adverse effect is occurring or likely to occur;
- Whether or not an adverse effect is occurring or likely to occur; and
- Whether or not a good standard of amenity can be achieved.

In line with the Explanatory Note of the Noise Policy Statement for England, this would include identifying whether the overall effect of the noise exposure (including the impact during the construction phase wherever applicable) is, or would be, above or below the significant observed adverse effect level and the lowest observed adverse effect level for the given situation.

The Observed Effect Levels are as follows:

- Significant observed adverse effect level: This is the level of noise exposure above which significant adverse effects on health and quality of life occur.
- Lowest observed adverse effect level: this is the level of noise exposure above which adverse effects on health and quality of life can be detected.
- No observed effect level: this is the level of noise exposure below which no effect at all on health or quality of life can be detected.

Table 1 summarises the noise exposure hierarchy, based on the likely average response.

<table>
<thead>
<tr>
<th>Perception</th>
<th>Examples of Outcomes</th>
<th>Increasing effect level</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Noticeable</td>
<td>No effect.</td>
<td>No Observed Effect</td>
<td>No specific measures required</td>
</tr>
<tr>
<td>Noticeable and not intrusive</td>
<td>Noise can be heard but does not cause any change in behaviour or attitude. Can slightly affect the acoustic character of the area but not such that there is a perceived change in the quality of life.</td>
<td>No Observed Adverse Effect</td>
<td>No specific measures required</td>
</tr>
<tr>
<td></td>
<td>Lowest Observed Adverse Effect Level</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Noise & Vibration Constraints Assessment
Land at Saxmundham
Pigeon Capital Management 2 Ltd
February 2019
AC105952-1r1

Perception | Examples of Outcomes | Increasing effect level | Action |
--- | --- | --- | --- |
**Noticeable and intrusive** | Noise can be heard and causes small changes in behaviour and/or attitude, e.g. turning up volume of television; speaking more loudly; where there is no alternative ventilation, having to close windows for some of the time because of the noise. Potential for some reported sleep disturbance. Affects the acoustic character of the area such that there is a perceived change in the quality of life. | Observed Adverse Effect | Mitigate and reduce to a minimum |

**Significant Observed Adverse Effect Level**

| Noticeable and disruptive | The noise causes a material change in behaviour and/or attitude, e.g. avoiding certain activities during periods of intrusion; where there is no alternative ventilation, having to keep windows closed most of the time because of the noise. Potential for sleep disturbance resulting in difficulty in getting to sleep, premature awakening and difficulty in getting back to sleep. Quality of life diminished due to change in acoustic character of the area. | Significant Observed Effect | Avoid |

| Noticeable and very disruptive | Extensive and regular changes in behaviour and/or an inability to mitigate effect of noise leading to psychological stress or physiological effects, e.g. regular sleep deprivation/awakening; loss of appetite, significant, medically definable harm, e.g. auditory and non-auditory | Unacceptable Adverse Effect | Prevent |

The subjective nature of noise means that there is not a simple relationship between noise levels and the impact on those affected. This will depend on how various factors combine in any particular situation.

These factors include:

- The source and absolute level of the noise together with the time of day it occurs. Some types and level of noise will cause a greater adverse effect at night than if they occurred during the day – this is because people tend to be more sensitive to noise at night as they are trying to sleep. The adverse effect can also be greater simply because there is less background noise at night.
- For non-continuous sources of noise, the number of noise events, and the frequency and pattern of occurrence of the noise.
- The spectral content of the noise and the general character of the noise. The local topology and topography should also be taken into account along with the existing and, where appropriate, the planned character of the area.

More specific factors to consider when relevant:

- Where applicable, the cumulative impacts of more than one source should be taken into account along with the extent to which the source of noise is intermittent and of limited duration.
- Consideration should also be given to whether adverse internal effects can be completely removed by closing windows and, in the case of new residential development, if the proposed mitigation relies on windows being kept closed most of the time. In both cases a suitable alternative means of ventilation is likely to be necessary. Further information on ventilation can be found in the Building Regulations.
If external amenity spaces are an intrinsic part of the overall design, the acoustic environment of those spaces should be considered so that they can be enjoyed as intended.

2.2 Professional Practice Guidance on Planning & Noise 2017

Professional Practice Guidance (ProPG) on Planning and Noise has been produced to provide practitioners with guidance on a recommended approach to the management of noise within the planning system in England. The guidance encourages better acoustic design for new residential development and aims to protect people from the harmful effects of noise. It aims to complement Government planning and noise policy and guidance. In particular, it strives to:

- Advocate full consideration of the acoustic environment from the earliest possible stage of the development control process;
- Encourage the process of good acoustic design in and around new residential developments;
- Outline what should be taken into account in deciding planning applications for new noise-sensitive developments;
- Improve understanding of how to determine the extent of potential noise impact and effect; and
- Assist the delivery of sustainable development.

This ProPG advocates a systematic, proportionate, risk based, 2-stage, approach. The approach encourages early consideration of noise issues, facilitates straightforward accelerated decision making for lower risk sites, and assists proper consideration of noise issues where the acoustic environment is challenging.

The two sequential stages of the overall approach are:

- **Stage 1 – an initial noise risk assessment of the proposed development site**

  It is important that the assessment of noise risk at a proposed residential development site is not the basis for the eventual recommendation to the decision maker. The recommended approach is intended to give an early indication of the likely initial suitability of the site for new residential development from a noise perspective and the extent of the acoustic issues that would be faced.

- **Stage 2 – a systematic consideration of four key elements:**

  **Element 1 – demonstrating a “Good Acoustic Design Process”**

  It is imperative that acoustic design is considered at an early stage of the development control process. A good acoustic design process takes a multi-faceted and integrated approach to achieve optimal acoustic conditions, both internally and externally. Good acoustic design should avoid “unreasonable” acoustic conditions and prevent “unacceptable” acoustic conditions.

  **Element 2 – observing internal “Noise Level Guidelines”**
Table 2  ProPG Internal Noise Level Guidelines (additions to BS8233:2014 show in bold)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Location</th>
<th>07:00 – 23:00 Hours</th>
<th>23:00 – 07:00 Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resting</td>
<td>Living room</td>
<td>35dB $L_{Aeq,16hr}$</td>
<td>-</td>
</tr>
<tr>
<td>Dining</td>
<td>Dining room/area</td>
<td>40dB $L_{Aeq,16hr}$</td>
<td>-</td>
</tr>
<tr>
<td>Sleeping (daytime resting)</td>
<td>Bedroom</td>
<td>35dB $L_{Aeq,16hr}$</td>
<td>30dB $L_{Aeq,8hr}$</td>
</tr>
</tbody>
</table>
<pre><code>                                                             |                     | 45dB $L_{Amax,fast}$ |
</code></pre>

NOTE 1 The Table provides recommended internal $L_{Aeq}$ target levels for overall noise in the design of a building. These are the sum total of structure-borne and airborne noise sources. Ground-borne noise is assessed separately and is not included as part of these targets, as human response to ground-borne noise varies with many factors such as level, character, timing, occupant expectation and sensitivity.

NOTE 2 The internal $L_{Aeq}$ target levels shown in the Table are based on the existing guidelines issued by the WHO and assume normal diurnal fluctuations in external noise. In cases where local conditions do not follow a typical diurnal pattern, for example on a road serving a port with high levels of traffic at certain times of the night, an appropriate alternative period, e.g. 1 hour, may be used, but the level should be selected to ensure consistency with the internal $L_{Aeq}$ target levels recommended in the Table.

NOTE 3 These internal $L_{Aeq}$ target levels are based on annual average data and do not have to be achieved in all circumstances. For example, it is normal to exclude occasional events, such as fireworks, festivals or other occasional events.

NOTE 4 Regular individual noise events (for example, scheduled aircraft or passing trains) can cause sleep disturbance. A guideline value may be set in terms of $SEL$ or $L_{Amax,F}$ depending on the character and number of events per night. Sporadic noise events could require separate values. In most circumstances in noise sensitive rooms at night (e.g. bedrooms) good acoustic design can be used so that individual noise events do not normally exceed 45dB $L_{Amax,F}$ more than 10 times a night.

NOTE 5 Designing the site layout and the dwellings so that the internal target levels can be achieved with open windows in as many properties as possible demonstrates good acoustic design. Where it is not possible to meet internal target levels with windows open, internal noise levels can be assessed with windows closed, however any façade openings used to provide whole dwelling ventilation (e.g. trickle ventilators) should be assessed in the "open" position and, in this scenario, the internal $L_{Aeq}$ target levels should not normally be exceeded, subject to the further advice in Note 7.

NOTE 6 Attention is drawn to the requirements of the Building Regulations.

NOTE 7 Where development is considered necessary or desirable, despite external noise levels above WHO guidelines, the internal $L_{Aeq}$ target levels may be relaxed by up to 5 dB and reasonable internal conditions still achieved. The more often internal $L_{Aeq}$ levels start to exceed the internal $L_{Aeq}$ target levels by more than 5 dB, the more that people are likely to regard them as “unreasonable”. Where such exceedances are predicted, applicants should be required to show how the relevant number of rooms affected has been kept to a minimum. Once internal $L_{Aeq}$ levels exceed the target levels by more than 10 dB, they are highly likely to be regarded as “unacceptable” by most people, particularly if such levels occur more than occasionally. Every effort should be made to avoid relevant rooms experiencing “unacceptable” noise levels at all and where such levels are likely to occur frequently, the development should be prevented in its proposed form.

Element 3 – undertaking an “External Amenity Area Noise Assessment”

Advice in BS8233:2014 provides the following:

“If external amenity spaces are an intrinsic part of the overall design, the acoustic environment of those spaces should be considered so that they can be enjoyed as intended. The acoustic environment of external amenity areas that are an intrinsic part of the overall design should always be assessed and noise levels should ideally not be above the range 50 – 55 dB $L_{Aeq,16hr}$. These guideline values may not be achievable in all circumstances where development might be desirable. In such a situation, development should be designed to achieve the lowest practicable noise levels in these external amenity spaces.”
Where, despite following a good acoustic design process, significant adverse noise impacts remain on any private external amenity space then that impact may be partially offset if the residents are provided, through the design of the development or the planning process, with access to:

- a relatively quiet facade or a relatively quiet externally ventilated as part of their dwelling; and/or
- a relatively quiet alternative or additional external amenity space for sole use by a household; and/or
- a relatively quiet, protected, nearby, external amenity space for sole use by a limited group of residents as part of the amenity of their dwellings; and/or
- a relatively quiet, protected, publically accessible, external amenity space that is nearby.

**Element 4 – consideration of “Other Relevant Issues”**

- compliance with relevant national and local policy;
- magnitude and extent of compliance with ProPG;
- likely occupants of the development;
- acoustic design vs unintended adverse consequences; and
- acoustic design vs wider planning objectives.

Following the above stages, including the initial site risk assessment and full assessment, a recommendation to the decision maker is determined as follows:

- **A.** Grant without noise conditions; or
- **B.** Grant with noise conditions; or
- **C.** Avoid (significant adverse effects); or
- **D.** Prevent (unacceptable adverse effects).

**2.3 Calculation of Road Traffic Noise 1988**

The Calculation of Road Traffic Noise (CRTN) memorandum, produced by the Department of Transport for the Welsh Office, describes the procedures for calculating noise from road traffic in terms of survey duration, location relative to the road, weather conditions and other appropriate parameters.

**2.4 Transport Research Laboratory – Converting the UK Traffic Noise Index \( L_{A10,18hr} \) to EU Noise Indices for Noise Mapping**

This document provides a method for converting the \( L_{A10,18hr} \) level to the \( L_{\text{night}} \) level using the following formula, applicable to non-motorway roads:

\[ L_{\text{night}} = 0.90 \times L_{A10,18hr} - 3.77 \text{dB} \]

**2.5 British Standard BS8233: 2014: Guidance on Sound Insulation and Noise Reduction for Buildings**

**Noise Criterion Limits**

The scope of this standard is the provision of recommendations for the control of noise in and around buildings. It suggests appropriate criteria and limits for different situations, which are primarily
intended to guide the design of new buildings or refurbished buildings undergoing a change of use, rather than to assess the effect of changes in the external noise climate.

The standard suggests suitable internal noise levels within different types of buildings, including dwellings, as shown in Table 3:

### Table 3 BS8233 Recommended Internal Noise Levels

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Typical Situation</th>
<th>Design $L_{Aeq,T}$ (dB)</th>
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</thead>
<tbody>
<tr>
<td>Suitable resting/sleeping conditions</td>
<td>Living Room</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>Bedroom</td>
<td>30</td>
</tr>
<tr>
<td>For a Reasonable standard in bedrooms at night, individual noise even (measured with fast time weighting) should not exceed $45dB L_{max}$</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

BS8233 goes on to recommend noise levels for gardens. According to BS8233:

“It is desirable that the external noise level does not exceed $50dB L_{Aeq,T}$, with an upper guideline value of $55dB L_{Aeq,T}$ which would be acceptable in noisier environments. However, it is also recognised that these guideline values are not achievable in all circumstances where development might be desirable. In higher noise areas, such as city centres or urban areas adjoining the strategic transport network, a compromise between elevated noise levels and other factors might be warranted”.

BS8233 goes on to say:

“In such a situation, development should be designed to achieve the lowest practicable levels in these external amenity spaces, but should not be prohibited”.

### Ventilation Requirements

Where a partially open window cannot be relied upon to provide an adequate level of facade sound insulation performance, it is necessary to consider alternative ventilation for habitable rooms. Section 8.4.5.4 within BS8233 states:

“The Building Regulations’ supporting documents on ventilation [48, 49, 50] recommend that habitable rooms in dwellings have background ventilation. Where openable windows cannot be relied upon for this ventilation, trickle ventilators can be used and sound attenuating types are available. However, windows may remain openable for rapid or purge ventilation, or at the occupant’s choice.

Alternatively, acoustic ventilation units (see 7.7.2 below) are available for insertion in external walls. These can provide sound reduction comparable with double glazed windows. However, ducted systems with intakes on the quiet side of the building might be required in very noisy situations, or where appearance rules out through-the-wall fans.”

Section 7.7.2 states:

“NOTE 5 If relying on closed windows to meet the guide values, there needs to be an appropriate alternative ventilation that does not compromise the façade insulation or the resulting noise level.”
2.6 World Health Organisation’s (WHO) ‘Guidelines for Community Noise’

The WHO ‘Guidelines for Community Noise’ offers advice with regard to setting noise criteria applicable to sleep disturbance. Section 4.2.3 specifies:

‘If the noise is not continuous, $L_{A_{max}}$ or SEL are used to indicate the probability of noise-induced awakenings. Effects have been observed at individual $L_{A_{max}}$ exposures of 45 dB or less. Consequently, it is important to limit the number of noise events with a $L_{A_{max}}$ exceeding 45 dB.’

The guidelines go on to state:

‘At night, sound pressure levels at the outside façades of the living spaces should not exceed 45 dB $L_{A_{eq}}$ and 60 dB $L_{A_{max}}$, so that people may sleep with bedroom windows open. These values have been obtained by assuming that the noise reduction from outside to inside with the window partly open is 15 dB.’

The sound insulation performance value of 15dB for a façade containing a partially open window accords with the guidance offered in BS8233:2014.

The guidelines reference a study by Vallet & Vernet (1991), which concluded that:

‘For a good sleep, it is believed that indoor sound pressure levels should not exceed approximately 45 dB $L_{A_{f, max}}$ more than 10-15 times per night.’

Accordingly this assessment has utilised the 10th highest measured maximum noise level from the night-time period and allows for an assessment of a typical maximum noise level in determining façade sound insulation performance.

2.7 British Standard BS6472: 2008: Evaluation of Human Exposure to Vibration in Buildings (1Hz to 80Hz)

With respect to human exposure to building vibration, BS6472 provides guideline values of the Vibration Dose Value (VDV) above which various degrees of adverse comment may be expected from the occupants of residential buildings. The VDV is defined mathematically as the fourth root of the time integral of the fourth power of the vibration acceleration, after it has been frequency weighted. The guideline values recommended by BS6472 are shown in Table 4 below.

<table>
<thead>
<tr>
<th>Place</th>
<th>Low Probability of Adverse Comment</th>
<th>Adverse Comment Possible</th>
<th>Adverse Comment Probable</th>
</tr>
</thead>
<tbody>
<tr>
<td>VDV (m/s)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residential Buildings</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(16 hour Day)</td>
<td>0.2 – 0.4</td>
<td>0.4 – 0.8</td>
<td>0.8 – 1.6</td>
</tr>
<tr>
<td>Residential Buildings</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(8 Hour Night)</td>
<td>0.1 – 0.2</td>
<td>0.2 – 0.4</td>
<td>0.4 – 0.8</td>
</tr>
</tbody>
</table>

Where the vibration is intermittent rather than continuous in nature, BS6472 defines procedures for calculating the estimated Vibration Dose Value (eVDV), based on the number and duration of vibration events and the recorded value of the root mean square frequency weighted vibration acceleration.
The frequency weighting takes into account the response of the human body to vibrations of different frequency and whether the person is lying down or standing. The eVDV can then be taken as the VDV for use in the assessment of human exposure to vibration in buildings.

The above guidance relates to vibration measured at the point of entry into the human body, which is usually taken to mean the ground surface or at a point mid-span of an upper storey floor, rather than the point of entry into the building (a foundation element).

2.8 BS4142: 2014 ‘Methods for rating and assessing industrial and commercial sound’

This standard describes methods for rating and assessing sound of an industrial or commercial nature which includes:

- Sound from industrial and manufacturing processes;
- Sound from fixed installations which comprise mechanical and electrical plant and equipment;
- Sound from the loading and unloading of goods and materials at industrial and / or commercial premises; and,
- Sound from mobile plant and vehicles that is an intrinsic part of the overall sound emanating from processes or premises, such as that from forklift trucks, or that from train or ship movements on or around an industrial or commercial Site.

The procedure detailed in the standard compares the measured or predicted noise level ‘the specific noise level’ from any of the above detailed noise sources with the background sound level at a residential dwelling. The measured background sound level at a receptor should be reliable and should not necessarily ascertain a lowest measured background sound level, but rather to quantify what is typical.’

The specific noise level also acknowledges the following reference time intervals depending upon whether the noise source operates during daytime or night-time periods:

- Daytime (07:00 – 23:00) 1 hour; and
- Night-time (23:00 – 07:00) 15 minutes.

There are a number of ‘penalties’ which can be attributed to the specific sound level depending upon the ‘acoustic features’ of the sound level under investigation as follows. These penalties vary in their weighting depending upon the severity of the acoustic feature, as follows:

**Tonality**

- +2dB: where the tonality is just perceptible;
- +4dB: where the tonality is clearly perceptible; and
- +6dB: where the tonality is highly perceptible.

**Impulsivity**

- +3dB: where the impulsivity is just perceptible;
- +6dB: where the impulsivity is clearly perceptible; and
- +9dB: where the impulsivity is highly perceptible.

**Intermittency**
+3dB: where the intermittency is readily distinctive against the acoustic environment.

In addition to the above acoustic features, there is a penalty for ‘other sound characteristics’ of +3dB where a sound exhibits characteristics that are neither tonal nor impulsive, though are readily distinctive against the acoustic environment.

BS4142 goes on to state that the rating level is equal to the specific sound level if there are no such features present or expected to be present.

Assessment of the rating level relative to the background noise level can yield the following commentary:

- Typically the greater this difference (between the rating level and the background sound level), the greater the magnitude of impact;
- A difference of around +10dB or more is likely to be an indication of a significant adverse impact, depending on the context;
- A difference of around +5dB is likely to be an indication of an adverse impact, depending on the context; and
- The lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact.

With the above in mind, it is common that a Local Planning Authority will specify their own criteria for the rating level relative to the background sound level and, where this is the case, this criteria usually takes precedence over a simple comparison of the rating level against the background sound level.
3. NOISE SURVEYS

3.1 Road Traffic Noise Survey – A12

REC has conducted a Road Traffic Noise Survey in order to measure the level of noise generated by vehicles using the A12. The following time period was used for the survey in accordance with the measurement procedure given in CRTN:

- 07:00 Thursday 23rd August 2018 to 07:00 Friday 24th August 2018.

The following noise measurement position was chosen for the Road Traffic Noise Survey:

- Noise Measurement Position 1 (NMP1): Located approximately 5m from the nearside Kerb to the east of the A12. The microphone was located 1.5m above ground level and in free-field conditions. Noise sources at this location consisted predominately of vehicle pass-bys on the A12.

A summary of the measured sound pressure levels from the Road Traffic Noise Survey are presented in Table 5.

Table 5 Summary of Measured Noise Levels for NMP1 – A12

<table>
<thead>
<tr>
<th>Measurement Period Start</th>
<th>Measured Sound Pressure Levels (dB)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$L_{Aeq,T}$</td>
</tr>
<tr>
<td>23/08/2018 07:00</td>
<td>72.0</td>
</tr>
<tr>
<td>23/08/2018 08:00</td>
<td>72.1</td>
</tr>
<tr>
<td>23/08/2018 09:00</td>
<td>71.9</td>
</tr>
<tr>
<td>23/08/2018 10:00</td>
<td>72.3</td>
</tr>
<tr>
<td>23/08/2018 11:00</td>
<td>72.4</td>
</tr>
<tr>
<td>23/08/2018 12:00</td>
<td>73.2</td>
</tr>
<tr>
<td>23/08/2018 13:00</td>
<td>72.6</td>
</tr>
<tr>
<td>23/08/2018 14:00</td>
<td>72.8</td>
</tr>
<tr>
<td>23/08/2018 15:00</td>
<td>72.5</td>
</tr>
<tr>
<td>23/08/2018 16:00</td>
<td>73.1</td>
</tr>
<tr>
<td>23/08/2018 17:00</td>
<td>73.2</td>
</tr>
<tr>
<td>23/08/2018 18:00</td>
<td>72.2</td>
</tr>
</tbody>
</table>
3.2 Rail Pass-by Noise Survey

REC has conducted an unattended sound measurements of train pass-bys during a typical weekday period. The survey was carried out over the following time period:

- **07:00 Thursday 23rd August 2018 to 07:00 Friday 24th August 2018.**

This time period has allowed for the measurement of the loudest ambient noise levels during the daytime and night-time periods across a typical weekday. The following location was chosen for the survey:

- **Noise Measurement Position 2 (NMP2):** Located at the centre of the Site 6m from the nearside railway line. The microphone was located 1.5m above ground level in free-field conditions. Noise sources at this location consisted predominately of train pass-bys on the railway line.

A summary of the hourly measured sound pressure levels is presented in Table 6.
Table 6  Summary of Measured Noise Levels for Rail Noise- NMP2

<table>
<thead>
<tr>
<th>Measurement Period Start</th>
<th>Measured Sound Pressure Levels (dB)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$L_{A_{eq,1hr}}$</td>
<td>$L_{A_{max,fast}}$*</td>
<td>$L_{A_{90,1hr}}$</td>
</tr>
<tr>
<td>23/08/2018 07:00</td>
<td>53.1</td>
<td>38.8</td>
<td>51.9</td>
</tr>
<tr>
<td>23/08/2018 08:00</td>
<td>56.9</td>
<td>38.8</td>
<td>58.1</td>
</tr>
<tr>
<td>23/08/2018 09:00</td>
<td>56.8</td>
<td>39.4</td>
<td>61.3</td>
</tr>
<tr>
<td>23/08/2018 10:00</td>
<td>56.5</td>
<td>41.0</td>
<td>56.4</td>
</tr>
<tr>
<td>23/08/2018 11:00</td>
<td>58.4</td>
<td>41.7</td>
<td>59.7</td>
</tr>
<tr>
<td>23/08/2018 12:00</td>
<td>56.2</td>
<td>41.1</td>
<td>55.6</td>
</tr>
<tr>
<td>23/08/2018 13:00</td>
<td>55.2</td>
<td>40.1</td>
<td>61.1</td>
</tr>
<tr>
<td>23/08/2018 14:00</td>
<td>63.6</td>
<td>40.0</td>
<td>60.8</td>
</tr>
<tr>
<td>23/08/2018 15:00</td>
<td>63.4</td>
<td>36.0</td>
<td>54.5</td>
</tr>
<tr>
<td>23/08/2018 16:00</td>
<td>57.2</td>
<td>34.4</td>
<td>44.1</td>
</tr>
<tr>
<td>23/08/2018 17:00</td>
<td>57.6</td>
<td>36.1</td>
<td>54.1</td>
</tr>
<tr>
<td>23/08/2018 18:00</td>
<td>52.9</td>
<td>31.7</td>
<td>46.5</td>
</tr>
<tr>
<td>23/08/2018 19:00</td>
<td>58.8</td>
<td>37.3</td>
<td>47.7</td>
</tr>
<tr>
<td>23/08/2018 20:00</td>
<td>52.1</td>
<td>38.3</td>
<td>46.1</td>
</tr>
<tr>
<td>23/08/2018 21:00</td>
<td>53.1</td>
<td>30.7</td>
<td>44.3</td>
</tr>
<tr>
<td>23/08/2018 22:00</td>
<td>53.3</td>
<td>34.0</td>
<td>62.8</td>
</tr>
<tr>
<td>23/08/2018 23:00</td>
<td>50.4</td>
<td>39.9</td>
<td>50.0</td>
</tr>
<tr>
<td>24/08/2018 00:00</td>
<td>45.4</td>
<td>41.3</td>
<td>60.0</td>
</tr>
<tr>
<td>24/08/2018 01:00</td>
<td>42.9</td>
<td>41.9</td>
<td>54.4</td>
</tr>
<tr>
<td>24/08/2018 02:00</td>
<td>41.9</td>
<td>42.2</td>
<td>60.0</td>
</tr>
<tr>
<td>24/08/2018 03:00</td>
<td>42.9</td>
<td>42.2</td>
<td>58.7</td>
</tr>
<tr>
<td>24/08/2018 04:00</td>
<td>46.2</td>
<td>27.0</td>
<td>50.8</td>
</tr>
<tr>
<td>24/08/2018 05:00</td>
<td>50.3</td>
<td>36.0</td>
<td>54.3</td>
</tr>
<tr>
<td>24/08/2018 06:00</td>
<td>55.4</td>
<td>43.8</td>
<td>56.0</td>
</tr>
</tbody>
</table>

*10\textsuperscript{th} Highest measured $L_{A_{max,fast}}$ during the night-time period (23:00-0700)
3.3 Road Traffic Noise Survey – B1121

REC has conducted a Road Traffic Noise Survey in order to measure the level of noise generated by vehicles using the B1121. The following time period was used for the survey in accordance with the shortened measurement procedure given in CRTN:

► 11:31 to 14:31 Friday 24th August 2018.

The following noise measurement position was chosen for the Road Traffic Noise Survey:

► Noise Measurement Position 3 (NMP3): Located approximately 4m from the nearside kerb of the B1121. The microphone was located 1.5m above ground level and in free-field conditions. Noise sources at this location consisted predominately of vehicle pass-bys on Long Lane.

A summary of the measured sound pressure levels from the Road Traffic Noise Survey are presented in Table 7.

<table>
<thead>
<tr>
<th>Measurement Period Start</th>
<th>Measured Sound Pressure Levels (dB)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$L_{Aeq,T}$</td>
</tr>
<tr>
<td>24/08/2018 11:31</td>
<td>67.9</td>
</tr>
<tr>
<td>24/08/2018 12:31</td>
<td>67.8</td>
</tr>
<tr>
<td>24/08/2018 13:31</td>
<td>68.2</td>
</tr>
</tbody>
</table>

$^1$ 10th Highest $L_{A_{max,fast}}$ from three 1-hour periods

3.4 Background Sound Survey

REC has conducted a full weekday and weekend Background Sound Survey in a position considered representative of the closest proposed residential receptors to the employment area. The survey was carried out during the following time period:

► 10:00 Friday 24th August to 22:00 Monday 27th August 2018.

The following location was chosen for the survey:

► Noise Measurement Position 4 (NMP4): Located in the north western corner of the Site within the proposed employment area. Sound sources at this location consisted of distant road traffic using the A12.

A summary of the measured 1-hour background sound pressure levels are presented in Table 8 below. A full tabulated representation is shown in Table A3 of Appendix IV.
Table 8  Summary of Measured Background and Ambient Sound Pressure Levels

<table>
<thead>
<tr>
<th>Date</th>
<th>Period</th>
<th>Average Measured Sound Pressure Level (dB)</th>
<th>Median Measured Background Sound Pressure Level (dB)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>$L_{Aeq,T}$</td>
<td>$L_{A90,T}$</td>
</tr>
<tr>
<td>Friday 24th August</td>
<td>Daytime (10:00 – 23:00)</td>
<td>64.0</td>
<td>59.7</td>
</tr>
<tr>
<td></td>
<td>Night-time (23:00 – 07:00)</td>
<td>55.0</td>
<td>35.7</td>
</tr>
<tr>
<td>Saturday 25th August</td>
<td>Daytime (07:00 – 23:00)</td>
<td>60.5</td>
<td>52.0</td>
</tr>
<tr>
<td></td>
<td>Night-time (23:00 – 07:00)</td>
<td>56.5</td>
<td>28.8</td>
</tr>
<tr>
<td>Sunday 26th August</td>
<td>Daytime (07:00 – 23:00)</td>
<td>65.1</td>
<td>59.3</td>
</tr>
<tr>
<td></td>
<td>Night-time (23:00 – 07:00)</td>
<td>55.6</td>
<td>31.9</td>
</tr>
<tr>
<td>Monday 27th August</td>
<td>Daytime (07:00 – 22:00)</td>
<td>63.5</td>
<td>58.4</td>
</tr>
</tbody>
</table>

During the noise surveys the weather conditions were conducive to the measurement of environmental noise, i.e. wind speeds no more than 5m/s with fine and dry conditions.

The following equipment was used for the Noise Survey. Calibration due dates are those at the time of the surveys.

Table 9  Noise Measurement Equipment

<table>
<thead>
<tr>
<th>Measurement Position</th>
<th>Equipment Description</th>
<th>Manufacturer &amp; Type No.</th>
<th>Serial No.</th>
<th>Calibration Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>NMP1 &amp; NMP4</td>
<td>Sound Level Meter</td>
<td>01dB-Metravib Black Solo</td>
<td>65211</td>
<td>30th March 2019</td>
</tr>
<tr>
<td></td>
<td>Pre-amplifier</td>
<td>01dB-Metravib PRE 21 S</td>
<td>16831</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Microphone</td>
<td>01dB Metravib MCE212</td>
<td>142644</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Calibrator</td>
<td>01dB-Metravib CAL-21</td>
<td>34113643</td>
<td>25th October 2018</td>
</tr>
<tr>
<td>NMP2 &amp; NMP3</td>
<td>Sound Level Meter</td>
<td>01dB-Metravib Black Solo</td>
<td>65947</td>
<td>3rd October 2018</td>
</tr>
<tr>
<td></td>
<td>Pre-amplifier</td>
<td>01dB-Metravib PRE 21 S</td>
<td>16831</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Microphone</td>
<td>01dB Metravib MCE212</td>
<td>181856</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Calibrator</td>
<td>01dB-Metravib CAL-21</td>
<td>34744600</td>
<td>26th September 2018</td>
</tr>
</tbody>
</table>
The sound level meters were field-calibrated on site prior to and after noise measurements were taken. No significant drift was witnessed. Calibration certificates are available upon request.

### 3.5 Rail Pass-by Vibration Survey

REC has conducted attended sound measurements of train pass-bys during a typical weekday period. The survey was carried out over the following time period:

- Friday 24th August 2018 between 13:45 and 15:40.

The following vibration measurement position was chosen for the Rail Pass-by Vibration Survey:

- Vibration Measurement Position 1 (VMP1): Located on centrally close to the railway line at the same position as NMP2. The geophone of the meter was secured into the ground using the supplied spikes.

A summary of the measured vibration levels are presented in Table 10.

**Table 10 Summary of Measured Vibration Levels**

<table>
<thead>
<tr>
<th>Measurement Start Time</th>
<th>Provider</th>
<th>Transverse Peak (mm/s)</th>
<th>Vertical Peak (mm/s)</th>
<th>Longitudinal Peak (mm/s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:50</td>
<td>Grater Anglia</td>
<td>0.102</td>
<td>0.095</td>
<td>0.229</td>
</tr>
<tr>
<td>12:00</td>
<td>Grater Anglia</td>
<td>0.173</td>
<td>0.173</td>
<td>0.434</td>
</tr>
<tr>
<td>12:55</td>
<td>Grater Anglia</td>
<td>0.236</td>
<td>0.173</td>
<td>0.426</td>
</tr>
<tr>
<td>12:59</td>
<td>Grater Anglia</td>
<td>0.236</td>
<td>0.166</td>
<td>0.489</td>
</tr>
</tbody>
</table>

The following equipment was used for the vibration survey.

**Table 11 Vibration Measurement Equipment**

<table>
<thead>
<tr>
<th>Measurement Position</th>
<th>Equipment Description</th>
<th>Manufacturer &amp; Type No.</th>
<th>Serial No.</th>
<th>Calibration Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rail Vibration</td>
<td>Vibration Meter</td>
<td>Instantel Micro mate</td>
<td>UM12196</td>
<td>11th December 2018</td>
</tr>
</tbody>
</table>
4. INITIAL SITE NOISE ASSESSMENT

The noise assessment provides an indication of the likely effects from noise where no subsequent mitigation is to be included as part of the scheme. It should indicate whether the proposed site is considered to pose a negligible, low, medium or high risk from a noise perspective. The assessment should not include the impact of any new or additional mitigation that may subsequently be included in proposals for the site.

Accordingly, a Site Noise Assessment has been undertaken for transportation noise.

For the purposes of this assessment, REC have used noise modelling software, CadnaA 4.5, to determine the impact of noise from the A12, the B1121 and Railway Line.

The following inputs have been included in the model:

- Concept Plan;
- Site elevations have been taken using 1m Lidar DTM data which have been converted into contours;
- A Line source has been used to represent the railway line and has been calibrated using NMP2;
- The roads have been calibrated using the measured and predicted daytime/night time levels from NMP1 and NMP3;
- Existing buildings that provide shielding from any of the noise sources have been included in the model;
- A reflection order of 2 has been used in all calculations; and
- Noise levels generated using ISO 9613-1 and ISO 9613-2 “Acoustics – Attenuation of sound during propagation outdoors” as incorporated into CadnaA software.

Table 12 details the measured daytime and night-time noise levels for the A12 and the railway line using the measured 16-hour daytime and 8-hour night time levels. For the B1121 the calculated daytime and night-time level where predicted using methods given in CRTN and the TRL Document.

<table>
<thead>
<tr>
<th>Measurement Position</th>
<th>Assessment Period</th>
<th>Measured and Predicted Sound Pressure Levels (dB)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>$L_{Aeq,T}$</td>
</tr>
<tr>
<td>NMP1 – A12</td>
<td>Daytime (07:00- 23:00)</td>
<td>71.9</td>
</tr>
<tr>
<td></td>
<td>Night-time (23:00 – 07:00)</td>
<td>64.8</td>
</tr>
<tr>
<td>NMP2 – Railway Line</td>
<td>Daytime (07:00- 23:00)</td>
<td>58.0</td>
</tr>
<tr>
<td></td>
<td>Night-time (23:00 – 07:00)</td>
<td>49.4</td>
</tr>
<tr>
<td>NMP 3 – B1121</td>
<td>Daytime (07:00- 23:00)</td>
<td>69.8</td>
</tr>
<tr>
<td></td>
<td>Night-time (23:00 – 07:00)</td>
<td>71.8</td>
</tr>
</tbody>
</table>
Figures 2 and 3 determine the noise levels across the Site during the daytime and night-time periods, respectively.

Figure 2 determines that noise levels range between 47dB and up to 65dB within the developable areas during the daytime. This results in the Site being between Negligible Risk for the majority of the areas and Medium Risk for areas that border the A12.

Figure 3 determines that noise levels range between 40dB and up to 58dB within the developable areas during the night-time. This results in the Site being between Negligible Risk and Medium Risk.

The pre-planning application advice is as follows:

**Negligible Risk**

“These noise levels indicate that the development site is likely to be acceptable from a noise perspective, and the application need not normally be delayed on noise grounds.”

Accordingly, with regards the central and eastern area during the daytime there should be no adverse impact in regards to noise and mitigation measures are not likely to be required.

**Low Risk**

“At low noise levels, the site is likely to be acceptable from a noise perspective provided that a good acoustic design process is followed and is demonstrated in an ADS which confirms how the adverse impacts of noise will be mitigated and minimised in the finished development.”

This applies to the developable areas that experience noise levels of between 50 and 60dB for the daytime and over 50dB for the night-time. For these areas, careful consideration of Site layout will minimise the requirements of mitigation. However, mitigation measures may be suitable in controlling noise.

**Medium Risk**

“As noise levels increase, it is necessary for a good acoustic design process to be followed and to demonstrate in an ADS how the impacts of noise will be mitigated and minimised.”

Areas along the boundary with the A12 during the daytime and an extended area during the night-time are of medium risk and the layout of the site will need to be informed by an Acoustic Design Statement to ensure layout design gives consideration to the site’s acoustic qualities. Additionally, standard mitigation measures such as higher specification glazing may be incorporated into the scheme.
5. FULL ASSESSMENT

The assessment above in Section 4 has been used for the basis of the Road & Rail Traffic impact.

5.1 Good Acoustic Design Process

Good acoustic design should avoid “unreasonable” acoustic conditions and prevent “unacceptable” acoustic conditions. Good acoustic design is not just compliance with recommended internal and external noise exposure standards. Good acoustic design should provide an integrated solution whereby the optimum acoustic outcome is achieved, without design compromises that will adversely affect living conditions and the quality of life of the inhabitants or other sustainable design objectives and requirements.

The Concept Plan reflects best acoustic practice with; the mixed use area (which includes residential friendly employment uses such as a retail food store) positioned adjacent the A12 providing a buffer between the noise source and residential uses; the south of the site, which experiences the highest noise level, is left undeveloped; and a green corridor introduced parallel with the A12 ensuring housing parcels will be set back from the road.

As the scheme progresses good Acoustic Design will be incorporated into the detailed layout, with consideration given to the following standard measures when designing the plot layout:

- Plots bounding the roads to be orientated such that the garden areas are protected by the building envelope with buildings wrapped around the sides to shield the gardens; Gaps between dwellings along the boundaries with the A12 kept to a minimum to avoids noise creep into the gardens behind;
- Where possible, mews dwellings would be ideal along the roads; and
- Wherever possible, windows for habitable rooms should face away from the noise sources Where this is not possible, internal levels can be controlled by way of standard mitigation measures.

5.2 Rail Vibration Assessment

The total VDV for the daytime period and night-time period, for trams has been calculated in accordance with the methodology presented in BS6472: 2008 using the appropriate weightings.

The total number of trains has been obtained from train timetables published on the internet.

Table 14 below summarises the results of the vibration assessment.

<table>
<thead>
<tr>
<th>Table 13 Summary of Predicted Vibration Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Train Type</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Passenger</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Train Type</th>
<th>Timetabled Movements</th>
<th>Predicted Vibration Dose Value (m/s(^{1.75}))</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Daytime (07:00 – 23:00)</td>
<td>Night-time (23:00 – 07:00)</td>
</tr>
<tr>
<td>Freight</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Total VDV:</td>
<td></td>
</tr>
</tbody>
</table>

Table 15 determines the appropriate comment in accordance with BS6472:2008.

**Table 14 Determination of Applicable Comment**

<table>
<thead>
<tr>
<th>Place</th>
<th>Calculated Vibration Dose Value (m/s(^{1.75}))</th>
<th>Applicable Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential Buildings (16 Hour Day)</td>
<td>0.017</td>
<td>Less than low probability of adverse comment</td>
</tr>
<tr>
<td>Residential Buildings (8 Hour Night)</td>
<td>0.011</td>
<td>Less than low probability of adverse comment</td>
</tr>
</tbody>
</table>
6. CONCLUSION

Resource and Environmental Consultants Ltd have been commissioned by Pigeon Capital Management 2 Limited to provide a Noise & Vibration Constraints Assessment for a proposed residential and employment allocation at land south of Saxmundham.

This assessment has been undertaken to identify key noise and vibration sources in the vicinity of the Site and understand the implications of these.

Noise modelling software has been used in order to predict the noise levels in any proposed external and internal amenity areas.

The Noise & Vibration Impact Assessment has identified that the key noise sources impacting upon the site developments are from road traffic using the A12 and noise and vibration due to train pass-bys on the railway line.

A noise risk assessment has been undertaken in order to provide an indication of the likely effects from noise on the site. This assessment concludes the vast majority of the Site is subject to negligible noise levels, with medium noise levels experienced on the extremities of the boundary with the A12. The rail vibration assessment determined a less than low probability of adverse effect due to train pass-bys. Subject to the use of standard good acoustic design principles at both the masterplanning (e.g. use of green corridors providing a buffer along the A12) and detailed design stages (e.g. plot orientation) it is concluded that noise and vibration considerations do not represent a constraint on bringing forward development on this site.
APPENDIX I

LIMITATIONS
1. This report and its findings should be considered in relation to the terms of reference and objectives agreed between REC Limited and the Client as indicated in Section 1.2.

2. The executive summary, conclusions and recommendations sections of the report provide an overview and guidance only and should not be specifically relied upon without considering the context of the report in full.

3. REC cannot be held responsible for any use of the report or its contents for any purpose other than that for which it was prepared. The copyright in this report and other plans and documents prepared by REC is owned by them and no such plans or documents may be reproduced, published or adapted without written consent. Complete copies of this may, however, be made and distributed by the client as is expected in dealing with matters related to its commission. Should the client pass copies of the report to other parties for information, the whole report should be copied, but no professional liability or warranties shall be extended to other parties by REC in this connection without their explicit written agreement there to by REC.
APPENDIX II GLOSSARY OF ACOUSTIC TERMINOLOGY
Noise

Noise is defined as unwanted sound. Human ears are able to respond to sound in the frequency range 20 Hz (deep bass) to 20,000 Hz (high treble) and over the audible range of 0 dB (the threshold of perception) to 140 dB (the threshold of pain). The ear does not respond equally to different frequencies of the same magnitude, but is more responsive to mid-frequencies than to lower or higher frequencies. To quantify noise in a manner that approximates the response of the human ear, a weighting mechanism is used. This reduces the importance of lower and higher frequencies, in a similar manner to the human ear.

Furthermore, the perception of noise may be determined by a number of other factors, which may not necessarily be acoustic. In general, the impact of noise depends upon its level, the margin by which it exceeds the background level, its character and its variation over a given period of time. In some cases, the time of day and other acoustic features such as tonality or impulsiveness may be important, as may the disposition of the affected individual. Any assessment of noise should give due consideration to all of these factors when assessing the significance of a noise source.

The most widely used weighting mechanism that best corresponds to the response of the human ear is the ‘A’-weighting scale. This is widely used for environmental noise measurement, and the levels are denoted as dB(A) or \( L_{eq} \), \( L_{A90} \) etc., according to the parameter being measured.

The decibel scale is logarithmic rather than linear, and hence a 3 dB increase in sound level represents a doubling of the sound energy present. Judgement of sound is subjective, but as a general guide a 10 dB(A) increase can be taken to represent a doubling of loudness, whilst an increase in the order of 3 dB(A) is generally regarded as the minimum difference needed to perceive a change under normal listening conditions.

An indication of the range of sound levels commonly found in the environment is given in the following table.

**Table A1  Typical Sound Pressure Levels**

<table>
<thead>
<tr>
<th>Sound Pressure Level</th>
<th>Location/Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Threshold of hearing</td>
</tr>
<tr>
<td>20 - 30</td>
<td>Quiet bedroom at night</td>
</tr>
<tr>
<td>30 - 40</td>
<td>Living room during the day</td>
</tr>
<tr>
<td>40 - 50</td>
<td>Typical office</td>
</tr>
<tr>
<td>50 - 60</td>
<td>Inside a car</td>
</tr>
<tr>
<td>60 - 70</td>
<td>Typical high street</td>
</tr>
<tr>
<td>70 - 90</td>
<td>Inside factory</td>
</tr>
<tr>
<td>100 - 110</td>
<td>Burglar alarm at 1m away</td>
</tr>
<tr>
<td>110 - 130</td>
<td>Jet aircraft on take off</td>
</tr>
<tr>
<td>140</td>
<td>Threshold of pain</td>
</tr>
</tbody>
</table>
## Acoustic Terminology

<table>
<thead>
<tr>
<th>Descriptor</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>dB (decibel)</td>
<td>The scale on which sound pressure level is expressed. It is defined as 20 times the logarithm of the ratio between the root-mean-square pressure of the sound field and a reference pressure ($2 \times 10^{-5}$ Pa).</td>
</tr>
<tr>
<td>dB(A)</td>
<td>A-weighted decibel. This is a measure of the overall level of sound across the audible spectrum with a frequency weighting (i.e. ‘A’ weighting) to compensate for the varying sensitivity of the human ear to sound at different frequencies.</td>
</tr>
<tr>
<td>$L_{Aeq, T}$</td>
<td>$L_{Aeq}$ is defined as the notional steady sound level which, over a stated period of time (T), would contain the same amount of acoustical energy as the A-weighted fluctuating sound measured over that period.</td>
</tr>
<tr>
<td>$L_{Amax}$</td>
<td>$L_{Amax}$ is the maximum A-weighted sound pressure level recorded over the period stated. $L_{Amax}$ is sometimes used in assessing environmental noise where occasional loud noises occur, which may have little effect on the overall $L_{Aeq}$ noise level but will still affect the noise environment. Unless described otherwise, it is measured using the ‘fast’ sound level meter response.</td>
</tr>
<tr>
<td>$L_{10}$ &amp; $L_{90}$</td>
<td>If a non-steady noise is to be described it is necessary to know both its level and the degree of fluctuation. The Ln indices are used for this purpose, and the term refers to the level exceeded for n% of the time. Hence $L_{10}$ is the level exceeded for 10% of the time and as such can be regarded as the ‘average maximum level’. Similarly, $L_{90}$ is the ‘average minimum level’ and is often used to describe the background noise. It is common practice to use the $L_{10}$ index to describe traffic noise.</td>
</tr>
<tr>
<td>Free-field Level</td>
<td>A sound field determined at a point away from reflective surfaces other than the ground with no significant contributions due to sound from other reflective surfaces. Generally as measured outside and away from buildings.</td>
</tr>
<tr>
<td>Fast</td>
<td>A time weighting used in the root mean square section of a sound level meter with a 125 millisecond time constant.</td>
</tr>
<tr>
<td>Slow</td>
<td>A time weighting used in the root mean square section of a sound level meter with a 1000 millisecond time constant.</td>
</tr>
</tbody>
</table>
Figure 2 - Daytime Grid Noise Map - Calculation 1.5m above ground level

Customer:
Pigeon Investment Management Ltd

Project:
Land at Saxmundham

Project-No:
AC105952-1r1

Noise Map Objects
- Line Source
- Road
- Railway
- Building
- Barrier
- Receiver
- Calculation Area

Laeq 16 hour
in dB(A)
- ... < 45.0
- 45.0 <= ... < 47.5
- 47.5 <= ... < 50.0
- 50.0 <= ... < 52.5
- 52.5 <= ... < 55.0
- 55.0 <= ... < 57.5
- 57.5 <= ... < 60.0
- 60.0 <= ... < 62.5
- 62.5 <= ... < 65.0
- 65.0 <= ... < 70.0
- 70.0 <= ... < 75.0
- 75.0 <= ...

REC

Project Engineer: Martyn Parker
Created: 25/02/2019
**Figure 3 - Night-Time Grid Noise Map - Calculation 1.5m above ground level**

<table>
<thead>
<tr>
<th>Noise Map Objects</th>
<th>Laeq 8 hour in dB(A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Line Source</td>
<td>... &lt; 45.0</td>
</tr>
<tr>
<td>Road</td>
<td>45.0 &lt;= ... &lt; 47.5</td>
</tr>
<tr>
<td>Railway</td>
<td>47.5 &lt;= ... &lt; 50.0</td>
</tr>
<tr>
<td>Building</td>
<td>50.0 &lt;= ... &lt; 52.5</td>
</tr>
<tr>
<td>Barrier</td>
<td>52.5 &lt;= ... &lt; 55.0</td>
</tr>
<tr>
<td>Receiver</td>
<td>55.0 &lt;= ... &lt; 57.5</td>
</tr>
<tr>
<td>Calculation Area</td>
<td>57.5 &lt;= ... &lt; 60.0</td>
</tr>
<tr>
<td></td>
<td>60.0 &lt;= ... &lt; 62.5</td>
</tr>
<tr>
<td></td>
<td>62.5 &lt;= ... &lt; 65.0</td>
</tr>
<tr>
<td></td>
<td>65.0 &lt;= ... &lt; 70.0</td>
</tr>
<tr>
<td></td>
<td>70.0 &lt;= ... &lt; 75.0</td>
</tr>
<tr>
<td></td>
<td>75.0 &lt;= ...</td>
</tr>
</tbody>
</table>

Customer:
Pigeon Investment Management Ltd

Project:
Land at Saxmundham

Project-No:
AC105952-1r1

Created: 25/02/2019

Project Engineer: Martyn Parker

A CONCEPT LIFE SCIENCES COMPANY
<table>
<thead>
<tr>
<th>Period Start</th>
<th>Measured Sound Pressure Level, $L_{Aeq,1hr}$ (dB)</th>
<th>Measured Background Sound Level, $L_{A90,1hr}$ (dB)</th>
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<tbody>
<tr>
<td>24/08/2018 10:00</td>
<td>64.5</td>
<td>59.4</td>
</tr>
<tr>
<td>24/08/2018 11:00</td>
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<td>Measured Background Sound Level, $L_{A_{90},1hr}$ (dB)</td>
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</tbody>
</table>
## Noise & Vibration Constraints Assessment

### Land at Saxmundham

**Pigeon Capital Management 2 Ltd**  
**February 2019**  
**AC105952-1r1**

<table>
<thead>
<tr>
<th>Period Start</th>
<th>Measured Sound Pressure Level, $L_{Aeq,1hr}$ (dB)</th>
<th>Measured Background Sound Level, $L_{A90,1hr}$ (dB)</th>
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<tbody>
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Phase 1 Contamination Assessment
Notice

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Document History

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<th>Revision</th>
<th>Status</th>
<th>Description</th>
<th>Author</th>
<th>Checked</th>
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<th>Date</th>
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<td>C01</td>
<td>S2</td>
<td>Final</td>
<td>Alisdair Scott</td>
<td>Colleen Nunn</td>
<td>Colleen Nunn</td>
<td>15/02/2019</td>
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<td>S2</td>
<td>Amended due to change in site boundary</td>
<td>Colleen Nunn</td>
<td>James Warth</td>
<td>James Warth</td>
<td>22/02/2019</td>
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<tr>
<td>C03</td>
<td>S2</td>
<td>Amended site boundary and minor text amendments</td>
<td>Colleen Nunn</td>
<td>James Warth</td>
<td>James Warth</td>
<td>25/02/2019</td>
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Figure 1: Site Location Plan

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# Executive Summary

<table>
<thead>
<tr>
<th>Details</th>
<th>Summary of Main Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>This report has been prepared on the instructions of Pigeon Capital Management 2 Ltd. The purpose of this report is to provide information in support of the Regulation 19 examination for inclusion in the Suffolk Coastal Local Plan. It presents the results of a Phase 1 Contamination Assessment for the site.</td>
</tr>
<tr>
<td>Site Description</td>
<td>The approximately 54 hectare site is irregular in shape and comprises a large area of arable farmland to the south of Saxmundham, Suffolk which is bisected by the A12 and delineated to the east by the East Suffolk railway line which runs from Ipswich to Lowestoft.</td>
</tr>
<tr>
<td>Site History</td>
<td>Historical mapping dating from 1881 indicates the majority of the site comprises agricultural land with a brickworks, and associated pits and kiln, present in the central south and a cluster of agricultural buildings associated with Howards Farm in the central east. A number of ponds and footpaths are present across the site. Later historical map extracts indicate demolition of the brickworks and infilling of many of the pits and ponds. By the 1970s most signs of the brickworks are gone with some residential development having taken place in this area and return of some areas to farm land. The A12 was constructed by 1988 and bisects the site.</td>
</tr>
<tr>
<td>Environmental Setting</td>
<td>The published geology is of Lowestoft Formation (diamicton) (Secondary (undifferentiated) Aquifer over Lowestoft Formation (sand and gravel) (Secondary (A) Aquifer)) over the Crag Group (Principal Aquifer).</td>
</tr>
<tr>
<td></td>
<td>The majority of the site lies within a zone 3 groundwater source protection zone. The northern corner lies within a zone 2 groundwater source protection zone.</td>
</tr>
<tr>
<td></td>
<td>The nearest significant surface water feature comprises the River Fromus, approximately 380m to the east. A number of surface water drainage features and ponds are also located on site.</td>
</tr>
<tr>
<td></td>
<td>The site lies within an area of open arable farmland and is bordered to the east by the East Suffolk railway line and bisected by the A12. The small market town of Saxmundham lies to the north.</td>
</tr>
<tr>
<td></td>
<td>The site is not in an area affected by radon.</td>
</tr>
<tr>
<td>Potential Contamination Sources</td>
<td>The desk study and site reconnaissance have identified the following potential sources of contamination that could affect site condition:</td>
</tr>
<tr>
<td></td>
<td>• Made ground associated with infilled historic pits and ponds</td>
</tr>
<tr>
<td></td>
<td>• Brick works and kiln</td>
</tr>
<tr>
<td></td>
<td>• General agricultural use (Howard’s Farm)</td>
</tr>
<tr>
<td></td>
<td>• Cemetery (off-site)</td>
</tr>
<tr>
<td>Pollutant Linkages</td>
<td>Potentially complete pollutant linkages have been identified on site but are not considered likely to preclude development of the site.</td>
</tr>
<tr>
<td>Details</td>
<td>Summary of Main Text</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Recommendations</td>
<td>The following elements of investigation are advised and could be conditioned as part of planning:</td>
</tr>
<tr>
<td></td>
<td>• Intrusive investigation to establish ground conditions and the presence of soil, groundwater or gas contamination</td>
</tr>
<tr>
<td></td>
<td>• Targeted investigation to include sampling and testing in the vicinity of the brick works and Howard’s Farm, and of infill to historic clay and sand pits and ponds</td>
</tr>
<tr>
<td></td>
<td>• Non targeted investigation to include sampling and testing of near surface soils to establish baseline conditions and suitability of topsoil and subsoil for reuse</td>
</tr>
<tr>
<td></td>
<td>• Sample testing should include metals, speciated PAHs, TPHCWG and asbestos in soil and metals, speciated PAHs and TPHCWG in groundwater</td>
</tr>
<tr>
<td></td>
<td>• Testing for agrochemicals locally (e.g. where storage of chemicals may have taken place or at access points where agricultural sprayers would have entered fields) in soil and groundwater</td>
</tr>
<tr>
<td></td>
<td>• Testing for metals, formaldehyde and ammonia in groundwater adjacent to cemetery in north of site</td>
</tr>
<tr>
<td></td>
<td>• Monitoring wells and an appropriate number of visits to establish levels of ground gas in the vicinity of the infilled historic pits and ponds</td>
</tr>
</tbody>
</table>
2 General Notes

1 This report has been prepared by MLM Consulting Engineers Ltd (MLM) and provides available factual data for the site at the time of the study and as obtained from the sources described in the text. The data is related to the site on the basis of the site location information provided by the Client.

2 It should be appreciated that the desk study information is not necessarily exhaustive and that further information relevant to the site and its proposed use may be available.

3 The accuracy of map extracts cannot be guaranteed and it should be recognised that different conditions on site may have existed between and subsequent to the various map editions.

4 Any borehole data from the British Geological Survey (BGS) sources is included on the following basis: ‘The British Geological Survey accept no responsibility for omissions or misinterpretations of the data from their Data Bank as this may be old or obtained from non-BGS sources and may not represent current interpretation’.

5 Unless stated otherwise, the identification and assessment of potential of geotechnical issues is excluded from this report, although such assessments can be undertaken by MLM on request.

6 The copyright in this report and other plans and documents prepared by MLM in relation to this project is owned by MLM and no such report, plan or document may be reproduced, published or adapted without their written consent. Complete copies of this report may, however, be made and distributed by the Client as an expedient in dealing with matters related to its commission.

7 The content of websites visited during internet searches has not been validated and is accepted de facto and without prejudice. Anyone relying upon the information obtained from such sources does so at their own risk. Notwithstanding, MLM takes all reasonable care in utilising information only from reputable and professional sources.

8 This report was prepared only for our Client and was not intended to be relied on by any other party. Third parties should not rely on the facts, matters or opinions set out in this report without the express written permission of MLM.

9 The data contained within a Groundsure report is subject to the copyright and database rights ownership of the Groundsure Ltd.

10 Ordnance Survey mapping included within a Groundsure report is protected by Crown Copyright and must not be used for any purpose outside the context of this report.

11 Unless stated otherwise a site walkover will only record features apparent from the ground surface in accessible and external parts of a site at the time of the visit and as the conditions safely and legally permit. The following exclusions apply:

   a. Identification of underground structures or tanks obscured, for example, by parked vehicles, material or waste receptacles, pallets, temporary structures and any heaps or accumulations of waste or other materials;
   b. Surveys for asbestos, ecology, identification of invasive plant species and structural or building condition;
   c. Internal inspection of buildings;
   d. Lifting of inspection covers or grilles;
   e. Inspection or testing of gas, electrical, telecommunication, water supply or similar apparatus or equipment; and,
   f. Entry into confined spaces, potentially unsafe structures or areas where there is a risk of injury or exposure to substances potentially harmful to health.
3 Introduction

3.1 General

This report has been prepared by MLM Consulting Engineers Limited (MLM) on the instructions of Pigeon Capital Management 2 Ltd. The purpose of this report is to provide information in support of the Regulation 19 examination for inclusion in the Suffolk Coastal Local Plan.

3.2 Terms of Reference

The terms of reference for the work were set out in the MLM proposal 619719-MLM-ZZ-XX-CP-C-0002 dated 29 January 2019.

3.3 Scope of Work

This Phase 1 Contamination Assessment report presents the readily available information on and addresses the following:

- Current use and condition of the site based on a site walkover
- Previous uses of the site and surroundings based on available historical mapping and data
- Environmental setting in terms of geology, hydrogeology, hydrology and surrounding land use
- Environmental data searches
- Development of a preliminary conceptual site model and identification of potential pollutant linkages
- Conclusions and recommendations

3.4 Technical Approach

The process of assessment adopted in this report generally follows the guidance provided in the following publications:

- Environment Agency, CLR11 Model Procedures
- Environment Agency, GPLC3 Reporting Checklist
- NHBC Standards Chapter 4.1 Land Quality

3.5 Proposed Development

A concept plan has been produced which sets out the proposed location of the residential, employment, education, community hub and green infrastructure.
4 The Site

4.1 Location

The site is located to the south of Saxmundham and comprises a large area of arable farmland which is bisected by the A12 and delineated to the east by the East Suffolk railway line. The National Grid Reference for the approximate centre of the site is 637793, 262213.

A location plan of the site is presented as Figure 1.

4.2 Site Environmental Setting

4.2.1 Geology

The geological map of the area shows the site to be underlain by Lowestoft Formation (diamicton) over Lowestoft Formation (sand and gravel) over the Crag Group.

The site is not in an area likely to be affected by radon.

The BGS borehole scan website indicates a line of shallow boreholes along the A12 which suggest the near surface materials are generally cohesive.

4.2.2 Hydrogeology

The Environment Agency website provides the following hydrogeological information:

### Table 4.1 Aquifer Properties

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Designation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Groundwater Source Protection Zone</td>
<td>SPZ2 (northern corner only)</td>
<td>Outer protection zone. Defined by a 400 day travel time from a point below the water table. This zone has a minimum radius of 250 or 500m around the source, depending on the size of the abstraction.</td>
</tr>
<tr>
<td></td>
<td>SPZ3 (majority of site)</td>
<td>Source catchment protection zone. Defined as the area around a source within which all groundwater recharge is presumed to be discharged at the source.</td>
</tr>
<tr>
<td>Superficial Aquifer Designation</td>
<td>Secondary (undifferentiated)</td>
<td>Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers.</td>
</tr>
<tr>
<td>Lowestoft Formation (diamicton)</td>
<td>Aquifer</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Assigned in cases where it has not been possible to attribute either category A or B to a rock type. In most cases, this means that the layer in question has previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type.</td>
</tr>
<tr>
<td>Superficial Aquifer Designation</td>
<td>Secondary (A)</td>
<td>Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers.</td>
</tr>
<tr>
<td>Lowestoft Formation (sand and gravel)</td>
<td>Aquifer</td>
<td></td>
</tr>
<tr>
<td>Aspect</td>
<td>Designation</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-----------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Bedrock Aquifer Designation</td>
<td>Principal Aquifer</td>
<td>These are deposits that have high intergranular and/or fracture permeability - meaning they usually provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale.</td>
</tr>
<tr>
<td>Crag Group</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

There are records of eight groundwater abstraction licences within 2km. The nearest is 379m to the northwest and is for potable water supply.

There are records of three potable abstraction licences within 2km. The nearest is 379m to the northwest.

4.2.3 Hydrology

The nearest significant surface water feature is the River Fromus approximately 380m to the east. A number of ponds and surface water drainage features are also located on site.

The site is not shown to be in an area likely to be affected by sea or river flooding.

There are records of two abstraction licences from surface waters within 2km of the site. The nearest is 1.6km to the south and is for spray irrigation.
5 Site Reconnaissance and Desk Study

5.1 General

A desk study has been carried out using information obtained from a Groundsure Enviro Insight report for the area commissioned by MLM; through a review of published information, information obtained from regulatory bodies and online, and a site walkover. The full Groundsure report has been included as Appendix A.

A walkover survey of the site was undertaken on 31 January 2019. Weather conditions varied from clear to snowy. Photographs taken during the walkover are presented in Appendix B.

5.2 Site Reconnaissance

5.2.1 Site Description and Use

The approximately 54 hectare site is irregular in shape and currently comprises a large area of arable farmland. The A12 bisects the site with approximately 16.5 hectares of farmland to the west of the A12. The remaining land lies to the east of the A12 and west of the East Suffolk railway line.

West of A12

The land to the west of the A12 comprises an area of approximately 16.5 hectares of arable farmland with ponds in the north and south. Access to this area of the site is via a gated field entrance accessed from the A12.

The site is gently undulating with field boundaries marked by a series of surface water drainage features and hedgerows.

East of A12

The land to the east of the A12 and west of the railway line comprises arable farmland. Kiln Lane is present in the south of the site giving access to a number of residential properties which are excluded from the development area. Access to the farmland is via a number of gated field entrances accessed from the A12 and Kiln Lane. Overhead power lines cross the site in the south and from the northwest to the south east. There is evidence of buried services along the verges of the A12. A concrete catchpit is present adjacent to the railway line in the east. Blue plastic pipework thought to be associated with irrigation is also present in the east. The site is gently undulating with field boundaries marked by a series of surface water drainage features and hedgerows. A number of public footpaths also cross the site.

5.2.2 Surrounding Land Use

The site lies within an area of open arable farmland and is bordered to the east by the East Suffolk railway line and bisected by the A12. The small market town of Saxmundham lies to the north.

5.3 Site History

Historical maps have been obtained as part of the Groundsure Report and these are presented in Appendix A.

The historical information of relevance from within 100m of the site is presented as follows:
<table>
<thead>
<tr>
<th>Map Date</th>
<th>On site</th>
<th>Surrounding Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>1881, 1883 (1:2,500)</td>
<td>Benhall Brick Works is present in the centre south comprising a cluster of buildings, a kiln, clay pits and a sand pit. A road runs south from Benhall Brick Works to the southwest boundary of the site.</td>
<td>The site lies in an area of open farmland with the East Suffolk railway line forming the eastern site boundary. Kiln Lane skirts the southern boundary and then crosses the site to give access to the Brickworks.</td>
</tr>
<tr>
<td>1882, 1883, 1883–1888, 1888 (1:10,560)</td>
<td>Howard’s Farm is present in the centre east of the site comprising a number of agricultural buildings and a pond.</td>
<td>A building lies adjacent to southern corner of site.</td>
</tr>
<tr>
<td></td>
<td>A sand pit is located in the southeast, adjacent to the eastern site boundary.</td>
<td>Ponds are present adjacent northwest, 5m southwest and 5m east.</td>
</tr>
<tr>
<td></td>
<td>Ponds are present in the northwest, centre west and southwest.</td>
<td>A clay pit is present 10m east.</td>
</tr>
<tr>
<td></td>
<td>A number of footpaths cross the site.</td>
<td>A sand pit is present 50m northeast.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A pit is present 50m east.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>An area of woodland, Howard’s Covert, is present adjacent to the northern boundary.</td>
</tr>
<tr>
<td>1903 (1:2,500)</td>
<td>Pond in southwest no longer shown to be present.</td>
<td>Allotments are present adjacent to the north.</td>
</tr>
<tr>
<td>1903-1905, 1905 (1:10,560)</td>
<td></td>
<td>The sandpit 50m northeast is no longer shown to be present.</td>
</tr>
<tr>
<td>1925 (1:10,560)</td>
<td>Howard’s Farm now annotated as Park Farm Cottages.</td>
<td>No significant changes.</td>
</tr>
<tr>
<td>1927 (1:2,500)</td>
<td>No significant changes.</td>
<td>No significant changes.</td>
</tr>
<tr>
<td>1938 (1:10,560)</td>
<td>No significant changes.</td>
<td>No significant changes.</td>
</tr>
<tr>
<td>1946 (1:10,560)</td>
<td>No significant changes.</td>
<td>No significant changes.</td>
</tr>
<tr>
<td>1953–1957 (1:10,560)</td>
<td>Brickworks no longer present. Kiln Farm has been constructed in area of former brickworks.</td>
<td></td>
</tr>
<tr>
<td>1957 (1:10,560)</td>
<td>Clay pits associated with brickworks no longer shown to be present, sand pit annotated as disused.</td>
<td>To the north of site the town of Saxmundham has expanded with some residential development and construction of a school and playing field adjacent to the northern boundary.</td>
</tr>
<tr>
<td>1975, 1976 (1:10,000)</td>
<td>Park Farm Cottages and pond no longer shown to be present.</td>
<td>Pit 50m east of site annotated as disused.</td>
</tr>
<tr>
<td></td>
<td>Pond present in northeast.</td>
<td></td>
</tr>
</tbody>
</table>
5.4 Environmental Data Searches

Environmental data has been obtained for the site from a Groundsure report and from data provided by the Environment Agency and local authority or their websites. The following tables summarise these data and include information relating to the area to the southwest which was included in the Groundsure report but does not form part of the overall assessment.

**Table 5.2 Historical Industrial Sites**

<table>
<thead>
<tr>
<th>Entry</th>
<th>On site</th>
<th>0-250m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potentially Contaminative Uses</td>
<td>36</td>
<td>56</td>
</tr>
<tr>
<td>Historical Tank Database</td>
<td>0</td>
<td>16</td>
</tr>
<tr>
<td>Historical Energy Features Database</td>
<td>0</td>
<td>31</td>
</tr>
<tr>
<td>Historical Petrol and Fuel Site Database</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Historical Garage and Motor Vehicle Repairs</td>
<td>0</td>
<td>21</td>
</tr>
<tr>
<td>Potentially Infilled Land</td>
<td>46</td>
<td>43</td>
</tr>
</tbody>
</table>

Potentially contaminative uses on site: Cuttings; sand pits; unspecified holes; a railway building; disused pits; brick works; unspecified pits; unspecified kilns and unspecified tanks.

Potentially contaminative uses off site: Cemetery 2m north; cuttings, unspecified pits, ground workings from 23m.

Historical tank database: Gasholders, tanks and gasworks from 214m northeast.

Historical energy features: Electricity substations from 82m northeast; gasholders 214m northeast; gas governors from 220m northeast; gasworks from 237m northeast.

Filling station 210m east.
Garage from 150m northeast.
Potentially infilled land on site: Ponds; brick works; pits and cuttings.
Potentially infilled land off site: Cemetery 2m north; ponds, pits, cuttings, ground workings from 3m.
Table 5.3 Environmental Permits, Incidents and Registers

<table>
<thead>
<tr>
<th>Entry</th>
<th>On site</th>
<th>0-250m</th>
</tr>
</thead>
<tbody>
<tr>
<td>List 2 Dangerous Substances Inventory sites</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Part A(2) and Part B Activities and Enforcements</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Licensed Discharge Consents</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

Cleaning services (pH): 172m northeast
Waste oil burner: 193m northeast (2 records)
Trade discharges to tributary of River Fromus: 189m northwest

Table 5.4 Landfill and Other Waste Sites

<table>
<thead>
<tr>
<th>Entry</th>
<th>On site</th>
<th>0-250m</th>
</tr>
</thead>
<tbody>
<tr>
<td>No entries</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 5.5 Current Land Uses

<table>
<thead>
<tr>
<th>Entry</th>
<th>On site</th>
<th>0-250m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Industrial Sites Data</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>Petrol and Fuel Sites</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

Electricity substations from 85m northeast (6 records).
Ambulance station: 168m northwest
Vehicle repair garage and fuel station: 194m northeast
Fire station: 240 m northwest
Fuel site: 173m northeast

Table 5.6 Hydrogeology and Hydrology

<table>
<thead>
<tr>
<th>Entry</th>
<th>On site</th>
<th>0-250m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Groundwater Abstraction Licences</td>
<td>0</td>
<td>0 (8)*</td>
</tr>
<tr>
<td>Surface Water Abstraction Licences</td>
<td>0</td>
<td>0 (2)*</td>
</tr>
<tr>
<td>Potable Water Abstraction Licences</td>
<td>0</td>
<td>0 (2)*</td>
</tr>
<tr>
<td>Source Protection Zones</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Detailed River Network entries</td>
<td>4</td>
<td>22</td>
</tr>
<tr>
<td>Surface water features</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

* Figure in brackets indicates number within 251m-2km

Table 5.7 Flooding

<table>
<thead>
<tr>
<th>Entry</th>
<th>On Site and surrounding Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environment Agency Zone 2 floodplains within 250m</td>
<td>None identified</td>
</tr>
<tr>
<td>Environment Agency Zone 3 floodplains within 250m</td>
<td>None Identified</td>
</tr>
<tr>
<td>Risk of flooding from Rivers and the Sea on site</td>
<td>Very Low</td>
</tr>
</tbody>
</table>
### On Site and surrounding Area

<table>
<thead>
<tr>
<th>Entry</th>
<th>On Site and surrounding Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flood Defences within 250m</td>
<td>None identified</td>
</tr>
<tr>
<td>Flood Storage within 250m</td>
<td>None identified</td>
</tr>
<tr>
<td>BGS Groundwater Flooding susceptibility within 50m</td>
<td>Limited potential</td>
</tr>
<tr>
<td>BGS confidence rating for Groundwater Flooding susceptibility</td>
<td>Low</td>
</tr>
</tbody>
</table>

### Table 5.8 Designated Environmentally Sensitive Sites

<table>
<thead>
<tr>
<th>Entry</th>
<th>On site</th>
<th>0-250m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrate Vulnerable Zones</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

### Table 5.9 Natural Hazards

<table>
<thead>
<tr>
<th>Entry</th>
<th>On site</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum risk of natural ground subsidence</td>
<td>Low</td>
</tr>
<tr>
<td>Maximum Shrink-Swell hazard rating</td>
<td>Low</td>
</tr>
<tr>
<td>Maximum Landslides hazard rating</td>
<td>Very Low</td>
</tr>
<tr>
<td>Maximum Soluble Rocks hazard rating</td>
<td>Negligible</td>
</tr>
<tr>
<td>Maximum Compressible Ground hazard rating</td>
<td>Negligible</td>
</tr>
<tr>
<td>Maximum Collapsible Rocks hazard rating</td>
<td>Very Low</td>
</tr>
<tr>
<td>Maximum Running Sand hazard rating</td>
<td>Very Low</td>
</tr>
<tr>
<td>Radon Affected Area and percentage of homes above the Action Level</td>
<td>The site is not in a Radon Affected Area, as less than 1% of properties are above the Action Level.</td>
</tr>
<tr>
<td>Radon Protection requirements for new properties or extensions to existing ones</td>
<td>No radon protective measures are necessary.</td>
</tr>
</tbody>
</table>

### Table 5.10 Mining

<table>
<thead>
<tr>
<th>Entry</th>
<th>On Site or Surrounding Area</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No entries</td>
</tr>
</tbody>
</table>

### Table 5.11 Planning Advice Developments near Hazardous Installations

<table>
<thead>
<tr>
<th>Entry</th>
<th>On Site</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within Consultation Distance of hazardous installation site or pipeline</td>
<td>No – HSE report presented in Appendix C</td>
</tr>
</tbody>
</table>
6 Conceptual Site Model

6.1 General

This section presents a Conceptual Site Model (CSM) and identifies potential pollutant linkages present at the site in the context of the proposed site use and development.

The process involves the identification of sources based on historical mapping, data searches and site walkover, together with identification of the associated exposure pathways and human or environmental receptors.

6.2 Potential Sources of Contamination

Based on the information presented in the previous sections, potential sources of contamination that could impact on receptors have been identified and are summarised in table 6.1 below.

Table 6.1 Potential Sources of Contamination

<table>
<thead>
<tr>
<th>Source</th>
<th>Location</th>
<th>Activity</th>
<th>Potential Contaminants</th>
<th>Soil</th>
<th>Water</th>
<th>Gas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Made Ground</td>
<td>On site, and adjacent to site.</td>
<td>Infilled ponds and pits associated with brick works</td>
<td>Metals, PAHs, TPH, asbestos, ground gas</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Brick Works and Kiln</td>
<td>On site</td>
<td>Extraction and firing of clay</td>
<td>Metals, PAHs, TPH</td>
<td>✔</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General agricultural use</td>
<td>On site</td>
<td>Storage and use of pesticides and fertilisers</td>
<td>Pesticides, ammonium sulphate, nitrate</td>
<td>✔</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>Cemetery</td>
<td>North</td>
<td>Burial of human remains</td>
<td>Metals, formaldehyde, ammonia</td>
<td>✔</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.3 Potential Pollutant Linkages

Table 6.2 below presents a review of potential exposure pathways and receptors that could exist at the site or nearby, whether or not a source of contamination has been identified.

Table 6.2 Potential Sources, Pathways and Receptors

<table>
<thead>
<tr>
<th>Receptor</th>
<th>Pathway</th>
<th>Justification</th>
<th>Pollutant Linkage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human Health</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Future site users</td>
<td>Dermal contact, ingestion or fugitive inhalation of soil and dust or groundwater</td>
<td>Residential development including gardens and softscaping will be present where site users could come into contact with contaminated soils.</td>
<td>✔</td>
</tr>
<tr>
<td>Receptor</td>
<td>Pathway</td>
<td>Justification</td>
<td>Pollutant Linkage</td>
</tr>
<tr>
<td>----------</td>
<td>---------</td>
<td>---------------</td>
<td>------------------</td>
</tr>
<tr>
<td>Migration in permeable strata and inhalation of gas and/or organic vapour</td>
<td>New buildings are proposed and infilled ponds and pits are a potential source of ground gas.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Migration in permeable strata, accumulation and risk of explosion</td>
<td>New buildings are proposed and infilled ponds and pits are a potential source of ground gas.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Adjacent site users</td>
<td>Ingestion/inhalation of windblown dust</td>
<td>Residential development is adjacent along Kiln Lane and to the north along the southern edge of Saxmundham. Contaminated soil dust could be blown onto adjacent properties.</td>
<td>✓</td>
</tr>
<tr>
<td>Construction workers and services repair staff</td>
<td>Dermal contact, ingestion or fugitive inhalation of soil and dust or groundwater</td>
<td>Site workers could be exposed to soil contamination during groundworks.</td>
<td>✓</td>
</tr>
<tr>
<td>Development</td>
<td>Future plant life</td>
<td>Plant uptake in garden or landscape area</td>
<td>Residential development including gardens and softscaping is proposed.</td>
</tr>
<tr>
<td>Water supply pipes</td>
<td>Contact with contaminated material</td>
<td>New services will be constructed below ground.</td>
<td>✓</td>
</tr>
<tr>
<td>Environment</td>
<td>Surface water</td>
<td>Surface runoff</td>
<td>A number of surface water drainage features are located within the site boundary and surface run off from contaminated soils could enter water courses.</td>
</tr>
<tr>
<td></td>
<td>Groundwater movement</td>
<td>Groundwater may be in hydraulic connection with surface water via permeable superficial deposits. However, the majority of the site is underlain by low permeability diamicton.</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Superficial aquifer (Lowestoft Formation diamicton)</td>
<td>Leaching from soil or vertical fluid movement</td>
<td>Superficial aquifer is designated as a Secondary (undifferentiated) Aquifer. The majority of the site lies within an SPZ2 and there is a potential of leaching from soil and vertical fluid movement. However, this deposit comprises low permeability diamicton.</td>
</tr>
<tr>
<td></td>
<td>Superficial aquifer (Lowestoft Formation sand and gravel)</td>
<td>Leaching from soil or vertical fluid movement</td>
<td>Superficial aquifer is designated as a Secondary (A) Aquifer. The majority of the site lies within an SPZ2 and there is a potential of leaching from soil and vertical fluid movement. Protection may be offered by the overlying low permeability diamicton.</td>
</tr>
<tr>
<td></td>
<td>Bedrock aquifer (Crag Group)</td>
<td>Leaching from soil or vertical fluid movement</td>
<td>Bedrock aquifer is designated as a Principal Aquifer and the majority of the site lies within an SPZ2. There is a potential of leaching from soil and vertical fluid movement. However, protection may be offered by the overlying low permeability diamicton.</td>
</tr>
</tbody>
</table>
7 Summary and Recommendations

7.1 Summary

The approximately 54 hectare site is irregular in shape and currently comprises a large area of arable farmland. The A12 bisects the site with approximately 16.5 hectares of farmland to the west of the A12. The remaining land lies to the east of the A12 and west of the East Suffolk railway line.

Historical mapping dating from 1881 indicates the majority of the site comprises agricultural land with a brickworks, and associated pits and kiln, present in the central south and a cluster of agricultural buildings associated with Howards Farm in the central east. A number of ponds and footpaths are present across the site. Later historical map extracts indicate demolition of the brickworks and infilling of many of the pits and ponds. By the 1970s most signs of the brickworks are gone with some residential development having taken place in this area and return of some areas to farm land. The A12 was constructed by 1988 and bisects the site. The published geology is of Lowestoft Formation (diamicton) (Secondary (undifferentiated) Aquifer) over Lowestoft Formation (sand and gravel) (Secondary (A) Aquifer) over the Crag Group (Principal Aquifer).

The closest significant surface water feature is the River Fromus approximately 380m to the east. A number of ponds and surface water drainage features are also located on site.

The desk study and site reconnaissance have identified potential sources of contamination as follows:

- Made ground associated with infilled historic pits and ponds
- Brick works and kiln
- General agricultural use (Howard’s Farm)
- Cemetery (off-site)

Potentially complete pollutant linkages have been identified on site but are not considered likely to preclude development of the site.

7.2 Recommendations

The identified sources and pollutant linkages warrant further investigation and a more detailed assessment to establish what, if any, remediation or mitigation is necessary for development.

The following elements of investigation are advised and could be conditioned as part of planning:

- Intrusive investigation to establish ground conditions and the presence of soil, groundwater or gas contamination
- Targeted investigation to include sampling and testing in the vicinity of the brick works and Howard’s Farm, and of infill to historic clay and sand pits and ponds
- Non targeted investigation to include sampling and testing of near surface soils to establish baseline conditions and suitability of topsoil and subsoil for reuse
- Sample testing should include metals, speciated PAHs, TPHCWG and asbestos in soil and metals, speciated PAHs and TPHCWG in groundwater
- Testing for agrochemicals locally (e.g. where storage of chemicals may have taken place or at access points where agricultural sprayers would have entered fields) in soil and groundwater
- Testing for metals, formaldehyde and ammonia in groundwater adjacent to cemetery in north of site
- Monitoring wells and an appropriate number of visits to establish levels of ground gas in the vicinity of the infilled historic pits and ponds
8 References

3. NHBC Standards (2011) Part 4 Foundations – Chapter 4.1 Land Quality: Managing Ground Conditions
8. Groundsure Historical Maps (all scales) Report Ref: MLM-5788852 (30/01/2019)
Figures

Figure 1: Site Location Plan
PIGEON CAPITAL MANAGEMENT 2 LTD

SITE LOCATION PLAN

PROJECT

LAND SOUTH OF SAXMUNDHAM

FINAL ISSUE

SUITABILITY DESCRIPTION

SUITE FOR INFORMATION
Appendix A - Groundsure Report

Being sent separately
Appendix B - Site Photographs
<table>
<thead>
<tr>
<th>Photo 1</th>
<th>Access to east of site from A12</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.jpg" alt="Image" /></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Photo 2</th>
<th>Access to west of site from A12</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image2.jpg" alt="Image" /></td>
<td></td>
</tr>
<tr>
<td>Photo 3</td>
<td>Central site area (former brickworks)</td>
</tr>
<tr>
<td>---------</td>
<td>--------------------------------------</td>
</tr>
<tr>
<td></td>
<td><img src="image3.png" alt="Central site area" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Photo 4</th>
<th>Railway line running parallel to eastern site boundary</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><img src="image4.png" alt="Railway line" /></td>
</tr>
<tr>
<td>Photo 5</td>
<td>Concrete catchpit adjacent to railway</td>
</tr>
<tr>
<td>---------</td>
<td>--------------------------------------</td>
</tr>
<tr>
<td>Photo 6</td>
<td>Overhead cables in northwest of site running east to west and northwest to southeast</td>
</tr>
<tr>
<td>Photo 7</td>
<td>Residential property in centre of site, accessed from Kiln Lane</td>
</tr>
<tr>
<td>-----------------</td>
<td>---------------------------------------------------------------</td>
</tr>
<tr>
<td>Photo 8</td>
<td>Agricultural land in east (foreground) and railway embankment (background)</td>
</tr>
</tbody>
</table>
Photo 9  Surface water drainage feature in northeast

Photo 10  Kiln Lane along southern boundary
| Photo 11 | Location of infilled pond in northeast |

![Location of infilled pond in northeast](image-url)
Appendix C - HSE
Advice: HSL-190204114207-394 Does Not Cross Any Consultation Zones

Your Ref: 776816
Development Name: Land at Saxmundham - GEO

Comments:

The proposed development site which you have identified does not currently lie within the consultation distance (CD) of a major hazard site or major accident hazard pipeline; therefore at present HSE does not need to be consulted on any developments on this site. However, should there be a delay submitting a planning application for the proposed development on this site, you may wish to approach HSE again to ensure that there have been no changes to CDs in this area in the intervening period.

This advice report has been generated using information supplied by at MLM Consulting Engineers Ltd on 04 February 2019.
Appendix 8: Preliminary Ecological Appraisal
Site: Land South of Saxmundham
Work: Preliminary Ecological Appraisal
Client: Pigeon Capital Management 2 Ltd and the landowners

Author: Dr GW Hopkins CEnv MCIEEM
Date: February 2019
# Contents

Executive Summary  
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   - Site Context and Status  
   - Legislation and Planning Policy  
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   - Field Survey  
   - Guidance  
3. Designated Sites  
   - Overview  
   - Statutory (International and National) Sites  
   - Non-Statutory Sites  
4. Habitats and Botany  
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   - Phase 1 Habitats  
5. Scoping for Species of Conservation Concern  
   - Plants  
   - Bats  
   - Great Crested Newts  
   - Birds  
   - Reptiles  
   - Small Mammals  
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6. Evaluation  
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   - National Sites  
   - County Wildlife Sites  
   - On-Site  
   - Mitigation  
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   - Construction Impacts  
   - Enhancements  
8. Conclusion  
9. Appendix 1: Photographs  
10. Appendix 2: Additional Data  
11. Appendix 3: Legislation Summary
Executive Summary

Hopkins Ecology Ltd have been commissioned by Pigeon Capital Management 2 Ltd to prepare a preliminary ecological assessment of the Land South of Saxmundham with a view to identifying constraints and opportunities in the context of the Suffolk Coastal District Council Final Draft Local Plan. The total area is ~63.3ha, and it is mostly arable farmland with some blocks of other habitat.

Within 5km there are two sites with international / European designations, with these two sites having a total of four designations. These are too distant for pathways of direct impact to be relevant, although there may be impacts from recreational disturbance. These can mitigated via on-site greenspace and the connection of the Site to an existing network of footpath across nearby farmland. With this mitigation it is concluded that there will not be an impact on site integrity (Further details set out in the SANG Technical Note).

Within 5km there is a single site with statutory national designation, namely Gromford Meadow Site of Special Scientific Interest, 3.3km distant. There are two County Wildlife Sites within 1km and a further 22 within 5km. It is not anticipated that there will be impacts on these, by virtue of distance and limited public access.

The habitats comprise arable fields, boundary hedgerows (including hedgerows with standard trees), grass verges of improved sward and also a limited area of improved sward along a track, two on-Site ponds, a short length of wet ditch, small patches of scrub and three blocks of deciduous woodland.

The hedgerows and woodland qualify as the equivalent Habitats of Principal Importance: Hedgerow and Lowland Mixed Deciduous Woodland. The total length of hedgerow is estimated as 6.7km, of which 2.7km are thought likely to qualify as Important Hedgerows under the Hedgerow Regulations. The woodland blocks are not ancient, but they are marked on the OS maps from the 1880s.

The two ponds may qualify as a Habitat of Principal Importance provided they are shown to support species of conservation concern.

Scoped-in as potentially present are great crested newts (west of the A12 and east of the railway line), roosting bats and reptiles. The two on-site ponds and an off-site pond have potential habitat for great crested newts which, if present, will be largely restricted to the periphery of the site where any potential impact can be mitigated through the scheme layout and detailed design and any other relevant measures. Many of the standard hedgerow trees have at least moderate bat roost potential, and there are small areas of habitat suitable for reptiles associated with the railway boundaries and larger hedgerows.

Other species potentially present are: foraging bats; nesting and wintering birds; brown hares and hedgehogs; dead wood insects and widespread declining moths.

Where there is a legal requirement to mitigate impacts then it is considered that these can be readily achieved, through scheme design and measures such as providing suitable habitat on site. Such measures are considered to be entirely feasible and can be achieved as part of the scheme.

As part of a scheme the provisions of green space areas will provide substantial opportunities to provide a net gain in potential habitat area relevant to local species, and to enhance connectivity between existing areas particularly to the east of the railway line.

In conclusion, it is considered likely that the impacts on the majority of species can be mitigated. Appropriate landscaping and scheme design will have the potential to deliver a net increase in wildlife habitats and to improve the value of existing habitats via increased connectivity.
1. Introduction

BACKGROUND

1.1 Hopkins Ecology Ltd have been commissioned by Pigeon Capital Management 2 Ltd to prepare a strategic ecological assessment of the Land at Saxmundham with a view to identifying constraints and opportunities in the context of the local plan promotion of the site.

SITE CONTEXT AND STATUS

1.2 The site lies to the south of Saxmundham, divided by the A12 and the Lowestoft – Ipswich railway. The total area is ~63.3ha. The site is mostly arable farmland with some blocks of other habitat.

LEGISLATION AND PLANNING POLICY

1.3 The following key pieces of nature conservation legislation are relevant to legally protected species (with a more detailed description in Appendix 2):
   - The Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations); and

1.4 Also, the National Planning Policy Framework (DfCLG, 2018) requires local authorities to avoid and minimise impacts on biodiversity and, where possible, to provide net gains in biodiversity when making planning decisions. A large number of species are of conservation concern in the UK. A small number of these species are fully protected under the legislation listed above, but others in England are recognised as Species of Principal Importance under the Natural Environment and Rural Communities Act 2006 and reinforced by the National Planning Policy Framework. For these species local planning authorities are required to promote the “protection and recovery” via planning and development control. Examples include the widespread reptiles, skylarks and soprano pipistrelle and, brown long-eared bats.

1.5 Although the NPPF has an overarching aim of minimise impacts to biodiversity, the majority of species of conservation concern are not specifically recognised by legislation or planning policy. The level of protection afforded to these is undefined and should be considered within the overall aim of minimising impacts on biodiversity.

---

2. Methods

DESK STUDY

2.1 The desk study comprises a formal data search from the local records centre and review of relevant data and information from other sources (Table 1).

<table>
<thead>
<tr>
<th>Source</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suffolk Biodiversity Information Service</td>
<td>Designated sites, species of conservation concern; 5km search radius</td>
</tr>
<tr>
<td>MAGIC (<a href="https://magic.defra.gov.uk">https://magic.defra.gov.uk</a>)</td>
<td>Additional information on statutory sites, habitats of principal importance and wider countryside information</td>
</tr>
<tr>
<td>Various literature and web-based searches</td>
<td>Information on local projects and initiatives of potential relevance as well as some species-level data</td>
</tr>
<tr>
<td>OS maps and aerial photographs</td>
<td>Aerial photographs from at intervals to 2000 and OS maps from 1880s</td>
</tr>
</tbody>
</table>

FIELD SURVEY

2.2 A site walkover was undertaken on 10 and 11 July 2018, and habitats are described according to the methods of JNCC (2010)\(^2\). Hedgerows were surveyed following DEFRA (2007)\(^3\), noting woody species and other features such as ditches and banks and herbs described as typically 'woodland' species. Trees were surveyed from ground level for their potential suitability for roosting bats, looking for gaps, cracks and other potential roost features\(^4\); searches were also made for signs of badgers.

GUIDANCE

2.3 The ecological assessment has been prepared with reference to best practice guidance published by the Chartered Institute for Ecology and Environmental Management (CIEEM) and as detailed in British Standard 42020:2013 Biodiversity - Code of Practice for Biodiversity and Development.

CONSTRAINTS

2.4 It is not considered that there are any significant limitations to the assessment as described.

---


3. Designated Sites

OVERVIEW

3.1 Designated sites within 5km include a cluster of woodlands to the west, marshes to the east and grasslands across much of the search radius. A plan of designated sites within 2km of the approximate centre of the Site is shown below (Figure 1) with all sites within this radius being non-statutory County Wildlife Sites (CWS).

Figure 1. Designated sites within a 2km radius of the Site centre (see Appendix 2 for the map of the 5km search radius).

STATUTORY (INTERNATIONAL AND NATIONAL) SITES

3.2 There are no sites with international / European designations within 2km of the centre of the Site, but see Section 7 for additional detail.

3.3 There is a single site with statutory national designations, namely:

- Gromford Meadow Site of Special Scientific Interest (SSSI). This is 3.3km to the south-east and is an unimproved base-rich marsh designated for wetland vegetation.

NON-STATUTORY SITES

3.4 Within a 5km radius there are 24 non-statutory County Wildlife Sites (CWSs) (see Appendix 2). Two are located within 1km (Table 2). To the west several blocks of woodland are classified within single CWS names.

Table 2. Summary of CWSs within 5km of boundary (not centre)

<table>
<thead>
<tr>
<th>Distance</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;1km</td>
<td>Two sites: a churchyard and a meadow</td>
</tr>
<tr>
<td>1-2km</td>
<td>Three sites: ancient woodland and meadow</td>
</tr>
<tr>
<td>2-3km</td>
<td>Six sites: ancient woodland, Sandlings and meadow</td>
</tr>
<tr>
<td>3-4km</td>
<td>Seven sites: mostly ancient woodlands</td>
</tr>
<tr>
<td>&gt;4km</td>
<td>Six sites: variously woodland, grassland and marsh</td>
</tr>
</tbody>
</table>
4. Habitats and Botany

OVERVIEW

4.1 For the purposes of describing the site it is divided into three parcels delineated by the A12 and railway: west parcel, central parcel; and east parcel. The site is largely arable cropland, with some small blocks of woodland, two ponds, scrub and improved grassland; many of the fields are bounded by hedgerows including standard trees (with bat roost potential) (Figure 2). The soil is classed as a 'slowly permeable, seasonally wet slightly acid but base-rich loamy and clayey soil'.

Figure 2. Habitat map.

PHASE 1 HABITATS

4.2 Broadly, the parcels are characterized as arable with boundary hedgerows and small areas of other habitats. The three parcels are relatively similar in character (Table 3).

Table 3. Summary of habitats in each parcel.

<table>
<thead>
<tr>
<th>Parcel</th>
<th>Improved grassland</th>
<th>Deciduous woodland</th>
<th>Scrub</th>
<th>Habitat</th>
<th>Hedgerows</th>
<th>Ponds</th>
<th>Wet ditch</th>
<th>Dry ditch</th>
</tr>
</thead>
<tbody>
<tr>
<td>West</td>
<td>Along field verges</td>
<td>Small block</td>
<td>Small block along west boundary</td>
<td>9 lengths, 2359m in total</td>
<td>Two within site</td>
<td>-</td>
<td>-</td>
<td>Associated with several lengths of hedgerow</td>
</tr>
<tr>
<td>Central</td>
<td>Along field verges and trackway</td>
<td>Moderate-sized block</td>
<td>Small block adjacent to railway and along rail boundary</td>
<td>17 lengths, 3248m in total</td>
<td>-</td>
<td>-</td>
<td>Small length to west of railway</td>
<td>Associated with several lengths of hedgerow</td>
</tr>
<tr>
<td>East</td>
<td>Along field verges</td>
<td>Moderate-sized block</td>
<td>Along long rail boundary</td>
<td>6 lengths, 1071m in total</td>
<td>None within, one adjacent</td>
<td>-</td>
<td>-</td>
<td>Associated with several lengths of hedgerow</td>
</tr>
</tbody>
</table>
4.3 The phase 1 habitats are described as follows:

- **Arable.** The main arable fields were under cereals. The margins are narrow with cropping to the boundary grass verges. Generally, these margins were weed-free with only sharp-leaved fluellin *Kickxia elatine* noted as an uncommon species of field margins.

- **Improved grassland** is present along the grass verges to the fields and along a trackway within the central parcel:
  
  - The field margins, throughout, are grass swards with occasional tall ruderal components. The main species are false oat grass *Arrhenatherum elatius*, couch *Elymus repens* and cock’s foot *Dactylis glomerata* with occasional sterile brome *Anisantha sterilis*. The main ruderals are nettle *Urtica dioica*, creeping thistle *Cirsium arvense* and broad-leaved dock *Rumex obtusifolius*.
  
  - Within the central parcel a trackway near the south-west boundary has a grass sward of rye grass with other common grasses as occasional components, namely red fescue *Festuca rubra*, common bent *Agrostis capillaris* and cock’s foot, and a herb flora of common grassland species such as yarrow *Achillea millefolium* and tormentil *Potentilla erecta*. Also present is horseradish *Armoracia rusticana*.

- **Hedgerows.** The individual hedgerow lengths are described in Appendix 2. Several lengths are considered likely to qualify as Important Hedgerows. In broad terms the hedgerows are relatively tall and undamaged, with hawthorn *Crataegus monogyna* as the most frequent component but with ivy *Hedera helix*, bramble *Rubus fruticosus agg*, field maple *Acer campestre*, small-leaved-lime *Ulmus minor*, blackthorn *Prunus spinosa*, wild plum *Prunus species*, hazel *Corylus avellana*, dogwood *Cornus sanguinea*, dog rose *Rosa canina*, ash *Fraxinus excelsior* and oak *Quercus robur* as regular components. Less frequent components comprise wych elm *Ulmus glabra*, holly *Ilex aquifolium*, domestic apple *Malus domestica*, buckthorn *Rhamnus cathartica*, goat and grey willow *Salix caprea* and *S. cinerea*. Standard oaks are frequent, in particular along the boundaries of the parcels; a small number (<5) appear to be lapsed pollards, and while mature and over-mature are present it is not thought that any would be defined as veteran or ancient trees.

- **Deciduous woodland.** There are three blocks:
  
  - West parcel. A small block of woodland is present at the north-east corner. This was separated from the block within the east parcel by the A12 Saxmundham bypass. It is not marked as ancient woodland but it is shown on the 1880s OS map. It has a high canopy of ash and oak with hawthorn, blackthorn and small-leaved elm as understorey and edge species.

  - Central parcel. This block is marked on maps as Howards Covert (Park Farm Covert) and was separated from the block in the west parcel by the A12 Saxmundham bypass. It is not marked as ancient woodland but it is shown on the 1880s OS map. Along the north, east and south boundaries there is a dry ditch. It has a high canopy of mainly oak and ash and a moderately dense understorey of hawthorn, hazel, field maple, holly, and small-leaved elm. The ground flora largely comprised prostrate ivy and cow parsley, with the only woodland species noted being lords and ladies *Aurum maculatum*. Honeysuckle *Lonicera periclymenum* is also present as occasional straggly plants.
o East parcel. This block is called Catsnaps Belt and although it is not marked as ancient woodland it is shown on the 1880s OS map. It has a high canopy of ash and oak with an understorey of hawthorn, blackthorn, hazel and bramble. The ground flora is dominated by nettles.

- **Scrub** is present within the west and central parcels as small, isolated blocks:
  o West parcel. Along the west boundary, around the western fringe of the pond is a small patch of bramble and blackthorn scrub with some ash saplings also present.
  o East parcel. Adjacent to the railway, roughly centrally on the east boundary is a patch of narrow-leaved willow *Salix* species, oak, ash and hawthorn scrub. Also present are three mature oaks. The understorey is tall ruderals, mainly nettle.

- **Ponds.** There are two ponds within the site boundary and one adjacent, all of which are farm ponds:
  o West parcel. Pond A is along the west boundary within the site and is relatively open with aquatic flora of common pondweed *Potamogeton natans*, duckweed *Lemna minor* and reedmace *Typha angustifolia*. Pond B is within an arable field and supported open water at time of survey but without aquatic flora. It is surrounded by ash, hawthorn, blackthorn and goat willow scrub.
  o East parcel. Adjacent to the boundary but outside of the Site is a small pond (Pond C) surrounded by scrub. It lacks aquatic vegetation.
5. Scoping for Species of Conservation Concern

PLANTS

5.1 The data search returned records for several plants of conservation concern associated with arable farmland, namely arable weeds and species potentially present in such areas: corn spurrey *Spergula arvensis* good-King-Henry *Chenopodium bonus-henicus* treacle-mustard *Erysimum cheiranthoides*, red-tipped cudweed *Filago lutescens*, small cudweed *Filago minima* and common cudweed *Filago vulgaris*.

5.2 None of these species were noted and the only uncommon arable species recorded was sharp-leaved fluellen *Kickxia elatine*.

5.3 The extent and quality of habitat for arable species on the site is, however, likely to be very low, with cropping close to the grassy field margins and only limited areas of ‘field corners’ with a reduced intensity of cultivation.

BATS

5.4 Records for eight species of bat were returned by the data search: barbastelle, serotine, Daubenton’s, Natterer’s, noctule, common pipistrelle, soprano pipistrelle, and brown long-eared. The majority of these records appear to be from woodland areas to the south and southwest and the nearest roost record is >500m distant in Saxmundham.

5.5 The main feature of potential relevance to bats are the standard hedgerow trees, many of which supported are mature and over mature with aerial dead wood, and potential roost features under flaking bark and other visible holes and cavities. The value of the site for foraging is probably relatively low, restricted to field and hedgerow margins, and with the site lacking higher quality habitats such as herb-rich grassland extensive wetlands, wet humus-rich soil, and extensive woodland blocks.

GREAT CRESTED NEWTS

5.6 The data search returned numerous records from the wider landscape in all directions. The nearest record appears to be from >1km to the north.

5.7 The ponds within and on the Site boundary are rated for their potential habitat quality for great crested newts (following ARG, 2010) as follows:

- Pond A (west parcel), ‘excellent’;
- Pond B (west parcel), ‘good’; and
- Pond C (adjacent to east parcel), ‘good’.

5.8 More widely within 500m there do not appear to be other ponds that are potentially relevant to the Site, in that they are isolated by significant barriers such as busy roads or urban areas.

5.9 On this basis great crested newts cannot be discounted for being present, but their occurrence is likely to be restricted to boundary areas of the west and east parcels.

BIRDS

5.10 The data search returned a diverse range of species records, including a number unlikely to be relevant, such as great white egret and species with strong association with wetland areas.

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Also, within the data search are scarce, woodland specialists such as marsh tit and lesser spotted woodpecker.

5.11 Potentially relevant are species likely to overwinter on arable farmland and utilise open fields and hedgerows / verges for nesting:

- Overwintering species: lapwing, herring gull, lesser black-backed gull and species of field margins such as redpoll, skylark, and yellowhammer;
- Nesting in open fields: skylarks; and
- Nesting in hedgerows and field margins: stock dove, grey partridge, turtle dove, willow warbler, dunnock, mistle thrush, song thrush, bullfinch, linnet, spotted flycatcher, yellowhammer, redpoll and reed bunting.

5.12 The on-site habitats appear to be of lower value for many species, lacking seed-rich margins and dense hedgerows. However, some widespread but declining species are almost certainly present and scarcer species cannot be discounted.

**REPTILES**

5.13 The data search returned records from within 500m slow worm, grass snake and common lizard, with other records widely across search radius.

5.14 Arable landscapes typically support few if any reptiles but there are some patches of habitats of moderate potential value are present, such as scrub and woodland edge, particularly close to the railway line. Reptiles cannot be discounted but it is unlikely that they are widespread within the Site.

**SMALL MAMMALS**

5.15 Small mammals are assessed as follows:

- Badgers, numerous records were returned from within 5km including occasional road kills from the adjacent A12, but without sett records within 1km. No evidence was found on-Site and they are considered to be absent.
- Brown hares are reported widely from open countryside within the 5km data search radius, and it is likely they are present.
- Hedgehogs are known widely locally, including from nearby residential areas. The hedgerows and field margins will offer shelter and foraging habitat and they are probably present.
- Harvest mice are reported from a single record >3km distant and the on-Site habitat is of low quality without tall grassland. It is considered they are unlikely to be present.
- Dormice. A single record is returned within the data search, from within the Site dating from 2017, but the entry is caveated with a requirement that it “needs confirmation”. This Site is substantially outside of the recognised range of dormice in Suffolk, which are considered to be restricted to the south of the county\(^6\). In the absence of other local records or evidence to the contrary it is considered that dormice are very unlikely to be present and are therefore scoped-out from consideration at this stage but with precautionary surveys later.

INVERTEBRATES

5.16 Records for 125 species of invertebrate of conservation concern were returned from within 5km, comprising records of species collected from incidental recording and also regular moth trapping stations.

5.17 These data are analysed using Natural England’s Invertebrate Species-habitat Information System\(^7\) (ISIS) that classifies such inventory data into standardised habitat assemblages (Table 4). A number of species are scoped-out on the basis that they are wetland specialists associated with mainly coastal sites and river-side wetlands.

5.18 The remaining species broadly comprise dead wood species and those with broader scrub and grassland requirements:

- The dead wood species are mainly from sites such as Glemham Park, and the on-Site trees generally do not have the scarcer types of dead wood which many of these species require (such as heartwood decay). A small assemblage of dead wood species, mainly those of ‘bark and sapwood decay’ may be present.

- Open grassland species, those of ‘open short sward’ and ‘bare sand and chalk’ are probably absent. The on-Site grassland areas are overly rank and lacking in the open conditions required by these species, while the arable margins are intensively managed.

- Potentially relevant to the site are many of the widespread but declining moths and butterflies (53 species) that are Species of Principal Importance (Butterfly Conservation, 2007\(^8\)). These are typically associated with ‘arboreal foliage’ and ‘grassland and scrub matrix’ where their caterpillars feed on a wide range of foodplants. It is likely that a small assemblage of these species is present in hedgerow and woodland areas.

Table 4. Summary of the ecology and habitat requirements of the invertebrates within 5km

<table>
<thead>
<tr>
<th>Assemblage code</th>
<th>Assemblage type ( )</th>
<th>Number of species</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Broad Assemblage Type</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A1</td>
<td>Arboreal canopy</td>
<td>19</td>
</tr>
<tr>
<td>F2</td>
<td>Grassland &amp; scrub matrix</td>
<td>12</td>
</tr>
<tr>
<td>A2</td>
<td>Wood decay</td>
<td>12</td>
</tr>
<tr>
<td>F1</td>
<td>Unshaded early successional mosaic</td>
<td>10</td>
</tr>
<tr>
<td>W3</td>
<td>Permanent wet mire</td>
<td>4</td>
</tr>
<tr>
<td>W2</td>
<td>Mineral marsh &amp; open water</td>
<td>2</td>
</tr>
<tr>
<td>W1</td>
<td>Flowing water</td>
<td>1</td>
</tr>
<tr>
<td>M3</td>
<td>Saltmarsh, estuary &amp; mud flat</td>
<td>1</td>
</tr>
<tr>
<td><strong>Specific Assemblage Type</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M312</td>
<td>Brackish-freshwater transition marsh</td>
<td>1</td>
</tr>
<tr>
<td>A211</td>
<td>Heartwood decay</td>
<td>6</td>
</tr>
<tr>
<td>W314</td>
<td>Reed fen and pools</td>
<td>3</td>
</tr>
<tr>
<td>A212</td>
<td>Bark &amp; sapwood decay</td>
<td>6</td>
</tr>
<tr>
<td>F112</td>
<td>Open short sward</td>
<td>2</td>
</tr>
<tr>
<td>F111</td>
<td>Bare sand &amp; chalk</td>
<td>2</td>
</tr>
<tr>
<td>F003</td>
<td>Scrub-heath &amp; moorland</td>
<td>1</td>
</tr>
</tbody>
</table>


6. Evaluation

HABITATS OF PRINCIPAL IMPORTANCE

6.1 In general, the site is typical of lowland farmland, with large fields of arable cropland with boundary hedgerows and smaller patches of other habitats. The following habitats are considered to qualify as a Habitat of Principal Importance (Maddock, 2011\(^9\)):

- Hedgerows, of which the majority will qualify by satisfying the criterion of >80% native woody species. Several lengths are likely to qualify as Important Hedgerows under the Hedgerow Regulations (Table 5).

<table>
<thead>
<tr>
<th>Parcel</th>
<th>Total Number</th>
<th>Total Length</th>
<th>Important Number</th>
<th>Important Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>West</td>
<td>9</td>
<td>2359</td>
<td>5</td>
<td>802</td>
</tr>
<tr>
<td>Central</td>
<td>17</td>
<td>3248</td>
<td>4</td>
<td>894</td>
</tr>
<tr>
<td>East</td>
<td>6</td>
<td>1071</td>
<td>4</td>
<td>963</td>
</tr>
<tr>
<td>Total Site</td>
<td>32</td>
<td>6678</td>
<td>13</td>
<td>2659</td>
</tr>
</tbody>
</table>

- Lowland Mixed Deciduous Woodland. All three blocks of woodland satisfy the broad criteria for this habitat, dating from the 19\(^{th}\) century and with native species cover. None are thought to be ancient woodland.

- Ponds. Further assessment is required, through the course of the Local Plan process, to determine the status of the ponds. To qualify they should be of high ecological quality, most likely achieved here by supporting great crested newts.

6.2 In summary, at least two and possibly three Habitats of Principal Importance are present, with each parcel having hedgerows and woodland and the west parcel possibly also having qualifying ponds (Table 6).

<table>
<thead>
<tr>
<th>Parcel</th>
<th>Hedgerow</th>
<th>Lowland deciduous woodland</th>
<th>Pond</th>
</tr>
</thead>
<tbody>
<tr>
<td>West</td>
<td>Yes</td>
<td>Yes</td>
<td>Possibly</td>
</tr>
<tr>
<td>Central</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>East</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

SCOPING FOR SPECIES OF CONSERVATION CONCERN

6.3 The site appears to be ‘typical’ of farmland habitat, with some extensive tracts of open arable fields and limited lengths of boundary hedgerows and other habitats. The assemblages of species of conservation concern are likely to be relatively species-poor and with low numbers. Notwithstanding any legal protection to individual species, it is likely that the site is of relatively low ecological value and with the species present likely to be in low numbers and as part(s) of larger local population(s). The protected species scoping is summarised below (Table 7).

---

### Table 7. Summary of species scoping.

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
<th>Assessment</th>
<th>Direct surveys recommended to support a planning application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plants</td>
<td>Wider landscape supporting several scarce farmland species</td>
<td>Field margins appear to be of lower quality for arable species and scarce species unlikely</td>
<td>Yes, for spring species especially in woodland areas</td>
</tr>
<tr>
<td>Bats</td>
<td>Hess Gerow trees and woodland blocks with moderate bat roost potential</td>
<td>Roosts possible in hedgerow trees and woodlands</td>
<td>Yes, for roosts and foraging. Scale of survey work, particularly for roosts, to be informed by scheme design and potential impacts</td>
</tr>
<tr>
<td></td>
<td>Foraging habitat largely restricted to hedgerows and smaller wetland areas</td>
<td>Likely to support foraging bats in low numbers and with a moderately-rich assemblage</td>
<td></td>
</tr>
<tr>
<td>Great crested newts</td>
<td>Two on-Site and one adjacent pond with excellent or good potential habitat. Known to be present widely in landscape</td>
<td>Potentially present, although along boundary areas of west and east parcel only</td>
<td>Yes</td>
</tr>
<tr>
<td>Birds</td>
<td>Hedgerows and verges relatively sparse and arable verge habitat of lower quality, lacking weed- and herb-rich margins</td>
<td>Nesting likely in hedgerows and also open fields by common and also widespread, declining species. Overwintering also likely by farmland species</td>
<td>Yes</td>
</tr>
<tr>
<td>Reptiles</td>
<td>Widespread species known to be present locally</td>
<td>Potentially present, but in restricted areas</td>
<td>Yes</td>
</tr>
<tr>
<td>Badgers</td>
<td>No sett records from within 1km and only singleton road kills within 1km</td>
<td>No evidence and considered absent</td>
<td>No</td>
</tr>
<tr>
<td>Brown hare</td>
<td>Numerous local records</td>
<td>Potentially present</td>
<td>Incidental recording only</td>
</tr>
<tr>
<td>Hedgehogs</td>
<td>Known to be present locally and hedgerows and verges offer shelter and foraging habitat</td>
<td>Potentially present</td>
<td>No</td>
</tr>
<tr>
<td>Dormice</td>
<td>Single, unverified record in data search. The Site is substantially beyond the recognised range in Suffolk</td>
<td>Unlikely to be present</td>
<td>As a precautionary measure, some direct survey work recommended</td>
</tr>
<tr>
<td>Invertebrates</td>
<td>Specialist microhabitats generally absent other than dead wood in trees</td>
<td>Possibly a small assemblage of dead wood species. Widespread but declining moths likely to be present in hedgerows and woodland</td>
<td>No</td>
</tr>
</tbody>
</table>

### RECOMMENDATIONS FOR ADDITIONAL SURVEYS

6.4 The work reported here provides a strategic overview of the site and the main ecological features. To support a planning application it is recommended that surveys are undertaken for a number of species / species-groups as described above.
7. Impacts, Mitigation and Enhancements

IMPACTS

International / European Sites

7.1 The Site lies within 5km of two areas with international / European designations:

- The Sandlings Special Protection Area, 4.95km south of the boundary. This is designated for two species of heathland bird as breeding species, namely nightjar and woodlark.

- The Alde-Ore Estuary Ramsar site, Alde-Ore SPA and Alde-Ore and Butley Special Area of Conservation. This is 4.3km south of the boundary and variously designated for the estuary habitat and associated vegetation and also various wetland birds in the breeding season and other times.

7.2 It would be expected that any visitors to these international / European sites and also more distant sites would be travelling by car rather than walking.

7.3 The Site is too distant for potential pathways of direct impacts, such as artificial lighting. In terms of potential increases in recreational disturbance mitigation is proposed through the provision of on-Site greenspace and the connection of the Site to the existing network of footpaths across neighbouring farmland (Figure 3). With the consideration of such mitigation it is concluded that impacts on site integrity can be reduced to a negligible level (See SANG Technical Note for further details).

Figure 3. Existing footpath network near the Site.
National Sites

7.4 The only site with national designation within 5km is Gosford Meadows SSSI (2.9km south) and this is considered too far for direct impacts to be relevant and it lacks public access, therefore recreational impacts are unlikely. Impacts of the scheme will therefore be negligible.

County Wildlife Sites

7.5 County Wildlife Sites are too distant from the Site for direct pathways of potential impact to be relevant. In terms of recreational impacts, it is considered that these are unlikely bey virtue of distance and limited access to the nearest sites: Dodd’s Wood CWS has a public footpath only along its northern boundary, Benhall Green Meadows CWS lacks public access and Benhall Churchyard CWS is unlikely to be attractive for recreation. Potential impacts on County Wildlife Sites are therefore assessed as being negligible.

On-Site

7.6 Adverse impacts from the development of the site are likely to be driven by habitat loss, (to reword to reflect the concept playout plan) Mitigation of impacts will be achievable in most instances. Site landscaping, provision of open greenspace and also the creation of the green infrastructure corridors will provide the potential for net biodiversity gain.

7.7 The key areas of likely greatest sensitivity are certain hedgerows with standard trees, and ponds.

MITIGATION

Great Crested Newts, Bats and Reptiles

7.8 If great crested newts are present then their distribution is likely to be very restricted. Potentially European Protected Species Mitigation Licensing may be required, depending on their distribution and the character of the nearby development areas. It is thought that impacts can be readily mitigated via scheme design and, if required, other measures. The overall scheme design will contain areas available as terrestrial habitat to great crested newts and it is likely that there will be a net increase in available terrestrial habitat.

7.9 Bat roosts are possibly present in hedgerow trees. As far as possible, trees with roost potential should be located within areas of greenspace, to limit disturbance, light spill and to provide continued access to open countryside. Where impacts are anticipated on trees direct surveys for roosts should be undertaken, with possible requirements for European Protected Species Mitigation Licensing.

7.10 Reptiles, if present, are likely to have a restricted distribution and again it is considered that mitigation can be implemented, to avoid injury to individuals and to provide enhanced habitat areas.

7.11 It is considered that the mitigation of impacts on both great crested newts, bats and reptiles is feasible and realistic. Mitigation should first be at a strategic level, by buffering relevant areas with greenspace and then more specific measures as appropriate depending on the potential impacts.

Construction Impacts

7.12 Direct measures to avoid impacts during construction may depend on the results of follow-up surveys, e.g. for great crested newts and reptiles. Generic guidance at this stage includes:

- General site clearance works should avoid the nesting bird season; and
• Measures to prevent soil and other run-off into ditches that may lead to watercourses should be avoided, by following appropriate guidance (SEPA, 2017).  

**ENHANCEMENTS**

7.13 Much of the existing habitat areas are of very low or negligible ecological value, being under intensive arable cultivation, with the key habitat areas being the woodland parcels, hedgerows, and ponds.

7.14 At broad levels existing features including hedgerows and woodland will be retained as far as possible, with new areas of greenspace buffering these from development areas. Other key features of the proposed scheme are:

- Retention of woodland areas, with improved management as part of public access. Relevant measures include thinning of some denser stands to create more open ‘glade-like’ conditions. Additional measures include planting of buffer strip around woodland blocks to create more gradual woodland edge conditions rather than the current sharp transitions to arable.

- Allocation of much of the east parcel as public open space, an area of approximately 6.4ha, and allocation of 3.4ha of the west parcel as open space. This would include substantial opportunities for areas of soft landscaping, including buffers to the existing woodland, enhancement of the railway boundary to provide a stronger linear corridor of habitat along the north-south corridor, and also areas of new structural and grassland planting.

7.15 The composition of soft landscaping within green space areas should aim to include appropriate native species and species of known wildlife value. Key points for many species groups is the need for insect prey, for bats and also for the chicks and many fledging birds. Thus, a range of native plant types should be planted to provide a range of resources across the seasons from spring to autumn (insects and their predators), and also fruit and berry producing species in autumn and winter (birds). Such planting would also directly benefit species such as the declining but widespread moths.

7.16 Within areas of grassland and SUDS features there are a number of relevant wildflower seed mixes available from commercial suppliers, including wetland and pond planting (e.g. Emorsgate EMB meadow mixture for wetlands), wildflower swards (e.g. EM10 tussock mixture) and flowering lawns for areas with more intensive use and management (e.g. EL1 flowering lawn mixture).

7.17 Additional measures could include:

- Bat boxes to be erected on buildings, either as integral ‘bat tubes’ embedded within walls or as external boxes. A wide range of types are suitable.

- Bird boxes for locally relevant species, including swifts and house sparrows.

- Using woody material created by Site clearance to provide habitat piles in conjunction with soft landscaping and also species-specific mitigation.

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11 [http://www.wildlifeservices.co.uk/batboxes.html](http://www.wildlifeservices.co.uk/batboxes.html)
8. Conclusion

8.1 The site is considered to be broadly typical of arable farmland, comprising arable fields with boundary hedgerows and small areas of other habitats.

8.2 Impacts on international / European sites are only likely via recreational impacts. These can be mitigated via the provision of on-site greenspace, the existing footpath network leading from the site. It is considered that impacts on these sites will not impact site integrity, and impacts on other designated sites will be negligible.

8.3 A number of protected species and species of conservation concern are likely to be present. Where there is a legal requirement to mitigate impacts then it is considered that these can be readily achieved, through scheme design and other measures if required. Such measures are considered to be entirely feasible and can be delivered as part of the scheme.

8.4 The provisions of greenspace areas will provide opportunism to provide a net gain in potential habitat area relevant to local species. The allocation of much of the east parcel to green space will offer new areas of structural and grassland planting, and other relevant measures include the inclusion of buffers to existing woodland areas.

8.5 In conclusion, it is considered likely that the impacts on the majority of species can be mitigated. Appropriate landscaping and scheme design will have the potential to deliver a net increase in wildlife habitats and to improve the value of existing habitats via increased connectivity.
9. Appendix 1: Photographs

Figure 4. Hedgerow H16.

Figure 5. Standard hedgerow tree with at least moderate bat roost potential.
Figure 6.
Woodland within the central parcel.

Figure 7.
Pond A, west parcel.
10. Appendix 2: Additional Data

**Figure 8.** Plan of designated sites within 5km from approximate centre of the Site.

![Map of designated sites](image)

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**Table 8.** Details of County Wildlife Sites within 5km.

<table>
<thead>
<tr>
<th>Site name</th>
<th>Site reference</th>
<th>Description</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benhall Churchyard</td>
<td>Suffolk Coastal 11</td>
<td>Churchyard grassland</td>
<td>0.39km west</td>
</tr>
<tr>
<td>Benhall Green Meadows</td>
<td>Suffolk Coastal 13</td>
<td>Flower-rich marsh</td>
<td>0.69km south-east</td>
</tr>
<tr>
<td>Dodds Wood</td>
<td>Suffolk Coastal 10</td>
<td>Ancient woodland</td>
<td>1.3km west</td>
</tr>
<tr>
<td>Manor Farm Meadows</td>
<td>Suffolk Coastal 12</td>
<td>Wet meadows</td>
<td>1.3km south-east</td>
</tr>
<tr>
<td>Lonely Wood</td>
<td>Suffolk Coastal 96</td>
<td>Ancient woodland</td>
<td>1.9km north-west</td>
</tr>
<tr>
<td>Knodishall Whin</td>
<td>Suffolk Coastal 74</td>
<td>A Sandlings site</td>
<td>2.1km south-west</td>
</tr>
<tr>
<td>Foxburrow Wood</td>
<td>Suffolk Coastal 68</td>
<td>Ancient woodland</td>
<td>2.1km south</td>
</tr>
<tr>
<td>Farnham Churchyard</td>
<td>Suffolk Coastal 186</td>
<td>Churchyard grassland</td>
<td>2.2km south-west</td>
</tr>
<tr>
<td>Roadside nature reserve 94</td>
<td>Suffolk Coastal 215</td>
<td>Sulphur clover</td>
<td>2.2km west</td>
</tr>
<tr>
<td>Kelsale Morio Meadow</td>
<td>Suffolk Coastal 97</td>
<td>Unimproved neutral meadow</td>
<td>2.8km north-east</td>
</tr>
<tr>
<td>Site name</td>
<td>Site reference</td>
<td>Description</td>
<td>Location</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>----------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>----------------</td>
</tr>
<tr>
<td>River Fromus Marshes</td>
<td>Suffolk Coastal 69</td>
<td>A complex of grassland, scrub and wetland</td>
<td>2.9km south</td>
</tr>
<tr>
<td>Church Common</td>
<td>Suffolk Coastal 157</td>
<td>Remnant heathland</td>
<td>3.0km south-east</td>
</tr>
<tr>
<td>Grove Wood</td>
<td>Suffolk Coastal 102</td>
<td>Deciduous woodland</td>
<td>3.2km east</td>
</tr>
<tr>
<td>Denneys Grove</td>
<td>Suffolk Coastal 158</td>
<td>Ancient woodlands</td>
<td>3.5km south-west</td>
</tr>
<tr>
<td>Great Glamham Small Woods</td>
<td>Suffolk Coastal 80</td>
<td>Ancient woodland (comprising Friar’s Grove/Pipe’s Belt/Longfield Belt, Middle Belt, Barn Spring, Middle Spring, Page’s Covert, Haw Wood, Whin Covert and Ashguard Covert)</td>
<td>3.5km south-west</td>
</tr>
<tr>
<td>Great Glamham Wood</td>
<td>Suffolk Coastal 79</td>
<td>Ancient woodland</td>
<td>3.6km south-west</td>
</tr>
<tr>
<td>Great Glamham Nature Reserve</td>
<td>Suffolk Coastal 119</td>
<td>Grassland, scrub and wetland</td>
<td>3.6km south-west</td>
</tr>
<tr>
<td>Great Wood</td>
<td>Suffolk Coastal 118</td>
<td>Ancient woodland</td>
<td>3.8km south-west</td>
</tr>
<tr>
<td>Roadside nature reserve 187</td>
<td>Suffolk Coastal 223</td>
<td>Sulphur clover</td>
<td>4.1km north-west</td>
</tr>
<tr>
<td>Roadside nature reserve 102</td>
<td>Suffolk Coastal 212</td>
<td>Sulphur clover and dyer’s greenweed</td>
<td>4.3km north-east</td>
</tr>
<tr>
<td>High Grove</td>
<td>Suffolk Coastal 78</td>
<td>Ancient woodland</td>
<td>4.3km west</td>
</tr>
<tr>
<td>Snape Marshes</td>
<td>Suffolk Coastal 196</td>
<td>A mosaic floodplain grazing marsh, species-rich fen, scrub and dry acid grassland</td>
<td>4.4km south</td>
</tr>
<tr>
<td>Theberton Woods</td>
<td>Suffolk Coastal 218</td>
<td>Semi-natural boulder clay woodland</td>
<td>4.6km north-east</td>
</tr>
<tr>
<td>Coe Wood</td>
<td>Suffolk Coastal 153</td>
<td>Ancient woodland</td>
<td>4.7km north</td>
</tr>
</tbody>
</table>
### Table 9. Hedgerow details.

<table>
<thead>
<tr>
<th>Parcel</th>
<th>Reference</th>
<th>Description</th>
<th>Length (estimated, m)</th>
<th>Dry ditch</th>
<th>Woody species as listed in Hedgerow Regulations</th>
<th>Other woody species</th>
<th>Additional features</th>
<th>Likely to be an Important Hedgerow</th>
</tr>
</thead>
<tbody>
<tr>
<td>West</td>
<td>H1</td>
<td>~2m</td>
<td>295</td>
<td>Yes</td>
<td>Hawthorn with blackthorn, field maple, oak, elder, field rose and dogwood</td>
<td>Bramble and ivy</td>
<td>Standard trees Public footpath</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>H2</td>
<td>3+m</td>
<td>280</td>
<td>Yes</td>
<td>Hawthorn with field maple, dog rose, ash, dogwood, grey sallow and goat sallow</td>
<td></td>
<td>Standard trees Public footpath</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>H3</td>
<td>~2m</td>
<td>194</td>
<td>Yes</td>
<td>Hawthorn with blackthorn, field maple, dogwood and small-leaved elm</td>
<td>Bramble</td>
<td>Standard trees</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>H4</td>
<td>Trimmed, 3+m</td>
<td>276</td>
<td>Yes</td>
<td>Hawthorn with blackthorn and field maple</td>
<td>Bramble with ivy, Domestic apple</td>
<td>Standard trees Public footpath</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>H5</td>
<td>Short section, unmanaged 2+m</td>
<td>32</td>
<td></td>
<td>Hawthorn with blackthorn, field rose and sycamore</td>
<td>Bramble</td>
<td>Public footpath</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>H6</td>
<td>Unmanaged, 5=m</td>
<td>215</td>
<td></td>
<td>Hawthorn with field maple, cherry species, hazel, dogwood, dog rose, blackthorn and elder</td>
<td>Bramble and ivy</td>
<td>Standard trees Public footpath</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>H7</td>
<td>Unmanaged, 3+m</td>
<td>33</td>
<td>Yes</td>
<td>Hawthorn with field maple, dogwood, blackthorn and hazel</td>
<td>Bramble and ivy</td>
<td>-</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>H8</td>
<td>Young hedgerow, ~1.5m</td>
<td>81</td>
<td></td>
<td>Hawthorn with blackthorn, wild plum and dog rose</td>
<td>-</td>
<td>-</td>
<td>No</td>
</tr>
<tr>
<td>Parcel</td>
<td>Reference</td>
<td>Description</td>
<td>Length (estimated, m)</td>
<td>Dry ditch</td>
<td>Woody species (as listed in Hedgerow Regulations)</td>
<td>Other woody species</td>
<td>Additional features</td>
<td>Likely to be an Important Hedgerow</td>
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</tr>
<tr>
<td>H9</td>
<td>Roadside hedgerow, presumably planted as part of A12 construction. Tall and thick</td>
<td>953</td>
<td>Yes</td>
<td>Hawthorn with blackthorn, ash, small-leaved elm and honeysuckle</td>
<td>Ivy</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Central</td>
<td>H10</td>
<td>Roadside hedgerow, presumably planted as part of A12 construction. Tall and thick</td>
<td>940</td>
<td>Yes</td>
<td>Hawthorn with blackthorn, ash, small-leaved elm and honeysuckle</td>
<td>Ivy</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>H11</td>
<td>Tall, 5+m</td>
<td>99</td>
<td>Yes</td>
<td>Hawthorn with hazel, goat willow, dog rose, ash, and field maple</td>
<td>Bramble and ivy</td>
<td>Public footpath</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>H12</td>
<td>Defunct hedgerow, short length</td>
<td>53</td>
<td>Yes</td>
<td>Small-leave elm, dogwood and field rose</td>
<td>Bramble</td>
<td>Parallel hedgerow within 15m</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>H13</td>
<td>Tall, 5+m, defunct</td>
<td>89</td>
<td>Yes</td>
<td>Hawthorn, small-leaved elm, field maple and elder</td>
<td>-</td>
<td>Parallel hedgerow within 15m</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>H14</td>
<td>Defunct, 5+m, shaded by adjacent off-site woodland</td>
<td>248</td>
<td>Yes</td>
<td>Hawthorn, hazel, dogwood, buckthorn, blackthorn, and wild plum</td>
<td>Bramble and ivy</td>
<td>Standard trees Parallel hedgerow within 15m</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>H15</td>
<td>Short length of hedgerow on half bank</td>
<td>73</td>
<td>Yes</td>
<td>Blackthorn, wild plum, hazel, ash, field rose</td>
<td>Bramble and ivy</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H16</td>
<td>Trimmed, ~2m</td>
<td>277</td>
<td>Yes</td>
<td>Hawthorn with ash, wild plum, hazel, wych elm, dog rose, dogwood and small-leaved elm</td>
<td>Bramble and ivy</td>
<td>Public footpath</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Parcel</td>
<td>Reference</td>
<td>Description</td>
<td>Length (estimated, m)</td>
<td>Dry ditch</td>
<td>Woody species (as listed in Hedgerow Regulations)</td>
<td>Other woody species</td>
<td>Additional features</td>
<td>Likely to be an Important Hedgerow</td>
</tr>
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<td>-------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>H17</td>
<td>Mostly 2+m but some young trees and standards</td>
<td>270</td>
<td>Yes</td>
<td>Hawthorn, field maple, oak, blackthorn, field rose, dog rose, hazel</td>
<td>Bramble and ivy</td>
<td>Standard trees</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>H18</td>
<td>Rear boundary of domestic curtilages. Tall, 5+m</td>
<td>101</td>
<td>-</td>
<td>Blackthorn, wild plum, wych elm, oak, hawthorn, ash and dog rose</td>
<td>Bramble and ivy</td>
<td>-</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>H19</td>
<td>Boundary of school playing field. Tall, 5+m</td>
<td>194</td>
<td>-</td>
<td>Field maple hazel, dogwood, ash, blackthorn, silver birch, field rose</td>
<td>Bramble</td>
<td>-</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>H20</td>
<td>~2m</td>
<td>183</td>
<td>-</td>
<td>Hawthorn, blackthorn, field rose and ash</td>
<td>Bramble</td>
<td>Public footpath</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>H21</td>
<td>~2m</td>
<td>140</td>
<td>-</td>
<td>Hawthorn, oak, field rose and ash</td>
<td>Bramble</td>
<td>-</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>H22</td>
<td>~2m</td>
<td>109</td>
<td>-</td>
<td>Hawthorn, field rose and ash</td>
<td>Bramble</td>
<td>Public footpath</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>H23</td>
<td>3+m,</td>
<td>237</td>
<td>Yes</td>
<td>Blackthorn with field maple, ash, dog and field roses,</td>
<td>Bramble</td>
<td>Public footpath</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>H24</td>
<td>Alongside railway embankment, tall, 5+m</td>
<td>115</td>
<td>-</td>
<td>Blackthorn with hawthorn, field rose, sycamore, and ash</td>
<td>Bramble and ivy</td>
<td>-</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>H25</td>
<td>Gappy hedgerow alongside cemetery boundary</td>
<td>74</td>
<td>-</td>
<td>Blackthorn, holly, elder, oak, native privet, field maple and small-leaved elm</td>
<td>Cherry laurel, lilac, bramble and ivy</td>
<td>-</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>H26</td>
<td>Tall, 5+m</td>
<td>46</td>
<td>Yes</td>
<td>Small-leaved elm, hawthorn,</td>
<td>Bramble and ivy</td>
<td>-</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Parcel</td>
<td>Reference</td>
<td>Description</td>
<td>Length (estimated, m)</td>
<td>Dry ditch</td>
<td>Woody species (as listed in Hedgerow Regulations)</td>
<td>Other woody species</td>
<td>Additional features</td>
<td>Likely to be an Important Hedgerow</td>
</tr>
<tr>
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<td>---------------------------------------------------</td>
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<td>-------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>East</td>
<td>H27</td>
<td>Tall, 5+m on low bank, Western section (~30m), as a length of willows tools</td>
<td>217</td>
<td>-</td>
<td>Hazel and field maple with oak, ash, hawthorn and small-leaved elm</td>
<td>Ivy and Bramble</td>
<td>Standard trees Some woodland species, i.e. dog’s mercury <em>Mercurialis perennis</em>, primrose <em>Primula vulgaris</em> and wood rush <em>Luzula campestris</em></td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>H28</td>
<td>Rear of garden curtilages. Tall, 5+m</td>
<td>37</td>
<td>-</td>
<td>Ash, blackthorn, elder, hazel, small-leaved elm and honeysuckle</td>
<td>Cherry laurel, domestic apple, bramble and ivy</td>
<td>-</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>H29</td>
<td>Tall, unmanaged</td>
<td>147</td>
<td>Ditch</td>
<td>Ash, sycamore, field rose, blackthorn, small-leaved elm, dogwood, field maple, oak and elder</td>
<td>Bramble and ivy</td>
<td>-</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>H30</td>
<td>Tall, 5+m</td>
<td>211</td>
<td>Yes</td>
<td>Field maple, elder, small-leaved elm, hawthorn, blackthorn, ash, dog rose, and elder</td>
<td>Bramble and ivy</td>
<td>Standard trees</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>H31</td>
<td>Tall, 5+m. Wide, close to 5m in places</td>
<td>338</td>
<td>Yes</td>
<td>Hawthorn, elder, oak, blackthorn, ash, dog rose, small-leaved elm, goat</td>
<td>Bramble and ivy</td>
<td>Standard trees Public footpath</td>
<td>Yes</td>
</tr>
<tr>
<td>Parcel</td>
<td>Reference</td>
<td>Description</td>
<td>Length (estimated, m)</td>
<td>Dry ditch Woody species (as listed in Hedgerow Regulations)</td>
<td>Other woody species</td>
<td>Additional features</td>
<td>Likely to be an Important Hedgerow</td>
<td></td>
</tr>
<tr>
<td>--------</td>
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<td>----------------------</td>
<td></td>
</tr>
<tr>
<td>H32</td>
<td></td>
<td>Alongside railway embankment, on railway side of fence</td>
<td>121</td>
<td>- Hawkthorn, blackthorn, wild plum, dog rose and wayfaring tree</td>
<td>Bramble</td>
<td>No</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
11. Appendix 3: Legislation Summary

Table 9. Non-technical account of relevant national legislation and policies.

<table>
<thead>
<tr>
<th>Species</th>
<th>Legislation</th>
<th>Offence</th>
<th>Licensing</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bats: European protected species</strong></td>
<td>Conservation of Habitats and Species Regulations 2010 (as amended) Reg 41</td>
<td>Deliberately capture, injure or kill a bat; deliberate disturbance of bats; or damage or destroy a breeding site or resting place used by a bat. [The protection of bat roosts is considered to apply regardless of whether bats are present.]</td>
<td>A Natural England (NE) licence in respect of development is required.</td>
</tr>
<tr>
<td><strong>Bats: National protection</strong></td>
<td>Wildlife and Countryside Act 1981 (as amended) S.9</td>
<td>Intentionally or recklessly obstruct access to any structure or place used for shelter or protection or disturb a bat in such a place.</td>
<td>Licence from NE is required for surveys (scientific purposes) that would involve disturbance of bats or entering a known or suspected roost site.</td>
</tr>
<tr>
<td><strong>Birds</strong></td>
<td>Wildlife and Countryside Act 1981 (as amended) S.1</td>
<td>Intentionally kill, injure or take any wild bird; intentionally take, damage or destroy the nest of any wild bird while that nest is in use or being built. Intentionally or recklessly disturb a Schedule 1 species while it is building a nest or is in, on or near a nest containing eggs or young; intentionally or recklessly disturb dependent young of such a species [e.g. kingfisher].</td>
<td>No licences are available to disturb any birds in regard to development.</td>
</tr>
<tr>
<td><strong>Great crested newt: European protected species</strong></td>
<td>Conservation of Habitats and Species Regulations 2010 (as amended) Reg 41</td>
<td>Deliberately capture, injure or kill a great crested newt; deliberate disturbance of a great crested newt; deliberately take or destroy its eggs; or damage or destroy a breeding site or resting place used by a great crested newt.</td>
<td>Licences issued for development by Natural England.</td>
</tr>
<tr>
<td><strong>Great crested newt: National protection</strong></td>
<td>Wildlife and Countryside Act 1981 (as amended) S.9</td>
<td>Intentionally or recklessly obstruct access to any structure or place used for shelter or protection or disturb it in such a place.</td>
<td>A licence is required from Natural England for surveying and handling.</td>
</tr>
<tr>
<td><strong>Adder, common lizard, grass snake slow worm</strong></td>
<td>Wildlife and Countryside Act 1981 S.9(1) and S.9(5)</td>
<td>Intentionally kill or injure any common reptile species.</td>
<td>No licence is required. However, an assessment for the potential of a site to support reptiles should be undertaken.</td>
</tr>
<tr>
<td><strong>Scientific Interest (SSSI) It is an offence</strong></td>
<td>Wildlife and Countryside Act 1981 (as amended)</td>
<td>To carry out or permit to be carried out any potentially damaging operation. SSSIs are given protection through policies in the Local Development Plan.</td>
<td>Owners, occupiers, public bodies and statutory undertakers must give notice and obtain the appropriate consent under S.28 before undertaking operations likely to damage a SSSI. All public bodies to further the conservation and enhancement of SSSIs.</td>
</tr>
<tr>
<td>Species</td>
<td>Legislation</td>
<td>Offence</td>
<td>Licensing</td>
</tr>
<tr>
<td>------------------------------</td>
<td>----------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------</td>
</tr>
<tr>
<td>County Wildlife Sites</td>
<td>There is no statutory designation for local sites.</td>
<td>Local sites are given protection through policies in the Local Development Plan.</td>
<td>Development proposals that would potentially affect a local site would need to provide a detailed justification for the work, an assessment of likely impacts, together with proposals for mitigation and restoration of habitats lost or damaged.</td>
</tr>
</tbody>
</table>

There is no statutory designation for local sites. Local sites are given protection through policies in the Local Development Plan. Development proposals that would potentially affect a local site would need to provide a detailed justification for the work, an assessment of likely impacts, together with proposals for mitigation and restoration of habitats lost or damaged.
Appendix 9: Utilities Statement
Land South of Saxmundham

Regulation 19 Consultation

Utility Statement

February 2019
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Appendix B: UKPN consultations
Appendix C: Cadent gas consultations
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Anglian Water Section 98 Conveyance Report
Anglian Water email correspondence
Appendix E: Essex and Suffolk Water consultations
Executive Summary

This Utility Statement provides information for the Regulation 19 Suffolk Coastal Local Plan Consultation. The purpose of this Statement is to demonstrate that utility infrastructure and capacity is available to service the scheme.

The Concept Plan provides for 800 dwellings located to the east of the A12, west of the railway, and south of the existing town.

Land to the west of the A12 will comprise employment uses potentially including a fuel filling station, drive-through hot food outlet, and B1/B8 class development.

Access to residential and employment land will be from a new roundabout on the A12.

A primary school is located towards the northern edge of the scheme close to the existing secondary school.

Electricity, gas, potable water, and telecom services can all be provided from local networks with no significant capacity infrastructure upgrades required. There is no significant utility infrastructure crossing the Site that cannot be diverted or accommodated within the scheme layout.

Wastewater will be drained to sewerage infrastructure east of the railway. Anglian Water has confirmed a suitable point of connection in Kiln Lane, and also that the Benhall WRC has treatment capacity for the scheme. Wastewater drainage will be managed in accordance with standard practice and have no detrimental impact on the local area or wider environment.

This Utility Statement demonstrates that utility infrastructure services can be provided to the scheme without significant abnormal costs, and within the Local Plan timeframe.
1 Introduction

1.1 This Utility Statement (the ‘Statement’) has been prepared by Willow Consulting for Pigeon Capital Management 2 Ltd (Pigeon’) and the landowners in support of a proposed new sustainable scheme on land south of Saxmundham (the ‘Site’). The Statement provides information on utility infrastructure to demonstrate that the scheme is capable of delivering 800 homes, employment and education, for the period up to 2036.

1.2 The South Saxmundham scheme is allocated in the Suffolk Coastal District Council Local Final Draft (January 2019).

1.3 The area being progressed by Pigeon for allocation in the Local Plan is shown in Figure 1, below. The Site extends from the west of the A12 across to the railway, to the north the Site borders the existing urban extent of Saxmundham. The Concept Plan is provided in Appendix A.

1.4 This Statement provides information on the following matters:

   a) Electricity
   b) Gas
   c) Wastewater
   d) Potable water
   e) Telecoms
Limitations

1.5 This document has been prepared for the titled project and should not be relied upon or used for any other project. Willow Consulting accepts no responsibility or liability for the consequences of this document being used for a purpose other than that for which it was commissioned. The assessments and judgments contained herein should not be relied upon as legal opinion.
2 Utility Infrastructure & Servicing

Electricity

2.1 The incumbent DNO\(^1\) for the Saxmundham area is UK Power Networks (UKPN). Existing low voltage (LV) services to properties are present on the southern edge of Saxmundham, and within the Site serving properties on Kiln Lane. An 11kv high voltage (HV) circuit crosses part of the Site east of the A12 and extending across the land west of the A12. Consultation correspondence is provided in Appendix B.

2.2 Pigeon will work with UKPN to maintain or divert existing services, and to ensure continuity of services to existing dwellings.

2.3 Consultations have been undertaken with UKPN Distribution Planning Engineers (see email correspondence in Appendix B). UKPN estimate that the scheme demand will be circa 3MVA. Capacity is available at the Benhall Primary substation which can be made available for the scheme. The existing 11kv circuit through the site may have capacity for the scheme, alternatively new 11kv circuits will be provided. HV circuits will feed substations located within the developed area and local LV distribution.

2.4 This assessment demonstrates that provision of electricity services to the scheme is achievable within the local plan timeframe.

Gas

2.5 The incumbent DNO is Cadent Gas. Low pressure (LP) networks are located within the urban areas immediately to the north of the Site. Medium Pressure (MP) pipes are located along the south edge of the current urban area feeding the LP networks via pressure reduction stations. A high pressure (HP) gas main passes to the west of Saxmundham and provides the point of connection for MP and LP networks within Saxmundham.

\(^1\) Distribution Network Operator
2.6 There are no gas mains crossing the Site that will conflict with scheme. There are no MAH\textsuperscript{2} pipelines crossing or close to the scheme that would impose restrictions on the scheme.

2.7 An enquiry has been made to Cadent Gas to establish availability of gas supplies for servicing the scheme and consultations are currently on-going. Consultation correspondence is provided in Appendix C.

2.8 It is anticipated that new LP gas infrastructure will be provided within the scheme from a point of connection on the MP network. Cadent will undertake any works to the MP network to ensure capacity for the scheme.

2.9 Gas services can be provided to the scheme with no abnormal costs.

**Wastewater Drainage**

2.10 The incumbent wastewater network provider is Anglian Water (AW). Consultations have been held with AW planning engineers and a Pre-Development Enquiry (PDE) has been made. Subsequent to the PDE Anglian Water has undertaken further assessment of the network, the outcome of this assessment is provided in the S98 Requisition Report. All reports and email correspondence with Anglian Water are provided in Appendix D.

2.11 Saxmundham is in the catchment area of the Anglian Water Benhall WRC\textsuperscript{3} located south of Benhall on Aldercarr Lane. Sewerage within Saxmundham drains eastwards under the railway and to a trunk sewer following the west bank of the River Fromus heading south to the Benhall WRC.

2.12 Policy SCLP12.29 Clause n requires evidence to demonstrate there is adequate Water Recycling Centre capacity or that capacity can be made available.

2.13 AW has advised (email dated 16 August 2018) that it is the responsibility of AW to provide adequate treatment capacity for development allocated through the Local Plan process, and through their current and future AMP\textsuperscript{4} investment. The developer contributes towards costs associated with capacity provision through the zonal

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\textsuperscript{2} Major Accident Hazard  
\textsuperscript{3} Wastewater Recycling Centre  
\textsuperscript{4} Asset Management Plan
infrastructure charge. Consequently this approach meets the Policy requirement of demonstrating adequate treatment capacity for the scheme.

2.14 AW has confirmed (email dated 16 August 2018) that the Benhall WRC has capacity to treat wastewater flows from the scheme.

2.15 The developer is responsible for provision of conveyance infrastructure from the scheme to the nearest point of connection (of equivalent pipe size) on the sewerage network. AW has undertaken a conveyance assessment (see Appendix D). This identifies that a suitable point of connection is to the foul sewer in Kiln Lane to the east of the railway. Sewage will be pumped from the scheme to this sewer, AW will undertake the offsite works including managing the crossing under the railway, with the developer responsible for all construction and easement costs.

2.16 This assessment demonstrates that the wastewater drainage strategy satisfies the relevant policy criteria and that adequate treatment capacity exists and can be made available for the scheme.

**Potable Water**

2.17 The incumbent potable water network provider is Essex and Suffolk Water (ESW). Consultations have been held with ESW planning engineers – see Appendix E. ESW has confirmed that they have adequate resource capacity to supply the scheme, and that there is currently sufficient mains capacity to supply the scheme of 800 – 1000 dwellings.

2.18 ESW has local distribution mains located in the Saxmundham urban area. In addition they have a 10” trunk water main located on the west side of Saxmundham crossing under the A12, and a 250mm dia. trunk main crossing through the northern part of the Site and passing under the railway. The 250mm pipe is a strategic water main potentially supplying Sizewell C and hence is not suitable for the primary point of connection.

2.19 The 250mm water main will either need to be diverted to avoid the scheme or the scheme layout will be designed to accommodate the current pipeline route with an appropriate easement provided.
2.20 ESW has requested that the scheme is connected to the existing 10” water main to the northwest of the Site. This will need a short length of water main outside the scheme boundary and a pipe laid under the A12. A secondary connection can be made to the 250mm dia. water main providing security of supply in the event of failure of the primary connection. ESW has confirmed that works to provide the scheme can be achieved within the Local Plan timetable.

2.21 This assessment demonstrates that provision of potable water services to the scheme is achievable within the local plan timeframe.

Telecoms

2.22 Openreach services are available within the Saxmundham urban area. The scheme will be registered with Openreach and Pigeon will work with Openreach to provide telecom infrastructure. This will then be available to a number of operators to provide telecom services. The size of the scheme will meet Openreach criteria for the provision of FTTP (Fibre to the Premises) to all dwellings and businesses within the scheme hence providing ultra-highspeed broadband to these properties. Early registration will enable Openreach to provide these services within the Local Plan timeframe.
Appendix A: Concept Plan
Saxmundham South – Concept Plan
Appendix B: UKPN correspondence
Hello Andrew

Following our conversation earlier this morning, we spoke about the development load being approximately 3MVA.

I can confirm, at present, there is spare capacity at Benhall Primary substation which could be made available for your development. The existing 11kV circuit nearest to your development could be extended through your site and back out to continue its existing loads but may limit the availability to your site to about 2.5MVA. Therefore if you declared at 3MVA it may require 2 new underground cables from your site back to the Primary substation.

I hope this is helpful for now.

john

John Walden
Distribution Planning Engineer
UK Power Networks
Barton Road
Bury St Edmunds
Suffolk
IP32 7BG

John
Sorry I missed your calls – been in a meeting all afternoon. I’ll call Friday am.

rgds

Andrew Bingham

Pigeon Investment Management Ltd
Linden Square
146 Kings Road
Bury St Edmunds
Suffolk IP33 3DJ
Appendix C: National Grid (gas) asset plan
Gas Pipeline Search

TM Property Searches Ltd, Swindon
DX: 743360
Swindon 31

Fax / E-mail: 0870 741 0426 /
Telephone: 0844 249 9200
Client Ref: 15386617
STL Reference: 1816000
Received Date: 16/06/2016

Property:
Land To The East And West Of, Kiln Lane, SAXMUNDHAM,
N/A

Name and Address of Data Source:
National Grid
Utility Search, PO Box 2122, Horwich, Bolton, BL6 7WS

This search complies with the requirements of the Search Code, further details of which can be found at www.pccb.org.uk.

Complete searches on property, online, on time www.stlgroup.co.uk
Dear Sirs,

Re: LAND TO THE EAST AND WEST OF, KILN LANE, SAXMUNDHAM, N/A.

Thank you for your enquiry dated 14 Jun 2016. Please note this letter and information is only being provided in response to a property search and should not be used when carrying out any construction or excavation works.

An assessment has been carried out with respect to National Grid Gas Distribution apparatus.

Please note that the plan attached does not show the location of domestic or industrial service pipes but they should be anticipated near to buildings or property.

Based on the information you have provided we have concluded that National Grid infrastructure is Affected. Therefore, the land which is subject of this enquiry may be subject to the provisions of an Easement or Wayleave agreement, which may prevent the erection of permanent / temporary buildings, or structures etc.

There may also be rights reserved for apparatus granted to other utility companies within the area of interest.

For details of such Easement or Wayleave agreements, please see the Land Registry website www.landregistry.gov.uk

IMPORTANT NOTE: This response is for the National Grid gas distribution networks ONLY. You SHOULD also obtain information of gas and electricity transmission networks. Please refer to www.utilitysearch.com

For any other enquiries, particularly regarding carrying out any construction activities, you are required to contact our National Grid Plant Protection team in advance of any work at the following address:

Self Service: www.beforeyoudig.nationalgrid.com

National Grid Plant Protection
National Grid, Block 1
Brick Kiln Street
Hinckley LE10 0NA
0800 688 588
plantprotection@nationalgrid.com
Appendix D: Anglian Water Pre-Development Enquiry
Anglian Water S98 Requisition Report
AW email 16 Aug 2018
AW email 01 Nov 2018
Section 1: Proposed development

Thank you for submitting a pre-planning enquiry. This has been produced for Pigeon Investment Management Ltd. Your reference number is 1092/903912686/1/0000755. If you have any questions upon receipt of this report, please contact the Pre-Development team on 0345 60 66 087 or email planningliaison@anglianwater.co.uk.

The response within this report has been based on the following information which was submitted as part of your application:

<table>
<thead>
<tr>
<th>Type of development</th>
<th>No. Of units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dwellings</td>
<td>900</td>
</tr>
</tbody>
</table>

The anticipated residential build rate is:

<table>
<thead>
<tr>
<th>Year</th>
<th>Y1</th>
<th>Y2</th>
<th>Y3</th>
<th>Y4</th>
<th>Y5</th>
<th>Y6</th>
<th>Y7</th>
<th>Y8</th>
<th>Y9</th>
<th>Y10</th>
<th>Y11</th>
<th>Y12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Build rate</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>350</td>
</tr>
</tbody>
</table>

Site grid reference no.

TM3789562283

Development type

Greenfield

Planning application status

Unknown

The comments contained within this report relate to the public water mains and sewers indicated on our records. Your attention is drawn to the disclaimer in the useful information section of this report.
Section 2: Assets affected

Our records indicate that there are no public water mains/public sewers or other assets owned by Anglian Water within the boundary of your development site. However, it is highly recommended that you carry out a thorough investigation of your proposed working area to establish whether any unmapped public or private sewers and lateral drains are in existence.

Pumping Station

The development site is within 15 metres of a sewage pumping station. This asset requires access for maintenance and will have sewerage infrastructure leading to it. For practical reasons therefore it cannot be easily relocated. Anglian Water consider that dwellings located within 15 metres of the pumping station would place them at risk of nuisance in the form of noise, odour or the general disruption from maintenance work caused by the normal operation of the pumping station. The site layout should take this into account and accommodate this infrastructure type through a necessary cordon sanitaire, through public space or highway infrastructure to ensure that no development within 15 metres from the boundary of a sewage pumping station if the development is potentially sensitive to noise or other disturbance or to ensure future amenity issues are not created.

Due to the private sewer transfer in October 2011 many newly adopted public used water assets and their history are not indicated on our records. You also need to be aware that your development site may contain private water mains, drains or other assets not shown on our records. These are private assets and not the responsibility of Anglian Water but that of the landowner.

Section 3: Water recycling services

In examining the used water system we assess the ability for your site to connect to the public sewerage network without causing a detriment to the operation of the system. We also assess the receiving water recycling centre and determine whether the water recycling centre can cope with the increased flow and influent quality arising from your development.

Water recycling centre

The foul drainage from the proposed development is in the catchment of Benhall Water Recycling Centre, which currently has capacity to treat the flows from your development site. Anglian Water cannot reserve capacity and the available capacity at the water recycling centre can be reduced at any time due to growth, environmental and regulation driven changes.

Used water network

Our assessment has been based on development flows connecting to the nearest foul water sewer of the same size or greater pipe diameter to that required to drain the site. The infrastructure to convey foul water flows to the receiving sewerage network is assumed to be the responsibility of the developer. Conveyance to the connection point is considered as Onsite Work and includes all work carried out upstream from of the point of connection, including making the connection to our existing network. On this basis, the zonal connection point will be to manhole 8301 at National Grid Reference (NGR) TM3880162398, located East of the B1121 and your site. However, we may be able to permit a connection North of the site for a first phase upon further detailed discussion. Our assessment has identified that a direct connection to the public foul sewerage system is likely to have a detrimental effect on the existing sewerage network and further assessment will be required to define a feasible foul water drainage strategy for your site. There is no additional charge for this work. Richard Lyon, our Pre-Development Senior Engineer for this area, will be responsible for undertaking this additional work. For your reference, Richard can be contacted on 07885135404 or rlyon@anglianwater.co.uk. The results of this additional assessment may require a meeting or conference call to understand your onsite drainage design in greater detail and may result in us issuing an addendum to this report which will be issued within 28 days. Please note that Anglian Water will request a suitably worded condition at planning application stage to ensure this strategy is implemented to mitigate the risk of flooding.

It is assumed that the developer will provide the necessary infrastructure to convey flows from the site to the network. Consequently, this report does not include any costs for the conveyance of flows.

Surface water disposal

You indicated on the Pre-Planning Application form that a connection to the public surface water sewer network is not required as infiltration techniques can be utilised. Therefore a capacity assessment has not been made on the public surface water network.

As you may be aware, Anglian Water will consider the adoption of SuDS provided that they meet the criteria outline in our SuDs adoption manual. This can be found on our website at [http://www.anglianwater.co.uk/developers/suds.aspx](http://www.anglianwater.co.uk/developers/suds.aspx). We will adopt features located in public open space that are designed and constructed, in conjunction with the Local Authority and Lead Local Flood Authority (LLFA), to the criteria within our SuDs adoption manual. Specifically, developers must be able to demonstrate:

1. Effective upstream source control,
2. Effective exceedance design, and
Effective maintenance schedule demonstrating that the assets can be maintained both now and in the future with adequate access.

If you wish to look at the adoption of any SuDs then an expression of interest form can be found on our website at: http://www.anglianwater.co.uk/developers/suds.aspx

The proposed method of surface water disposal is not relevant to Anglian Water; we suggest that you contact the relevant Local Authority, Lead Local Flood Authority, the Environment Agency or the Internal Drainage Board, as appropriate.

**Trade Effluent**

We note that you do not have any trade effluent requirements. Should this be required in the future you will need our written formal consent. This is in accordance with Section 118 of the Water Industry Act (1991).

**Used Water Budget Costs**

As a result of the recent charging rules published by Ofwat, our charging regime has changed. Your development site will be required to pay a Zonal charge for each new property connecting to the public sewer that benefits from Full planning permission.

Payment of the Zonal charge must be made before premises are connected to the public sewer. More information on the Zonal charge can be found at http://www.anglianwater.co.uk/developers/charges

The Zonal charge consists of two elements. The first is called the ‘Fixed Element’ which is the same in nature to the Infrastructure charge applied prior to April 2018. The second is called the ‘Variable Element’ which may vary each financial year.

The elements are combined together to create the 2018/19 Zonal charge for Sewerage:

<table>
<thead>
<tr>
<th>Fixed Element</th>
<th>£ 370</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable Element</td>
<td>£ 101</td>
</tr>
</tbody>
</table>

In most circumstances zonal charges are raised on a standard basis of one charge per new connection (one for water and one for sewerage). However, if the new connection is to non-household premises, the fixed element is calculated according to the number and type of water fittings in the premises. This is called the "relevant multiplier" method of calculating the charge. Details of the relevant multiplier for each fitting can be found at our web-page: http://www.anglianwater.co.uk/developers/charges/

The total Zonal charge payable for your site for Sewerage is:

<table>
<thead>
<tr>
<th>Zonal charge per new connection - Sewerage</th>
<th>No. Of Units</th>
<th>Total amount payable</th>
</tr>
</thead>
<tbody>
<tr>
<td>£ 471</td>
<td>900</td>
<td>£ 423,900.00</td>
</tr>
</tbody>
</table>

It has been assumed that the onsite used water network will be provided under a section 104 Water Industry Act application.

It is recommended that you also budget for connection costs. Please note that we offer alternative types of connections depending on your needs and these costs are available at our website.

---

**Section 4: Map of Proposed Connection Points**
Section 5: Useful Information

Used water

Water Industry Act – Key Used Water Sections:

Section 98:
This provides you with the right to requisition a new public sewer. The new public sewer can be constructed by Anglian Water on your behalf. Alternatively, you can construct the sewer yourself under section 30 of the Anglian Water Authority Act 1977.

Section 102:
This provides you with the right to have an existing sewerage asset vested by us. It is your responsibility to bring the infrastructure to an adoptable condition ahead of the asset being vested.

Section 104:
This provides you with the right to have a design technically vetted and an agreement reached that will see us adopt your assets following their satisfactory construction and connection to the public sewer.

Section 106:
This provides you with the right to have your constructed sewer connected to the public sewer.

Section 185:
This provides you with the right to have a public sewerage asset diverted.

Details on how to make a formal application for a new sewer, new connection or diversion are available on our website at http://www.anglianwater.co.uk/developers or via our Developer Services team on 0345 60 66 087.

Sustainable drainage systems:

Many existing urban drainage systems can cause problems of flooding, pollution or damage to the environment and are not resilient to climate change in the long term. Therefore our preferred method of surface water disposal is through the use of Sustainable Drainage Systems (SuDS). SuDS are a range of techniques that aim to mimic the way surface water drains in natural systems within urban areas. For more information on SuDS, please visit our website at http://www.anglianwater.co.uk/developers/suds.aspx. We also recommend that you contact the Local Authority and Lead Local Flood Authority (LLFA) for the area to discuss your application.

Private sewer transfers:
Sewers and lateral drains connected to the public sewer on the 1 July 2011 transferred into Water Company ownership on the 1 October 2011. This follows the implementation of the Floods and Water Management Act (FWMA). This included sewers and lateral drains that were subject to an existing Section 104 Adoption Agreement and those that were not. There were exemptions and the main non-transferable assets were as follows:

- Surface water sewers and lateral drains that did not discharge to the public sewer, e.g. those that discharged to a watercourse.
- Foul sewers and lateral drains that discharged to a privately owned sewage treatment/collection facility.
- Pumping stations and rising mains will transfer between 1 October 2011 and 1 October 2016.

The implementation of Section 42 of the FWMA will ensure that future private sewers will not be created. It is anticipated that all new sewer applications will need to have an approved section 104 application ahead of a section 106 connection.

**Encroachment:**

Anglian Water operates a risk based approach to development encroaching close to our used water infrastructure. We assess the issue of encroachment if you are planning to build within 400 metres of a water recycling centre or, within 15 metres to 100 metres of a pumping station. We have more information available on our website at [http://anglianwater.co.uk/developers/encroachment.aspx](http://anglianwater.co.uk/developers/encroachment.aspx)

**Locating our assets:**

Maps detailing the location of our water and used water infrastructure including both underground assets and above ground assets such as pumping stations and recycling centres are available from [http://www.anglianwater.co.uk/developers/our-assets/](http://www.anglianwater.co.uk/developers/our-assets/).

**Summary of charges:**

A summary of this year’s water and used water connection and infrastructure charges can be found at [http://www.anglianwater.co.uk/developers/charges](http://www.anglianwater.co.uk/developers/charges)

**Disclaimer:**

The information provided in this report is based on data currently held by Anglian Water Services Limited (‘Anglian Water’) or provided by a third party. Accordingly, the information in this report is provided with no guarantee of accuracy, timeliness, completeness and is without indemnity or warranty of any kind (express or implied).

This report should not be considered in isolation and does not nullify the need for the enquirer to make additional appropriate searches, inspections and enquiries. Anglian Water supports the plan led approach to sustainable development that is set out in the National Planning Policy Framework (‘NPPF’) and any infrastructure needs identified in this report must be considered in the context of current, adopted and/or emerging local plans. Where local plans are absent, silent or have expired these needs should be considered against the definition of sustainability holistically as set out in the NPPF.

Whilst the information in this report is based on the presumption that proposed development obtains planning permission, nothing in this report confirms that planning permission will be granted or that Anglian Water will be bound to carry out the works/proposals contained within this report.

No liability whatsoever, including liability for negligence is accepted by Anglian Water, or its partners, employees or agents, for any error or omission, or for the results obtained from the use of this report and/or its content. Furthermore in no event will any of those parties be liable to the applicant or any third party for any decision made or action taken as a result of reliance on this report.

This report is valid for the date printed and the enquirer is advised to resubmit their request for an up to date report should there be a delay in submitting any subsequent application for water supply/sewer connection(s).
Development Site: Land off Kiln Lane, Saxmundham
AWS Reference: PPE-0000755
Developer: Pigeon Investment Management
Workflow Stage: Pre-DM0
Date: 11th January 2019

1.0 Development details
This is a residential development of approximately 48ha in land south of Saxmundham, comprising 900 residential properties.

<table>
<thead>
<tr>
<th>Pre-planning Assessment</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1xDWF</td>
<td>3.8 l/s</td>
</tr>
<tr>
<td>Peak DWF</td>
<td>7.3 l/s</td>
</tr>
<tr>
<td>Volumetric load</td>
<td>331m³/day</td>
</tr>
<tr>
<td>Required receiving sewer size</td>
<td>300mm</td>
</tr>
</tbody>
</table>

The nearest sewer of sufficient size is 375mm sewer running south from Saxmundham, on a line broadly parallel to the development centre line, approx. 750m to the east.

A connection to this sewer would require crossing the Saxmundham to Woodbridge railway line. The scheme is required to provide a conveyance.

The topography of the site requires a pumped conveyance in order to connect foul water flows to the public sewerage.

The conveyance currently under consideration is the minimum required to serve the development, as such the following scheme would be funded entirely by the developer.
Conveyance pumping station requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assumed pump rate</td>
<td>13l/s</td>
</tr>
<tr>
<td>Rising main nominal bore</td>
<td>125mm</td>
</tr>
<tr>
<td>Emergency storage</td>
<td>56m³</td>
</tr>
</tbody>
</table>

It is assumed at that the developer will construct the conveyance pumping station; therefore, the scheme would comprise only the rising main and the connection to the public sewer.

2.0 Recommended connection point

A review of the potential conveyance routes indicates a potential connection to the 175mm sewer in Kiln Lane, at manhole TM3861 2902 (NGR TM3825361996), which is approx. 300m from the south eastern boundary of the development.

Although smaller than the notional required sewer size, asset data shows this sewer with an overall gradient of 1 in 31, with a theoretical capacity of 42l/s. The sewer eventually discharges to STERNFIELD-BENHALL BRIDGE pumping station (STFBSP), which also receives the 375mm sewer identified as the zonal charge connection point.

InfoNet assessment shows that with the 6xDWF of baseline flow, this sewer is using less than 2% capacity, which provides sufficient headroom for the envisaged pumped flow from the development. With the development flow connected the assessment concludes that no significant detriment will occur to the operation of sewer network on a baseline of 6xDWF.

There will be an increased volumetric loading at STFBSP, with particular regard to the operation of the storm overflow. This is common to all catchment growth upstream of this pumping station and will be addressed in AWS investment planning at the appropriate time.

This connection point provides some degree of flexibility in addressing the impact at the storm overflow from STFBSP and as such is compatible with the catchment strategy.
3.0 Conveyance rising main

This assessment envisages a 125mm nominal bore, HDPE rising main at a depth of 1.5 metres.

The conveyance pumping station is assumed to be located adjacent to the southern residential parcel, in the vicinity of national grid ref TM3795061972.

This provides a total rising main length of 475m, of which 150m is on the development site and the remainder is in the carriageway of Kiln Lane.

4.0 Estimated cost and underwriting values

Costs have been estimated for the following option:
Investment number – I023073

<table>
<thead>
<tr>
<th>Capital cost estimate</th>
<th>£208,094.93</th>
</tr>
</thead>
<tbody>
<tr>
<td>Underwriting ceiling to DM1</td>
<td>£6,000</td>
</tr>
<tr>
<td>Underwriting ceiling to DM2</td>
<td>£12,000</td>
</tr>
<tr>
<td>Underwriting ceiling to DM3</td>
<td>£25,000</td>
</tr>
</tbody>
</table>

Please note that these costs are provisional as they are based on assumptions on the conveyance pumping station location and the development size and composition. These values will need to be re-calculated if these assumptions are no longer valid or if critical information changes.
Good morning Andrew,

Have you submitted a pre-planning enquiry for this one? By submitting an enquiry a Drainage Engineer will be able to assess the impact of this development on the catchment whilst considering any other known developments/operational issues. The response will also give an indication of any residual capacity in the network and will give an indication of the mitigation works required. However, unlike the previous S98 process, any offsite infrastructure improvements will be delivered by AW and recovered through the zonal charge in line with the development rate.

A Pre-Planning Report is unlikely to provide much detail on any associated treatment capacity issues. This is primarily because treatment capacity is an AW issue to manage. We have also found previously that mention of treatment capacity can lead to misunderstandings on timescales and responsibilities when liaising with the LPA’s.

As we progress with the new charging regime, and move towards the next AMP, we are further developing new systems, such as Gro Sight our new market insight tool, that will allow us to gather information on areas of growth with a view to be able to promote strategic solutions that will allow the majority of sites to connect without issue. As part of this process it is key that you continue to submit pre-planning enquiries so that we can collate and cross reference information for areas of increased growth.

Please let me know if you require any further assistance at this stage.

Kind regards

Paul

Paul Lancaster
Growth Liaison Manager

Anglian Water Services Limited
Henderson House, 4 Lancaster Way, Huntingdon PE29 7DU

Website: www.anglianwater.co.uk/developers/
Andrew,

Further to our meeting on Tuesday I have now spoken to my @One Alliance delivery colleagues about crossing the railway line.

Network Rail have to act reasonably towards us as a Statutory Authority, providing we complete the BAPA (Basic Asset Protection Agreement) and Easement paperwork etc.

The BAPA paperwork is completed by the delivery team and then assessed by Network Rail. The payment associated with BAPA depends on the size of pipework, the depth, installation method etc. For a recent water main scheme we were required to make a BAPA payment in the region £40K.

The Easement paperwork is dealt with by our land agents and normally costs in the £7-8K to be put in place.

The above suggests that the best way to proceed will be via a requisition. This can either be through a 100% rechargeable S98 requisition where AW will design and deliver the conveyance. Or through a S30 requisition where you will design and install the conveyance using AW’s statutory powers of entry.

On this basis do you still require an underwriting to enable us to explore options in the local network? You mentioned an early first phase- this could be looked at now through an underwriting or could wait until the parcel/site is either allocated or has OPP.

Please let me know how you would like to proceed.

Kind regards
Paul

Paul Lancaster
Growth Liaison Manager

Anglian Water Services Limited
Henderson House, 4 Lancaster Way, Huntingdon PE29 7DU
Website: www.anglianwater.co.uk/developers/
Appendix E: ESW Potable water response
Network Group – Work Request Form

Request by:… Date …16/08/2018…

Description of Work Required:

Development enquiry for 800-1000 properties south of Saxmundham.

Required by: (date) …… ……

Capital Job No:……………… Signed for Client (Essential for Capital Jobs)…………

______________________________________________________________________________

Task Assigned to:……R.Power……… Job No./ File Ref………S1359…. ……

Completion Date…20/08/2018

Comments :

There is sufficient resource capacity to supply this development.
There is currently sufficient mains capacity to supply this development.
The development of Sizewell C will have an impact on how this area will be supplied, but it is not
currently anticipated that any shortfall of supply will result.

Connection would need be made to the 10” AC main to the northwest of the development site, this
will require a small amount of offsite mains construction to bring the connection into the bounds of
the development. This may be relatively challenging as it would need to run through park farm
covert, alternatively a longer connection can be made but this would need to cross the A12.
Connection should also be made to the 250mm main that runs through the area to be developed, to
create security of supply in case of mains work being required. As the 250 PE main is a strategic
main that may need to carry demand for Sizewell C this should not be the primary connection point
for the development. This development should constitute an entire new DMA which should be
simple with a single connection point on the 10” AC.

This work should be comfortably achievable within the local plan time scale.

Please Note: This reply is correct for the operation of the Network at the date of reply but please
inform the Strategic Network Dept when this work is planned to begin so that we can re-check to
ensure there are no unforeseen issues / changes in the Network which could affect this work going
ahead.

Output checked by: ………………… Date:…………………………

Employee No: …………………… Time Taken: …………………
Appendix 10: Site Capacity Study
Notes

1. Do not scale from this drawing

Key

- New Housing
  (Total Area: 23.45 ha)

- School Area
  (Including further early years provision)
  (Area: 2.2 ha)

- Employment
  (Area: 7.25 ha)

- A12 Services
  (Area: 4.84 ha)

- Informal/Formal Open Space
  (Total Area: 23.14 ha)

- Green Corridors

Public Right of Way

---

New Housing

School Area

Employment

A12 Services

Informal/Formal Open Space

Green Corridors

Public Right of Way

---

Project

0075: Saxmundham

Drawing Title

Concept Plan

---

Drawn

Check

Scale

Date

Rev

24/07/2019

0075/116
Notes

1. Do not scale from this drawing

Key

New Housing
(Total Area: 23.45 ha)

School Area
( Including further early years provision)
(Area: 2.2 ha)

Employment
(Area: 7.25 ha)

14
(Area: 4.84 ha)

Informal/Formal Open Space
(Total Area: 23.14 ha)

800 m Radius
(10 min. walk)

Entrance to Open Space

Green Corridors

Public Right of Way

Project

0075: Saxmundham

SANG Accessibility

Pigeon Investment Management Ltd
Linden Square
146 King's Road
Bury St Edmunds
IP33 3DJ
Appendix 12: Hopkins Ecology Technical Note on SANG Requirements
Site: Land South of Saxmundham
Work Item: Technical Note: Assessment of Suitable Alternative Natural Greenspace (SANG) Requirements
Client: Pigeon Capital Management 2 Ltd and the landowners

Author: Dr GW Hopkins CEnv MCIEEM
Date: 08 February 2019

Hopkins Ecology Ltd, St George’s Works, 51 Colegate, Norwich NR3 1DD
T. M: E: W: www.hopkinsecology.co.uk

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1. Introduction 2
2. Background to SANGs 4
3. The Scheme and Local Context 6
4. Assessment of SANG Requirements 8
Executive Summary

The scheme for the Land Site of Saxmundham (allocation SCLP12.29, the ‘Site’) is for 800 dwellings. The Habitats Regulations Assessment of the Suffolk Coastal District Local Plan proposes that avoidance / mitigation is provided via an area of Suitable Alternative Natural Greenspace (SANG) which residents will use for recreation in preference to the international / European sites. The suggested quantum of SANG is 8ha per 1000 residents, while recognising that “the key principles, including SANG size, are established practice only and do not constitute a formal standard.”

The principle of 8ha of SANG per 1000 residents has been taken from the quantum required for schemes within 2-5km of the Thames Basin Heaths Special Protection Area (SPA). This note explores the extent to which this quantum is relevant to the Suffolk Coastal area and whether there are relevant Site-specific factors that would justify a lower quantum.

In comparing the Suffolk Coastal area and the areas around the Thames Basin Heaths SPA a key difference is the overall density of residents and proximity to urban conurbations. For example, some of the component sites within the Thames Basin Heaths SPA include parts of substantial towns such as Aldershot and Farnborough within 2km, and the density of residents within the local authority areas is on average 1,000 per km².

Within Suffolk Coastal the density of residents is 140 per km² and the urban conurbations in the vicinity of the Site are Saxmundham itself and Woodbridge. The Site itself is > 4.3km from the nearest international / European site. Around the Site there is an existing footpath network and the opportunities to access the countryside away from international / European sites is likely to be greater than around the Thames Basins Heaths SPA.

The proposed quantum of SANG within the scheme is 12ha, as a block of 9.5ha and a block of 2.5ha, and a potential further block of 3.4ha. If the Thames Basins Heaths SPA standard was to be directly applied then the required quantum would be 15.4ha. Within the Thames Basins Heaths SPA area, the upper limit at which SANGs are required for residential schemes is 5km, and the Site is at 4.3km.

Based on the substantial differences between Suffolk Coastal and the Thames Basin Heaths SPA area, it is concluded that the direct transfer of the SANG standard is not appropriate and that a lower quantum (12ha) is appropriate. However, due to the precautionary principle, 15.4ha can be provided with details to be determined through a project-level HRA.
1. Introduction

1.1 The Land South of Saxmundham (allocation SCLP12.29, the ‘Site’) is for 800 dwellings and lies within a zone where new housing, and the resultant increases in the numbers of residents, could result in increased recreational pressure on international and European sites. Possible mitigation for such recreational impacts includes existing footpath networks and the provision of new alternative areas of greenspace, which would be visited residents in preference to the international / European sites.

1.2 The Site lies within 5km of two areas with international / European designations:

- The Sandlings Special Protection Area, 4.95km south of the boundary. This is designated for two species of heathland bird as breeding species, namely nightjar and woodlark.
- The Alde-Ore Estuary Ramsar site, Alde-Ore SPA and Alde-Ore and Butley Special Area of Conservation. This is 4.3km south of the boundary and variously designated for the estuary habitat and associated vegetation, and also various wetland birds in the breeding season and other times.

1.3 Within the Habitats Regulations Assessment (HRA) of the Suffolk Coastal District Local Plan (Hoskin and Liley, 2018’), it is concluded that the proposed scheme will result in recreational impacts and within the Appropriate Assessment it is proposed that avoidance / mitigation is provided via an area of Suitable Alternative Natural Greenspace (SANG) which residents will use for recreation in preference to the international / European sites.

1.4 In terms of SANGs design, following what are described as “key principles and good practice (that) are now widely recognised”, there is a requirement for an area that has a countryside character and large enough to provide walking routes of no less than 2.5km (pp51). Further the suggested quantum is 8ha per 1000 residents.

1.5 Within the Appropriate Assessment the specific section dealing with the Site is reproduced below in Table 1 (taken from pp53), noting in particular that “the key principles, including SANG size, are established practice only and do not constitute a formal standard.”

1.6 This technical note is intended to provide an overview of SANG requirements and assess the likely effectiveness of the proposed provision of greenspace within the scheme. Of particular consideration is the proposed quantum in relation to the principles outlined above, for 8ha per 1000 residents which would equate to a quantum of SANG of 15.4ha here (for a scheme of 800 dwellings).

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**Table 1.** Extract from Hoskin and Liley (loc. cit., pp53).

*Saxmundam garden neighbourhood*

| 5.15 | The proposed allocation for 800 new dwellings is to be accommodated on land to the south of Saxmundham as identified in the Final Draft Local Plan. |
| 5.16 | The nearest European sites are approximately 5 to 7km away, and therefore within easy driving distance rather than walking distance. The nearest sites are the Sandlings, the Alde Ore and Minsmere-Walberswick, and the nearest access points provide a range of popular and attractive destinations that have very scenic walks. |
| 5.17 | Visitor survey work for the Sandlings was commissioned by Suffolk wildlife Trust with the Forestry Commission (Cruickshanks, Liley & Hoskin 2010). The survey identifies that the median route length for walkers surveyed was 2.9km and this tends to be more focussed on within the European site than was found at Felixstowe, (Cruickshanks, Liley & Hoskin 2010). |
| 5.18 | This information should be used to inform the detailed master planning for the site, but it is recommended that the detailed master planning is also informed by additional visitor survey work and an audit of the footpath network and car parks. This information suggests the following key design considerations for the SANG to be a viable avoidance/mitigation measure at Saxmundham garden neighbourhood development: |
|  | • Close driving distance of a range of attractive European site access points indicate that the SANG needs to be of high quality and design to deter visitors from honey pot locations |
|  | • The site needs to be large in order to provide a desirable alternative to getting in the car to visit the European sites |
|  | • Provision of walking routes within the SANG needs to be carefully designed to accommodate circular walks that provide a varied and high quality experience in terms of visual and other sensory factors as an alternative to the European sites. |
| 5.19 | SANG size should have regard for the general principles explained earlier but be particularly informed by the locally relevant information above. |
2. Background to SANGs

2.1 As understood, the recommendation for a proposed provision of 8ha of SANG per 1,000 of the new population is derived from The Thames Basin Heaths SPA: Draft Mitigation Standards for Residential Development. It is not believed that this quantum, when applied to the Suffolk Coastal area or the wider Suffolk coastal sites, is based on local evidence and data. The standards for the Thames Basin Heaths SPA are scaled as follows:

- Within 400m of the SPA no effective mitigation is available.
- For a zone between 400m and 2km 16ha of SANGs per 1000 new population is required.
- For a zone between 2km and 5km the provision reduces to 8ha of SANGs per 1,000 new population.

2.2 In understanding the importance and significance of these different zones and SANG requirements a key point is the wider landscape context of the Thames Basin Heaths SPA. There are 13 component sites covering approximately 8,274ha and spanning 11 local authority areas, across the counties of Surrey, Hampshire and Berkshire. The areas surrounding the Thames Basin Heaths SPA is relatively densely populated, with a mean density within the 11 local authorities of 1000 residents per km² (in the range of 280 to 2,456 residents per km²) (Table 2). As shown on Figure 1, the component sites frequently include existing urban areas within both 400m and 2km buffers, with some of the highest density areas also within 2km buffers. For example, within 2km of Chobham Common SSSI there are conurbations such as Sunningdale and Chobham, while within 2km of Bourley and Long Valley SSSI there parts of conurbations such as Fleet, Aldershot and Farnborough.

2.3 In summary, by virtue of the location of the Thames Basin Heaths SPA:

- There is likely to be substantial pressure on the component sites from their close proximity to existing urban conurbations.
- There are likely to be few alternative sites or opportunities for countryside access available to residents in the vicinity.

Table 2. Population densities for Suffolk Coastal and authorities which contain the Thames Basin Heaths SPA.

<table>
<thead>
<tr>
<th>Local Authority Area</th>
<th>Area km²</th>
<th>Population</th>
<th>Density per km²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rushmoor Borough Council</td>
<td>39</td>
<td>95,800</td>
<td>2,456</td>
</tr>
<tr>
<td>Woking Borough Council</td>
<td>63.6</td>
<td>101,100</td>
<td>1,600</td>
</tr>
<tr>
<td>Borough of Elmbridge</td>
<td>96</td>
<td>136,000</td>
<td>1,400</td>
</tr>
<tr>
<td>Bracknell Forest Council</td>
<td>109</td>
<td>120,400</td>
<td>1,104</td>
</tr>
<tr>
<td>Runnymede Borough Council</td>
<td>78</td>
<td>86,900</td>
<td>1,100</td>
</tr>
<tr>
<td>Surrey Heath Borough Council</td>
<td>95</td>
<td>88,800</td>
<td>934</td>
</tr>
<tr>
<td>Royal Borough of Windsor and Maidenhead</td>
<td>198</td>
<td>150,100</td>
<td>758</td>
</tr>
<tr>
<td>Guildford Borough Council</td>
<td>270</td>
<td>147,800</td>
<td>547</td>
</tr>
<tr>
<td>Hart District Council</td>
<td>215</td>
<td>95,500</td>
<td>440</td>
</tr>
<tr>
<td>Waverley Borough Council</td>
<td>345</td>
<td>125,000</td>
<td>362</td>
</tr>
<tr>
<td>Basingstoke and Deane Borough Council</td>
<td>664</td>
<td>175,300</td>
<td>280</td>
</tr>
<tr>
<td>Suffolk Coastal</td>
<td>891</td>
<td>125,000</td>
<td>140</td>
</tr>
</tbody>
</table>

² From various texts including: Neutral Citation Number: [2008] EWHC 1204 (Admin) | The Queen on the Application of Hart District Council v The Secretary of State for Communities and Local Government, Luckmore Limited, Barrat Homes Limited and Taylor Wimpey Developments Limited, Natural England.
Figure 1a and b. Thames Basin Heaths SPA: proximity to urban conurbations (named component sites are referred to in the text).
3. **The Scheme and Local Context**

3.1 The Site is located within 5km – the upper limit to the distance for which SANGs are required for the Thames Basin Heaths SPA – of two groups of international / European sites (Figure 2):

- The Sandlings SPA, 4.95km south of the boundary.
- The Alde-Ore Estuary Ramsar site, Alde-Ore SPA and Alde-Ore and Butley Special Area of Conservation, 4.3km south of the boundary.

3.2 As assessed, the landscape of the Suffolk Coastal area is relatively sparsely populated, with 140 residents per km\(^2\) and lacking urban conurbations other Saxmundham itself and Woodbridge to the south.

![Figure 2](image)

**Figure 2.** The Site in relation to international / European sites within the vicinity.

3.3 In terms of the design of the scheme, these include footpaths within the development area and for 15.4ha of SANGs in the form of:

- An existing block of 2.53ha that currently lacks public access and is located in the north-west corner of the Site.
- A second block, 9.54ha in area, comprising an existing arable field with a small woodland block. This is large enough to realistically include a network of paths >2.5km in length and create an area with the naturalistic character of a semi-natural area.
- A 3rd block, 3.4ha in area, comprising an existing arable field that would provide car parking to improve visitor access to the countryside to the west of the A12 for dog walkers arriving by car. This would be accessible to residents form the scheme and elsewhere in Saxmundham.
3.4 There is also an existing network of footpaths around the Site, with extensive routes across open countryside (Figure 3). Improvements will be made as part of the scheme to allow for easier crossing of the A12 and access to the footpath network to the west.

**Figure 3.** The existing footpath network around the Site.
4. Assessment of SANG Requirements

4.1 Based on the proximity of international / European sites it is recognised that there is the potential for recreational impacts and mitigation is required. It is also recognised that a project-level HRA will be required to determine the specific SANG requirements. However, this assessment is intended to establish the quantum of SANG required, and specifically to provide an assessment as to whether it is directly appropriate to transfer the Thames Basin Heaths SPA standard to this scheme.

4.2 Thus, following Liley and Hoskin (loc. cit.) the Thames Basin Heaths SPA standard of 8ha of SANG per 1000 residents would equate to a quantum of SANG of 15.4ha here (for a scheme of 800 dwellings).

4.3 It is difficult to quantify the extent to which recreational pressure will increase as a result of new housing and the quantum of mitigation required. However, the following points are considered particularly relevant when assessing the direct applicability of the Thames Basin Heaths SPA standard to the sites to the Suffolk coast:

- The Thames Basin Heaths SPA are in a much more densely populated landscape than Suffolk Coastal, as assessed by the density of residents and the proximity to urban centres.
- The availability of alternative recreation areas and accessibility to the wider countryside within Suffolk Coastal is undoubtedly greater than around the Thames Bains Heaths SPA.
- The Site is close to the upper limit of the zones proposed for SANGs requirements around The Thames Basin Heaths SPA (i.e. the Site is at least 4.3km distant while the zone for SANGs requirements is up to 5km).
- The pre-existing footpath network around the Site is extensive, and improvements proposed to the A12 along with dedicated parking provision to the west of the A12 will allow residents and visitors to access the extensive network to the west of the Site with more readily.
- The scheme itself includes areas of greenspace within the development area and these will form additional walking routes.

4.4 The quantum of SANGs could extend across three parcels, which will offer readily accessible areas for residents from across the scheme. With one of the parcels being 9.54ha in area this will offer sufficient space for internal path networks and the creation of an area with the naturalistic character of an attractive semi-natural area. The other two parcels could provide spaces for briefer walks, and the parcel to the west of the A12 could offer space for walking within the parcel itself and with the option for extending walks to the existing local path network. An additional point of this space is that it could include a car park and have easy access to the A12, such that it will be accessible by residents from elsewhere in Saxmundham.

4.5 In summary, the proposed quantum of SANG that could be achieved is 15.4ha, which meets the 15.4ha that would be required if the Thames Basin Heaths SPA standard was applied. It is located close to the upper limit of the zone within which SANGs are required within the Thames Basins Heaths SPA area. However, the two landscapes are very different in terms of wider opportunities to access the countryside and overall population density and likely use of other areas of open space. The Site itself is well-served by an existing footpath network that provides access to the wider countryside.
4.6 Based on these factors it is considered that there are sufficient differences between the Site and the areas around the Thames Basins Valley Heaths SPA for a lower quantum (12ha) of SANGs to be appropriate. The project-level HRA will be consider in further detail the likely effectiveness of the proposed mitigation, including the quantum of SANG, and the also the value of the local network of footpaths.