LAND TO THE EAST OF

BOXWORTH END, SWAVESEY

VISION DOCUMENT

AXIS
LAND PARTNERSHIPS

FEBRUARY 2020

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AXIS
LAND PARTNERSHIPS

MOSAIC
Urban Design & Masterplanning

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01
Introduction

INTRODUCTION

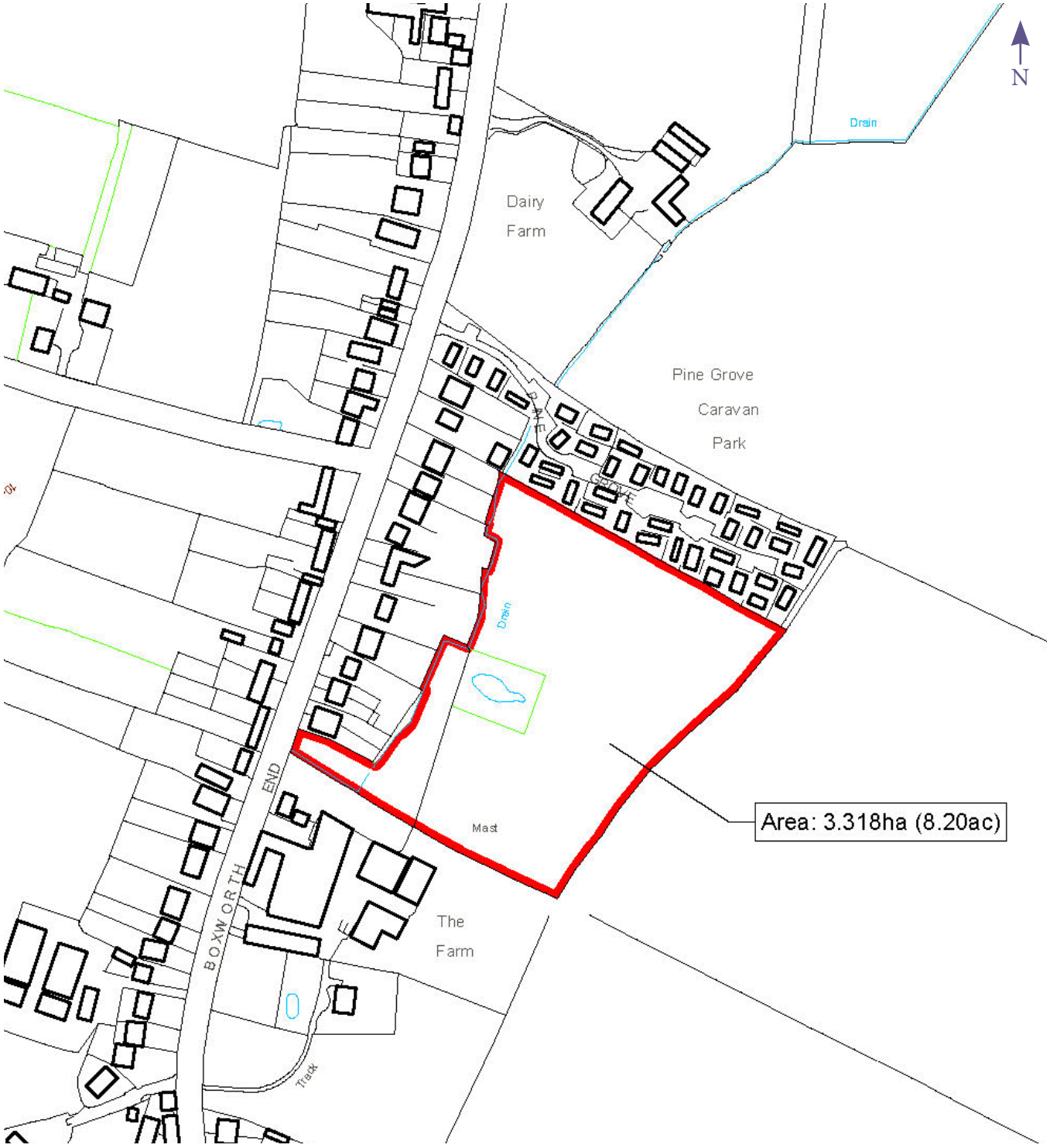
Mosaic has prepared this document on behalf of Axis Land Partnerships for the Land East of Boxworth End, Swavesey, Cambridgeshire as part of the Regulation 18 submission to the emerging Local Plan Issues and Options consultation. Proposals seek to create a best practice approach to placemaking by creating a new neighbourhood built around the principles of sustainability, ecological design and the enhancement of biodiversity.

The purpose of this document is to set out our design principles for development and to demonstrate the Site is deliverable and technically unconstrained in accommodating circa. 70 new homes.

SITE IN CONTEXT

The Site is situated to the south of the village of Swavesey within South Cambridgeshire District Council. The Site benefits from a range of amenities within the village including a primary school, Swavesey Village College Secondary School, Post Office, a recreation ground, shops, medical centre and a local farm.

Site location.


N
Drain
Dairy
Farm
Pine Grove
Caravan
Park
Drain
Area: 3.318ha (8.20ac)
Mast
The
Farm
BOXWORTH END
Track

Site plan.

Landscape-led approach that retains and enhances the existing small pond and area of woodland that contribute to delivering quality places

Best practice approach to ecological design, sustainability and the enhancement of biodiversity, including designing for climate change

High quality homes that blend with the character of the village and enhance local character

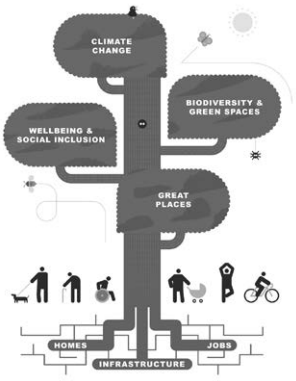
Retain rural character of the village through the creation of attractive natural and semi-natural landscape that create special places to spend time

Promoting wellbeing and equality: provide green spaces, construct sustainable buildings and provide ease of access for an ageing population

OUR APPROACH

Our core approach is inspired by the wealth of existing on-site landscape assets to create a legacy development focussed on the principles of ecological design, sustainability and the enhancement of biodiversity. These principles are in keeping with The Greater Cambridge Local Plan Issues and Options document 'big themes' - which we explore in more detail below.

The creation of imaginatively and sustainably designed homes, set in a generous and spectacular ecological landscape that enhances biodiversity is the driving force behind our Vision for this Site.



The Greater Cambridge Local Plan themes:

- Responding to climate change;
- Increasing Biodiversity & Green Spaces
- Promoting wellbeing and equality
- Delivering quality places

OUR APPROACH

Our approach creates a development that is landscape and ecology led, promotes wellbeing and puts place making at the heart of development.

Creation of homes that are **in keeping with the historic architectural character** of Swavesey will create a place that belongs. Furthermore, we would seek to work alongside the parish and **adhere to the principles set out within Swavesey Village Design Guide.**

A variety of housing densities will be established across the Site to create a variety of new homes and respond to built and landscape context.

The existing woodland and pond provide an opportunity to set development within a mature and attractive landscape setting, offering an **idyllic character** that will contribute to placemaking. It is our aim to retain and enhance high quality landscape features and create new public access for residents of the village. Green finger corridors will connect landscape assets, thus **maintaining views to open countryside and the rural character of the village.**

Even at this early stage it is our aim to ensure any future designs will have a **strong sense of belonging to Swavesey** through a design process that has carefully considered the ingredients, such as history and character, that make the village so unique.

Our aim is to achieve a sustainable development that strives for best practice, innovation and exemplar design standards that put climate change at the forefront of the design process. The development will provide **sustainable homes** with renewable energy, reducing internal overheating and maximising water efficiency.

The design of the built environment, with an ageing population, requires genuine thought. Providing opportunities for social interaction and exercise are important to reduce both physical and cognitive decline. Our proposals seek to promote **wellbeing and equality** through the design of public open space.

THE UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS

ACHIEVING SUSTAINABLE DEVELOPMENT

Sustainable development can and has been defined in many ways by many different organisations. Any future development at the Land to the East of Boxworth End, Swavesey would look to address where possible the 'Big Theme' ideas as set out as the issues under consideration for the emerging Greater Cambridge Local Plan in order to achieve sustainable development.

In addition to the 'Big Themes', at Axis Land Partnerships we also feel strongly that the principles set out by the United Nations Sustainable Development Goals (SDG's) should be a key consideration in the design and delivery of any new development where possible. The SDG's perfectly compliment the 'Big Themes' and provide an ideal and globally agreed set of targets to measure the success of achieving sustainable development.

WHAT ARE UNITED NATIONS SUSTAINABILITY DEVELOPMENT GOALS?

In January 2015, the United Nations General Assembly began the negotiation process on the post-2015 development agenda*. The process culminated in the subsequent adoption of the 2030 Agenda for Sustainable Development, with 17 SDGs *** at its core by all UN member states.

The 2030 Agenda for Sustainable Development provides a shared blueprint for peace and prosperity for people and the planet, now and into the future. At its heart are the 17 Sustainable Development Goals (SDGs), which are an urgent call for action by all countries - developed and developing - in a global partnership. They recognize that ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequality, and spur economic growth – all while tackling climate change and working to preserve our oceans and forests.

The SDG's recognise that ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequality, and spur economic growth – all while tackling climate change and working to preserve our oceans and forests.

* https://sustainabledevelopment.un.org/post2015/negotiations

** https://sustainabledevelopment.un.org/post2015/transformingourworld

*** https://sustainabledevelopment.un.org/sdgs


SUSTAINABLE DEVELOPMENT GOALS
1 NO POVERTY
2 ZERO HUNGER
3 GOOD HEALTH AND WELL-BEING
4 QUALITY EDUCATION
5 GENDER EQUALITY
6 CLEAN WATER AND SANITATION
7 AFFORDABLE AND CLEAN ENERGY
8 DECENT WORK AND ECONOMIC GROWTH
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
10 REDUCED INEQUALITIES
11 SUSTAINABLE CITIES AND COMMUNITIES
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION
14 LIFE BELOW WATER
15 LIFE ON LAND
16 PEACE, JUSTICE AND STRONG INSTITUTIONS
17 PARTNERSHIPS FOR THE GOALS

02
A Sustainable Location

SUSTAINABLE LOCATION

Selecting a sustainable site and access to local facilities is fundamental to the concept of locating sustainable development.

New development needs the full range of social, retail, educational, health, transport and recreational facilities to allow people, especially those of limited means or mobility, to go about their daily lives without over reliance on a private car.

Building for Life is a tool to assess and compare the quality of proposed neighbourhoods. It is led by the Design Council CABE, Home Builders Federation and Design for Homes.

Whilst Building for Life is usually awarded to completed schemes, the site selection criteria have been applied to Land East of Boxworth End, Swavesey, to demonstrate the sustainability of the Site as a location for a future neighbourhood extension.

Building for Life asks:

1) Does the development provide (or is it close to) community facilities, such as shops, schools, workplaces, parks, play areas, pubs or cafes?

2) Are there enough facilities and services in the local area to support the development? If not, what is needed?

The facilities audit on the following pages demonstrates the Site is a sustainable location and fully meets the Building for Life criteria through existing local facilities.

Images of nearby facilities (from top left – clockwise): Swavesey Surgery, primary school, Post Office/ local store, bus stop on Boxworth End, Play Ground and Swavesey Village Collage Secondary School.

LOCAL FACILITIES AND CONNECTIONS

There are a number of local services and facilities provided within Swavesey that would meet many of the day-to-day needs of future residents. This includes local shops, community facilities and local schools. These are located within easy walking and cycling distance of the site.

Facilities in close proximity include:

- Swavesey surgery (GP)
- Post Office
- Swavesey Village College Secondary School
- Bus stop serving Cambridge City Centre

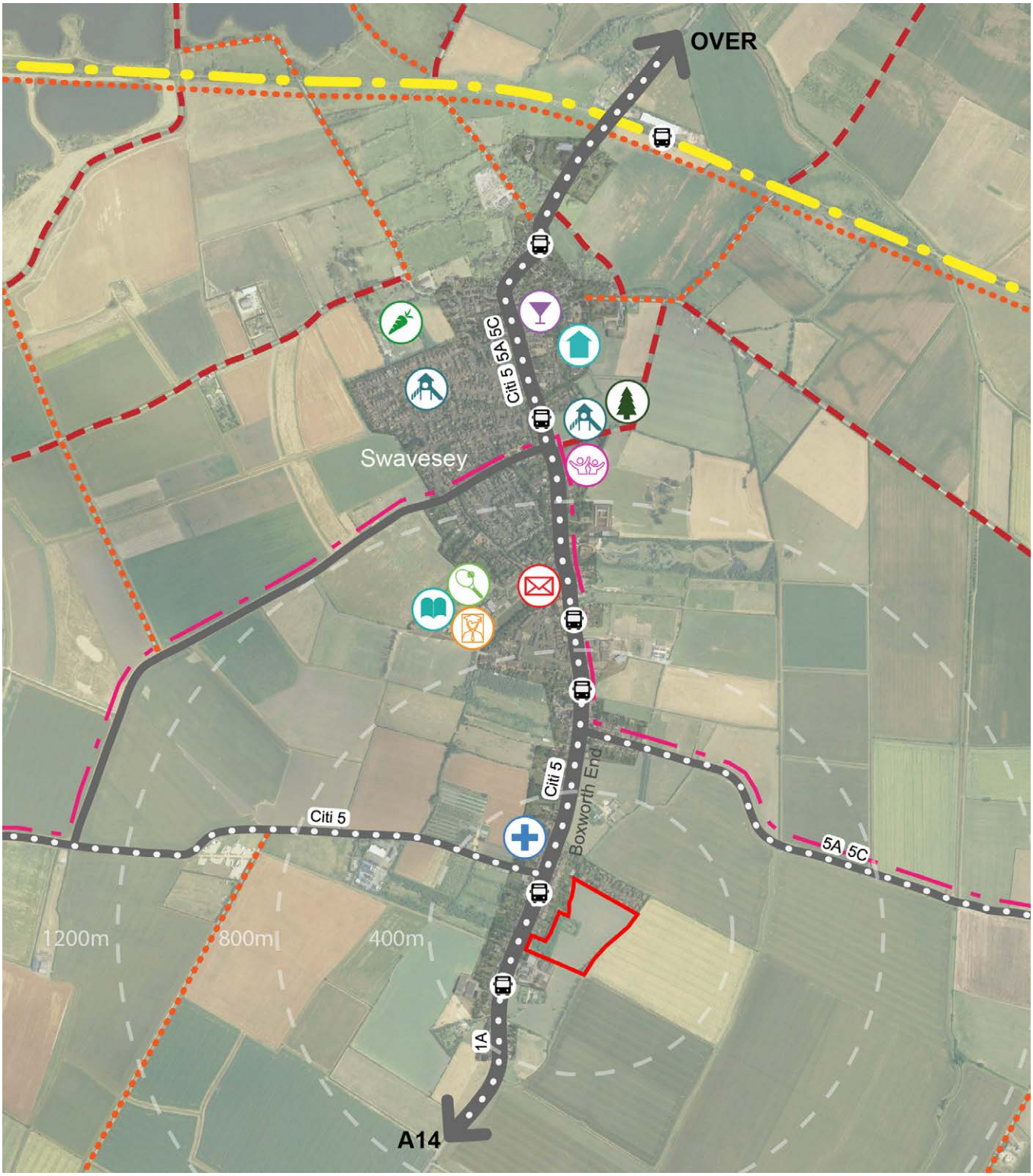
CONNECTIVITY

Swavesey offers several attractive walking and cycle routes including a strategic leisure route between Huntingdon and Cambridge City Centre, as well as public footpaths 7 & 12 linking to St Ives and Longstanton.

The Site is close to bus stops serving the 'Citi 5' bus service approximately every two hours during weekdays. This service connects Swavesey with Bar Hill and Cambridge City Centre. Local bus route 1A on Boxworth End also serves St Ives and Bar Hill.

The Site is 1.4 miles south of the Swavesey stop for the Cambridgeshire Guided Bus (CGB), which provides fast and frequent services to The Cambridge Science Park and Cambridge City Centre, along with St Ives. This is within a reasonable cycling distance and there is covered cycle parking available at the CGB stop.

The Site, therefore, has good public transport accessibility with Cambridge City Centre and key employment locations of the Cambridge Northern Fringe. We propose to investigate improvements to the 'Citi 5' service to improve its frequency to Swavesey.



Local facilities plan

03
The Site

THE SITE

The Site, accessible via Boxworth End, extends to approximately 3.3 hectares and is currently used as an agricultural field for grazing cattle.

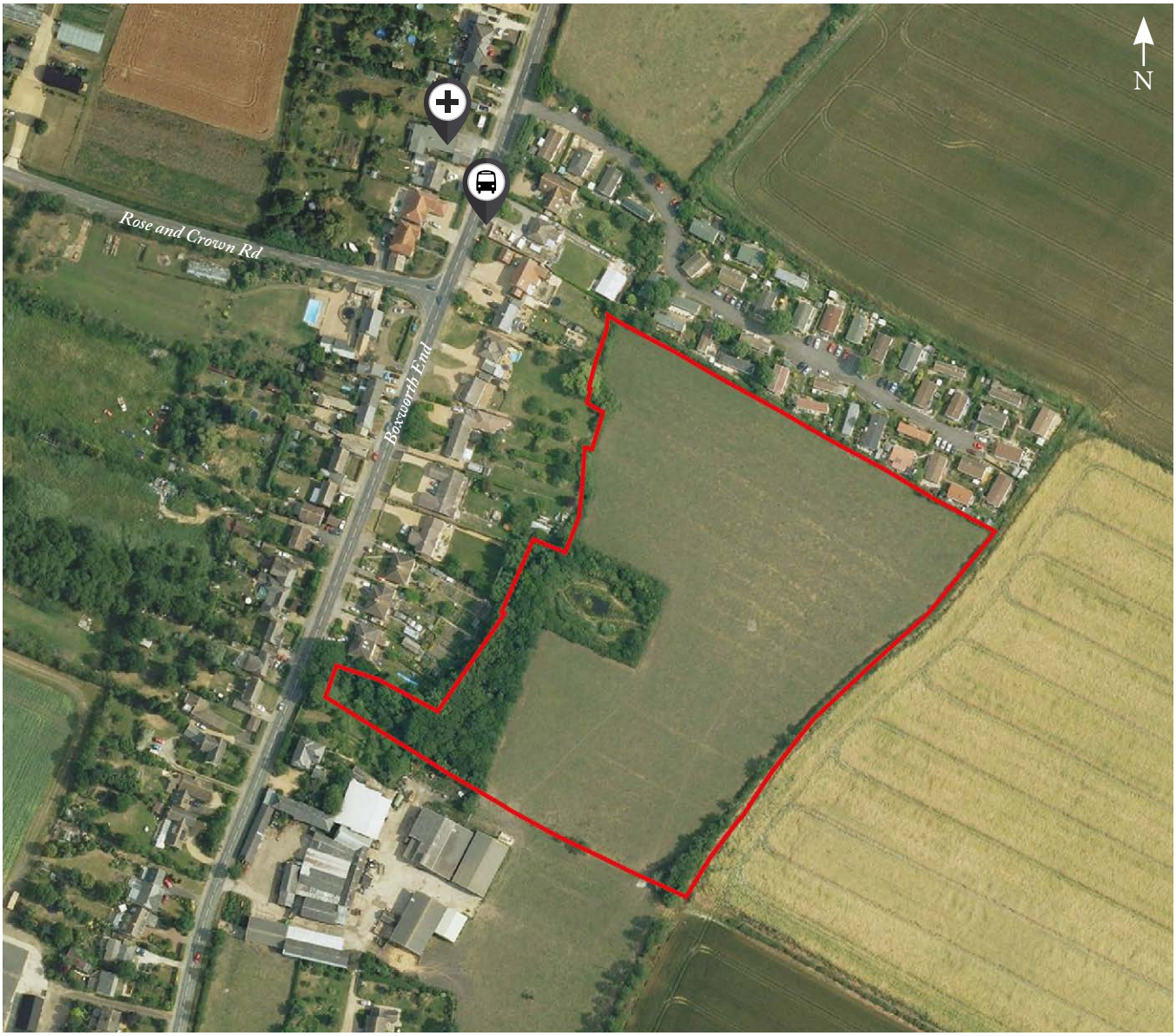
The Site is located within the village of Swavesey, within South Cambridgeshire District Council and benefits from a range of nearby amenities. Swavesey lies roughly half-way between Cambridge and Huntingdon, north of the A14. The Site itself is situated on the eastern edge of the village.

Approximately 3.3 hectares in size the Site includes young broadleaved plantation woodland, a pond, ditches and an improved grassland field bounded by hedgerow. A residential caravan park lies adjacent to the northern boundary, residential houses and gardens bound the western boundary. A small farm estate lies to the south and arable land lies to the east.

The topography of the Site ranges between 11.99m AOD at the southern-most corner to 8.47m AOD at the northern most corner. The Site generally falls to the northwest.

The Site is well enclosed in landscape and visual impact planning terms by mature hedgerows to the north, west and east. In addition, the Site is bounded by existing buildings on three sides and is subsequently set within an urbanised context when considering medium to long distance external views.

Aerial view from east.



Site plan.

Medical centre

Bus stops

Images of the Site (from top left – clockwise): View towards the southern boundary and adjacent farm buildings, northern boundary hedgerow, ditch along southern boundary, existing pond on western boundary and plantation woodland on the western boundary. There is an extant permission for another agricultural building, a grain store, next to the large farm building. The site could be enclosed further through this additional development (see application reference on the South Cambs planning portal S/2265/18/FL).

The existing woodland and pond present a unique opportunity to create a development focused on the principles of ecological design, sustainability and the enhancement of biodiversity.

SWAVESEY VILLAGE DESIGN GUIDE

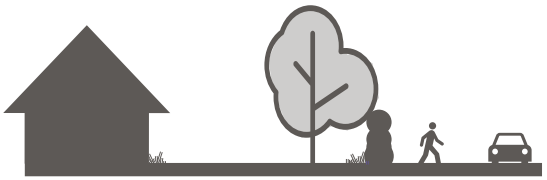
The emerging vision for the Land east of Boxworth End incorporates the guidance and priorities outlined by the design guide.

The Supplementary Planning Document Consultation Draft was published in April 2019.

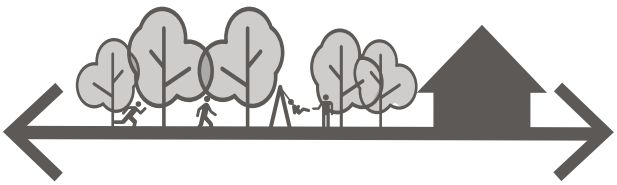
We have ensured our design proposals align with the aspirations of the Swavesey Village Design Guide SPD.

In particular, we have identified the below points are relevant to the planning and design of the Land to the East of Boxworth End.

Maintaining or creating views and gaps to the countryside between properties and along roads.



Front gardens with hedges and/or brick walls, or planted strips in front of houses. Hedges composed of native species should be the boundary treatment for all external boundaries.



Incorporating green spaces and green lanes that provide footpath or bridleway connections and wildlife corridors.

The appearance should blend well with Swavesey's historic fabric. There should be an appropriate degree of variation in design and materials between houses.

Figure 10
Swavesey landscape edges and views

Swavesey landscape edges and views plan part of Swavesey Village Design Guide.

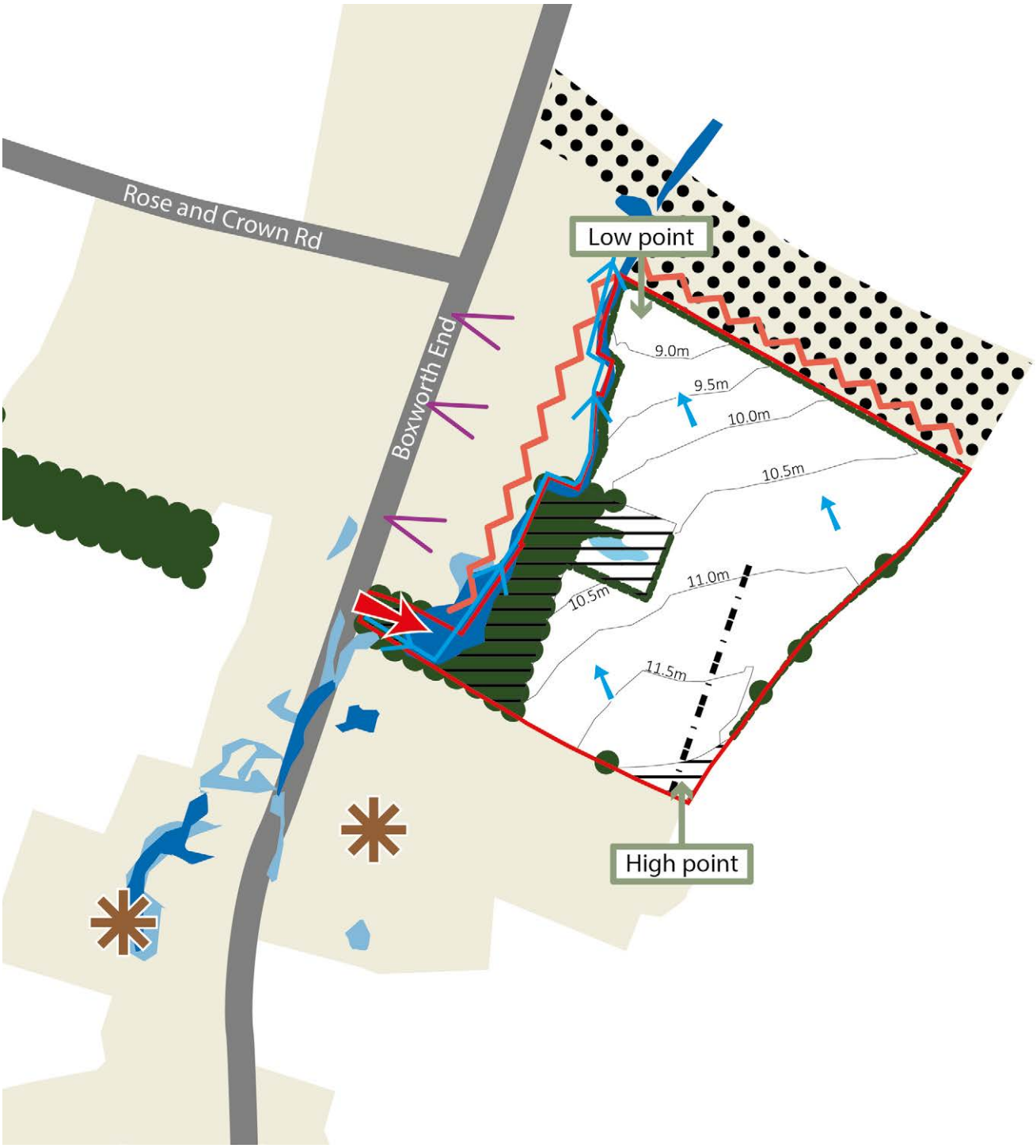
CONSIDERATIONS & TECHNICAL SUMMARIES

Our emerging environmental and technical work has identified that there are very few constraints to development. While there are some considerations, such as existing woodland, a watercourse, a pond, and neighbouring properties, many of the perceived constraints are in placemaking opportunities.

Our approach involves responding to these considerations in an informed and considered manner to help create a unique and distinctive addition to Swavesey.

The plan to the right summarises the emerging technical work presented on the following pages.

Watercourse, pond and woodland



Considerations plan.

- *Roads*
- *Built area*
- *Existing vegetation*
- *Existing pond*
- *Existing watercourse*
- 9.0m *Half meter contours*
- *High risk of flooding/ watercourse*
- *Medium risk of flooding*
- *Pine Grove Park*
- *Direction of surface water flow*
- *Broadleaved Plantation Woodland*
- *Listed buildings*
- *Neighbouring properties*
- *Potential access*
- *Valued landscape gap or view*

Flooding & Surface Water Drainage

FLUVIAL FLOODING

The Government's online Flood Map for Planning shows the whole Site is located within Flood Zone 1 'Low' Probability (less than 1 in 1,000 annual probability (<0.1%) of river flooding).

SURFACE WATER FLOOD RISK

The Government's Risk of Flooding from Surface Water map below shows areas that could potentially be susceptible to surface water flooding in an extreme rainfall event. Please note that the surface water flood maps show modelled information and not historical records.

The majority of the Site is at 'Very Low' risk of surface water flooding.

However, there is an area shown to be at 'Low', 'Medium' and 'High' risk of surface water at the south west corner of the Site as a result of the watercourse which runs along the western boundary.

EXISTING SURFACE WATER ON-SITE DRAINAGE

The Site comprises mainly agricultural land, such that surface water would likely drain to the north-west following the natural topography with eventual discharge to the on-site pond or ordinary watercourse which runs parallel to the western site boundary. Some localised infiltration could occur during the lower storm events.

An Ordinary watercourse crosses the south-west corner of the site and drains northwards along the western site boundary. The Ordinary watercourse is culverted for a short section near the southern site boundary and immediately downstream of the site before re-emerging as an open channel just north of Pine Grove. The Ordinary watercourse enters the management of the Swavesey Internal Drainage Board (IDB) downstream of the site adjacent to the Pine Grove development north of the site.

The Ordinary watercourse is part of the IDB pumped system, which discharges to the Swavesey Drain, an Environment Agency Main River, at High Causeway Pumping Station. Outflows from Swavesey Drain are controlled by sluice gates at Webbs Hole, which closes to prevent high flows from the River Great Ouse backing up into the system. The whole network is therefore effectively tide-locked when the River Great Ouse is high, potentially for up to 14 days at a time. This leads to water backing up the Swavesey Drain and low-lying IDB system through the village of Swavesey while the gate is shut, reducing the function of the existing drains and watercourses located in Swavesey times of high flow.

FLOOD RISK AND SURFACE WATER DRAINAGE STRATEGY

The whole site is located within Flood Zone 1 of the "Flood Map for Planning", which is appropriate for all types of development.

The south west corner of the site is shown to be at a low, medium and high risk of surface water flooding. As such, Cambridgeshire County Council have confirmed surface water modelling is required to quantify the potential depth of floodwaters across the proposed access road into the site in a 1 in 100 (1%) annual probability event including an allowance for climate change of 40%, to ensure safe access and egress (less than 300mm flood depth) from the development is available. This will be undertaken to inform the future planning application for the site.

Based on provisional calculations undertaken to support the site through the local plan stage the existing watercourse channel is potentially large enough to contain the flow associated with the surface water flood event. If the entrance road needs to be raised, so there is less than 300mm flood depth, mitigation measures will be incorporated to prevent any detrimental impact of displaced flood water on third party land. It is therefore assumed at this early stage there is sufficient space within the site and access corridor to accommodate any displaced water. This will be confirmed as part of the hydraulic modelling and flood compensation assessment works to be undertaken at the planning application stage.

As part of the site is located at high risk of surface water flooding a sequential approach has been undertaken at a site level, with all dwellings located in an area at low risk of surface water flooding.

The site also has the potential to support a range of sustainable measures to manage and control surface water run-off, with the view to deliver an integrated Sustainable Drainage System (SuDS). These features will be fully joined up with ecology/habitat areas, green infrastructure, and public open space. Rather than creating simple functional 'drainage features', this integrated approach will contribute to habitat creation and enhance biodiversity, provide multi-functional amenity space, and preserve water quality. This is in line with national and local guidance.

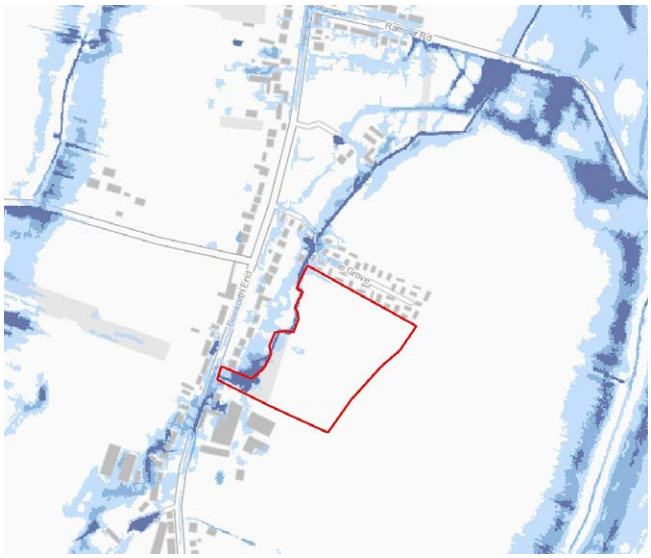
The volume of surface water being discharged from the development will be carefully controlled to replicate the drainage regime of the existing site in accordance with the Lead Local Flood Authority (Cambridgeshire County Council) surface water drainage design requirements and local planning authority, so as not to cause any increase in off-site flood risk. This will also include a requirement for zero-discharge for a number of days as detailed by CCC.

The SuDS will ensure there is no increase in discharge rates from the site but also will improve water quality discharge, using the principles from the SuDS Manual. Provisional rates have been provided within this appraisal.

Attenuation storage will be provided to attenuate runoff prior to discharge and these will be designed in accordance with stakeholders requirements to enable zero-discharge for a period of 14 days. The preliminary surface water drainage strategy illustrated shows this can be achievable, and it will be ensured the storage needed will be integrated with the landscaping proposals.

Overall the site is well positioned to deliver housing needs without increased flood risk to offsite areas following the implementation of the proposed mitigation measures proposed. It also offers the opportunity for environmental enhancement through the introduction of a variety of SuDS. The development will therefore likely meet the requirements of both national and regional planning policy.

Topography and surface water run off diagram



Risk of flooding from surface water map

- *Site boundary*
- *Existing watercourse and direction of flow*
- *Existing watercourse culvert*
- *Existing pond*
- *Surface water catchment area 1 (967m²)*
- *Surface water catchment area 2 (30,612m²)*

- *Site boundary*
- *Main rivers*
- *Drains*
- *High flood risk*
- *Medium flood risk*
- *Low flood risk*

Access & Reducing The Need To Travel

The transport strategy focuses on the objectives set out in order below:

- Reduce the need to travel by car
- Promote walking and cycling with surrounding areas, with the provision of high-quality walking and cycling connections with the rest of the village and Swavesey
- Encourage public transport for connections with Cambridge and key employment areas in Eddington, West Cambridge and the Northern Fringe

High level initiatives and measures to securing the above transport strategy objectives for Boxworth End are described below.

REDUCE THE NEED TO TRAVEL BY CAR

There are a number of local services and facilities provided within Swavesey that would meet many of the day-to-day needs of future residents. This includes local shops, community facilities and local schools. These are within easy walking and cycling distance of the Site, and therefore provide good opportunities for local residents to meet many of their day-to-day needs by non-car modes

PROMOTE WALKING AND CYCLING

Improvements would be made to the existing pedestrian and cycle provision within the village. This would be to assist with walking and cycling to the existing shared footways /cycleways south of the village to the Buckingway Business Park and the new A14 Local Access Road shared footway / cycleway provision. Improvements would also be to existing provision through the village. Subject to discussions with the highway authority, these improvements could be in the form of new footway provision, new crossing facilities, or traffic calming features to reduce vehicular speeds through the village.

Site access arrangements would include new footways into the Site. Appropriate cycle parking will be provided at locations that are safe, secure and covered.

ENCOURAGE PUBLIC TRANSPORT

The development would assist with the accessibility of the Cambridgeshire Guided Bus (CGB) through the pedestrian and cycle improvements previously outlined. The Guided Bus is within a reasonable walking and cycling distance of the Site, and provides good opportunities to access key employment areas by non-car means.

The development will also explore with bus operators the potential to increase the frequency of the existing Citi 5 service that connects Swavesey with Bar Hill and Cambridge City Centre.

ACCESS STRATEGY

A new priority T-junction on Boxworth End would form the vehicular, pedestrian and cycle access. Preliminary design of this access has been prepared in accordance with highways design guidance.

Streets will be designed in accordance with the principles of Manual for Streets, meaning the needs of pedestrians and cyclists will be considered from an early stage in the design of the masterplan.

Car parking provision will be balanced at a level which seeks to deter habitual car use for journeys that could be made by non-car modes, but also recognises likely car ownership levels and the rural character of the area.

The ability to install electronic vehicle charging equipment would be provided for dwellings, to encourage residents to own electric cars. This would seek to address issues related to air quality.

It is considered that the Site is deliverable, accords with national and local transport policy guidance, and that there are no transport nor highways reasons why Land East of Boxworth End, Swavesey should not be allocated for residential development in the Greater Cambridge Local Plan.

Proposals for a new priority T Junction accessing the Site

Ecology

Phase one habitat map

Site boundary

Semi-improved neutral grassland

T1 *Tree with negligible suitability to support roosting bats*

Standing water

Broadleaved plantation woodland

Intact species – poor hedge with occasional tree

Broadleaved tree

We have undertaken a desk top study and extended Phase 1 survey of the Site.

The desk study examined the presence/absence of designated Sites and the significance of the available biological records. The field survey classified the habitats present and identified any evidence of, or potential for, protected species on the Site. An evaluation and assessment was conducted based on information available on the proposed development at this early stage. This identified that the ecological value of the Site is limited to the woodland, hedgerow and pond habitats and is otherwise dominated by improved grassland which is of low ecological value. There are no designated sites of wildlife value within the boundary. The habitat of value should be retained where possible with any habitat impacts mitigated for on-site or compensated for off-site.

Some woodland will be lost to provide access, but this could be mitigated on-Site by additional tree planting. It is recommended that any retained ecological features are enhanced to retain and strengthen linkages with the wider landscape.

Further surveys will need to be undertaken for a small number of protected species as part of the more detailed consideration of the proposed development. It is not expected that any of these protected species would preclude development.

04
Development Principles

DEVELOPMENT PRINCIPLES

The following pages set out the key principles for our proposed design solution. The design principles have been developed in response to the Local Plan themes and technical and environmental work set out earlier in this document.

Our approach creates a development that is attractive, desirable, and deliverable. This approach creates a considerate design with biodiversity and well being at its heart.

1. THE SITE TODAY

The Site is located to the south of the linear village of Swavesey, Cambridge. The Site is an agricultural field currently used for grazing cattle.

The Site features a pond and woodland to the west. Agricultural fields are to the east, and a residential park of bungalows is to the north.

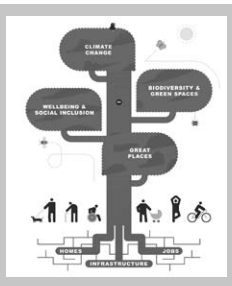
2. RETAIN AND ENHANCE EXISTING LANDSCAPE FEATURES

Retain and enhance existing natural features including woodland, the pond and watercourse for the benefit of flora and fauna. The retention of trees and hedgerows provides mature planting with aesthetic value that helps to mitigate the visual impact of future development.

The existing landscape features create an opportunity to create new public open space and consolidate the character of the proposed development. New houses will front into the new public open space created for the new and existing community.

This is also in line with Swavesey Village Design Guide which advises to maintain characteristic landscape feature.

The existing woodland and pond present a unique opportunity to create a development focused on the principles of ecological design, sustainability and the enhancement of biodiversity.

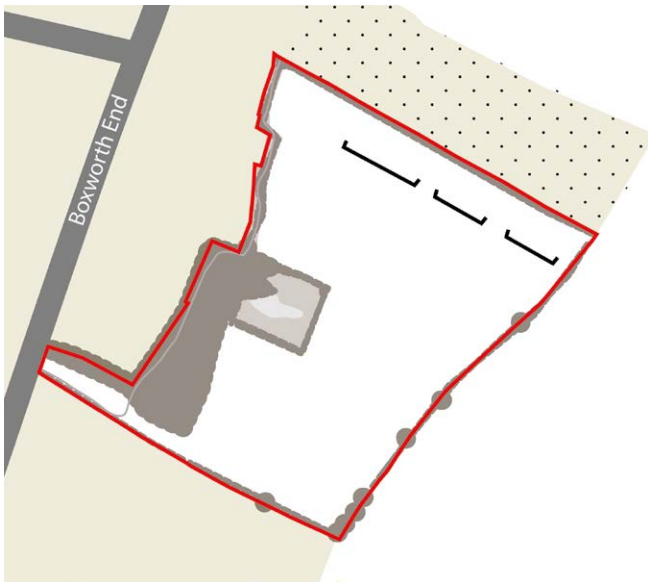


THE GREATER CAMBRIDGE LOCAL PLAN 'BIG THEMES'

Increasing Biodiversity & Green Spaces through the retention of existing trees and hedgerows.

3. MAINTAIN IDENTIFIED RURAL GAPS AND VIEWS

Two of the identified rural gaps and views at Swavesey Village Design Guide are to be retained and enhanced. These are connections with open countryside which help to maintain the rural character of the village.



4. PROVIDE A NEW EDGE TO PINE GROVE BACK

New houses will back onto the existing bungalows to screen the development and mitigate any Secure by Design issues.

SWAVESEY VILLAGE DESIGN GUIDANCE:

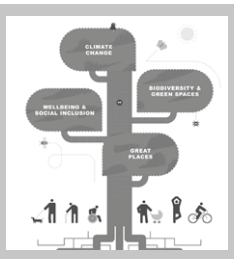
Maintaining or creating views and gaps to the countryside

5. CREATE A STREET LAYOUT THAT RESPECTS LOCAL CONTEXT

The street layout will maintain existing gaps and views to the countryside. The street pattern also follows the design guidance set out in the Swavesey Village Design Guide which would like to see new development perpendicular to the main road to maintain the village pattern.

6. CREATE A NETWORK OF LANDSCAPE CORRIDORS TO CONNECT LANDSCAPE ASSETS

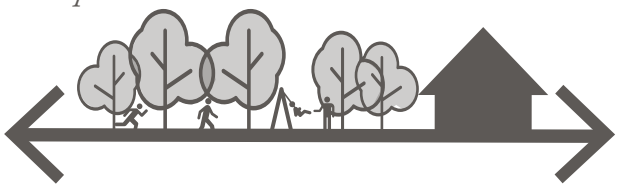
The landscape corridors provide conduits for local wildlife and safe and attractive routes for pedestrians and cyclists. The landscape corridors connect the existing pond and woodland to the wider landscape and provide an attractive outlook for new homes and enhancing the existing green space network in Swavesey.



THE GREATER CAMBRIDGE LOCAL PLAN 'BIG THEMES'

Increasing Biodiversity & Green Spaces. The Site landscape and biodiversity strategy provides an attractive outlook for new homes and enhances the existing green space network in Swavesey.

Retain rural character of the village through the creation of attractive natural and semi-natural landscape



SWAVESEY VILLAGE DESIGN GUIDANCE:

Incorporating green spaces and green lanes that provide footpath or bridleway connections and wildlife corridors.

7. PROVIDE A VARIETY OF HOUSE TYPES

Build new homes with a variety of types and materials that blend well with the existing historic character of Swavesey. A range of housing types allows for villagers with families or those who wish to downsize or get a foot onto the housing ladder as first-time buyers.

THE GREATER CAMBRIDGE LOCAL PLAN 'BIG THEMES'

Promoting wellbeing and equality. Designing for an aging population, provides opportunities for social interaction and exercise. Both are important to reduce both physical and cognitive decline. Our proposals seek to promote **wellbeing and equality** through the design of **quality public open space.**

SWAVESEY VILLAGE DESIGN GUIDANCE:

The appearance should blend well with Swavesey's historic fabric. There should be an appropriate degree of variation in design and materials between houses.

8. ENHANCED BUFFER

Retain and enhance the existing structural vegetation and create new planting to help mitigate external distant views into the Site.

Additional hedgerows and planting encourage biodiversity and habitat creation.

New housing fronting onto the buffer will have large front gardens in accordance with the Swavesey Village Design Guide.

9. INTEGRATE FLOOD ATTENUATION MEASURES

The existing topography, proposed landscape corridors and existing pond and watercourse provide an opportunity to create a sustainable urban drainage system (SUDS) of swales and ponds to mitigate surface water.

The creation of a SUDS network provides the opportunity for semi-wetland habitats to enhance biodiversity. Swales and ponds also provide a place for people to enjoy nature and relax.

THE GREATER CAMBRIDGE LOCAL PLAN 'BIG THEMES'

Increasing Biodiversity & Green Spaces. Additional hedgerows and planting encourage biodiversity and habitat creation.

THE GREATER CAMBRIDGE LOCAL PLAN 'BIG THEMES'

Responding to climate change. The Site can mitigate its own surface water (SUDS) therefore avoiding flash flooding. SUDS also provide a network of wetland habitat.

SWAVESEY VILLAGE DESIGN GUIDANCE:

Front gardens with hedges and/or brick walls, or planted strips in front of houses.

10. PROVIDE ENERGY EFFICIENCY AND RENEWABLE ENERGY

We believe the Land to the East of Boxworth End should strive for best practice, innovation and exemplar design standards in order to create a legacy of real note.

ENERGY AND CARBON MANAGEMENT

The energy strategy for the proposals will follow the energy hierarchy; that is to reduce energy demands, provide energy efficiently and incorporate renewable and low carbon technologies where appropriate.

Energy demand reduction measures will include but not be limited to:

- Passive solar design measures will be incorporated into buildings to optimise heat losses and gains and maximise natural light penetration.
- Natural ventilation, solar shading, living walls and green/ brown roofs will be incorporated where appropriate to prevent overheating and reduce cooling demand.
- Buildings will make use of new and emerging technology with regard to energy efficiency, including heat recovery from waste heat, and façade design as well as using insulation, heat recovery and low energy systems.
- Atria, climatic walls and winter gardens will be used to provide thermal buffering for fabric, allow daylight penetration and allow the use of natural ventilation strategies.
- Construction details with be carefully considered to ensure thermal bridging and air permeability is minimised.

WATER RESOURCES AND FLOOD RISK

The proposals would aim to protect the quality and quantity of water resources and minimise water consumption. This would be achieved by:

- Developing a sustainable water strategy for the Site which includes both rainwater and greywater recycling as well as sustainable drainage measures.
- Residential dwellings will include water saving devices.

The most appropriate way to manage surface water runoff is through the use of Sustainable Drainage Systems (SUDS) which aim to mimic the drainage of green field Sites by:

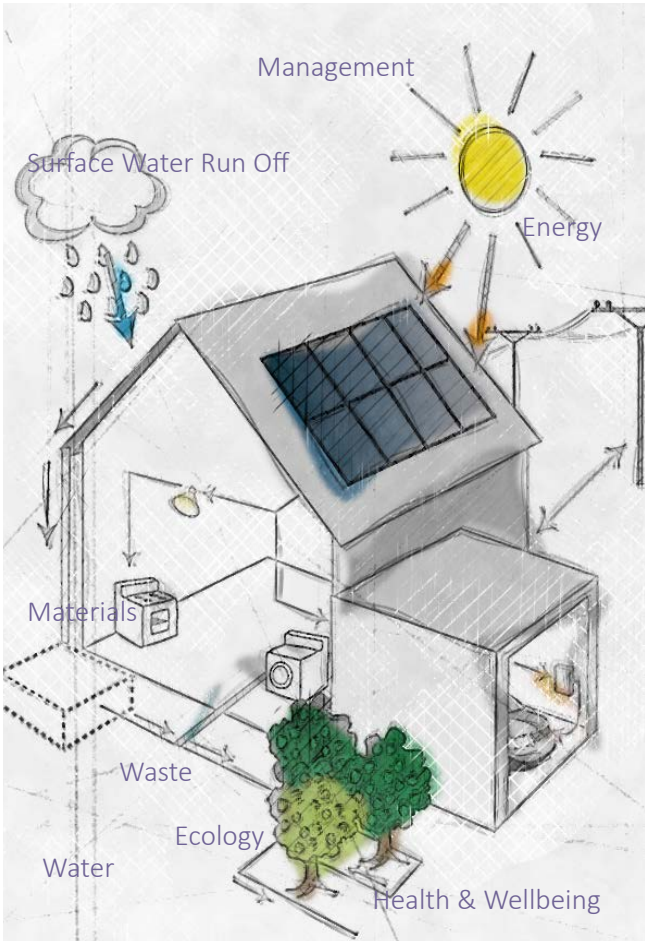
- Reducing the quantity of runoff from the Site (source control techniques).
- Slowing the velocity of runoff to allow settlement, filtering and infiltration (permeable conveyance), and
- Providing passive treatment to collected surface water before discharge into land or to a watercourse (end of pipe system).

Sustainable Drainage Systems

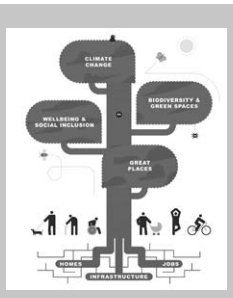
CLIMATE CHANGE ADAPTATION

The aim of our proposals will be designed to adapt to future climate change including hotter dryer summers, wetter warmer winters as well as more extreme cycles of flooding and drought. The masterplan design shall have consideration to the following:

- Orientation of buildings and streets to reduce excessive solar gain and catch breezes.
- The use of green infrastructure, greenspace and bluespace, developed as part of a masterplan and landscape framework, to minimise the urban heat island effect, provide shading and places of refuge and promote evaporative cooling.
- The use of shading to reduce excessive solar gain (e.g. through narrow streets, canopies of street trees, façade design and advanced glazing systems). Efforts to maximise shade in summer will need to take account of the need for light and warmth in winter.
- Passive solar gain principles
- Selection of materials to prevent penetration of heat and minimise the urban heat island effect including use of cool building materials, high surface reflectivity (albedo) materials on roads and roofs and green roofs and walls.
- Passive ventilation through orientation and morphology of buildings and streets. Efforts to catch breezes and increase canyon ventilation paths must also consider the need for winter warmth.
- Consideration in building design to preventing overheating and promoting night-time cooling, for example when selecting ventilation and cooling strategies.
- Flood risk management measures and drainage strategies shall take into account increased rainfall events and flooding as result of climate change.
- Designing drainage systems and water consumption for buildings and landscape with consideration to increased drought conditions and water restrictions.
- Designing buildings for higher wind speeds and driving rain with resilient structures and façades.



Climate change considerations for the home



THE GREATER CAMBRIDGE LOCAL PLAN 'BIG THEMES'

Responding to climate change. We believe the Land to the East of Boxworth End should strive for best practice, innovation and exemplar design standards for climate change

05
Vision

A VISION FOR THE LAND TO THE EAST OF BOXWORTH END

The creation of circa. 70 imaginatively and sustainably designed homes, set in a generous and spectacular ecological landscape that enhances biodiversity and wellbeing.

Our participatory approach seeks to evolve the design in partnership with key stakeholders, including the community, parish and Council.

Community Benefits:

- *New homes comprising market and affordable homes,*
- *Publicly accessible open space,*
- *Provision of a new natural play space & trim trail,*
- *Landscape and biodiversity enhancements,*
- *Sustainable Urban Drainage*
- *Significant financial contributions towards improving local infrastructure*

Illustrative masterplan

01 Site access

02 Pond

03 Woodland

04 Enhanced planting

05 Green corridor

06 Natural play / trim trail

07 Public open space & footpaths

08 Proposed Sustainable Urban Drainage

09 Retained views/gap to countryside

Not to scale

AERIAL ARTIST'S IMPRESSION

High quality homes that blend with the character of the village and enhance local character

Landscape-led approach that retains and enhances the existing small pond and area of woodland that contribute to delivering quality places

Retain rural character of the village through the creation of attractive natural and semi-natural landscape that create special places to spend time

Best practice approach to ecological design, sustainability and the enhancement of biodiversity, including designing for climate change

Promoting wellbeing and equality: provide green spaces, construct sustainable buildings and provide ease of access for an ageing population

06
Conclusion

CONCLUSION

Our approach creates a development that is attractive, desirable and deliverable.

As set out within this document, our initial assessments have demonstrated that the Site is free from significant environmental and infrastructure constraints and development on this Site would not cause significant adverse impacts on the countryside or wider landscape.

For the reasons set out above, it is considered that the proposal can comprehensively deliver much needed housing, whilst also helping to support local growth by ensuring that there is a sufficient supply of new housing, which can be brought forward within a foreseeable time-frame.

Our core approach is inspired by the wealth of existing on-site landscape assets to create a legacy development focussed on the principles of ecological design, sustainability and the enhancement of biodiversity. These principles are in keeping with The Greater Cambridge Local Plan Issues and Options document 'big themes' and the emerging Swavesey Village Design Guide SPD.

- We have demonstrated our commitment to delivering a development that is landscape and ecology led, promotes wellbeing and puts place making at the heart of development.
- Our technical and environmental work has proven that the Site is in a sustainable location, close to local facilities and well connected to nearby employment hubs through public transport.
- We have assessed the perceived Site constraints and turned them into a positive.
- The existing woodland and pond provide an opportunity to set development within a mature and attractive landscape setting, offering an idyllic character that will contribute to local placemaking.
- The design process has incorporated the Greater Cambridge Local Plan themes, with a particular emphasis on enhancing biodiversity and wellbeing.
- Elements of The Swavesey Village Design Guide have also been incorporated to ensure proposals are in keeping with the historic architectural character of Swavesey.
- A variety of housing densities will be established across the Site to create a variety of new homes for all ages and ability.
- Even at this early stage it is our aim to ensure any future designs will have a strong sense of belonging to Swavesey through a design process that has carefully considered the ingredients, such as history and character, that make the village so unique.
- Our aim is to achieve a sustainable development that strives for best practice, innovation and exemplar design standards that put climate change at the forefront of the design process.
- Our proposals seek to promote wellbeing and equality through the design of public open space.