

Six Mile Bottom Estate, Cambridgeshire

Concept Vision

February 2020





A balanced living and working community will be at the heart of decisionmaking.







CONTENTS





Introduction 08

Key Themes 12



People/Place Rules 12



Vision/Concept Framework 32



Summary 34

Introduction

SMB is the collective vision of L&Q Estates and Hill Residential Ltd (Hill) for the Six Mile Bottom Estate. The estate straddles the East Cambridgeshire and South Cambridgeshire Districts, lies approximately 8 miles to the east of Cambridge, 6 miles south west of Newmarket and 18 miles south of Ely. The site is ideally placed to meet the economic and housing needs of Greater Cambridge and East Cambridgeshire, to help spread the benefits of the Greater Cambridge economy, and to support the Cambridge to Norwich tech corridor. Whilst the site can contribute to both Greater Cambridge's and East Cambridgeshire's economic and housing needs, this document supports our response to the Greater Cambridge local plan and is therefore tailored to that.

Ultimately, the vision is about establishing a long-term strategic approach to growth in a highly-sustainable location. More than this, the proposal meets the specific needs of the Greater Cambridge area and its growing population. Proposals will address emerging lifestyles, economic, energy and mobility requirements and will fully-embrace national and local grand challenges of the future.

This document sets a framework for which future decisions can be made. The framework is deliberately conceptual in its application and accompanied by a series of 'rules' that do not seek to pre-determine a final outcome but serve to set the tone and general direction of future growth choices.

The aspiration is to provide placemaking infrastructure that will facilitate the emergence of a sustainable modern new living and working community.

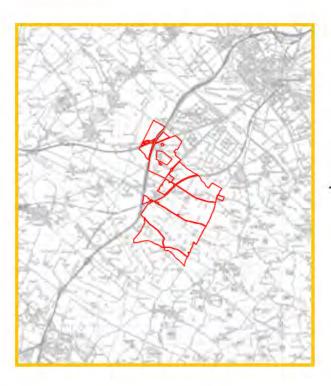


OPPORTUNITY

This vision has been formulated to take account of the exciting opportunities offered by the land (identified on the Site Location Plan) and presents a genuine approach that would capitalise upon the location to influence the lifestyles and travel patterns associated with a new community in this location.

The National Planning Policy Framework (NPPF) identifies new settlements as one of the most effective methods for accommodating growth, provided that they are suitably-located and supported by the necessary infrastructure and facilities.

Critically, the land available to accommodate growth is in single ownership and the vision is capable of being delivered without complicated landowner agreements or site constraints. Site constraints and opportunities have been taken into account to inform the vision.



The aspiration is to provide placemaking infrastructure that will facilitate the emergence of a sustainable modern new community.







Creating a legacy for growth

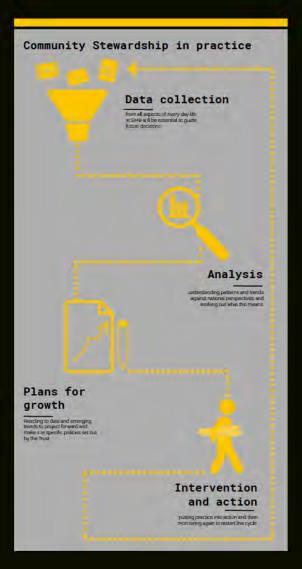
The approach to growth at SMB will centre around community empowerment to guide future development and allowing a new living and working population to make the best decisions for new development to ensure an enduring legacy and balanced community is created for the site.

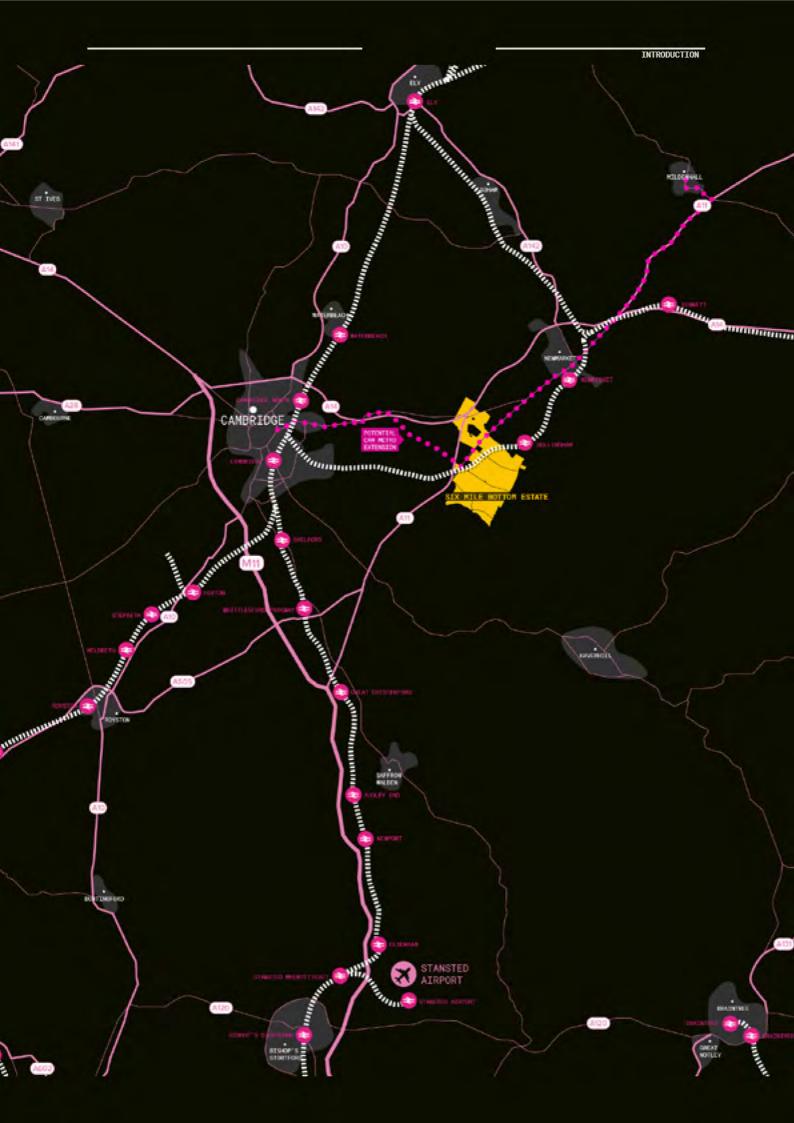
The site benefits from its highly-connected location on the A14 and A11 corridors as well as being positioned on the East-West rail line with the potential to be served by rail services . The site also has the opportunity to facilitate the alignment of a CAM-Metro extension between Cambridge and Mildenhall.

Notwithstanding the connectivity of the site, SMB provides an excellent opportunity for a series of connected communities providing essential local facilities set within a rich and biodiverse green environment.

A community stewardship model can be applied to the future growth of the site to allow information to be collected on all aspects of life including transport and traffic, mobility, energy and power, environmental management, leisure, well-being, healthcare, education, and public safety to understand how a new community is being used and how emerging trends can be met by development.

Through effective stewardship, community facilities, homes, employment and movement systems will be provided in a form and pattern that allows for design cohesion, well-being, and connectedness to infuse and influence future development decisions.





GREATER CAMBRIDGE Themes

The narrative for new growth in Greater Cambridge is set by four key themes that reflect international and national objectives, are specific to the characteristics of the area and are applied to housing, jobs and infrastructure needs.

In order to achieve a sustainable form of development that endures for future generations, we must plan for homes, jobs and supporting infrastructure (transport, utilities, services and facilities) in the right places, alongside protecting and enhancing the environment. In order to achieve this, solutions are needed which



CLIMATE CHANGE

The partner authorities of the Greater Cambridge Plan have committed to achieve net zero carbon by 2050; in simple terms, this means not creating more CO2 than is captured or offset. We can only absorb and offset a small amount of CO2, which means that the vast majority of our energy needs must be met by renewable sources and by drastically reducing our daily energy usage.

A focus on achieving net zero carbon will influence where we plan for development and how it is designed. In doing so, we must plan for low-carbon lifestyles that encourage working close to home or within the home and reduce the need to travel. Where travel is needed, alternatives to private car use must be provided with an emphasis on active travel where possible.

BIODIVERSITY & GREEN SPACES



A healthy and biodiverse environment is important to the future prosperity and the wellbeing of all who live, work and study in the Greater Cambridge area.

Meaningful and expansive biodiversity networks should be planned, supported by various types of green infrastructure including parks and recreation grounds, as well as more wild spaces like woodland, scrubland and grassland areas, rivers and other water bodies.

The rural area is characterised by agricultural land, which is often not biodiverse and the chalk streams which feed the River Cam have run very low impacting on the wildlife that lives there. Opportunities exist to reinvigorate these areas to increase/double the biodiversity value of the site.

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we must plan for homes, jobs and infrastructure in the right places, alongside protecting and enhancing the environment.

KEY THEMES

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WELLBEING

& SOCIAL INCLUSION

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The area in general is regarded as an affluent and prosperous area, but it also includes communities and individuals that do not experience the benefits of this wealth. Within South Cambridgeshire in particular, there are socio-economic issues facing some of those living in rural communities with limited access to services and transport that require attention.

Proposals should seek to improve the wellbeing and social inclusion of individuals. Consideration needs to be given to the kind of jobs that are created, the availability of suitability and affordable housing, access to services, cultural facilities, green spaces, learning opportunities and employment, as well as positively influencing individuals' health and lifestyle.

GREAT PLACES

Cambridge is an iconic historic centre of national significance surrounded by a rural area with a unique landscape character. There has been considerable growth in Greater Cambridge over recent years, and at odds with other places, the area has generated a strong track record as a place where contemporary design and the historic environment co-exist in harmony.

In planning for future new development, the ambition to ensure the highest level of design quality remains high. New developments must protect and respond to the landscapes and townscapes that make the Greater Cambridge area special but also create outstanding new buildings and landscapes that create an iconic legacy for future generations.



GREEN SPACES

BIODIVERSITY

ILIMATE CHAN

15

REAT PLACES

People/Place Rules

design them. live them.

If we create the right rules, we can create the right place for growth to create the best life for people. The rules are not prescriptive, nor restrictive, but provide a canvas for a strong vision to be realised in accordance with the Greater Cambridge themes.

- 01 Residents know best
- 02 Diversity rules
- 03 Live well by accident
- 04 The right place to work
- 05 Nature at every turn
- 06 Car is not king
- 07 Carbon-free living
- 08 Beauty at no extra cost
- 09 Re-energising the grid
- 10 Inspired by landscape

01

Residents know best

People make places, not buildings, streets nor spaces these are simply a canvas for communities to thrive.

A strong and happy community is recognised as the essential ingredient in creating an enduring neighbourhood.



Central to the SMB strategy is the concept that all planning, design and management decisions must enrich the lives of its residents and its users, buildings, streets, spaces and virtual space must be thought of not as entities of their own, but environments for people to live, work, play and learn.

The Town & Country Planning Association outline in their guidance on new communities that land value capture for the benefit of the community, strong vision and community engagement and community ownership of land and long term stewardship are components of successful new communities.

We believe that Community ownership of assets, through a Trust structure, is central to the success of new communities as places. All residents and employees will be members of the Trust which will be funded through an annual charge applied to all dwellings/buildings. This is becoming a common model in the long term stewardship of successful communities.









APPROACH

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Community strength is also supported by a

diverse mix of inhabitants of ages, origins

and backgrounds.

A community composed of rich and varied socio-economic status offer relative strengths to the community structure which can benefit all.

In order to support community diversity, diversity of built form and space will be required. Different kinds of building typologies, plot-sizes, ownership models, public and private spaces that respond to specific needs will deliver a stimulating and varied environment, promote sustainable patterns, and support a mixed society.

An ageing population can be addressed and supported by development decisions at SMB. A wide variety of models will be used within the scheme, including retirement, care and assisted living facilities. Similarly, a mix of education, social, community, leisure, convenience, employment and residential land uses will be delivered in a mixed approach as part of each neighbourhood.





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Live well by accident

The environment that we live in can make us healthier. Development should be as much about well-being as it is about providing for growth.

Sport, play and healthy food have the ability to bring communities of all ages together. They are the beating hearts of our communities and play a vital role in strengthening social connections within the places we live, for example, the small interactions between children at a play area or the interactions between parents watching. Design that enables these activities to take place gives a new community the best possible chance of forming strong social bonds that stand for generations to come.

Every resident at SMB should have the right to access spaces that allow sport, play and growing food to take place. Rather than fix every principle, at every design stage the question should be asked... Are we doing enough to maximise the potential for play, sport and growing food for every resident? Play should extend its offer beyond the confines of designated play areas to playful streets, spaces and wider landscapes. Design should provide a wide range of opportunities for various sports and access for all abilities. The role of the Community Trust is key in the design, management and ongoing stewardship of all healthy space.











Plants Everywhere.

Green streets
Courtyards
Linear parks
Green walls
Allotments
Hanging gardens
Water verges
Orchard car-parks
Private gardens



Circuit training.

Imagining SMB as an outdoor, easy access gym typifies our livewell by accident approach Surrounding development will be a dense network of leisure routes set within green attractive spaces that make it easy to be healthy without trying through walking the dog, biking to school, weekend Park Run events etc.

APPROACH

<u>The right</u> place to work

SMB envisages a future where living and working naturally interacts in a zero carbon and people focussed environment. This will deliver the same number of jobs as the people of working age living in the new community ensuring an appropriate balance between living and working.

This vision capitalises on:

- The site's locational advantage in respect of Cambridge's established high tech business locations and its associated supply chain, as well as The Fens micro and agri-tech businesses;
- Its emphasis on delivering fast and convenient public transit / mobility through rail, road and CAM;
- The compact and critical mass of its resident population creating a Natural Capital approach to capturing the growing home-work / flexible workplace opportunities, and;



 An ability to deliver a zero carbon living and working environment in part through significant onsite renewables.

We anticipate these unique qualities will support significant job growth relating to the high tech sector, establishing an Agri/Equine Tech 'launchpad', create significant advance of homework hubs, co-working and flexible working centres, as well as providing strategic space for supply chain and emerging technologies that would benefit from the locational benefits. This creates the conditions for new businesses, start ups and grown on space to succeed, and critically provides the mobility, energy and community infrastructure to deliver a zero carbon living and working community.







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Nature at every turn

Just as children need good nutrition and adequate sleep, they may very well need contact with nature...

There is growing evidence that our exposure to 'nature' is good for us. The concept of at least two hours a week of exposure to nature being linked to positive health and well-being was published in 2019. Enhancing the natural environment within and surrounding SMB will be crucial in fulfilling its ambition to be one of the healthiest and happiest places to live in the country. This rule therefore simply aims for each design decision to think about how to maximise/'double' ecology and biodiversity opportunities on the site and allow residents and users to interact with nature in a managed way.

An inherent principle of this rule is the planting of trees at every opportunity. Increased tree planning results in benefits to biodiversity through habitat creation and can help towards flood alleviation. There could also be air quality benefits depending on which trees are planted and where. Trees change the climate of streets reducing the urban heat island effect and acting as natural air filters. SMB will look to maximise their potential at every opportunity.

There is compelling evidence to suggest that human beings have an innate need to connect with nature. A concept known as 'biophilia', this refers to our primal urge to connect with the natural world; and although we lead very different lives compared with our prehistoric ancestors, this continues to remain central to our lives today.





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Our climate is changing; we must alter our approach to the built environment. Our homes need to consume less energy and work towards a zero carbon future.

Clear actions can be taken to achieve carbon-free workplaces, homes, shops, schools and community facilities; these include improving building insulation, air tightness and mechanical heat recovery performance. Alternative heat sources can also be used such as electric heat pumps aligned with heat storage. Community heat networks can also be used, potentially over small groups of dwellings, sharing efficiencies and costs;

Under new energy legislation, post-2025, new developments will not be able to make connections to the natural gas network, this will force new innovations including using hybrid heating systems, more efficient boilers and smart energy systems. Embracing the data-driven approach, pilot exemplar homes will be established in the first instance, to test the effectiveness of growing technologies, applying technologies such as PV roof tiles, domestic battery walls, modular construction, small scale community heat networks and other solutions, approaches and techniques as they emerge. Data recorded from these initial pilot ventures will then be used to inform further growth and investment decisions.

Transport is the second highest source of carbon emissions, our other rules (see below) for SMB will ensure that the pedestrian, cyclist, transit priority, supported by appropriately designed infrastructure will minimise transportrelated emissions.

An intelligent approach to reducing waste and maximising recycling will also be taken as standard. All energy required to meet the power needs of new development will be generated locally (see below).





APPROACH

<u>Car is</u> not king

The Government document on the Future of Mobility provides a number of scenarios to 2040 which are a useful tool to understand the likely context for movement within SMB when developing and when complete. The following extract sums up the challenges and opportunities ahead:

"We live in a time of unprecedented change in the transport system. Changes in the nature of working and shopping, new technologies and behaviours – such as automation, vehicle electrification and the sharing economy – are already having an impact on how the system functions This time of social change and new technologies."

This overview informs how we should plan for the future of mobility at SMB. It has a unique advantage in this regard and that is the role of the SMB Trust, which has long-term flexibility to adapt physical, social and virtual infrastructure.

The approach to growth at SMB will be led by the highest standards of walkability, compactness with community and social facilities within easy reach (less than 5min walk).







A permeable active grid

Development should be formed around a dense network of routes and connections that prioritise active travel (i.e. walking and cycling) and offer the potential for movement by autonomous modes. Space will need to be provided for the car in initial phases of development, but over time there will be a transition away from dependence on the private car to autonomous and active modes and the strength of a well-connected grid of sustainable routes will allow this transition to occur. This approach has the potential to not only support sustainable mobility for residents but also business and deliveries.



Connected public transport

An existing rail line, which forms part of the 'East-West Rail' route which connects East and Central England, runs through the site; in due course there is potential for this route to be fully-utilised to support growth by opening a new station within the site which could be co-located with facilities (e.g. schools, medical services, leisure and retail).

The site could also accommodate a new route of the CAM-Metro, which is planned to extend out to the east of Cambridge and on to Mildenhall, providing further public transport choices to connect the development to the wider sub-region.

Beauty at no

24

extra cost

Beauty is not just what buildings look like (though it does include this) but the wider 'spirit of the place'. It includes the wider patterns of how we live and how we can achieve this sustainably.

The planning system and development market has the ability to deliver beautiful places today, but they do so far too rarely. The aim of future planning and development should be about place-making in its truest sense; beautiful, sustainable developments in the right places in which people can live, work and play in ways that support choice, economic growth and progress, sustainability and well-being.

Simple principles can be established to which designs for new development can be tested, such as:

- How does the design create a place and not just provide housing?
- How does the spirit of the place and its landscape influence and shape the design?
- Does the design possess a pleasing composition?





APPROACH

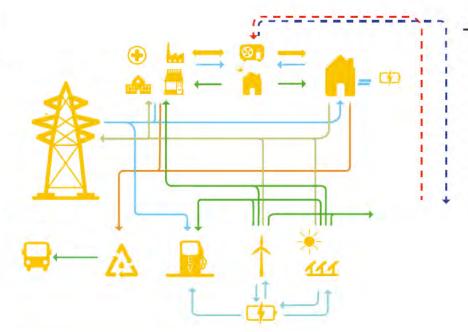
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Referencessing the grid

A key element of the energy strategy is to provide power not just for new development but to generate sustainable energy for the wider area.

The site offers exceptional potential to accommodate substantial growth for the area. With this opportunity comes a responsibility for the energy needs of new development to be met in a sustainable manner. To the immediate south of SMB is an existing wind and solar harnessing facility that has good potential to be expanded to create an energy hub.

The energy hub is capable of not only powering new development but also contributing to wider power needs throughout the area.







APPROACH

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Inspired by landscape

Landscape analysis that has been undertaken centres on key physical and perceptual site characteristics that have the opportunity to celebrate the landscape within a contextualinspired development strategy. There are several landscape character areas in this location that define the environment:

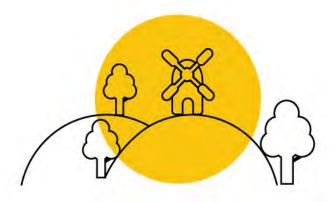
Pastoral Landscape - the northern extents of the site has a strong relationship to the stud farming community that envelopes Newmarket. Paddocks and stud farms impose a distinctive geometric, enclosed and manicured pattern to the landscape.

Fen Landscape - to the west the land begins to flatten out as it runs north west into the greater expanse of the distinctive Fens.

Chalk Landscape - The topography rises to the southeast of the site towards the chalk escarpment to create a visually simple and uninterrupted landscape.

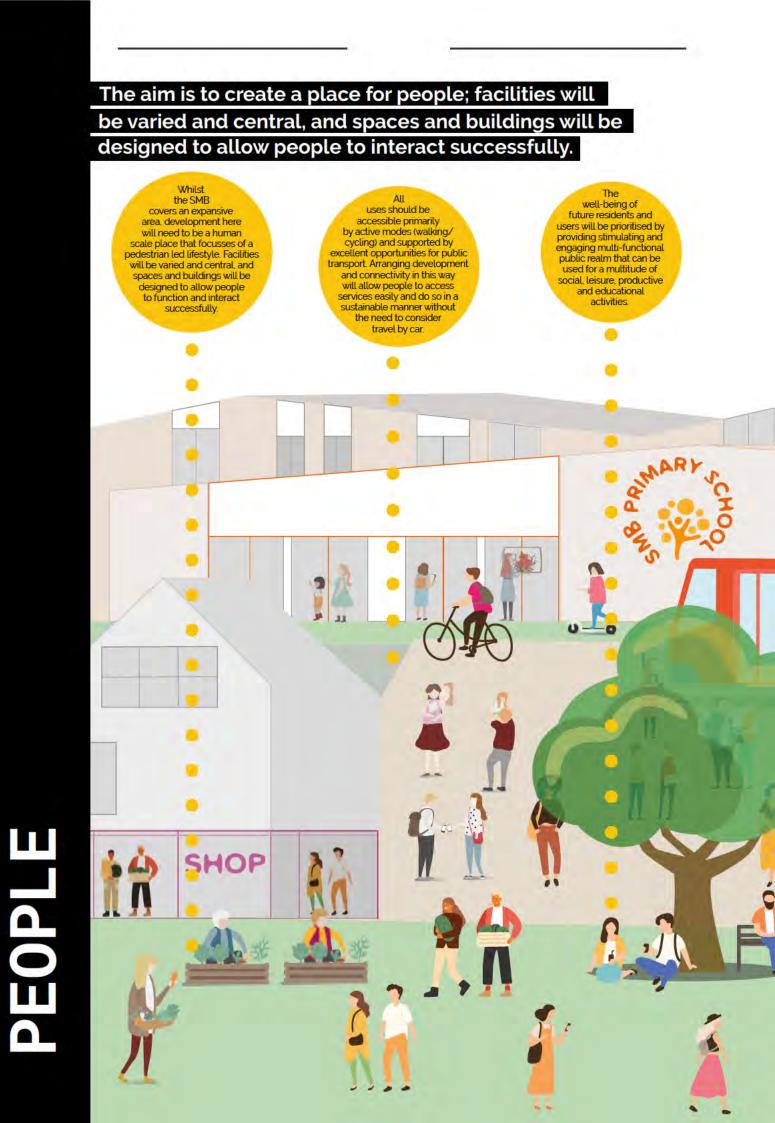
Central Low Land - a mini-valley within the site where water drains to and has a distinctive band of vegetation. A unique place in an expansive environment where landscapes meet to create an exciting opportunity.

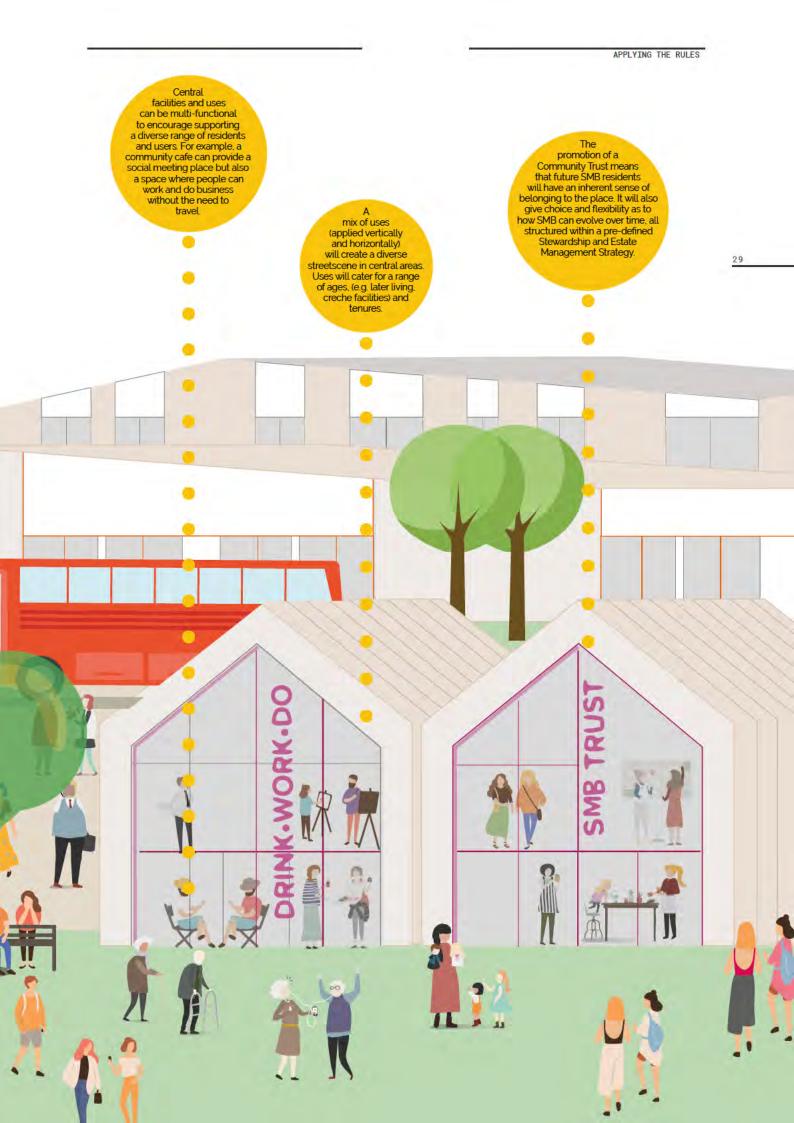




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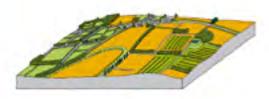


The site requires a considered place-making strategy that draws upon site assets to create areas of distinction.

PASTORAL



The manicured character of the paddocks and stud farms that surround Newmarket create an enclosed smaller-scale landscape. The distinctive geometry presents an opportunity for a tighter grain of community.





The area, characterised by tighter field boundaries, will offer wooded edges to development with pockets of woodland interspersed amongst new housing that will soften development and create unique spaces for play and leisure.

Throughout the leafy streets and spaces, contemporary housing can use a simple palette that blends with and complements its surroundings (e.g. timber, earthy brick tones). Stabling and agricultural barn forms can be used as a narrative for the of new residential area and local facilities. The existing grid of paddock boundaries provide a ready-made network for walking and cycling links that can connect to the wider site.

CHALKLAND



Protecting the higher slopes of the site that contribute to the rolling chalk hills through retained agricultural use and promoting recreational and relaxation activities that invite people to explore and connect with the wider landscape.





The higher chalk land on the eastern part of the site is more exposed commanding views to the west. Development here can feel more open with corridors channelled to emphasise views as well as offering sustainable movement down from the higher land and through the wider site.

Existing wooded shelter belts can be incorporated into the green infrastructure to soften development. Materials and colours here can echo the chalk bedrock using light stone, brick and renders to create distinction within the narrative of the character area.

PLACE

Landscape analysis has identified macro-character areas which, for such a large site, present an opportunity for individual masterplans within a wider conceptual framework that can then be divided further subsets of character.

FENLAND



The low lying land of the site celebrates the neighbouring fen landscape with a hierarchy of blue infrastructure that allows people to live at the waters edge.





The fen landscape is characteristically flat supported by a system of man-made drainage channels known as dykes or drains; using this as a wider narrative for development, this part of SMB can play host to an area where water and geometric lines of connection and development prevail.

Existing perpendicular field boundaries and connections create a ready-made grid in the landscape which can be used to introduce development blocks, movement routes and drainage that creates value for new development and strengthens character.

LOWLAND



An evident character of the site is the playful contrast between the undulating topography and geometric field boundaries. A central lowland corridor is formed by the Mill Stream, the upper reaches of which form a low valley and connect the other landscape character areas together.





Mill Stream runs through the site cutting across the very defined geometric field patterns that stand out so strongly when viewing the site from above; this brings its own character as a thread which can be used for movement and accessible open space as well as central facilities (e.g. secondary school, public transport interchange, medical).

The lowland area can unify the wider development by emphasising the course of the Upper Mill Stream allowing it to cut through a channel of expansive linear open space and providing the focus for development that fronts onto it.

32

The vision for SMB is to create a special and distinctive community that facilitates growth whilst meeting the grand challenges of the future. The approach has identified ten 'rules' outlined above that will allow development decisions to be made in a flexible manner to get to the best outcome.

The concept framework (right) shows how growth can be accommodated at SMB providing an integrated new community located on the estate around the village of Six Mile Bottom and within distinct character areas that are defined by the prevailing landscape.

The scheme can deliver circa 8,500 new homes, a balanced job ratio of around 1 job per

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economically active person together with essential central services such as secondary and primary schools, community hubs and medical facilities as well as local retail space, providing the important elements to allow a new community to thrive.

Due to the scale of the site, a strategy of providing a main centre, positioned centrally within the site and three satellite local centres is proposed. The main centre would include a secondary school as well as larger scale commercial uses and community activities with the local centres each providing a primary school and smaller scale community facilities. The main centre has been positioned deliberately to be colocated with a new station facility on the existing railway line at the heart of the development.

The proposal is for a transitional reduction in reliance on the private car and so whilst a road network is shown to satisfy current mobility trends, the layering of a grid for active travel and public transport movement is absolutely crucial as our mobility needs change.

The new community would be set within and amongst an expansive network of multi-functional and characterful green infrastructure which goes far beyond fulfilling formal public open space requirements to essentially be a necessity for future generations well-being and lifestyle requirements. The proposals will encourage active and healthy lives and an inclusive sense of community.

The four character areas (Pastoral, Chalkland, Fenland and Lowland) provide a unique aspect to the development and create an exciting opportunity for development and green infrastructure to be designed together in composition.

The proposals are underpinned by extensive consultation, design, environmental and technical work that ensure deliverability can be achieved.

The vision for SMB is held to be consistent with the vision and objectives for new settlements as set out in the NPPF and the leading fields of best practice.

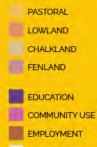
Headlines

 Circa. 8,500 new homes across four distinct character areas (Pastoral, Chalkland, Fenland and Lowland) and including community and education facilities.

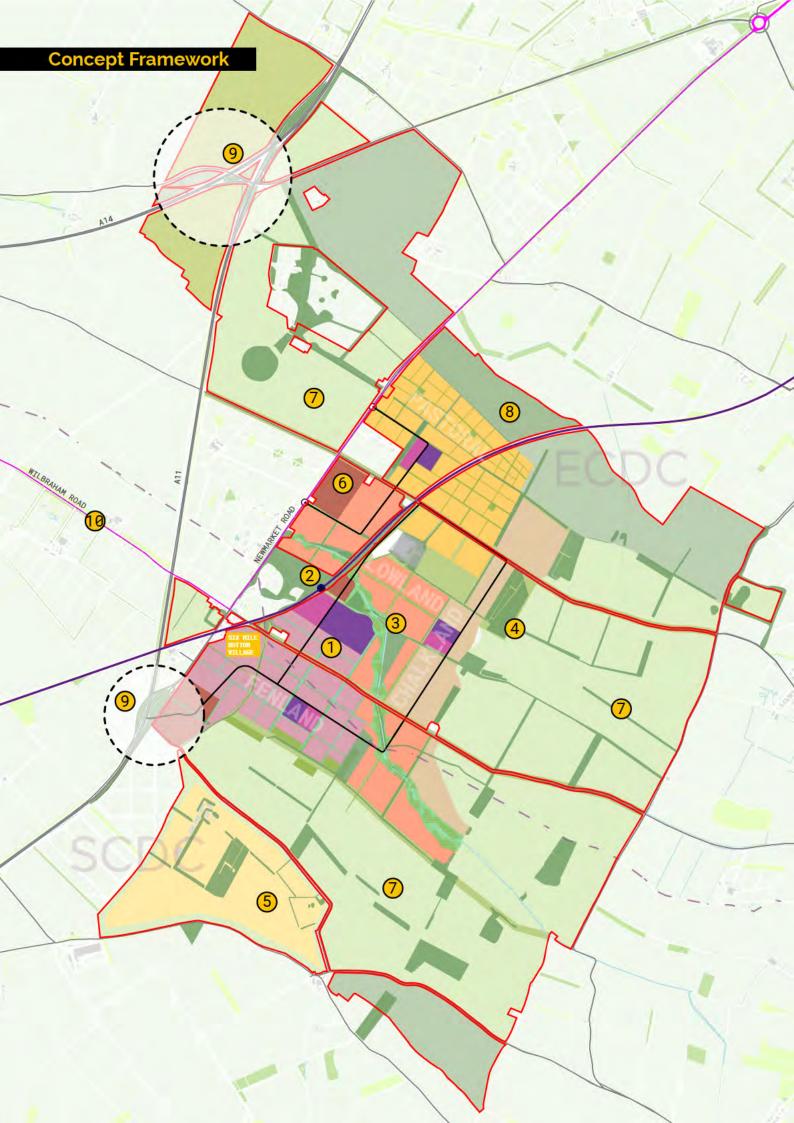
+ Site Area - 1.761ha

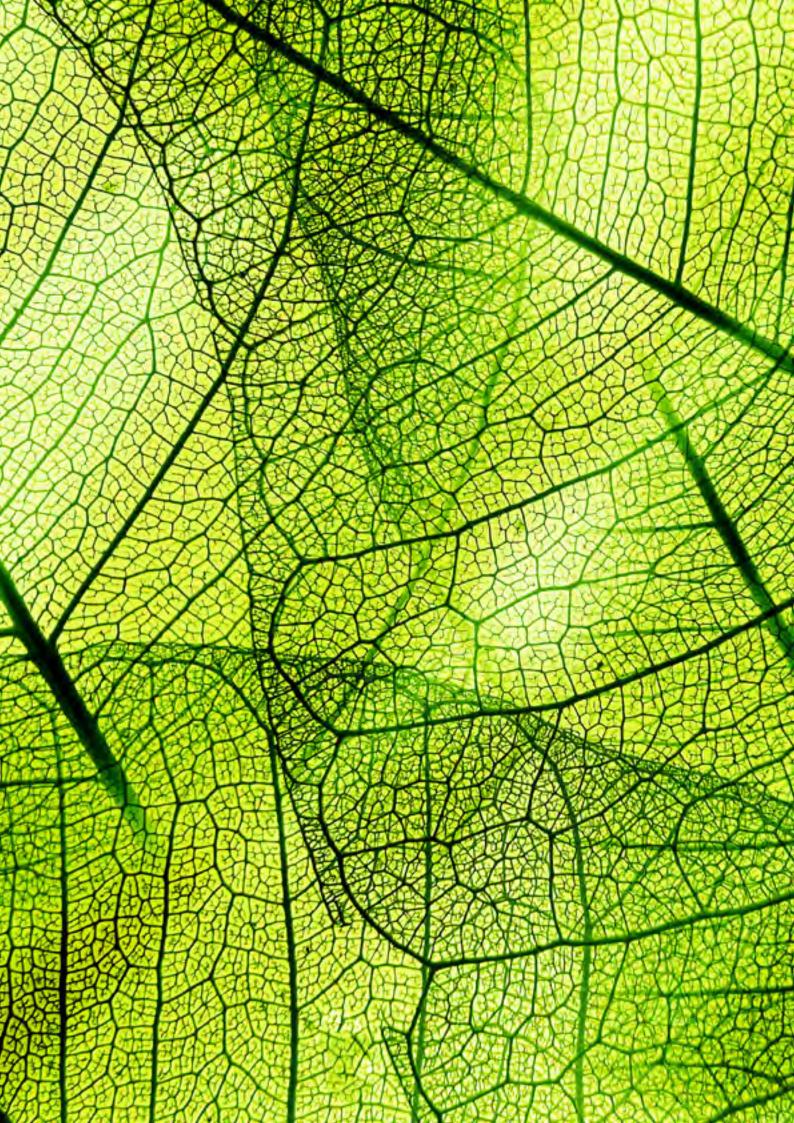
- Main settlement centre with principal community facilities. (secondary school, medical, communal work-hub, parcel drop, local produce retail)
- Potential new railway station on east-west rail line.
- New multifunctional 3km long linear park running through the settlement with play parks, sports pitches, picnic areas, allotments, running and cycle routes.
- A Retained woodland areas and hedgerows throughout to allow wildlife to continue to thrive.
- 5 Extended energy hub providing clean energy to the whole site and wider area.
- 6 Employment areas providing a well-connected opportunity area within the site for new business.
- Retained high quality farmland areas to continue to make best use of fertile land and potentially grow food for new residents in an environmentally sensitive manner
- 8 Expansive semi-natural area reserved for wildlife with managed access so that ecology can thrive.
- Junction improvements to connect the A11 and A14 routes more effectively to the site.
- Potential extension of the CAM Metro connection the site to Cambridge and Newmarket.

Legend



ENERGY HUB





Summary The 21st Century presents a social,

environmental and economic contextual backdrop that resulted in distinct circumstances.

Key economic and societal challenges and opportunities facing the Greater Cambridge area must be a feature of new development and all whilst addressing a national housing shortage.

The framework vision for the Six Mile Bottom Estate shows how the current needs of a modern community can be met whilst also addressing the grand challenges of the future. It will be a highlyconnected community, with beautiful homes located alongside a wide range of jobs. It will include everyday facilities for a diverse population and set within a rich green environment that places wellbeing at the heart of its interests.

SMB envisages a future where living and working naturally interacts in a zero carbon and people focussed environment, delivering the same number of jobs as the people of working age living in the new community. We anticipate these unique qualities will support significant job growth relating to the high tech sector, establishing an Agri/Equine Tech 'launchpad', create significant advance of homework hubs, co-working and flexible working centres, as well as providing strategic space for supply chain and emerging technologies that would benefit from the locational benefits.

The rules for growth set within this vision are not prescriptive and do not seek to place onerous constraints on

future development but give a focus for the important issues that must be addressed in the UK generally as well as the Greater Cambridge area.

Proposals for any new community should also spread benefits beyond the site of new development itself. This proposal has the potential to offer what it has to new residents but also beyond to be of wider benefit. Energy production and an expansive network of open space are particular

A pioneering place for growth where the community will be at the heart of decision-making.

benefits that can be captured by all. This Concept Vision welcomes innovation and inventive responses to challenges. The vision is about ensuring that the tools are available for planning and establishing longterm growth of a new healthy and progressive community.

Critical to the success of the vision is ensuring that future development learns from its own experiences and that the community that comes to be there is empowered and invested to make the place a success.



