



LANDSCAPE AND VISUAL APPRAISAL

DRAW DYKE, SUTTON ST JAMES

On Behalf of Mr and Mrs Peace
Date June 2021:

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1. Introduction

- 1.1** This Landscape and Visual Appraisal (LVA) has been prepared by Briarwood Landscape Architecture by a Chartered Member of the Landscape Institute, on behalf of Mr and Mrs Peace in respect of a proposed new dwelling at Draw Dyke, Sutton St James. The location of the proposed development is shown on the Site Location Plan at Appendix 1.

Appendix 1 – Site Location Plan

- 1.2** The LVA considers the potential effects of the proposed development on:
- Landscape elements and features such as vegetation, topography and water bodies etc.,
 - Landscape character and,
 - Visual amenity
- 1.3** The primary objectives of the LVA are as follows:
- To identify, describe and evaluate the current landscape character of the site and its surrounding area
 - To identify, describe and evaluate any notable individual landscape elements and/or features within the site
 - To determine the sensitivity of the landscape to the type of development proposed
 - To identify potential visual receptors (i.e., people who would be able to view the proposed development) and to evaluate their sensitivity to the type of changes proposed
 - To identify and describe any effects of the proposed development in so far as they affect the landscape and/or views and to evaluate the magnitude of change owing to those effects
- 1.4** The visual assessment was undertaken in winter (November 2020) with no leaf cover on the existing deciduous vegetation and maximum. Consideration has also been given to the effect on visibility with the vegetation having full leaf cover and minimum visibility.

2. Methodology

Guidance

- 2.1** This LVA has been undertaken with regard to the following best practice guidance:
- Guidelines for Landscape and Visual Impact Assessment (3rd Edition) – Landscape Institute/Institute of Environmental Management and Assessment (IEMA).
- 2.2** A detailed methodology is given in Appendix 2. As recommended within the published guidance, landscape (elements and character) and visual effects are assessed separately.

Appendix 2 – Detailed Methodology

Nature of Effects

- 2.3** The nature of effects on landscape, character and visual amenity can be neutral, adverse or beneficial. Neutral effects are those that would maintain, on balance, the existing integrity, quality or key characteristics of a landscape or view.
- 2.4** For the purposes of this assessment, unless otherwise stated, any change to the landscape and visual amenity as a result of the proposed development is considered to be permanent and non-reversible and adverse in nature.

Photography and Photoviews

- 2.5** Photographs used as part of the detailed visual assessment have been taken using a Canon E05 Mark III, full frame sensor, digital camera with a 50mm lens. The lens has a standard focal length and is considered to best represent the human eye.
- 2.6** Photography took place in sunny weather, with good visibility, on the 6th November 2020. The camera was held at a height of approximately 1.6 metres.
- 2.7** The Photoviews used for the visual assessment are presented at A3 size as single shots or at A1 (printable size) for panoramic views in accordance with the Landscape Institute Technical Guidance Note (TGN) 0/19 Visualisations of development.

Caveat

- 2.8** It is acknowledged that by virtue of carrying out the ‘visual’ element of this assessment, the author has an inherent ‘bias’ against the proposals to which this report relates.

When carrying out the site visit and taking photos from the chosen viewpoint locations (from publicly accessible areas and vantage points), the report's author is actively and deliberately 'looking' for the 'site' within the local landscape.

- 2.9** In reality, visual receptors such as users of the public rights of way network and motorists alike will not 'actively' be 'looking' for the site (or the development) whilst traversing the public rights of way and road network. Whilst each visual receptor will have a varying degree of appreciation for their surroundings, depending on what they are doing (playing sport, walking, driving), their efforts will typically not be concerned with 'actively' and 'deliberately' looking for any given 'site' or 'residential development'.
- 2.10** The photoviews were accurate at the time they were taken. Site conditions can be subject to change, for example garden and field boundary hedgerows can be cut/trimmed by landowners/farmers, trees can be felled by landowners or blown over by adverse weather, and new trees can be planted. Therefore, the extent of visibility can potentially increase or decrease since the photoviews were taken. Such eventualities are not within the control of the report's author. The assessment of visibility within photoviews is accurate at the time of writing.

3. Baseline Conditions

Site Description

- 3.1** The site is a geometric, rectangular, in shape and is well defined. A narrow but deep drain defines the northern boundary. A tall and wide, mostly hawthorn hedge defines the site's eastern boundary. A narrow shallower drain defines the southern site boundary running parallel to Draw Dyke and with an access point across the drain from the road. Another tall mainly hawthorn hedge defines the site's western boundary.

Appendix 3 – Landscape Features Plan

- 3.2** A series of Context Views (see Appendix 4) help to illustrate the nature and appearance of the site as it currently exists. The site at the time of the visit was under grass.

Appendix 4 – Context Views

- 3.3** The site is entirely private with no public access. The site is situated at approximately 2 metres Above Ordnance Datum (AOD). Draw Dyke is slightly raised above the level of the site.
- 3.4** There are no landscape designations within or covering the site.

Site Context

- 3.5** To the north of the site are mostly geometrically shaped arable that extend to the South Holland Drain which is situated in an arc at between approximately 1.3km and 0.9km from the site boundary. Where Sutton Road runs parallel to the South Holland Drain, which is a large watercourse, there are various properties and developments including the Forman's Bridge Holiday Park.
- 3.6** Immediately to the east of the site is another parcel of land of similar size and shape. However, the eastern parcel, except for a discrete entrance, is enclosed by hedging. Agricultural fields extend further eastwards.
- 3.7** Draw Dyke contains the site to the south. Diagonally opposite, on the southern side of Draw Dyke to the site, is a residential property – Ponderosa. South of the site and Draw Dyke are mainly arable fields.
- 3.8** To the west, the site is separated from another similar sized but enclosed parcel of land. This parcel is subdivided fences and includes a residential property – Birchwood

together with several structures such as glass houses and at the western end, stabling and a horse manege. Roper's Lane and an arable field separate the enclosed parcel of land from the eastern edge of Sutton St James.

- 3.9** Topographically there is some slight undulation in the local topography. However, the change in level is sporadic and is only in the range of between 1 metre and 4 metres AOD.

Published Landscape Character Assessments

- 3.10** A hierarchy of national/regional, county and borough published landscape character assessments are normally available for most areas of England. These respective documents describe the host landscape of the site at an increasingly refined level. The published landscape assessments are intended to provide a foundation for understanding the key component elements and features that characterise the host landscape and potential the site itself. The site and its host landscape are only covered by the national character assessment.

- 3.11** With respect to scale and geographically extent, the site is considered to be small. Within the site, the proposed development would only occupy a limited portion and is also considered to be small in scale. In this context, the proposed development when in place on the site could only be considered to have a negligible effect on the national character area as a whole, owing to the latter's enormous size difference in comparison to the site. However, consideration is given to the finer grain character of the host landscape.

National Landscape Character Assessment

- 3.12** England is divided into 159 so called National Character Areas (NCA). The site is located within NCA 46 The Fens (Appendix 5).

Appendix 5 – Extract from NCA46 The Fens

- 3.13** The key characteristics of NCA 46 The Fens are identified by Natural England as being the following:
- “Expansive, flat, open, low-lying wetland landscape influenced by the Wash estuary, and offering extensive vistas to level horizons and huge skies throughout, provides a sense of rural remoteness and tranquillity.
 - Jurassic clays are overlain by rich, fertile calcareous and silty soils over the coastal and central fens and by dark, friable fen peat further inland. The soils are important for agriculture, which is hugely significant for the rural economy in the Fens. There

are over 4,000 farms in the Fens; enough wheat is grown here annually to produce a quarter of a million loaves of bread and one million tons of potatoes are grown here. In addition to traditional vegetables, exotics such as pak choi are now cultivated. Some 40 per cent of England's bulbs and flowers are also produced in the Fens.

- The Wash is the largest estuarine system in Britain, supporting internationally important intertidal and coastal habitats influenced by constant processes of accretion and deposition, forming salt marsh and mudflats and providing habitats for wildfowl, wading birds and other wildlife, including grey seals and approximately 90 per cent of the UK's common seals. It also provides important natural sea defences and plays a key role in climate change regulation. Flood storage areas on the Nene, Cam, Lark and Ouse washes also provide significant biodiversity interest. True fen mainly occurs at remnant conservation sites, such as Baston or Wicken Fen.
- Overall, woodland cover is sparse, notably a few small woodland blocks, occasional avenues alongside roads, isolated field trees and shelterbelts of poplar, willow and occasionally leylandii hedges around farmsteads, and numerous orchards around Wisbech. Various alders, notably grey alder, are also used in shelterbelts and roadside avenues.
- The predominant land use is arable – wheat, root crops, bulbs, vegetables and market gardening made possible by actively draining reclaimed land areas. Associated horticultural glasshouses are a significant feature. Beef cattle graze narrow enclosures along the banks of rivers and dykes and on parts of the salt marsh and sea banks.
- Open fields, bounded by a network of drains and the distinctive hierarchy of rivers (some embanked), have a strong influence on the geometric/rectilinear landscape pattern. The structures create local enclosure and a slightly raised landform, which is mirrored in the road network that largely follows the edges of the system of large fields. The drains and ditches are also an important ecological network important for invertebrates, fish including spined loach, and macrophytes.
- The area is very rich in geodiversity and archaeology, with sediments containing evidence for past environmental and climate changes and with high potential for well-preserved waterlogged site remains at the fen edge, within some of the infilled palaeo-rivers and beneath the peat.
- Large, built structures exhibit a strong vertical visual influence, such as the 83 m-high octagonal tower of 'Boston Stump' (St Botolph's Church), Ely Cathedral on the highest part of the Isle of Ely dominating its surrounding fen, wind farms and other modern large-scale industrial and agricultural buildings, while drainage and flood

storage structures and embanked rail and road routes interrupt the horizontal fen plain.

- Settlements and isolated farmsteads are mostly located on the modestly elevated ‘geological islands’ and the low, sinuous roddon banks (infilled ancient watercourses within fens). Elsewhere, villages tend to be dispersed ribbon settlements along the main arterial routes through the settled fens, and scattered farms remain as relics of earlier agricultural settlements. Domestic architecture mostly dates from after 1750 and comprises a mix of late Georgian-style brick houses and 20th century bungalows.”

3.14 It is considered, in reviewing the published assessment, that the site’s host landscape within approximately 2km of the site boundary presents elements of several of the key characteristics, principally the:

- Open fields;
- Isolated farmsteads;
- Ribbon development along main arterial routes
- Drainage ditches;
- Rectilinear landscape

3.15 Following a review of the published assessment, it is considered that the landscape character of the NCA 46 The Fens as it relates to the site and its environs has a medium value and a low susceptibility to the residential development proposed. With a medium value and a low susceptibility, the overall sensitivity of the landscape is assessed low.

Author’s Own Assessment of Character

3.16 An assessment of the existing landscape character up to 1km from the site has been undertaken by the report’s author.

3.17 The author’s assessment considers the site and its immediate surroundings and reviews the sensitivity and the capacity of the local landscape to accommodate the type and scale of development being proposed. The following criteria will be used:

- Landscape scale
- Landform and enclosure
- Landscape pattern and complexity
- Settlement pattern and human influences

- Skylines
- Intervisibility
- Tranquillity

Landscape scale

- 3.18** The landscape is predominantly small to medium scale. The scale is defined almost entirely by the agricultural fields which dominate the landscape.

Landscape and enclosure

- 3.19** There is little sense of enclosure within the landscape, which is generally open and expansive. Where belts of vegetation and/or built form occurs then the sense of enclosure increases as views across the flat topography are immediately foreshortened.

Landscape pattern and complexity

- 3.20** The pattern and complexity of the landscape within 1km of the site is quite simple. The general pattern in the landscape is of strongly geometric shaped agricultural fields. However, fields vary in shape and size from long and narrow to square.

Settlement pattern and human influences

- 3.21** With the exception of Sutton St James, which is a narrow linear settlement, the settlement pattern in the wider landscape is scattered. Large farmsteads are found as individual features while elsewhere there are small clusters and groupings of residential properties and outlying farm sheds and barns, which often follow linearly along a road.

Skylines

- 3.22** Skylines tend to be wide and expansive owing to the open nature of the landscape and the generally flat topography.

Intervisibility

- 3.23** There is wide spread intervisibility across the landscape surrounding the site. Views are typically expansive ones but are sometimes restricted by the presence of scrub, hedges, built form and minor changes in the landform e.g. along certain drains or dykes.

Tranquillity

- 3.24** Tranquillity is defined as being the absence of noise and activity. In this context, the area landscape around the site and its surroundings are relatively tranquil.

Local Landscape Sensitivity

- 3.25** The site and its host landscape are not within a nationally important landscape protection designation such as a National Park or Area of Outstanding Natural Beauty. There are no local landscape designations present.

Appendix 5 – Designations

- 3.26** The public rights of way network in the landscape surrounding the site is limited. A few byways are present and a bridleway follows the South Holland Main Drain to the north of the site but there is limited recreational potential as circular routes are almost entirely absent.
- 3.27** The Historic Landscape Characterisation Project (2011) places the site and its host landscape in The Wash character area. The document explains that the landscape including the site is almost entirely manmade as a result of drainage of fenland, marshes and sea. Many drainage projects are relatively modern. There are few historical associations with the host landscape and no important cultural ones.
- 3.28** Overall, the host landscape is assessed as having a low value. It is considered that the local landscape does have a well-defined ability to accommodate the type of development being proposed without experiencing unacceptable adverse effects. The susceptibility of the local landscape to the proposed development is assessed as low. The overall baseline sensitivity of the local landscape within approximately 1km of the site boundary is assessed as low.

Baseline Visual Receptors

- 3.29** A visual assessment of the proposed development has been undertaken to determine how the proposals would have a bearing on the visual amenity of the surrounding landscape. This assessment was undertaken in November 2020, when leaf cover was completely absent from deciduous vegetation but consideration has been given to when there are leaves on the vegetation and potential visibility is at a minimum.
- 3.30** With a general flat topography there is an expectation that the visual envelope i.e., the area in the proposed new dwelling would be visible would be extensive. However, it is demonstrable that the presence of existing development and the layering effect of

existing vegetation both on the site and in the intervening landscape, especially on or close to the site's boundaries, between the person viewing (the visual receptor) the proposed development and the site boundary would restrict many potential views from publicly accessible locations within the surrounding landscape.

- 3.31** A number of representative viewpoints have been identified on which to base a visual assessment. The detailed assessment of these representative viewpoints is given in section 8 (refer to Appendices 6 and 7 – Photoview Location Plan and Representative Photoviews).

Appendix 6 – Photoview Location Plan

Appendix 7 – Representative Photoviews

Residential Properties

- 3.32** The potential for any intervisibility between existing residential properties and the proposed development would be limited. Few residential properties are close to the site boundary. For those that are, views of and into the site are typically restricted through the orientation of the particular property, a combination of the presence of other built form and/or vegetation in the landscape between the site and the visual receptor. For those residential properties at a distance from the site, similar factors would still restrict many views of the site. Where views are open ones, the site is not readily perceived as it constitutes only a small element of a typically large and expansive view containing many other manmade and natural features.

Public Highways

- 3.33** Views of the site are afforded from Draw Dyke as it passes the site. However, such a view is oblique and transitory in nature. The site is visible from other highways but only at relatively close distances and only from certain sections.

Public Rights of Way

- 3.34** There are a few public rights of way (PROW) within 1 km of the site boundary. The closest PROW (with the exception of byways) is approximately 920 metres from the site to the north-east. The combination and orientation of most PROW means that the opportunity to see the site is limited.

Selection of representative viewpoints

- 3.35** A comprehensive visual assessment has been undertaken of the study area. In line with the Guidelines for Landscape and Visual Impact Assessment (3rd Edition), a number of representative viewpoints (9 in total) have been selected to form the basis of a detailed visual assessment.
- 3.36** The chosen viewpoints are regarded as being representative of the range of potential views and receptors e.g., users of the public highway and PROW networks, etc. from various distances and directions around the site. A desk top study and field surveys has refined the number and exact location of the representative viewpoints and their locations are ones from which there is anticipated to be an effect. The representative viewpoints are not intended to be exhaustive. A greater number of locations would have demonstrated no visual effect. The locations of the representative viewpoints are given in Appendix 8.
- 3.37** The following table summarises the overall sensitivity of the representative viewpoints.

Table 1 – Summary of viewpoint susceptibility, value and overall sensitivity

Viewpoint				
	Type of visual receptor	Susceptibility	Value	Overall sensitivity
Viewpoint 1 – View from Draw Dyke looking west Distance from site: 0.14 kilometres Coordinates: 52 deg. 44'45.11"N 0 deg. 05'24.99"E	Users of the public highway network	Medium	Medium	Medium
Viewpoint 2 – View looking east along Draw Dyke Distance from site:	Users of the public highway network	Medium	Medium	Medium

Viewpoint				
	Type of visual receptor	Susceptibility	Value	Overall sensitivity
0.14 km Coordinates: 52 deg. 44'44.02"N 0 deg. 05'01.51"E				
Viewpoint 3 – View from Childersgate Lane looking south-east Distance from site: 0.42 km Coordinates: 52 deg. 44'58.63"N 0 deg. 05'29.84"E	Users of the public highway network	Medium	Medium	Medium
Viewpoint 4 – View looking south from Childersgate Lane Distance from site: 0.66 km Coordinates: 52 deg. 45'08.90"N 0 deg.05'14.88"E	Users of the public highway network	Medium	Medium	Medium

Viewpoint				
	Type of visual receptor	Susceptibility	Value	Overall sensitivity
Viewpoint 5 – View South Holland Drain bridleway looking south Distance from site: 1.21km Coordinates: 52 deg. 45'26"17"N 0 deg.05'24.67"E	Users of the public right of way network	High	Medium	High
Viewpoint 6 – View from close to junction of Sutton Road and Roper's Lane looking south Distance from site: 0.94 km Coordinates: 51 deg.45'07.77"N 0 deg. 04'29.84"E	Users of the public highway network	Medium	Medium	Medium
Viewpoint 7 - View from Roper's Lane	Users of the public highway network	Medium	Medium	Medium

Viewpoint				
	Type of visual receptor	Susceptibility	Value	Overall sensitivity
looking south-east Distance from site: 0.1km Coordinates: 51 deg. 44'58.71"N 0 deg.04'39.84"E				
Viewpoint 8 – View from Master Gate looking west Distance from site: 0.54 km Coordinates: 51 deg. 44'38.28"N 0 deg. 04'40.67"E	Users of the public highway network	Medium	Medium	Medium
Viewpoint 9 – View from Master Gate looking north-east Distance from site: 1 km Coordinates:	Users of the public highway network	Medium	Medium	Medium

Viewpoint				
	Type of visual receptor	Susceptibility	Value	Overall sensitivity
52 deg. 44'11.34"N 0 deg. 04'54.17"E				
Viewpoint 10 – View from Elder's Gate looking north Distance from site: 1.3 km Coordinates: 52 deg. 44'04.16"N 0 deg. 05'33.70"E	Users of the public highway network	Medium	Medium	Medium
Viewpoint 11 – View from Hunt's Gate looking north- west Distance from site: 1.37 km Coordinates: 52 deg. 44'19.12"N 0 deg. 06'08.32"E	Users of the public highway network	Medium	Medium	Medium

4. Description of the Proposed Development

- 4.1** The proposed development envisages the creation of a new three bedroom detached residential dwelling the site. The new building has been designed to reflect and reference the local agricultural vernacular. The overall form and profile of the dwelling would resemble an agricultural shed similar to those found nearby in the surrounding landscape, though of a domestic scale (see Appendix 8).

Appendix 8 – Sketch Floor Plan, Elevations and Site Plan

- 4.2** The proposed dwelling and an associated garage would be situated in the eastern part of the site. Access from Draw Dyke would use the existing culvert across the southern boundary drain. The two longer elevations of the proposed dwelling would face east and west respectively. The dwelling would form the western edge of an area of hard standing, with the proposed single storey garage located in the south-east corner so that together with the dwelling the arrangement would reference a traditional farm yard.
- 4.3** To reduce the massing of the proposed dwelling a single storey annex containing a games room, wet room and gym would be linked to the main dwelling only by a series of roof beams. The space between the two buildings would be open but the beams would have the effect of making the two elements read as one feature when seen in profile.
- 4.4** The proposals would allow for the retention of the existing hedgerows on the site. A new SUDs element would form a linear feature to the west of the proposed dwelling and would resemble one of the characteristic drains.
- 4.5** The greater, western part of the site would remain as open paddock.

5. Planning Context

National Planning Policy Framework (NPPF)

5.1 The revised NPPF was published in February 2019 and superseded the previous version. The new NPPF has a presumption in favour of sustainable development (paragraph 10). Specifically, paragraph 11 of the NPPF states that:

“Plans and decisions should apply a presumption in favour of sustainable development. For plan-making this means that:

- a) plans should positively seek opportunities to meet the development needs of their area, and be sufficiently flexible to adapt to rapid change;
 - b) strategic policies should, as a minimum, provide for objectively assessed needs for housing and other uses, as well as any needs that cannot be met within neighbouring areas 5, unless:
 - i. the application of policies in this Framework that protect areas or assets of particular importance provides a strong reason for restricting the overall scale, type or distribution of development in the plan area; or
 - ii. any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole.
- For decision-taking this means:
- c) approving development proposals that accord with an up-to-date development plan without delay; or
 - d) where there are no relevant development plan policies, or the policies which are most important for determining the application are out-of-date, granting permission unless:
 - i. the application of policies in this Framework that protect areas or assets of particular importance provides a clear reason for refusing the development proposed; or
 - ii. any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole.”

- 5.2** Paragraph 8 of the NPPF defines the three dimensions to sustainable development. These dimensions are economic, social and environmental. In detail the environmental dimension is explained in the following terms:
- “an environmental objective – to contribute to protecting and enhancing our natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy...”
- 5.3** Section 12 of the NPPF is entitled ‘Achieving well-designed places’. The opening line of paragraph 125 states:
- “Plans should, at the most appropriate level, set out a clear design vision and expectations, so that applicants have as much certainty as possible about what is likely to be acceptable...”
- 5.4** Paragraph 127 states:
- “Planning policies and decisions should ensure that developments:
- a) will function well and add to the overall quality of the area, not just for the short term but over the lifetime of the development;
 - b) are visually attractive as a result of good architecture, layout and appropriate and effective landscaping;
 - c) are sympathetic to local character and history, including the surrounding built environment and landscape setting, while not preventing or discouraging appropriate innovation or change (such as increased densities);
 - d) establish or maintain a strong sense of place, using the arrangement of streets, spaces, building types and materials to create attractive, welcoming and distinctive places to live, work and visit;
 - e) optimise the potential of the site to accommodate and sustain an appropriate amount and mix of development (including green and other public space) and support local facilities and transport networks; and
 - f) create places that are safe, inclusive and accessible and which promote health and well-being, with a high standard of amenity for existing and future users; and where crime and disorder, and the fear of crime, do not undermine the quality of life or community cohesion and resilience.”

5.5 Section 15 of the NPPF refers to ‘Conserving and enhancing the natural environment’. Paragraph 170 states:

“Planning policies and decisions should contribute to and enhance the natural and local environment by:

- a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);
- b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;
- c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate;
- d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;
- e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and
- f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.”

5.6 Paragraph 171 of the NPPF states:

“Plans should: distinguish between the hierarchy of international, national and locally designated sites; allocate land with the least environmental or amenity value, where consistent with other policies in this Framework ; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries.”

5.7 The first line of paragraph 172 expands on the requirements of paragraph 171 by saying:

“Great weight should be given to conserving and enhancing landscape and scenic beauty in National Parks, the Broads and Areas of Outstanding Natural Beauty, which have the highest status of protection in relation to these issues.”

Local Plan Policy.

5.8 At the local level, is the joint South-east Lincolnshire Local Plan – adopted in March 2019. Policies relevant to landscape and visual matters include the following.

5.9 Policy 2 Development Management states:

“Proposals requiring planning permission for development will be permitted provided that sustainable development considerations are met, specifically in relation to:

1. size, scale, layout, density and impact on the amenity, trees, character and appearance of the area and the relationship to existing development and land uses;
2. quality of design and orientation;
3. maximising the use of sustainable materials and resources;
4. access and vehicle generation levels;
5. the capacity of existing community services and infrastructure;
6. impact upon neighbouring land uses by reason of noise, odour, disturbance or visual intrusion;
7. sustainable drainage and flood risk;
8. impact or enhancement for areas of natural habitats and historical buildings and heritage assets; and
9. impact on the potential loss of sand and gravel mineral resources.”

5.10 Policy 3 Design of New Development states:

“All development will create distinctive places through the use of high quality and inclusive design and layout and, where appropriate, make innovative use of local traditional styles and materials. Design which is inappropriate to the local area, or which fails to maximise opportunities for improving the character and quality of an area, will not be acceptable. Development proposals will demonstrate how the following issues, where they are relevant to the proposal, will be secured:

1. creating a sense of place by complementing and enhancing designated and non-designated heritage assets; historic street patterns; respecting the density, scale, visual closure, landmarks, views, massing of neighbouring buildings and the surrounding area;
2. distinguishing between private and public space;
3. the landscape character of the location;
4. accessibility by a choice of travel modes including the provision of public transport, public rights of way and cycle ways;
5. the provision of facilities for the storage of refuse/recycling bins, storage and/or parking of bicycles and layout of car parking;
6. the lighting of public places;
7. ensuring public spaces are accessible to all;
8. crime prevention and community safety;
9. the orientation of buildings on the site to enable the best use of decentralised and renewable low-carbon energy technologies for the lifetime of the development;
10. the appropriate treatment of facades to public places, including shop frontages to avoid visual intrusion by advertising, other signage, security shutters, meter boxes and other service and communication infrastructure;
11. residential amenity;
12. the mitigation of flood risk through flood-resistant and flood-resilient design and sustainable drainage systems (SuDS);
13. the use of locally sourced building materials, minimising the use of water and minimising land take, to protect best and most versatile soils;
14. the incorporation of existing hedgerows and trees and the provision of appropriate new landscaping to enhance biodiversity, green infrastructure, flood risk mitigation and urban cooling;
15. the appropriate use or reuse of historic buildings.”

Response to policy

- 5.11** The proposed development is an architect designed scheme of high quality. The design is influenced by the existing built form of the local area. The form of the proposals

makes reference to the area's agricultural vernacular so as to respect the local landscape character.

- 5.12** The proposals allow for the retention of the existing hedgerow resource on site and would provide the opportunity for further tree, shrub and hedgerow planting as part of a comprehensive soft landscape scheme.

6. Effect on Landscape Elements and Features

- 6.1** There are no anticipated works associated with the proposed development that would take place outside the site boundary except potentially for underground utility connections. Therefore, this section assesses the effect of the proposals on those location elements and features that currently characterise the site (see Site Features Plan – Appendix 4).

Topography

- 6.2** The topography profile of the site is essential level. The landform of the site is typical of the flat and level nature of the topography of the host landscape in which the site is situated. The topography of the site is assessed as having a medium value.
- 6.3** It is anticipated that only limited earthworks would be required on site so as to accommodate the proposed development.
- 6.4** The susceptibility of the topography to the specific nature of the type of development being proposed is low. With a medium value and low susceptibility, the overall sensitivity of the topography to the proposed development is considered to be low.
- 6.5** Any changes to the topography of the site during the lifetime of the proposed development are considered to be irreversible. Any changes would be localised ones and would relate to the setting of levels necessary to allow the construction of the proposed buildings. There would be no requirement for large scale remodelling of the existing landform and the overall magnitude of change on the site's topography would be low. With a low sensitivity and low magnitude of change, the overall effect at year 1 on topography would be negligible. It is assessed that the effect would remain negligible at year 10.

Hedgerows

- 6.6** The hedgerows on the site are predominantly native species and whilst reflective of the nature trees and shrubs which characterise the wider landscape are not considered unusual or rare. There are no Tree Preservation Orders in place on the site and the existing hedgerow resource is assessed as being of low value and of medium susceptibility to the type of development proposed. With a low value and a medium

susceptibility, the overall sensitivity of the existing tree, shrub and hedgerow resource is low.

- 6.7** It is anticipated that the proposed development would allow the existing and hedgerow resource on the site to be retained. The proposed development allows for the introduction of new tree and shrub planting onto the site to reinforce and to enhance the existing retained resource.
- 6.8** The magnitude of change on the existing hedgerow resource at year 1 is assessed as medium. With a low sensitivity, and a medium magnitude of change, the effect on the tree, shrub and hedgerow resource on the site with the proposed development in place at year 1 would be minor and beneficial.
- 6.9** It is considered that by year 10 of the operational phase of the proposed development, that any proposed new planting would have become established and beginning to mature. In addition, the existing retained resource will have been well managed and would have continued to thrive. At year 10, it is assessed that the magnitude of change would have increased to high. With a low sensitivity, and a high magnitude of change, the effect on the tree, shrub and hedgerow resource on the site with the proposed development in place at year 1 would be moderate and beneficial.

Waterbodies

- 6.10** The two waterbodies on the site are the drains along the northern and southern boundaries respectively and are typical of the drains that cover the local area. Neither would be directly affected by the proposed development and would be physically unaltered. The proposals would introduce a new water body. This would be of similar form to the existing drains but would act as a SUDs feature to the proposals.
- 6.11** The existing waterbodies are assessed as medium value and their susceptibility to the type of development proposed, low. Overall, the sensitivity of the water bodies on site is assessed as low.
- 6.12** With the introduction of the new SUDs feature the magnitude of change to the water body resource on the site is assessed as medium. With a low sensitivity and a medium magnitude of change, the effect on the water body resource at year 1 is assessed as minor and neutral. At year 10 the SUDs feature would have established the same flora as the existing water bodies and the effect would be minor beneficial.

Summary of the effects on landscape elements and features

- 6.13** As a result of the proposed development being in place there would be no important adverse effects, i.e., an effect that would result in a total or substantial loss, upon the other landscape elements and features (namely topography, hedgerows, and waterbodies) that currently characterise the site.
- 6.14** It is possible to draw the following conclusions:
- The underlining level profile of the site would remain substantially unchanged.
 - The retained existing hedgerow resource on the site would form an integral part of the proposed residential development. It is anticipated that the retained vegetation would be reinforced and enhanced through additional tree, shrub and hedgerow planting within the site. Once established and beginning to mature any new tree, shrub and hedgerow planting would lead to a beneficial effect upon the site's existing tree, shrub and hedgerow resource.
 - The existing water bodies on the site would be physically unaltered with the proposals in place and would be enhanced as a resource with the introduction of the proposed SUDs feature.
 - No physical works are required beyond the site boundary as part of the proposed development. Consequently, the physical fabric of the landscape surrounding the site would remain physically unaffected with the proposals in place.

7. Effect on Landscape Character

Effect on Local Landscape Character

- 7.1** At the finer grain level of assessment as expressed in the published national character assessment and supported by the author's own assessment of the landscape up to 1km from the site), the site's host landscape does reflect several of the key characteristics identified in the baseline conditions. In particular, the host landscape reflects a dispersed settlement pattern of isolated farmsteads and properties in a broadly rural and agricultural context where drainage channels and the associated strongly geometric pattern of fields is dominant.
- 7.2** The proposed development would be contained within a single well-defined area. There would be some change to the appearance and character of the site with the proposals in place. However, the existing landscape elements and features including topography, hedgerows and water bodies that help characterise the site would not experience any fundamentally unfavourable effects. With the possible exception of underground utilities, there would be no physical effects beyond the site boundaries. Only experiential factors such as tranquillity and visual appearance would be affected beyond the site boundary and only to a limited degree.
- 7.3** As part of the proposals, new residential built form would be introduced onto the site. Much of the site would be open space or garden curtilage and intervisibility through and across the site to the wider landscape would prevail.
- 7.4** The existing hedgerow resource on the site would be retained. In particular, the vegetation along the site's western and eastern boundaries, which contribute to the appearance of the wider landscape would be kept as an integral feature of the proposed development.
- 7.5** The careful design of the proposed development allows for enhancement of the existing landscape elements and features of the site. Consideration has been given in the layout design of the proposed development that would be reflective of the form of existing individual properties and agricultural buildings already found in the host landscape and identified in the published assessment.
- 7.6** The physical characteristics of the local landscape beyond the site would remain unchanged with the proposed residential development in place. The existing scale and pattern of the landscape with its landcover of mainly arable agricultural fields, flat

topography and dispersed and isolated settlements would all continue to prevail with the proposals in place.

- 7.7** The tranquillity of the site and of the wider local landscape would experience some limited change with the proposed development in place. The proposed dwelling would create some movement and noise but this would be not be substantial and it is considered would not fundamentally alter this baseline context.
- 7.8** Visually, the site benefits from some level of containment from within the wider landscape. The proposed development would influence the visual amenity experienced by those people in the surrounding area to a limited degree. Any change in the visual appearance of the site would not alter substantially the material perception of the local host landscape as being a settled rural one. The proposed development would typically only been seen as discrete elements in a landscape where existing residential properties and agricultural buildings are an acknowledge as already a feature of most views .
- 7.9** The rhythm of the host landscape would continue to prevail with the proposals in place. The proposed development would be perceived as one of the many buildings scattered along the highway edges. Specifically, in relation to Draw Dyke, the proposals would respect the ‘broken tooth’ arrangement of development with notable open gaps between properties and buildings.
- 7.10** The proposed dwelling and garage would be contemporary in their design but have referenced the local agricultural vernacular in their form, materials and detailing. In this context, the sight of the proposed new residential property and associated garage, would not unduly affect the visual experience, appearance or perception of the landscape’s character. It is considered that the proposals would not appear prominent, dominant or incongruous on the site or in the host landscape.
- 7.11** The character of the local landscape is assessed as having a medium sensitivity. The magnitude of change that would be brought to the character of the local landscape with the proposed development in place is assessed as low. With a low magnitude of change and an overall medium sensitivity, the effect of the proposed development on the character and appearance of the local landscape is assessed as minor neutral at year 1 and year10.

Summary

- 7.12** The proposed development would not materially change the key landscape characteristics or elements and features, identified in either the published landscape character assessment or the author’s own assessment for the local landscape. The

existing pattern of geometric fields and linear water and vegetative features, would continue with the proposals in place.

- 7.13** The proposed development would positively contribute to the character of the local landscape by introducing a style of residential development, in the form of two buildings which would represent high quality contemporary design. Through reference to the local agricultural vernacular and the use of appropriate materials and landscaping, the proposals, it is considered, would both conserve and enhance the rural surroundings in accordance with national and local policy.
- 7.14** The proposals would be detailed so as to respond to the existing level landform and largely open nature of the site so these elements would continue to be evident. The existing vegetation along the site's eastern and western boundaries, would be retained as part of the proposals and would continue to help provide a degree of visual enclosure to the proposed development. The existing hedgerow resource on the site would be reinforced and enhanced through new planting. Once established, this new planting would begin to make a positive contribution to the site and the wider landscape.
- 7.15** Overall, the physical characteristics of the surrounding wider landscape beyond the site and its predominantly rural, farmed, nature would be materially unchanged with the proposed residential development in place. The landscape is accommodating of a wide variety of human influences including infrastructure and settlement but retains a rural agricultural nature. In this context, the sight of the proposed development would not unduly affect the visual experience and perception of the landscape's character. The existing strongly and linear pattern and geometric landcover of the landscape comprising isolated properties and settlements over a level topography would all continue with the proposed residential in place.

8. Effect on Visual Amenity

Detailed visual assessment

- 8.1** A visual assessment has been undertaken from the representative viewpoints to determine how the proposed development might influence the visual amenity of the surrounding landscape. The assessment was undertaken as part of the site survey, with the photographic assessment recording the nature of the view and the existing visibility of the site.
- 8.2** The site survey and photographic assessment were undertaken in November 2021. Leaf cover on existing vegetation was at its minimum and visibility at its maximum but consideration has also been given to when the vegetation is in full leaf cover and visibility at its minimum. The detailed assessment of the effects of the proposed development on the various representative viewpoints is given below.

Viewpoint 1 – View from Draw Dyke looking west

Description of the baseline view and sensitivity of receptor

- 8.3** This view is taken from Draw Dyke and looks west along the highway. Part of the southern roadside frontage of the site is visible in the middle distance but most of the site is screened from view by the existing, off-site, roadside vegetation to the left (north) of the view. The existing residential development of Ponderosa is visible in the middle distance. The view is representative of users of the public highway network.
- 8.4** Users of the public highway – roads – are assessed as having a medium susceptibility to the type of development being proposed. The view itself is assessed as having a medium value. Overall, the sensitivity of the visual receptor (those people using the highway) is assessed as medium.

Predicted view at year 1 and magnitude of effect

- 8.5** At year 1 of the operational phase, it is considered that the view would be largely unaltered. The layering effect of the existing roadside vegetation would continue to screen views of and into the site and of the proposed dwelling. In summer when there is full leaf cover on the intervening vegetation, it is considered that the screening effect will be increased further. The magnitude of change is assessed as negligible.

Scale of visual effect

- 8.6** With a medium sensitivity and a negligible magnitude of change, there would be a negligible effect at year 1. The nature of the effect is considered to be neutral. At year 10 the effect is assessed as remaining negligible neutral.

Viewpoint 2 – View looking east along Draw Dyke

Description of the baseline view and sensitivity of receptor

- 8.7** This view is taken from Draw Dyke and looks eastward along the highway in the direction of the site. Part of the southern highway frontage is visible in the middle distance to the right (north) of the view. Most of the site is screened from view by the existing, off-site, roadside vegetation. The existing residential property of Ponderosa is visible in the middle distance and the complex of agricultural buildings and hay storage associated The Oak Grove forms a prominent element on the skyline. The view is representative of users of the public highway network.
- 8.8** Users of the public highway – roads – are assessed as having a medium susceptibility to the type of development being proposed. The view itself is assessed as having a medium value. Overall, the sensitivity of the visual receptor (those people using the highway) is assessed as medium.

Predicted view at year 1 and magnitude of effect

- 8.9** At year 1 of the operational phase, it is considered that the view would be largely unaltered. The layering effect of the existing roadside vegetation would continue to screen views of and into the site and of the proposed dwelling. In summer when there is full leaf cover on the intervening vegetation, it is considered that the screening effect will be increased further. The magnitude of change is assessed as negligible.

Scale of visual effect

- 8.10** With a medium sensitivity and a negligible magnitude of change, there would be a negligible effect at year 1. The nature of the effect is considered to be neutral. At year 10 the effect is assessed as remaining negligible neutral.

Viewpoint 3 – View from Childersgate Lane looking south-east

Description of the baseline view and sensitivity of receptor

- 8.11** This view is taken from Childersgate Lane, close to the garden boundary of a residential property that can be seen in the foreground, and looks south-eastward in the direction of the site. The site is seen across an arable field and is distinguishable because of the existing boundary vegetation to the east and west that highlights the open nature of the site. The view is representative of users of the public highway network.
- 8.12** Users of the public right of way network – are assessed as having a high susceptibility to the type of development being proposed. The view itself is assessed as having a medium value. Overall, the sensitivity of the visual receptor is assessed as medium.

Predicted view at year 1 and magnitude of effect

- 8.13** At year 1 of the operational phase, much of the view would be unaltered. However, the proposed development would be visible on the site in the middle distance of the view but most of the site would remain open. It is considered that the proposed dwelling and garage would not be dominant and that the prominent feature in the view will remain the arable field. The magnitude of change is assessed as low.

Scale of visual effect

- 8.14** With a medium sensitivity and a low magnitude of change, there would be a minor effect at year 1. The nature of the effect is considered to be neutral. At year 10 the effect is assessed as remaining minor neutral.

Viewpoint 4 – View looking south from Childersgate Lane

Description of the baseline view and sensitivity of receptor

- 8.15** This view is taken from Childersgate Lane, and looks south in the direction of the site. The site is seen across several arable field and is distinguishable because of the existing boundary vegetation to the east and west of the site. Existing built form can be distinguished on the skyline amongst the vegetation. The view is representative of users of the public highway network.

- 8.16** Users of the public right of way network – are assessed as having a high susceptibility to the type of development being proposed. The view itself is assessed as having a medium value. Overall, the sensitivity of the visual receptor is assessed as medium.

Predicted view at year 1 and magnitude of effect

- 8.17** At year 1 of the operational phase, much of the view would be unaltered. However, the proposed development would be visible on the site in the middle to far distance of the view but most of the site would remain open. It is considered that the proposed dwelling and garage would not be dominant and that the prominent feature in the view will remain the arable fields in the intervening landscape between the observer and the site boundary. The dominant vertical elements will remain the trees in the middle distance. The magnitude of change is assessed as low.

Scale of visual effect

- 8.18** With a medium sensitivity and a low magnitude of change, there would be a minor effect at year 1. The nature of the effect is considered to be neutral. At year 10 the effect is assessed as remaining minor neutral.

Viewpoint 5 – View looking from South Holland Drain looking south

Description of the baseline view and sensitivity of receptor

- 8.19** This view is taken from the public right of way that follows the south side of the South Holland Drain. The view is an expansive one and looks south across several arable fields in the direction of the site. The site is not readily distinguishable in the far distance and the view contains several detractors in the form of electricity transmission lines and pylons. The view is representative of users of the public right of way network.
- 8.20** Users of the public right of way network – are assessed as having a high susceptibility to the type of development being proposed. The view itself is assessed as having a medium value. Overall, the sensitivity of the visual receptor is assessed as high.

Predicted view at year 1 and magnitude of effect

- 8.21** At year 1 of the operational phase, the view would be substantially unaltered with the proposed development in place. The proposed dwelling would be barely visible as a component of the wider panorama. The magnitude of change is assessed as negligible.

Scale of visual effect

- 8.22** With a high sensitivity and a negligible magnitude of change, there would be a minor effect at years 1 and 10. The nature of the effect is considered to be neutral.

Viewpoint 6 – View from close to junction of Sutton Road and Roper’s Lane looking south

Description of the baseline view and sensitivity of receptor

- 8.23** This view is taken from Sutton Road, close to its junction with Roper’s Lane. The view looks across several arable fields, southwards, in the direction of the site. The site is not easily distinguishable. The existing built form of Ponderosa and the agricultural elements of The Oak Grove are seen through and beyond the site on the horizon. The view is representative of the public highway network.
- 8.24** Users of the public highway network – are assessed as having a medium susceptibility to the type of development being proposed. The view itself is assessed as having a medium value. Overall, the sensitivity of the visual receptor is assessed as medium.

Predicted view at year 1 and magnitude of effect

- 8.25** At year 1 of the operational phase, there would be a limited change in the view. The proposed new dwelling would be visible on the site but would be perceived as part of the cluster of existing built form rather than as an isolated feature. The magnitude of change is assessed as low.

Scale of visual effect

- 8.26** With a medium sensitivity and a low magnitude of change, there would be a minor effect at years 1 and 10 of the operational phase. The nature of the effect is considered to be neutral.

Viewpoint 7 – View from Roper’s Lane looking south-east

Description of the baseline view and sensitivity of receptor

- 8.27** This view is taken from Roper’s Lane approximately midway along its length. The view looks across several arable fields, southwards, in the direction of the site. The existing built form of Ponderosa and the agricultural elements of The Oak Grove are seen through and beyond the site on the horizon. The latter restricts intervisibility with the

wider landscape further south. The view is representative of the public highway network.

- 8.28** Users of the public highway network – are assessed as having a medium susceptibility to the type of development being proposed. The view itself is assessed as having a medium value. Overall, the sensitivity of the visual receptor is assessed as medium.

Predicted view at year 1 and magnitude of effect

- 8.29** At year 1 of the operational phase, there would be a limited change in the view. The proposed new dwelling would be visible on the site but would be perceived as part of the cluster of existing built form rather than as an isolated feature. The magnitude of change is assessed as low.

Scale of visual effect

- 8.30** With a medium sensitivity and a low magnitude of change, there would be a minor effect at years 1 and 10 of the operational phase. The nature of the effect is considered to be neutral.

Viewpoint 8 – View from Master Gate looking west

Description of the baseline view and sensitivity of receptor

- 8.31** This view is taken from the public highway Master Gate. The view looks west and part of the site fronting onto Draw Dyke is visible to the left (north) of the view. Most of the site is screened from view by existing vegetation in the intervening landscape between the observer and the site boundary. The horizon/skyline is dominated by existing built form and structures including wind turbines and electricity pylons. The view is representative of users of the public highway network.
- 8.32** Users of the public highway network – are assessed as having a medium susceptibility to the type of development being proposed. The view itself is assessed as having a medium value. Overall, the sensitivity of the visual receptor is assessed as medium.

Predicted view at year 1 and magnitude of effect

- 8.33** At year 1 of the operational phase, there would be a change in the view. The proposed new dwelling would be seen in the middle distance and would extend existing built form slightly across the horizon but it would not obscure any view. The proposals would read as part of the existing assemblage of elements already present in the middle distance and would not appear prominent or dominant. The magnitude of change is assessed as low.

Scale of visual effect

- 8.34** With a medium sensitivity and a low magnitude of change, there would be a minor effect at year 1. The nature of the effect is considered to be neutral. The dwelling would not appear incongruous but would have reference to the local agricultural vernacular. The backdrop to the site and the foreground elements of the view would be unchanged.
- 8.35** At year 10 the effect is assessed as minor and neutral.

Viewpoint 9 – View from Master Gate looking north-east

Description of the baseline view and sensitivity of receptor

- 8.36** This view is taken from Master Gate and looks north-east directly towards the site, which is seen as a gap between vegetation in the middle distance. Built structures in the form of residential properties and agricultural buildings are visible in the view in the middle and far distances.
- 8.37** Users of the public highway network – are assessed as having a medium susceptibility to the type of development being proposed. The view itself is assessed as having a medium value. Overall, the sensitivity of the visual receptor is assessed as medium.

Predicted view at year 1 and magnitude of effect

- 8.38** At year 1 of the operational phase, the proposed new dwelling and garage would be seen on the site in the middle distance. The proposals would only occupy part of the site (to the right/east) and views through the site would still be afforded with the proposals in place. The magnitude of change is assessed as low.

Scale of visual effect

- 8.39** With a medium sensitivity and a low magnitude of change, there would be a minor effect at year 1. The nature of the effect is considered to be neutral. The proposed dwelling would be a high quality designed building that would be both contemporary and visually appealing with reference to the local vernacular. The backdrop to the site and the foreground elements of the view would be unchanged. It is considered that the proposals would not be prominent or dominant in the view.
- 8.40** At year 10 the effect is assessed as remaining minor and neutral. By year 10 the proposed tree planting would be established and starting to fill out. The tree planting would have some screening effect on the proposed dwelling, softening its profile, but

would not restrict any further the intervisibility through the site to the wider landscape beyond.

Viewpoint 10 – View from Elder’s Gate looking north

Description of the baseline view and sensitivity of receptor

- 8.41** This view is taken from Elder’s Gate and looks north directly towards the site across ploughed and arable fields. The site is seen as a gap between vegetation in the middle distance. Built structures in the form of residential properties and agricultural buildings are visible in the view in the middle and far distances. The view is representative of users of the public highway network.
- 8.42** Users of the public highway network – are assessed as having a medium susceptibility to the type of development being proposed. The view itself is assessed as having a medium value. Overall, the sensitivity of the visual receptor is assessed as medium.

Predicted view at year 1 and magnitude of effect

- 8.43** At year 1 of the operational phase, the proposed new dwelling and garage would be seen on the site in the middle distance. The proposals would only occupy part of the site (to the right/east) and views through the site would still be afforded with the proposals in place. Some more distant structures would be hidden by the proposed development. The magnitude of change is assessed as low.

Scale of visual effect

- 8.44** With a medium sensitivity and a low magnitude of change, there would be a minor effect at year 1. The nature of the effect is considered to be neutral. The proposed dwelling would be a high quality designed building that would be both contemporary and visually appealing with reference to the local vernacular. The backdrop to the site and the foreground elements of the view would be substantially unchanged. It is considered that the proposals would not be prominent or dominant in the view.
- 8.45** At year 10 the effect is assessed as remaining minor and neutral. By year 10 the proposed tree planting would be established and starting to fill out. The tree planting would have some screening effect on the proposed dwelling, softening its profile, but would not restrict any further the intervisibility through the site to the wider landscape beyond.

Viewpoint 11 – View from Hunt’s Gate looking north-west

Description of the baseline view and sensitivity of receptor

- 8.46** This view is taken from Hunt’s Gate and looks north-west in the direction of the site. Built structures, agricultural buildings and storage associated with The Oak Grove are visible in the view in the middle. The latter elements largely screen the site from view. The south-west corner of the site can just be distinguished. The view is representative of users of the public highway network.
- 8.47** Users of the public highway network – are assessed as having a medium susceptibility to the type of development being proposed. The view itself is assessed as having a medium value. Overall, the sensitivity of the visual receptor is assessed as medium.

Predicted view at year 1 and magnitude of effect

- 8.48** At year 1 of the operational phase, the proposed development would be screened from view. There would be no magnitude of change.

Scale of visual effect

- 8.49** At years 1 there would be no visual effect with the proposals in place.
- 8.50** At year 10, should the hay storage be removed completely, other existing built form in the middle distance would still largely screen the proposals from view. The effect at year 10 in the absence of any storage is assessed as negligible neutral.

Summary of detailed visual assessment

- 8.51** A summary of the effects on visual amenity of the 11 representative viewpoints is given in Table 2 below.

Table 2 – Summary of the effects on representative viewpoints

Viewpoint	Visual Effect			
	Negligible	Minor	Moderate	High
Viewpoint 1 – View from Draw Dyke looking west Distance from site: 0.14 kilometres Coordinates: 52 deg. 44'45.11"N 0 deg. 05'24.99"E	√ neutral – year 1 √ neutral – year 10			
Viewpoint 2 – View looking east along Draw Dyke Distance from site: 0.14 km Coordinates: 52 deg. 44'44.02"N 0 deg. 05'01.51"E	√ neutral – year 1 √ neutral – year 10			
Viewpoint 3 – View from Childersgate Lane looking south-east		√ neutral – year 1 √ neutral – year 10		

Viewpoint	Visual Effect			
	Negligible	Minor	Moderate	High
Distance from site: 0.42 km Coordinates: 52 deg. 44'58.63"N 0 deg. 05'29.84"E				
Viewpoint 4 – View looking south from Childersgate Lane Distance from site: 0.66 km Coordinates: 52 deg. 45'08.90"N 0 deg. 05'14.88"E		√ neutral – year 1 √ neutral – year 10		
Viewpoint 5 – View South Holland Drain bridleway looking south Distance from site: 1.21km		√ neutral – year 1 √ neutral – year 10		

Viewpoint	Visual Effect			
	Negligible	Minor	Moderate	High
Coordinates: 52 deg. 45'26'17"N 0 deg. 05'24.67"E				
Viewpoint 6 – View from close to junction of Sutton Road and Roper's Lane looking south Distance from site: 0.94 km Coordinates: 51 deg. 45'07.77"N 0 deg. 04'29.84"E		√ neutral – year 1 √ neutral – year 10		
Viewpoint 7 - View from Roper's Lane looking south-east Distance from site: 0.1km Coordinates:		√ neutral – year 1 √ neutral – year 10		

Viewpoint	Visual Effect			
	Negligible	Minor	Moderate	High
51 deg. 44'58.71"N 0 deg. 04'39.84"E				
Viewpoint 8 – View from Master Gate looking west Distance from site: 0.54 km Coordinates: 51 deg. 44'38.28"N 0 deg. 04'40.67"E		✓ neutral – year 1 ✓ neutral – year 10		
Viewpoint 9 – View from Master Gate looking north- east Distance from site: 1 km Coordinates: 52 deg. 44'11.34"N 0 deg. 04'54.17"E		✓ neutral – year 1 ✓ neutral – year 10		

Viewpoint	Visual Effect			
	Negligible	Minor	Moderate	High
Viewpoint 10 – View from Elder’s Gate looking north Distance from site: 1.3 km Coordinates: 52 deg. 44’04.16”N 0 deg. 05’33.70”E		√ neutral – year 1 √ neutral – year 10		
Viewpoint 11 – View from Hunt’s Gate looking north- west Distance from site: 1.37 km Coordinates: 52 deg. 44’19.12”N 0 deg. 06’08.32”E	No change year 1 √ neutral – year 10			

8.52 Of the 11 representative views, none are assessed as experiencing a major effect.

8.53 3 of the representative viewpoints, are assessed as experiencing no change or a negligible and neutral effect at both years 1 and 10 the operational phase of the proposed

development. For the remaining 8 representative viewpoints, the effect of the proposals would be minor neutral at both years 1 and 10 of the operational phase.

Summary

- 8.54** The opportunity to view the site and the proposed development from publicly accessible locations in the wider landscape is limited largely to the public highway. Such views that are afforded are typically at a medium to long distance from the site boundary, where the proposals would not typically be seen in isolation but as a relatively small component of a more expansive view. Most other locations are private with no public access.
- 8.55** In general, the proposed development, even from publicly accessible locations would typically be seen only as a discrete element. The proposal would enable the integrity, quality and key characteristics of the landscape to be maintained and to continue to prevail visually.
- 8.56** Overall, it is considered that the proposed development would have a limited effect that would not be unacceptable on the visual amenity of the wider landscape beyond the site boundary.

9. Summary and Conclusions

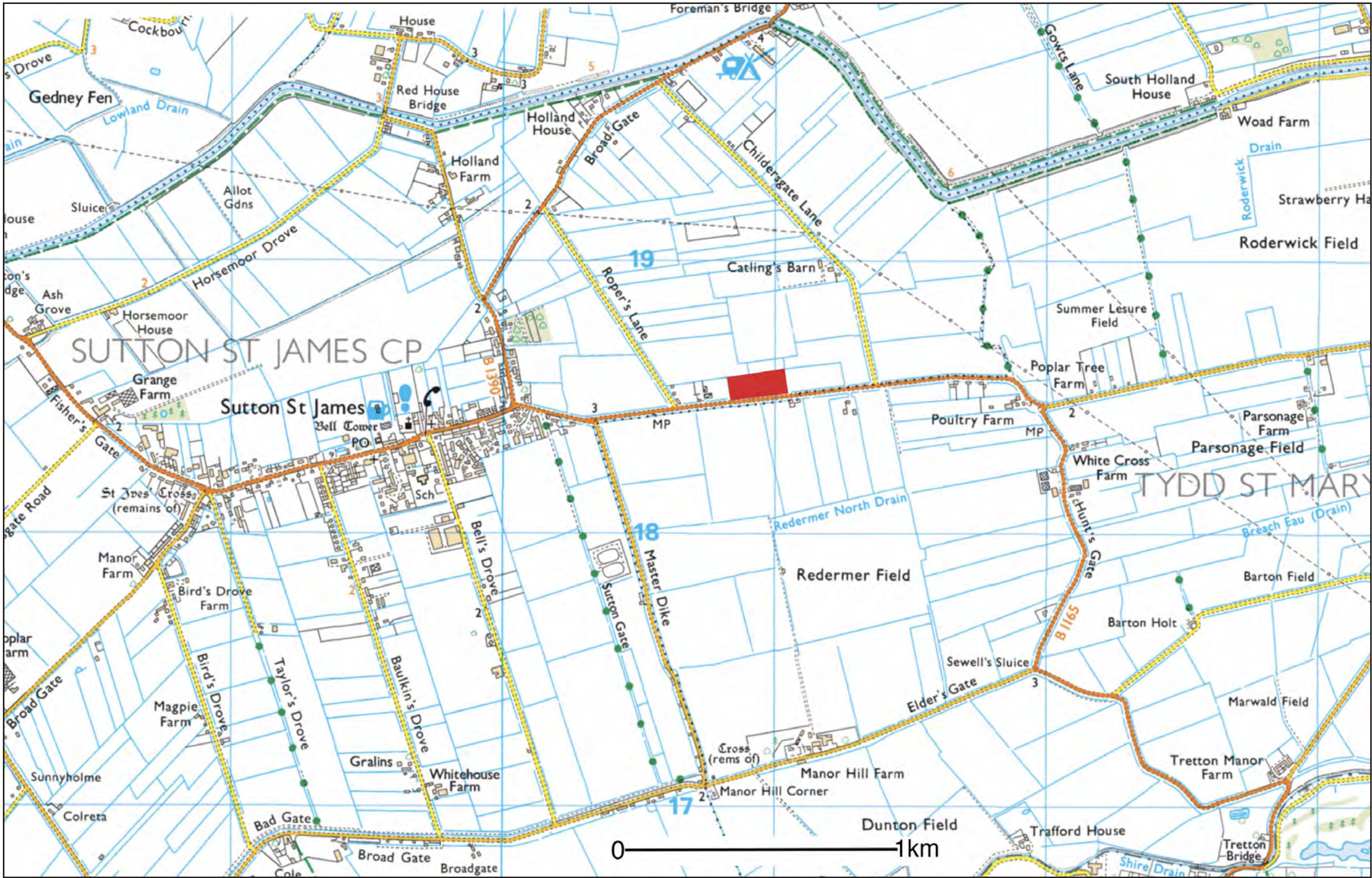
- 9.1** This Landscape and Visual Appraisal (LVA) has been prepared by Briarwood Landscape Architecture by a Chartered Member of the Landscape Institute, on behalf of Mr and Mrs Peace in respect of a proposed new dwelling at Draw Dyke, Sutton St James.
- 9.2** The proposed development envisages the creation of a new three bedroom detached residential dwelling the site. The new building has been designed to reflect and reference the local agricultural vernacular. The overall form and profile of the dwelling would resemble an agricultural shed similar to those found nearby in the surrounding landscape, though of a domestic scale.
- 9.3** The proposed development would not materially change the key landscape characteristics or elements and features, identified in either the published landscape character assessment or the author's own assessment for the local landscape. The existing pattern of geometric fields and linear water and vegetative features, would continue with the proposals in place.
- 9.4** The proposed development would positively contribute to the character of the local landscape by introducing a style of residential development, in the form of two buildings which would represent high quality contemporary design. Through reference to the local agricultural vernacular and the use of appropriate materials and landscaping , the proposals, it is considered, would both conserve and enhance the rural surroundings in accordance with national and local policy.
- 9.5** The proposals would be detailed so as to respond to the existing level landform and largely open nature of the site so these elements would continue to be evident. The existing vegetation along the site's eastern and western boundaries, would be retained as part of the proposals and would continue to help provide a degree of visual enclosure to the proposed development. The existing hedgerow resource on the site would be reinforced and enhanced through new planting. Once established, this new planting would begin to make a positive contribution to the site and the wider landscape.
- 9.6** Overall, the physical characteristics of the surrounding wider landscape beyond the site and its predominantly rural, farmed, nature would be materially unchanged with the proposed residential development in place. The landscape is accommodating of a wide variety of human influences including infrastructure and settlement but retains a rural agricultural nature. In this context, the sight of the proposed development would not unduly affect the visual experience and perception of the landscape's character. The

existing strongly and linear pattern and geometric landcover of the landscape comprising isolated properties and settlements over a level topography would all continue with the proposed residential in place.

- 9.7** The opportunity to view the site and the proposed development from publicly accessible locations in the wider landscape is limited largely to the public highway. Such views that are afforded are typically at a medium to long distance from the site boundary, where the proposals would not typically be seen in isolation but as a relatively small component of a more expansive view. Most other locations are private with no public access.
- 9.8** In general, the proposed development, even from publicly accessible locations would typically be seen only as a discrete element. The proposal would enable the integrity, quality and key characteristics of the landscape to be maintained and to continue to prevail visually.
- 9.9** It is considered that the proposed development would have a limited effect that would not be unacceptable on the visual amenity of the wider landscape beyond the site boundary.

10. Appendices

Appendix 1 – Site Location Plan



The site



DRAWING Site Location Plan			
PROJECT Draw Dyke			
CLIENT Mr and Mrs Peace			
SCALE As shown	DATE June 2021	DRAWN SW	
DRAWING NUMBER BLA022 - 001		REVISION -	

Appendix 2 – Detailed Methodology

DETAILED METHODOLOGY

Introduction

1. The Landscape and Visual Appraisal (LVA) has been undertaken with reference to best practice, as outlined in the following published guidance:
 - Guidelines for Landscape and Visual Impact Assessment (3rd edition) - Landscape Institute/ Institute of Environmental Management and Assessment (2013)
 - GLVIA3 Statement of Clarification 1/13
 - An Approach to Landscape Character Assessment – Natural England (2014)
2. The proposed scheme is assessed for the purposes of the landscape and visual analysis.

Study Area

3. The initial study area for the LVA is taken to be a 5km radius from the site. Unless otherwise stated, the main focus of the assessment is taken as a radius of 2km from the site as it is considered that beyond this distance, even with good visibility, the proposed development would not be perceptible in the composite landscape.
4. The effects on settings of heritage assets or ecological/environmental assets are not considered within this LVA.

Nature of Effects

5. An impact is an action e.g. building a wall. An effect is the consequence of a particular action on the integrity of the landscape, feature or view.
6. The nature of any effect will be adverse beneficial or neutral and are summarised as:
 - Adverse - where on balance there is a negative effect on the quality, integrity or key characteristics of the landscape or visual receptor
 - Beneficial - where on balance there is a positive effect on the quality, integrity or key characteristics of the landscape or visual receptor
 - Neutral – where on balance the effect would maintain the quality, integrity or key characteristics of the landscape or visual receptor or where the change is different but represents neither a deterioration nor enhancement
7. Unless expressly noted, effects are deemed to be adverse in nature.

Landscape Elements and Character Assessment Methodology

8. A baseline landscape assessment is carried out to determine the current elements and character of the landscape within and surrounding the site. This involved an initial desktop study of but not necessarily limited to:
 - Ordnance survey maps at 1:50,000, 1:25,000 scales
 - Aerial photographs of the site and surrounding area
 - Datasets for rural designations from the MAGIC website (Multi Agency Geographic Information for the Countryside)
 - Relevant planning policy
 - National and local scale landscape character assessments

Visual Assessment Methodology

9. The assessment of visual effects is undertaken on the basis of viewpoint analysis as recommended in best practice guidelines. The viewpoints which are in different directions from the site and are at varying distances and locations were selected to represent a range of views and visual receptor types.
10. The viewpoints are representational and not exhaustive. They are taken from publicly accessible land and not from any third party, private, land.
11. The viewpoints were used as the basis for determining the effects of visual receptors within the entire study area. The viewpoints were photographed at 1.6 metres above ground level.

Sensitivity of Landscape Elements and Features

12. The sensitivity attributed to a landscape element or feature is determined by a combination of the value that is attached to a particular landscape element feature and the susceptibility of the landscape element/feature to changes that would arise as a result of the Proposed Development as outlined in pages 88-90 of GLVIA3. Both value and susceptibility are assessed as high, medium or low.

Table 1: Value of Landscape Elements and Features

Low	Ones that: • have no or little rarity and/or, • make no and/or make only a limited contribution to the character and local visual and amenity value and/or • are of such poor condition that the element/feature has lost its ability to contribute effectively to the character of the landscape
Medium	Ones that: • are notable in the landscape, with some visual and/or amenity interest but, • do not make a particularly strong or important contribution to the character of the landscape and/or, • ones that are an intrinsic element of landscape but in poor condition
High	Ones that: • make an important contribution to the character of the landscape and/or • have particular historical or cultural reference and/or • are distinctive or rare and typically of good condition

Table 2: Susceptibility of Landscape Elements and Features

Susceptibility to change	Criteria
High	A very limited ability of the landscape element of feature to accommodate the type of development being proposed – a particular susceptibility. Few opportunities for mitigation and enhancement.
Medium	A moderate ability of the landscape element of feature to accommodate the type of development being proposed – some susceptibility. Some opportunities for mitigation and enhancement .
Low	A well-defined ability of the landscape element of feature to accommodate the type of development being proposed – little susceptibility. Good opportunities for mitigation and enhancement .

Susceptibility of Landscape Elements and Features

13. The susceptibility criteria of landscape elements and features is given in Table 2 but a judgement has been made by linking back to the evidence gathered at the baseline stage.

Table 3: Sensitivity of Landscape Elements and Features

	VALUE			
SUSCEPTIBILITY		HIGH	MEDIUM	LOW
	HIGH	High	High	Medium
	MEDIUM	High	Medium	Low
	LOW	Medium	Low	Low

Magnitude of Change on Landscape Elements and Features

14. Professional judgement, using the criteria given in Table 4 , and also considering geographic extent and the duration and reversibility of the effect, has been used to determine the magnitude of direct physical impacts on individual existing landscape elements and features

Table 4: Criteria for magnitude of change for landscape elements and features

NB Alterations may include the addition of new elements and features

Negligible	No loss or very minor alteration to part of an existing landscape element and/or feature
Low	Minor loss or alteration to part of an existing landscape element and or feature
Medium	Some loss or alteration to part of an existing landscape element and/or feature
High	Total/major loss or alteration of an existing landscape element and/or feature

Sensitivity of Landscape Character

15. Sensitivity is determined by a combination of the value that is attached to a landscape and the susceptibility of the landscape to changes that would arise as a result of the Proposed Development as outlined in pages 88-90 of GLVIA3. Both value and susceptibility are assessed as high, medium or low.
16. Table 5 below provides a series of criteria by which the 'value' of the landscape is assessed. Such criteria are based upon Box 5.1 on page 84 of GLVIA3.

Table 5: Value of Landscape Character

Low	An area that is in a recognisably poor condition/quality and/or with a weak strength of character that typically has a clear indication of being damaged and/or contains a high number of detractors, and/or is of limited visual cohesion; rare or distinctive elements and features are not a notable component that contribute to the character of the area. No known associations with cultural/historic people.
Medium	An area is recognisable as being in reasonable condition/quality and/or with a strength of character but likely to exhibit some damage or deterioration and/or some visual cohesion and interest; rare or distinctive elements and features make some contribution to the character of the area. Possible or limited associations with cultural/historic people.
High	Areas with international or national landscape designations, i.e. National Parks and Areas of Outstanding Natural Beauty or occasionally landscapes non-designated landscape in particularly good condition/quality and/or strong strength of character or of particular local value and/or with few visual detractors; rare or distinctive elements and features are likely to be a key component that contribute to the character of the area. Recorded associations with cultural/historic people may be present.

Table 6: Susceptibility of Landscape Character

Susceptibility to change	Criteria
High	A very limited ability of the landscape to accommodate the type of development being proposed – a particular susceptibility. Few opportunities for mitigation and enhancement.
Medium	A moderate ability of the landscape to accommodate the type of development being proposed – some susceptibility. Some opportunities for mitigation and enhancement .
Low	A well-defined ability of the landscape to accommodate the type of development being proposed – little susceptibility. Good opportunities for mitigation and enhancement .

Susceptibility of Landscape Elements and Features

17. The susceptibility criteria of landscape elements and features is given in Table 6 but a judgement has been made by linking back to the evidence gathered at the baseline stage.

Table 7: Sensitivity of Landscape Character

	VALUE			
SUSCEPTIBILITY		HIGH	MEDIUM	LOW
	HIGH	High	High	Medium
	MEDIUM	High	Medium	Low
	LOW	Medium	Low	Low

Magnitude of Change on Landscape Character

18. Professional judgement using Table 8, and also considering geographic extent and the duration and reversibility of the effect, has been used to determine the magnitude change on landscape character

Table 8: Criteria for magnitude of change for landscape character

Negligible	No notable introduction of new elements into the landscape or change to the scale, landform, land cover or pattern of landscape
Low	Introduction of minor new elements into the landscape or some minor change to the scale, landform, land cover or pattern of landscape
Medium	Introduction of some notable elements into the landscape or some notable change to the scale, landform, land cover or pattern of landscape

High	Introduction of major elements into the landscape or some major change to the scale, landform, land cover or pattern of landscape
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Sensitivity of Visual Receptors

19. Sensitivity is determined by a combination of the value that is attached to a view and the susceptibility of the receptor to changes in that view that would arise as a result of the Proposed Development as outlined in pages 113-114 of GLVIA3. Both value and susceptibility are assessed as high, medium or low.

20. GLVIA3 says a judgement should be made as to the value of a particular view being experienced. In making a professional judgement as to the value attached to a view, the following criteria have helped guide the process. Not all the criteria have to apply to a particular view and the criteria are not in a hierarchy.

Table 9: Criteria for judging levels of visual value

Low	- Views from within or towards undesignated landscapes and/or features of either importance to the site only or of no importance - View has little aesthetic merit e.g. has numerous visual detractors, is badly degraded etc. - View makes a limited contribution to the understanding of the function or wider pattern of the landscape - Views with no known social, cultural or historic associations - Views from locations that are not necessarily destination points or that are infrequently visited
Medium	- Views from within or towards undesignated landscapes and/or features of local importance - View with some limited aesthetic appeal - View makes a reasonable contribution to the understanding of the

	function or wider pattern of the landscape • Views with some known local social, cultural or historic associations • Views from locations that are locally popular destination points or that are frequently visited by locals but not necessarily by visitors from further afield
High	• Views from within or towards designated landscapes and/or features of importance at district level and above • View with great aesthetic appeal • View makes an important contribution to the understanding of the function or wider pattern of the landscape • Views with some known national or international social, cultural or historic associations especially to art and literature • Views from locations that are popular regional, national or international destination points or that are frequently visited by large numbers of visitors from further afield

Susceptibility of Visual Receptors

21. GLIVA3 advises (on page 113) that susceptibility of a particular visual receptor (observer) to change in a view is mainly a function of the nature of the activity or occupation of the person or people experiencing a view at a particular location and the extent to which their interest or attention is drawn to the view.

22. In general, it is considered that occupiers of residential properties and people using public rights of way (where enjoyment is primarily drawn from the view) have a high susceptibility to change. Users of roads, railways and open space or engaged in an activity where an appreciation of the view forms a part of the experience are considered to be of medium susceptibility. People engaged in formal sport or occupiers of commercial premises or in areas of employment, where the view has limited importance to the activity being undertaken, are considered to be of low susceptibility to change.

Table 10: Sensitivity of Visual Receptors

	VALUE			
SUSCEPTIBILITY		HIGH	MEDIUM	LOW
	HIGH	High	High	Medium
	MEDIUM	High	Medium	Low
	LOW	Medium	Low	Low

Magnitude of Change on Visual Amenity

23. Professional judgement has been used to determine the magnitude change on landscape character based upon the criteria outline in Table 11 but also considering the size and scale of change (including the loss or addition of features, changes in visual composition etc.) , the geographic influence of the change (orientation and angle of view in relation to the visual receptor, distance of the viewpoint from the main development, extent of area over which change would occur etc.) and, the duration and potential reversibility of any change (short term 0-5 years, medium term 5-10 years, long term 20 years +, temporary, permanent, intermittent, continuous and whether the views will be full, partial or glimpsed).

Table 11: Criteria for magnitude of change for visual receptors

Negligible	No notable change in the view
Low	Some change in the view that is not prominent / few visual receptors affected
Medium	Some change in the view that is clearly visible and forms an important but not defining element in the view
High	Major change in the view that has a defining influence on the overall view / many visual receptors affected

Scale of Effects

24. The scale of the landscape and visual effects is determined by cross referencing the sensitivity of the landscape feature, landscape character or view with the magnitude of change. The scale of effects is described as major, moderate, minor or negligible.

Table 12: Scale of effect thresholds for landscape character, landscape elements/features and visual receptors

		Magnitude of Change			
Sensitivity		High	Medium	Low	Negligible
	High	Major	Major	Moderate	Minor
	Medium	Major	Moderate	Minor	Negligible
	Low	Moderate	Minor	Negligible	Negligible

Appendix 3 – Landscape Features Plan



The site



DRAWING Landscape Features Plan			
PROJECT Draw Dyke			
CLIENT Mr and Mrs Peace			
SCALE NTS	DATE June 2021	DRAWN SW	
DRAWING NUMBER BLA022 - 002		REVISION -	

Appendix 4 – Context Views



Photoview 1 - View looking south across the site



Photoview 2 - View looking east



Photoview 3 - View looking west across the site



Photoview 4 - View looking towards site's southern boundary

Appendix 5 – Extract from NCA46 The Fens

Introduction & Summary

Description

Opportunities

Key facts
and data

Landscape
change

Analysis



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NATURAL
ENGLAND

Introduction

As part of Natural England's responsibilities as set out in the Natural Environment White Paper,¹ Biodiversity 2020² and the European Landscape Convention,³ we are revising profiles for England's 159 National Character Areas (NCAs). These are areas that share similar landscape characteristics, and which follow natural lines in the landscape rather than administrative boundaries, making them a good decision-making framework for the natural environment.

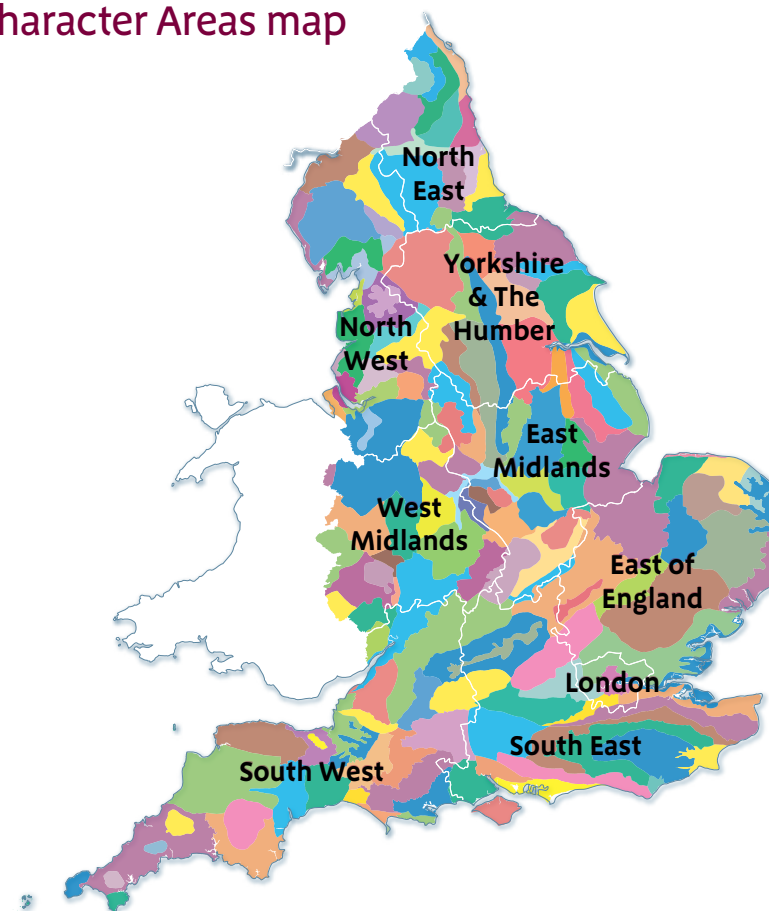
NCA profiles are guidance documents which can help communities to inform their decision-making about the places that they live in and care for. The information they contain will support the planning of conservation initiatives at a landscape scale, inform the delivery of Nature Improvement Areas and encourage broader partnership working through Local Nature Partnerships. The profiles will also help to inform choices about how land is managed and can change.

Each profile includes a description of the natural and cultural features that shape our landscapes, how the landscape has changed over time, the current key drivers for ongoing change, and a broad analysis of each area's characteristics and ecosystem services. Statements of Environmental Opportunity (SEOs) are suggested, which draw on this integrated information. The SEOs offer guidance on the critical issues, which could help to achieve sustainable growth and a more secure environmental future.

NCA profiles are working documents which draw on current evidence and knowledge. We will aim to refresh and update them periodically as new information becomes available to us.

We would like to hear how useful the NCA profiles are to you. You can contact the NCA team by emailing ncaprofiles@naturalengland.org.uk.

National Character Areas map



¹ The Natural Choice: Securing the Value of Nature, Defra (2011; URL: www.official-documents.gov.uk/document/cm80/8082/8082.pdf)

² Biodiversity 2020: A Strategy for England's Wildlife and Ecosystem Services, Defra (2011; URL: www.defra.gov.uk/publications/files/pb13583-biodiversity-strategy-2020-111111.pdf)

³ European Landscape Convention, Council of Europe (2000; URL: <http://conventions.coe.int/Treaty/en/Treaties/Html/176.htm>)

Summary

The Fens National Character Area (NCA) is a distinctive, historic and human-influenced wetland landscape lying to the west of the Wash estuary, which formerly constituted the largest wetland area in England. The area is notable for its large-scale, flat, open landscape with extensive vistas to level horizons. The level, open topography shapes the impression of huge skies which convey a strong sense of place, tranquillity and inspiration. One per cent of the NCA falls within the Norfolk Coast Area of Outstanding Natural Beauty.

It is a large, low-lying, flat landscape with many drainage ditches, dykes and rivers that slowly drain towards the Wash, England's largest tidal estuary. The single obvious factor uniting the Fens is the low-lying, level terrain reflecting its geological past. With the exception of the Isle of Ely, which reaches above 20 m, elevations rarely pass the 10 m contour, and typically vary by little more than one or two metres over long distances. Much of the land is below sea level, relying on pumped drainage and the control of sluices at high and low tides to maintain its agricultural viability. The level horizons and the huge scale of the landscape create a strong sense of isolation and tranquillity, and a distinctive sense of place. There are, typically, large open panoramas and enormous skies, whose changing weather patterns have a strong influence on the observer. Four major rivers drain into the Wash: the Witham, Welland, Nene and Great Ouse. All rivers now have artificial canalised courses that run straight for long distances and are bounded by high banks to contain the watercourse from the lower adjacent fields.

The Fens are the bread basket of Britain. The drainage of this area from the 17th century onwards presented valuable soils which provide excellent

conditions for large-scale cultivation of arable and horticultural crops; holdings of more than 100 ha make up 77 per cent of farmed land. As cultivation techniques have become more intensive, however, the soil resource is increasingly diminished through desiccation and erosion. Clays and silts laid down by marine incursions dominate the area abutting the Wash and extend inland along the rivers, forming the fertile horticultural soils of the silt fens. This area is now marginally higher in altitude than the inland peatlands which have 'wasted'. The fertile peat soils have been historically drained and managed to support national food production at the expense of other ecosystem services. Drained peat is more vulnerable to loss, particularly where the deposits are deep and the water table is kept artificially low. Peat wastage through shrinkage, oxidation and wind erosion is a long-term issue affecting the ecosystem services of the Fens.

The Wash includes salt marsh and mudflats that support large, internationally important populations of seals, waders and wildfowl, including pink-footed and Brent geese, shelduck, knots, oystercatchers, common terns and various plover species. It is accordingly designated a Ramsar site, a Special Area of Conservation (SAC), a Special Protection Area (SPA), a European Marine Site (EMS), a Site of Special Scientific Interest (SSSI), a National Nature Reserve (NNR) and a Local Nature Reserve (LNR). Other important wetland habitats include areas of relic old fen, washland, rivers, drains and a network of lesser drainage channels known locally as ditches, dykes or sewers.

Several SSSI in the Fens are designated for their buried interest – a geological record contained in the sediments of the Wash basin and fenland – making

an important contribution towards our understanding of the effects of climate and environmental change over millions of years. Also, the Oxford Clay and Kings Dyke brick pit have been very important for palaeontology, with major Jurassic reptiles including the pliosaur *Pachycostasaurus dawnii* unearthed here. *Leedsichthys*, the world's largest fish, was discovered in these sediments and is still being unearthed from them.

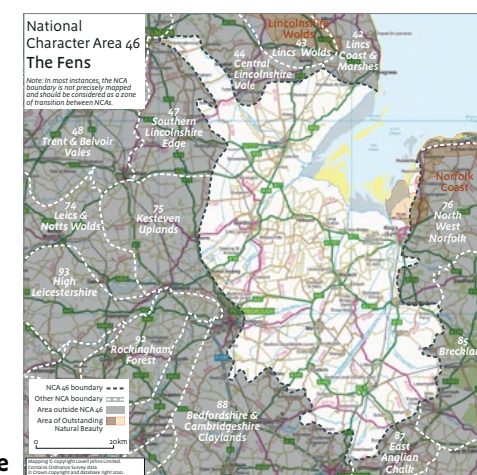
There is a long history of human occupation here, accounts of which can be found in the Historic Environment Records for Norfolk, Suffolk, Cambridgeshire, Peterborough and Lincolnshire. Early prehistoric sites are mostly deeply buried beneath the fen sediments or occur on the low slopes of the higher fen 'islands'. Scheduled Ancient Monuments of prehistoric to post-medieval date are located across the fens and many undesignated sites and monuments are known, again mainly from the fen edges and islands. However, Flag Fen is a site of international importance – a preserved, wooden, bronze-age platform and causeway crossing the marsh to the east of the Peterborough fen edge, off which votive deposits (symbolising a wish, desire or prayer) of bronze and iron tools, weapons and decorative items were thrown into the marsh.

Ancient remains of settlements or task sites are increasingly being discovered as the peat dries out across the fenland area, or through development – for example eight log boats were found in an ancient river channel along with associated riverside settlements at Whittlesey, and numerous artefact scatters of prehistoric to Roman sites are annually ploughed up where the peat is thinnest on the gravel island edges and emerging crests. The impressive Ely Cathedral is a major landmark dominating the Cambridgeshire peat fen from its location atop the Isle of Ely, as is 'Boston Stump' (St Botolph's Church, Boston) in the Lincolnshire silt fen, while similar island-top locations

were also used for monastic and secular establishments across the fenland region (such as Ramsey, Thorney, Crowland and Chatteris). Lodes, slades and canals historically formed the early transport opportunities across the fens, commencing after the Roman conquest of Britain but increasingly in the late Saxon and medieval periods.

Authors Sir Harry Godwin and H.C. Darby have written major works on the Fens, and Rex Sly has chronicled the history of the Fens from Roman times until the present and written about fenland families and life in a series of three books published in the 2000s. Chris Gerrard has authored a book of work by fenland artists showcasing the landscapes and biodiversity of the Fens.

Although many of the Fens waterways are heavily embanked, limiting views across the landscape, water-based recreation is a popular pastime with a focus at Ely marina. Angling is popular here.



Click map to enlarge; click again to reduce

Statements of Environmental Opportunities:

- **SEO 1:** Manage the agricultural landscape and soils which allow the Fens to be a major provider of food and horticultural produce, while seeking to enhance opportunities for biodiversity.
- **SEO 2:** Manage the core wetland complexes and increase their connectivity by enhancing the main rivers, waterways and their associated riparian habitats and improve recreational access opportunities to the Fens.
- **SEO 3:** Plan for the creation of new coastal landscapes in the Wash area that are adapted and resilient to the impact of climate change, for the benefit of people and wildlife.
- **SEO 4:** Conserve, manage and enhance the Fens landscape and increase educational opportunities to access its geodiversity, archaeology and cultural heritage to enhance enjoyment and understanding for those who live and work in and visit the Fens.



The Fens today.

Description

Physical and functional links to other National Character Areas

The area abuts a number of other National Character Areas (NCAs). To the east lie North West Norfolk and The Brecks NCAs. To the south-east rises the gently rolling East Anglian Chalk NCA and to the south-west is the undulating Bedfordshire and Cambridgeshire Claylands NCA. To the west rise the gently shelving slopes of the Kesteven Uplands and the South Lincolnshire Edge NCAs. To the north-west the woods and gravel workings of the Central Lincolnshire Vale NCA gradually slope down to the Lincolnshire fens, while due north the Lincolnshire Wolds NCA rises to create a dominant 'upland' horizon. The Steeping River marks the quieter north-east boundary to the Lincolnshire Coast and Marshes NCA. The land boundary of the Fens is typically drawn along a series of catchwater drains, dykes, canalised rivers and lodes. To the north-east the Fens are bounded by the North Sea.

Four main rivers, the Witham, Welland, Nene and Great Ouse, drain much of the surface water from the East Midlands across the Fens. The rivers often flow in canalised channels before discharging into the large Wash estuary. The rivers and their associated networks of ditches and dykes provide ecological networks and functional links to other NCAs.

Marine processes strongly influence the physical and biological character of the Wash. Marine sediments originating from the eroding nearshore seabed off central Lincolnshire and the Holderness coast of East Yorkshire predominate,

although some accreted sediments originate from further north. While much of this sediment settles within the Wash, some moves seaward again to help supply the coastal structures along the North Norfolk coast.

Due to its low-lying landform, views to and from the neighbouring NCAs strongly reflect their geology, particularly the higher ground of the gently rolling East Anglian Chalk NCA to the south-east, the undulating Bedfordshire Claylands to the south-west, and to the west the gradually shelving slopes of the Kesteven Uplands and the South Lincolnshire Edge NCAs, while due north the Lincolnshire Wolds NCA rises to create a dominant elevated horizon. There are vast, open views of the sky throughout and wide, flat panoramic views, particularly over the mudflats of the Wash in the east.

Fenland farming is nationally important with, for example, a quarter of England's potatoes grown here and over one-third of English vegetables. Agriculture is the major source of employment, with approximately 27,000 people employed either permanently or seasonally/temporarily throughout the year. Nearly 90 per cent of the Fens were classified as either Grade 1 or Grade 2 agricultural land under the Provisional Agricultural Land Classification (ALC) survey of the late 1960s and early 1970s. Peat wastage will have reduced this since then.

The Fens play host to several major transport links. The East Coast railway mainline cuts across the south-western corner and there are east-west rail passenger and freight lines running through the area. Major roads include the A47, the A16 and A17, among numerous other A roads which form transport corridors across the landscape. Other major infrastructure, such as power stations, major gas and electrical distribution networks, either supply surrounding NCAs or the Fens are supplied by them.

Distinct areas

■ Open coastal marshes

■ Drained coastal marshes

■ Settled inland fens

■ Open inland fens

Key characteristics

- Expansive, flat, open, low-lying wetland landscape influenced by the Wash estuary, and offering extensive vistas to level horizons and huge skies throughout, provides a sense of rural remoteness and tranquillity.
- Jurassic clays are overlain by rich, fertile calcareous and silty soils over the coastal and central fens and by dark, friable fen peat further inland. The soils are important for agriculture, which is hugely significant for the rural economy in the Fens. There are over 4,000 farms in the Fens; enough wheat is grown here annually to produce a quarter of a million loaves of bread and one million tons of potatoes are grown here. In addition to traditional vegetables, exotics such as pak choi are now cultivated. Some 40 per cent of England's bulbs and flowers are also produced in the Fens.
- The Wash is the largest estuarine system in Britain, supporting internationally important intertidal and coastal habitats influenced by constant processes of accretion and deposition, forming salt marsh and mudflats and providing habitats for wildfowl, wading birds and other wildlife, including grey seals and approximately 90 per cent of the UK's common seals. It also provides important natural sea defences and plays a key role in climate change regulation. Flood storage areas on the

Nene, Cam, Lark and Ouse washes also provide significant biodiversity interest. True fen mainly occurs at remnant conservation sites, such as Baston or Wicken Fen.

- Overall, woodland cover is sparse, notably a few small woodland blocks, occasional avenues alongside roads, isolated field trees and shelterbelts of poplar, willow and occasionally leylandii hedges around farmsteads, and numerous orchards around Wisbech. Various alders, notably grey alder, are also used in shelterbelts and roadside avenues.
- The predominant land use is arable – wheat, root crops, bulbs, vegetables and market gardening made possible by actively draining reclaimed land areas. Associated horticultural glasshouses are a significant feature. Beef cattle graze narrow enclosures along the banks of rivers and dykes and on parts of the salt marsh and sea banks.
- Open fields, bounded by a network of drains and the distinctive hierarchy of rivers (some embanked), have a strong influence on the geometric/rectilinear landscape pattern. The structures create local enclosure and a slightly raised landform, which is mirrored in the road

Key characteristics (continued)

network that largely follows the edges of the system of large fields. The drains and ditches are also an important ecological network important for invertebrates, fish including spined loach, and macrophytes.

- The area is very rich in geodiversity and archaeology, with sediments containing evidence for past environmental and climate changes and with high potential for well-preserved waterlogged site remains at the fen edge, within some of the infilled palaeo-rivers and beneath the peat.
- Large, built structures exhibit a strong vertical visual influence, such as the 83 m-high octagonal tower of 'Boston Stump' (St Botolph's Church), Ely Cathedral on the highest part of the Isle of Ely dominating its surrounding fen, wind farms and other modern large-scale industrial and agricultural buildings, while drainage and flood storage structures and embanked rail and road routes interrupt the horizontal fen plain.
- Settlements and isolated farmsteads are mostly located on the modestly elevated 'geological islands' and the low, sinuous roddon banks (infilled ancient watercourses within fens). Elsewhere, villages tend to be dispersed ribbon settlements along the main arterial routes through the settled fens, and scattered farms remain as relics of earlier agricultural settlements. Domestic architecture mostly dates from after 1750 and comprises a mix of late Georgian-style brick houses and 20th-century bungalows.



Wisbech North Brink - the tidal River Nene and inland port.

The Fens today

The Fens are an expansive, flat, open, clay and peat landscape that slowly drains towards the Wash, England's largest tidal estuary. The obvious factor characterising the Fens is the low-lying, level terrain, with much of the land below sea level. The level horizons, large open panoramas and enormous skies create a strong sense of remoteness and isolation. The geological history and human intervention are strongly evident in this landscape, especially in the strong rectilinear drainage pattern that has long been used to make the land viable for agricultural production. The Fens are the bread basket of Britain and the silt and peat soils are a major and essential resource of national importance for agriculture, with wheat, vegetables and sugar beet of major value here.

The geology of the Fens can generally be described as glacial deposits on Jurassic and Cretaceous bedrock. During the Holocene (Flandrian) period, these were overlain by diverse deposits, including sands, silts, clays and peat. Elevated islands of Jurassic clay occur at the inner margins of the area where they may be overlain by Pleistocene tills or glacial sands and gravels. The soils over the wide central and coastal fens comprise rich, fertile, stoneless, calcareous, silty soils of marine origin; while inland there are swathes of dark, friable, organic-rich mineral soils and deeper fen peat, which contains partly fossilised trees known as 'bog oaks'. Due to wastage, the peats are becoming increasingly thin and in extensive areas only remnants of the former peat coverage still remain.

Agriculture is tremendously important to and in the Fens. Fenland farming is nationally important, with a quarter of England's potatoes grown on 25,000 ha here and more than a third of English vegetables on 29,000 ha. Sugar beet, at 21,500 ha, is another major fenland crop. Farmers have recently diversified

into more exotic crops such as pak choi. Agriculture is a major employment sector, attracting workers from across Europe.

Water from much of the East Midlands drains eastwards across the Fens into the Wash through four major rivers: the Witham, Welland, Nene and Great Ouse. All rivers now have artificial canalised courses that run straight for long distances and are bounded by high banks to contain the watercourse from the lower adjacent fields. In some locations 'roddons', sinuous silt banks that are fossilised remnants of tidal creek systems, are elevated, in some places up to 2–3 m above the dark peat soils which have subsequently wasted as a result of continuous cultivation, drainage and wind erosion of the peat. This irreversible wastage creates an ever-greater demand for artificial drainage of the land. Remnants of the original fen, as at Wicken Fen, are rare exceptions.

There are marked variations and graduations in the Fens landscape, shaped by the differing lengths of settlement history. The 'settled inland fens', which run in a broad arc inland from the Wash between King's Lynn and Boston, form an ancient, small-scale landscape of sinuous lanes and relative intimacy with a higher density of settlements, some fine churches and remnant grasslands. The extensive 'peaty fens' or 'black fens', which were finally comprehensively drained in the 17th to 19th centuries, comprise broad rectilinear fields and straight roads. The only consistent relief to the level landform are the notches of the drainage ditches and the raised berms and banks of the artificial drainage channels. The fens of south-east Lincolnshire between the settled inland fens, where there are some hedgerows along the sinuous lanes, and the Wolds were the last area to be drained. The drainage here was so thorough that scarcely a vestige remains of what had been one of Britain's richest wildlife habitats. This is an open, productive landscape with a strongly rectilinear form. The band of marshes reclaimed from the Wash by the construction of a series

of sea wall defences begun in the 17th century has fields of vegetable crops that stand alone against the sky. Beyond the defensive walls, salt marshes and tidal mudflats, often abundant with wildfowl, stretch out into the Wash.

The Wash, an internationally important Special Protection Area (SPA)/Ramsar site, is the largest estuarine system in Britain and this vast seascape supports an extensive habitat mosaic of salt marshes, intertidal banks of sand and mud, shallow waters and deep channels. It is the most important staging post and overwintering site for migrant wildfowl and wading birds in eastern England. It supports a valuable commercial fishery for shellfish, is an important nursery area for flatfish and holds one of the North Sea's largest breeding populations of common seals and some grey seals.

The Fens are also very important for biodiversity. The Ouse Washes and Nene Washes SPA/Ramsar sites are areas of seasonally flooded grassland important for national and international populations of breeding and overwintering waders and wildfowl. Both sites are of note for their diversity of plant and animal life. Their associated watercourses are designated for important spined loach populations. In the Welland catchment, the Counter Drain in Baston Fen Special Area of Conservation (SAC) contains high densities of spined loach. Fenland SAC holds large areas of calcareous fen and is also important for populations of spined loach and great crested newt. The Wash and North Norfolk Coast SAC is considered to be one of the best areas in the UK for sand banks and Atlantic salt meadows. In terms of biodiversity, Wicken Fen is the richest site in the UK; Holme and Woodwalton Fens are also important relic habitats.

There is negligible woodland throughout the Fens landscape, with a few trees lining roads or clustering around villages and the fen estates, as at Thorney. Exceptions include Woodwalton to the west and small ex-decoy woodlands

such as in the Eastern Fens, where for instance Friskney Decoy Wood is a Lincolnshire Wildlife Trust (LWT) reserve. Extensive orchards and associated windbreaks are located in the Wisbech area to create a distinctive though dwindling landscape cover.

On the island crests and at the fen margins, archaeological features occur in large numbers, while fewer are known from the undulating deeper parts of the fen basin as here they are covered by blanketing deposits of marine clays, peat and silts. Flag Fen Archaeology Park and Scheduled Ancient Monument is home to a bronze-age wooden causeway, some 3,500 years old, and is a site of national and international importance.

Stonea Camp iron-age hill fort near March in the Cambridgeshire Fens is the lowest-lying hill fort in Britain. It has been suggested as the site of Boudicca's last stand against the Romans. Having defeated the local tribes, the Romans erected a substantial administrative/military building near Stonea Camp to impose their authority in the Fens, by then a probable imperial estate. The Fens were very important in Roman times and the Fen Causeway, or Fen Road, stretched for over 40 km between Denver, Norfolk, and Peterborough through Flag Fen, where it joined the major Roman north-south route, Ermine Street.

Around the low, clay hills, most notably the Isle of Ely, occasional remnant ridge-and-furrow pasture is evident.

The settlement pattern follows the historical development of the area. The settled inland fens or 'townlands' comprise medium to large settlement clusters around Boston, Spalding, Holbeach and Wisbech, with many villages having fine medieval churches, such as West Walton. The medieval pattern of north-south drove lines, between parent and daughter settlements on the coast and fen edge

respectively, was crossed in the 19th century by the A17 and A47. Since then the settlements in these townlands have spread along these principal routes to create ribbon developments of smallholdings, modern bungalows, farmsteads with large agricultural barns, and food processing buildings, such as Sutton Bridge.

The 'peaty fens' inland are, by contrast, very sparsely settled with isolated farmsteads and houses on local areas of raised land being the only built elements for long distances. Many fenland buildings are now derelict; either standing at alarming angles or shored up, while the linear roads have likewise suffered showing significant undulations.

Ely, Boston, Wisbech, Spalding and King's Lynn provide the major historic settlements within the Fens. Ely Cathedral dominates the skyline over a large area 'like a great ship tugging at its moorings' (Betjeman). At Boston, once England's largest port, the 83 m-high octagonal tower known as the 'Boston Stump' is a marker across the open fen. Stone for large buildings, including Ely Cathedral and the Boston Stump, was imported from the quarries of Lincolnshire (Ancaster), Northamptonshire (Barnack, now Cambridgeshire), Rutland and Yorkshire. The brick industries around Whittlesey have provided key vernacular characteristics for the landscape in that area, the products of which have been used for the traditional building style of brick and slate-roofed farmhouses and brick-pantile workers' cottages. The subtle variation in settlement patterns from fen to fen reflects settlement history and the length of time since drainage took place. A few historic pumping stations such as Stretham bear witness to the latter. Local building materials include reed for thatching and clay for bricks, with its variations in colour and texture, but the use of thatch is now exceptional as a result of the loss of reedbeds.

Roads and rail links are often situated on elevated banks, and long straight roads

crossing the large fenland fields are typical. Road schemes, power lines, industrial and residential development have had an impact on local character, and light pollution associated with transport networks has become increasingly prevalent.

Communities in this NCA include many migrant workers, have high indices of multiple deprivation (IMD), and various health issues, including obesity, lower-than-average life expectancy and high levels of physical inactivity, and many experience issues with isolation. The ageing population is also an issue.

The fenland waterways are an important recreational resource and there is a major marina at Ely. Long-distance walking routes include the Ouse Valley Way, Hereward Way and Nene Valley Way while the old drove roads are an important cycling resource. Access to wildlife is of major importance for recreation and tourism, especially at the many designated sites with good visitor access. For example, the Wildfowl and Wetlands Trust (WWT) Welney Wetland Centre, part of the Ouse Washes SPA/Ramsar site, is a spectacular swan spectacle and major attraction, and Wicken Fen is one of the top tourist sites in the Fens.



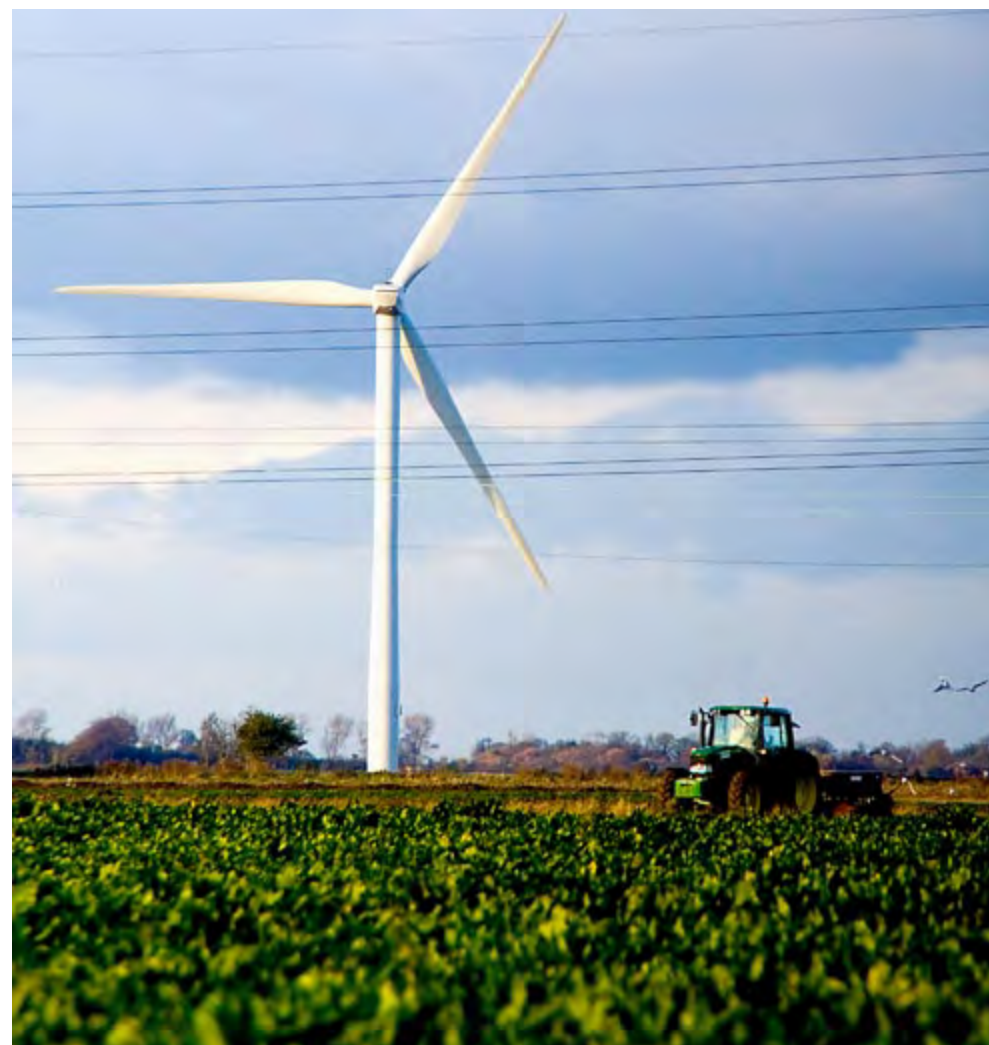
Agriculture in the Fens.

The landscape through time

The solid geology of the Fens is dominated by Upper Jurassic marine clays, including the Oxford, Ampthill and Kimmeridge Clays (formed around 157–152 million years ago). Tectonic activity and sea-level changes have raised these deposits above sea level; the clays have yielded tremendously important fossil reptiles and fish new to science, including the pliosaur *Pachycostasaurus dawnii* and *Leedsichthys*, the largest fish ever discovered, as well as many invertebrate species. Additionally, an isolated mass of richly fossiliferous Upper Jurassic Corallian Limestone, including coral reef deposits, out-crops around Upware. Lower Greensand rocks at Ely and Stuntney, and Lowestoft Till at March, also form 'islands' for historic centres of human settlement.

Much of this geology is overlain by Quaternary deposits: the area was covered by a large ice sheet during the Anglian glaciation around 50,000 years BP and glacial erosion beneath the ice sheet is thought to be responsible for the scouring-out of the Fen Basin and the area now occupied by the Wash. The ice sheet deposited sands, gravels and clays across the area and left a shallow basin in which later deposits accumulated. During the Holocene, a cyclic succession of peats, estuarine and marine silts, clays and sands was deposited in both terrestrial and marine environments, reflecting sea-level changes and river flood plain activity. These demonstrate a detailed record of climatic and environmental changes over the last 11,500 years although part of this record is threatened by the shrinking peat, increased exposure and erosion. Several Sites of Special Scientific Interest (SSSI) within the NCA have been designated for this geological climate- and landscape-change record.

Much of the human history of the Fens has been a battle of man against the



A modern addition to the landscape.

forces of nature to bring out the full agricultural potential of the land. Much of the early archaeological evidence is now becoming apparent as peat wastage exposes evermore well-preserved remains. In the deepest areas of the fen basin, Mesolithic and Neolithic occupation remains lie buried beneath 4–5 m of later water-related deposits. However, these early prehistoric sites occurred on former, dry, land surfaces, indicating a period when these lowest-lying parts of the fen basin were host to dry grassland with areas of pine and deciduous woodlands – a time before the fens were wet. Nationally important designated sites of the Bronze Age are known from Flag Fen, Peterborough and Must Farm, Whittlesey, where wooden platforms, raised causeways, piled settlements and a group of eight boats have been found. In Lincolnshire, evidence of Neolithic and bronze-age occupation is often closer to the surface and tends to be known only towards the western edge.

Roman settlements occurred mainly on the high, drier islands and above the fen edge, while contemporary transport canals indicate huge efforts to traverse and control the fens. Car Dyke links the River Witham to the River Cam, while the Fen Causeway canal and road system linked a major Roman settlement at Peterborough with the Norfolk fen edge at Denver. Although salt-making sites were known throughout the fens from the 1st millennium BC, such as at Northborough, the industrialisation of this economy took off in the Roman period (for example at Deeping and Morton Fens and in the tidal creeks at March) with further expansion during the Saxon and medieval period.

In the Middle Saxon period, from around 650 AD, high-status centres and hermitages on the fen islands became centres of communities which later became monasteries with massive estates such as that at Crowland, Ramsey and Thorney. The earliest sea defences, the sea banks and sea dykes date

from this period although they were subsequently expanded and modified.

At the time of the Domesday Book in 1086, monastic houses owned the vast majority of the fen and fen-edge land. The swamps of the 'black fen', veined with watercourses, famously provided refuge for the Saxon folk hero Hereward the Wake in his resistance to the Norman authorities. A monastery preceded the establishment of the abbey and the cathedral church at Ely and lands on the clay island were granted to the monks to tend. The monasteries were at the heart of large-scale attempts to drain the fens, including the creation of stretches of canalised waterways. The River Great Ouse was diverted to run close to the Isle of Ely in the 13th century.

During the Middle Ages, the wetland resource of the Fens was widely used and was a centre of productivity for fishing, wildfowling, grazing, peat extraction and salt production. Medieval fisheries owned by the numerous fen monasteries occur at the margins of the former fen meres, for example those at Whittlesey, Willingham and Soham, and eels were a dominant element of the fenland food repertoire and manorial/local economies. Requiring greater connectivity across the marshes, the medieval monasteries and abbeys promoted the realignment and canalisation of some of the fenland rivers, as at March and Ely, and created canals and slades for transport between various islands – such as those between Ely, Chatteris and Ramsey.

In the 15th century, further attempts to create comprehensive drainage systems included the 22-km Mortons Leam, which still functions today, cut between Peterborough and Guyhirn under the aegis of Bishop Morton to carry waters of the River Nene to the Wash. This was the prototype for post-medieval fenland drainage schemes. Piecemeal drainage through 'assarting',

the process by which common land was enclosed under licence from landlords, allowed areas off the fen edge to be drained. This can be seen in the field systems surrounding some of the fen islands.

Seasonal grazing was prevalent in the medieval period when a pattern of radiating drove lines known as 'The Smeeth' developed between the coast and the inland grazing on the fens. Salt-making was also characteristic at that time. Residual mounds or 'salterns' remain in many places, especially at Spalding and around Boston. There is a line of salterns extending several kilometres southwards from Wainfleet.

The earthworks of 17th-century English Civil War defences are preserved in many parts of the fens, especially at the river estuaries and around the Wash. In the same century, the most important phase of land claim began when the 4th Earl of Bedford gained a Royal Charter to drain the 'wastelands' to create good summer grazing. The first engineering works commenced in the 1630s, but progress was halted by the Civil War. In the 1650s, Cornelius Vermuyden, a Dutch engineer, was appointed to continue the works. Rivers were straightened to increase water flow and sluices created against tidal inflow. The Hundred Foot or Ouse Washes were created to enable temporary controlled flooding at high tides and high river levels. Through this process the North, Middle and South 'Bedford' Levels were created. At this time, the economy in the area depended heavily on fishing, especially of eels, wildfowling and mixed farming. The fiercely independent locals, known as the 'Fen Tigers', fought against the drainage works which they thought would take away their livelihoods.

As peat soil was drained, it wasted and land levels lowered, which necessitated artificial pumping. In the 18th century, wind-powered pumps covered the landscape, to be replaced by steam pumps in the 19th century which allowed

the shallower open water of the meres to be drained. Whittlesey Mere was the last mere to be drained in the 19th century. Reclamation of the coastal salt marshes has also been significant, with new sea walls built to extend the rich agricultural land into the Wash resulting in loss of estuary habitats. Today, diesel and electric pumps are used to manage water levels.

The drainage was so advantageous to the productivity of the land that the former pastoral areas were converted to Grade 1 soils suitable for intensive arable, vegetable and horticultural production, with rebuilt farmsteads accommodating the yard-fed cattle whose manure further boosted fertility. The wealth created by the drainage of the area also came from new sources such as seed and bulb cultivation. The last areas to be drained were the East, West and Wildmore Fens of south-east Lincolnshire. Besides the draining of the inland fens, the reclamation of the coastal salt marshes has been significant. Council smallholdings developed as a distinctive feature of the Fens in the late-19th to mid-20th centuries.

The most noticeable change in the landscape at the end of the 20th and beginning of the 21st centuries has been caused by improved farming techniques such as trickle irrigation and the use of more precise technology. The Fens have remained mainly rural, although infrastructure – including wind turbines and rail gantries, visible from long distances – has been constructed. The bombing range at RAF Wainfleet has now closed but RAF Holbeach is still in regular use with aircraft noise carrying across wide areas. There have been recent efforts to re-create fenland to provide important habitat for rarer species and there has been focused activity on re-creating areas of wet grassland and fen, in particular at the Great Fen through the Great Fen Project, with the intention of creating an important link between Woodwalton and Holme Fens in the Cambridgeshire Fens. Partnership working elsewhere is also focusing efforts to re-create fenland to provide important habitat for rare species.

Ecosystem services

The Fens NCA provides a wide range of benefits to society. Each is derived from the attributes and processes (both natural and cultural features) within the area. These benefits are known collectively as ‘ecosystem services’. The predominant services are summarised below. Further information on ecosystem services provided in the Fens NCA is contained in the ‘Analysis’ section of this document.

Provisioning services (food, fibre and water supply)

- **Food provision:** Of the soils in the Fens, 87 per cent are classified as Grade 1 and Grade 2 agricultural land. The Fens NCA is one of the most important areas of food production in the UK, producing 37 per cent of our outdoor vegetables, 24 per cent of our potatoes, and 17 per cent of our sugar beet. An estimated 4,000 farms employ 27,000 people, pointing to some very intensively managed systems of food provision. Cropping includes a mix of arable crops, field-scale vegetables and fruit (for example around Wisbech). Glasshouses, polytunnels and plastic sheeting are a feature on the productive soils and multiple cropping is often undertaken with irrigation to satisfy market forces. This can place significant stress on soil and water resources.
- **Water availability:** There are a number of major rivers in the NCA, including the Great Ouse, rising on the Yardley–Whittlewood Ridge on the Northamptonshire–Buckinghamshire border, and the Nene and Welland, which rise in the Northamptonshire Uplands NCA. Small parts of a number of major aquifers fall just within the Fens NCA boundary. Where catchment abstraction management strategy (CAMS) assessments have been

undertaken, their status is assessed as ‘no water available’ in the summer months and ‘water available’ during the winter months. Rivers in the south and far south-east of the NCA generally have an ‘over-abstracted’ status. This has implications for active river processes, and the ecosystem services provided, throughout the system. Groundwater is also over-abstracted and again the underlying geology has implications for storage and yield.

- **Genetic diversity:** There are opportunities to preserve old varieties of fruit from traditional orchards for their taste, their genetic information and possible future crop breeding for resistance to diseases, for instance. A few rare breed livestock are maintained in the Fens – these are an important genetic resource.

Regulating services (water purification, air quality maintenance and climate regulation)

- **Climate regulation:** Peat deposits represent a key part of the carbon storage resource of the UK. Salt marshes and mudflats also have potential for long-term storage of carbon. Based on a review of the available literature, it appears likely that fenland peat soils are wasting at up to around 2.1 cm/year. For the surviving areas of deep peat it is estimated that the average wastage rate is around 1.5 cm/year. This is equivalent to around 9 per cent of the annual loss of organic carbon from 0–15 cm depth of all soils across England and Wales reported by Bellamy and others (2005) and about 0.3 per cent of the UK’s annual industrial emissions of carbon dioxide.
- **Regulating soil erosion:** Loamy and clayey soils with impeded drainage, particularly those with a high silt content, are easily compacted by machinery or livestock if accessed when wet, increasing risks of localised water run-off. Lighter-textured, silt-rich soils are at risk of water erosion

and sediment loss where cultivated or if bare soil is exposed, but this is likely to be localised due to lack of gradients. The coarser-textured (fine sandy and silty) mineral soils are also prone to wind erosion, particularly where low in organic matter content.

The peat-rich soils in this NCA are at risk of erosion. Loss of peat soil through peat wastage as a result of shrinkage by drainage and oxidation and wind erosion of exposed soils is particularly problematic with spring-sown root cropping such as sugar beet, carrots and parsnips where land is exposed throughout the winter. Wind erosion can be a major problem – ‘fen blows’ during prolonged dry spells can quickly erode large quantities of soil and, if they occur shortly after seeding, can result in large economic losses.

The loamy and sandy soils with naturally high groundwater and a peaty surface and the fen peat soils typical of inland areas are permeable soils with good infiltration and therefore at low risk of water erosion (except where cultivated land is susceptible to flooding) but are at high risk of wind erosion (blowing), especially where spring-sown crops are grown. Drainage and cultivation are leading to ongoing loss (wastage) of surface peat through shrinkage and oxidation.

Water erosion of soils is an issue in the Little Ouse priority catchment with light sandy soils, under maize and root cropping. In the Lincolnshire Coast Rivers catchment, water erosion may be associated with outdoor pig rearing or intensive cereal and oilseed rape production.

Increased rates of erosion and weathering are also likely as a consequence of future climate change.

- **Regulating soil quality:** The fine, light silty fens and the dark, humus-rich peaty fens are the key natural resource of the Fens. Wastage and lowering of the inland peat areas and the gradual transformation of their soils over time from peaty to mineral dominated, together with sea-level rise in an area dominated by pumped artificial drainage, will have a major impact on the ecosystem services provided in the longer term. In some wasted peat soils, locally the subsoils become highly acidic giving rise to hard, iron-rich ‘drummy’ layers affecting crop rooting and growth, and for damaging iron-ochre formation which blocks drains.
- **Regulating water quality:** Excess nitrates, phosphates and pesticides have led to pollution and eutrophication in watercourses. In addition, soil erosion is identified as an issue. The Anglian River Basin Management Plan indicates that the ecological status of rivers and waterways in the NCA is either good or moderate. Owing to a range of factors (cross-compliance, Environment Agency (EA) schemes, catchment sensitive farming (CSF), technological improvements and better understanding among farmers), water quality is improving. Chemical water quality is generally good apart from sections of the Nene and Great Ouse which fail to reach good status within the majority of their lengths within the NCA. Where the groundwater chemical status has been assessed, it is rated as good.
- **Regulating water flow:** The Fens are low lying with much land below sea level. The Environment Agency flood risk map indicates that the majority of the NCA is at high risk of river and/or coastal flooding. Flood control is a key issue for most of the NCA, particularly since the major flooding events in 1953. Possible increases in precipitation associated with climate change may lead to an increase in flooding. However, most settlements are offered some protection from flooding by manmade defences on

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the coast and main rivers. In addition, washlands (areas of permanent grassland deliberately flooded to prevent rivers overtopping) have been created on the major river systems.

- **Regulating coastal flooding and erosion:** The coastline within this NCA is formed of mudflats and salt marshes, which provide internationally important habitats for wildlife as well as important natural sea defences, backed by manmade coastal defences. The salt marshes are currently increasing in area, affording increased natural protection for the coastline. Over the medium and long term, it is probable that the balance of salt marsh and mudflats will change or be lost altogether through erosion, as a result of climate change, and associated isostatic adjustment will increase coastal squeeze where the salt marsh is constrained by coastal defences on its landward side. In the short term, the policy approach is to hold the existing sea bank alignments and in the medium and long term (with the risk of erosion of mudflats and salt marshes) landward realignment will need to be considered as an alternative to holding the line. Climate change presents a challenge to how we regulate/change the balance.

Cultural services (inspiration, education and wellbeing)

- **Sense of place/inspiration:** The sense of place in the Fens is provided by the geodiversity underpinning the large-scale, flat and open landscape with long views, expansive skies and spectacular sunsets. The feeling of scale is further emphasised by the rich and varied, intensive agricultural land use that also produces strong seasonal changes from the black of bare, peaty soils to the rich colours of agriculture to the whites of winter. The feel and light in the landscape can quickly change with weather conditions. The landscape and its associated wildlife have inspired artists including Sir Peter Scott (who founded the Wildfowl and Wetland Trust) and more recently Carry Akroyd.

Traditional activities such as ice skating on frozen marshes, eeling and punting through reedbeds have become even more marginalised during the 20th and early 21st centuries. Graham Swift's 1980s novel *Waterland* keenly identifies the changing lifestyles of fenland people.

- **Sense of history:** The Fens' distinct history and character is inextricably associated with the rich soils which are only accessible as a result of persistent efforts to drain the area. The drainage infrastructure (including the network of drainage ditches, embankments and pumping stations) provides an evident reminder of the area's reclaimed past. The sediments themselves contain a record of ancient landscape and climates, with the currently wasting peat revealing well-preserved remains of prehistoric landscapes with especially rich archaeology, including prehistoric and Roman artefacts and features found on fen margins. Diverse field patterns are being exposed, ranging from the ancient semi-regular enclosure of the settled fens to the engineered 18th-century fields of the open inland fens.

The underlying clay has enabled a brick-making industry which has been a major part of local economies and provided much employment at the 'brick pits.'

- **Tranquillity:** Many parts of the Fens are tranquil, particularly around the edge of the Wash. The open and empty landscape means different things to different people; some can find it featureless and intimidating whereas others value the tranquillity that still persists away from the settlements and major transport corridors. Sense of tranquillity is likely to be particularly associated with the area's remaining wetland habitats, notably the large marsh areas adjacent to the Wash.

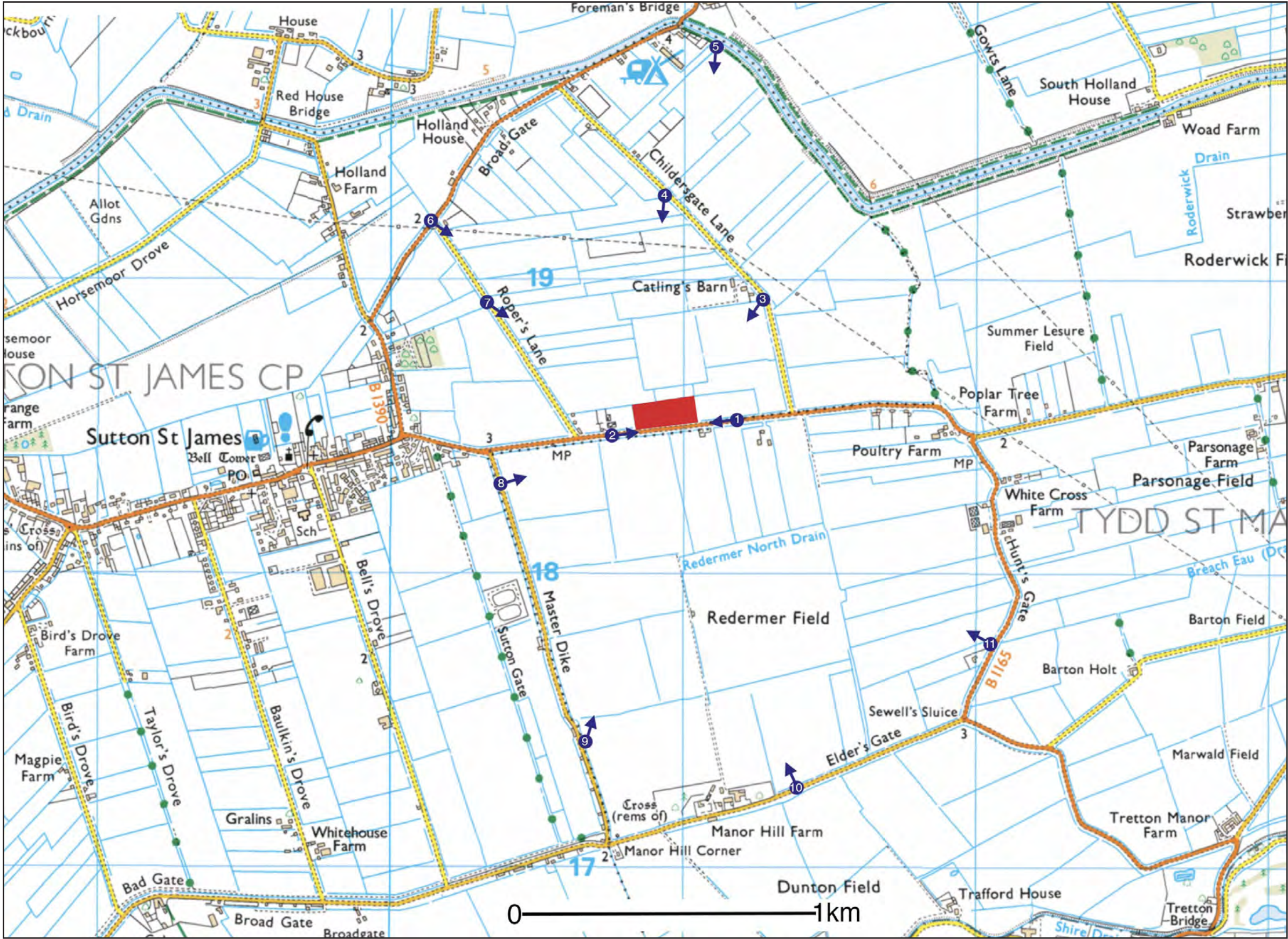
- **Recreation:** Major habitat restoration projects at Great Fen, Willow Tree Fen and Wicken Fen offer opportunities for improving and creating new access. There is a visionary long-term plan for a Fens Waterway Link joining Lincoln, Boston and Ely, which will progressively open up the Fens for boating. New national coastal access routes are planned and there are opportunities for promoting long-distance walking (such as the Ouse Valley Way, Hereward Way and Nene Valley Way). In addition to the Fens Waterway Link project, the Fens for the Future project is providing a long-term vision. Both aim to give local people a sense of ownership of their local waterways and a sense of belonging, with opportunities for recreation, enjoyment and healthy activities.
- **Biodiversity:** The Fens are particularly important in terms of their biodiversity. Areas of the Fens have been designated as Special Areas of Conservation (SAC) and Special Protection Areas (SPA) because they are internationally important for species including the spined loach. Important habitats include seasonally flooded, wet grassland such as the Ouse Washes, calcareous fen and ditches. The large embayment of the Wash, with its associated salt marsh and mudflats, provides important habitats for a number of bird species including pink-footed and Brent geese, shelduck, lapwings, oystercatchers, common terns and various plover species. The Fens are important as a feeding ground for marsh harriers; the Wash also has 90 per cent of the UK's common seals.
- **Geodiversity:** Geodiversity is also very important in determining the wider landscape and character of the Fens, from the topography to the soils. More locally, the Jurassic clays are significant for palaeontology, with major Jurassic reptiles present and many smaller fossils – ammonites, belemnites and other genera – common. Leedsichthys, the world's largest

fish, was discovered in, and is still being unearthed from, these same sediments. The Quaternary deposits contain important records of climate and environmental change. These provide an important context and insight into our understanding of the potential impacts of future climate change and global warming. Several Sites of Special Scientific Interest (SSSI) have been notified for their buried Holocene (Flandrian) sediments, which record fluctuations of relative land and sea levels during the Holocene. The Ouse Washes are geomorphologically significant as a notable example of a naturally functioning flood plain system.



The famous Holme Post demonstrates the historic wastage of peat.

Appendix 6 – Photoview Location Plan



The site



Viewpoint Location



DRAWING Viewpoint Location Plan			
PROJECT Draw Dyke			
CLIENT Mr and Mrs Peace			
SCALE As shown	DATE June 2021	DRAWN SW	
DRAWING NUMBER BLA022 - 002		REVISION -	

Appendix 7 – Representative Photoviews



Ponderosa

Approximate extent of site

Viewpoint 1 - View from Draw Dyke looking west

Single 'monocular' view - 390mm width x 260mm height
when printed at A3 and viewed at 542mm



Viewpoint 2 - View looking east along Draw Dyke

Single 'monocular' view - 390mm width x 260mm height
when printed at A3 and viewed at 542mm



Viewpoint 3 - View from Childersgate Lane looking south-east

Single 'monocular' view - 390mm width x 260mm height
when printed at A3 and viewed at 542mm



Viewpoint 4 - View looking south from Childergate Lane

Single 'monocular' view - 390mm width x 260mm height
when printed at A3 and viewed at 542mm



The Site

Viewpoint 5 - View South Holland Drain bridleway looking south

Single 'monocular' view - 390mm width x 260mm height
when printed at A3 and viewed at 542mm



The Oak Grove

Approximate extent of site

Viewpoint 6 - View from close to junction of Sutton Road and Roper's Lane looking south

Single 'monocular' view - 390mm width x 260mm height
when printed at A3 and viewed at 542mm



Viewpoint 7 - View from Roper's Lane looking south-east

Single 'monocular' view - 390mm width x 260mm height
when printed at A3 and viewed at 542mm



Viewpoint 8 - View from Master Dyke looking west

Single 'monocular' view - 390mm width x 260mm height
when printed at A3 and viewed at 542mm



Viewpoint 9 - View from Master Gate looking north-east

Single 'monocular' view - 390mm width x 260mm height
when printed at A3 and viewed at 542mm



Birchland

Ponderosa

Approximate extent of site

Viewpoint 10 - View from Elder's Gate looking north

Single 'monocular' view - 390mm width x 260mm height
when printed at A3 and viewed at 542mm



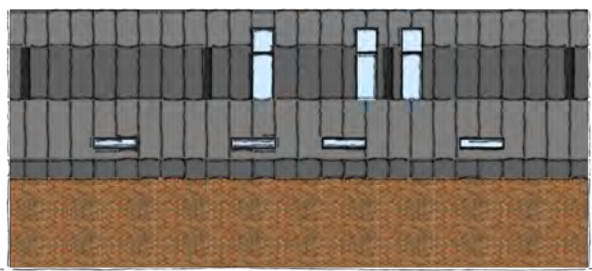
Viewpoint 11 - View from Hunt's Gate looking north-west

Single 'monocular' view - 390mm width x 260mm height
when printed at A3 and viewed at 542mm

Appendix 8 – Sketch Floor Plan, Elevations and Site Plan



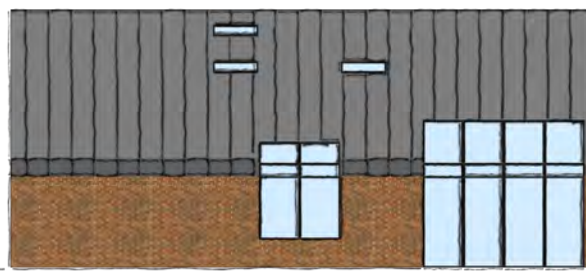
West Elevation 1:200



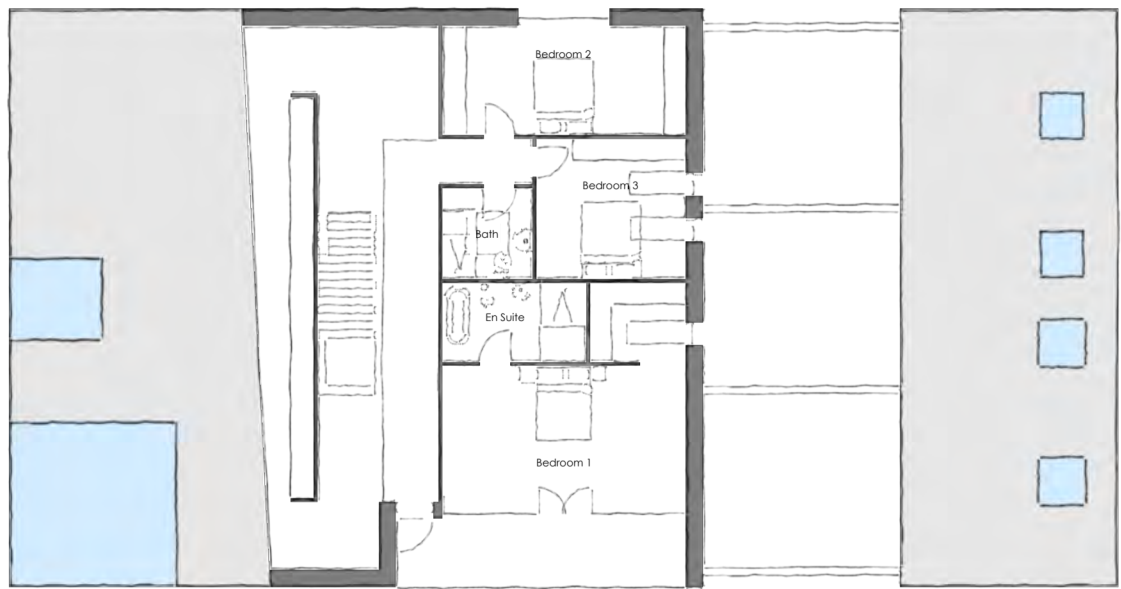
South Elevation 1:200



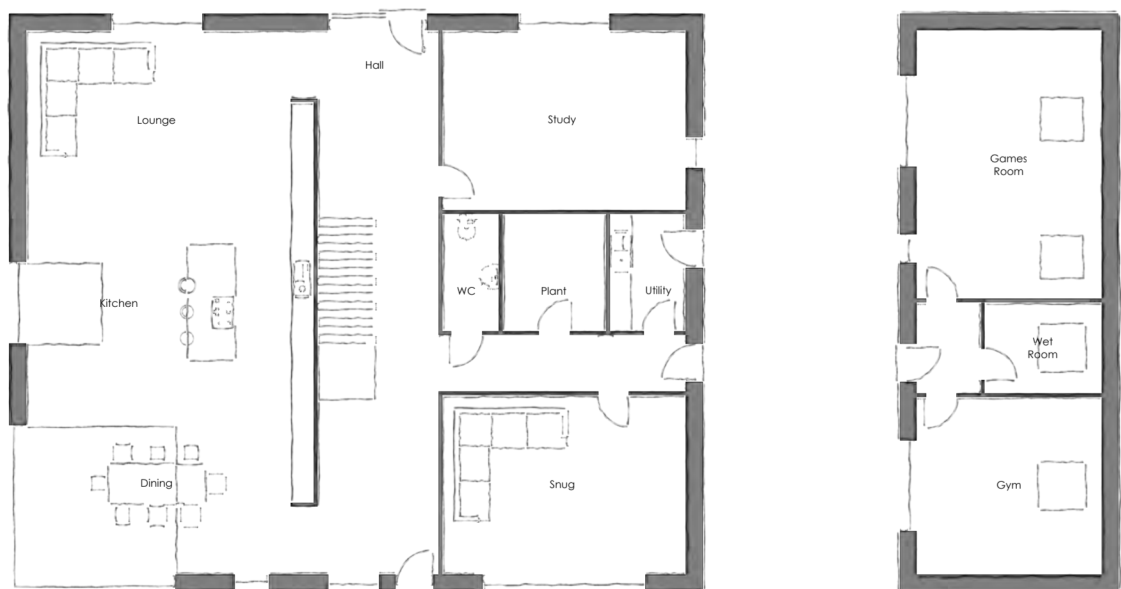
East Elevation 1:200



North Elevation 1:200



First Floor Plan 1:200



Ground Floor Plan 1:200



1:200



North Elevation



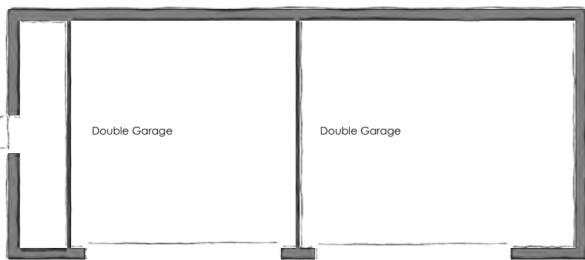
West Elevation



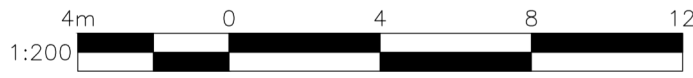
South Elevation



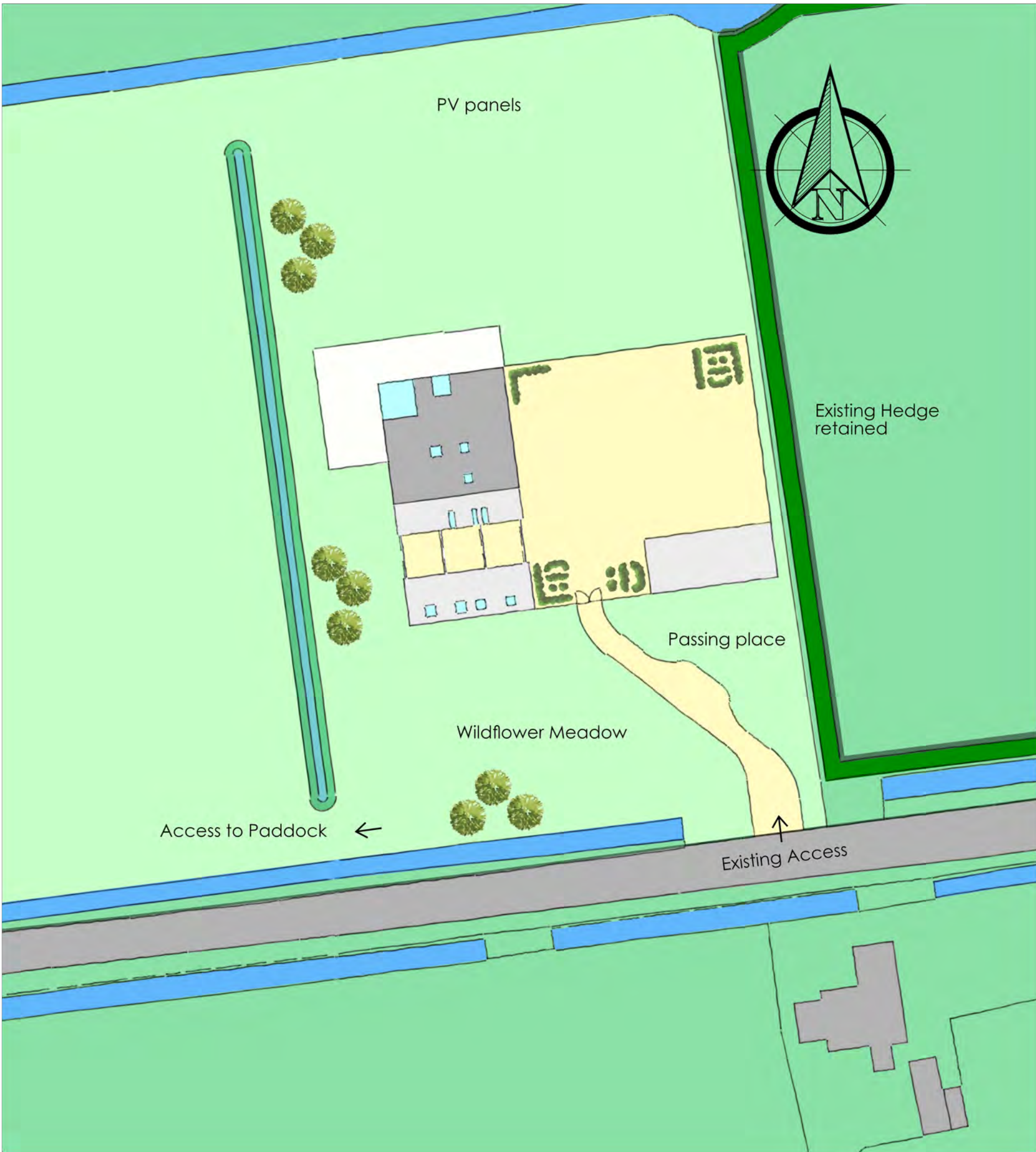
East Elevation



Garage 1:200



1:200



Site Plan 1:500



1:500

E	15.04.2021	JMG	Amendments in accordance with client comments.
D	14.04.2021	JMG	Site Plan and Garage added.
C	18.05.2021	JMG	Elevation material options removed from preference and other amendments at client request.
B	14.05.2021	JMG	Elevations added with different material position options.
A	07.05.2021	JMG	Amendments as per client instruction.
REVISION	DATE	DRAWN	DESCRIPTION



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CLIENT	Mr & Mrs Peace		
PROJECT	New Dwelling Draw Dyke, Sutton St James		
DRAWING	Sketch Floor Plans, Elevations & Site Plan		
DRAWN JMG	PROJECT DESIGNER JMG	PROJECT DIRECTOR KB	
DATE 05.05.2021	SCALE See Drawing	PAPER SIZE A1	
DRAWING NUMBER	519.SK.01		
Working in partnership with Ralph Charman Associates & Eleven Consultants			

