



Submission  
on Behalf of Jaynic Properties Ltd

in respect of

Land South and East  
of A14 Services, Boxworth

March 2025



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**Client**

Jaynic Properties Ltd

**Prepared by:**

[Redacted]

Cheffins, Clifton House, 1 & 2 Clifton Road, Cambridge, CB1 7EA.

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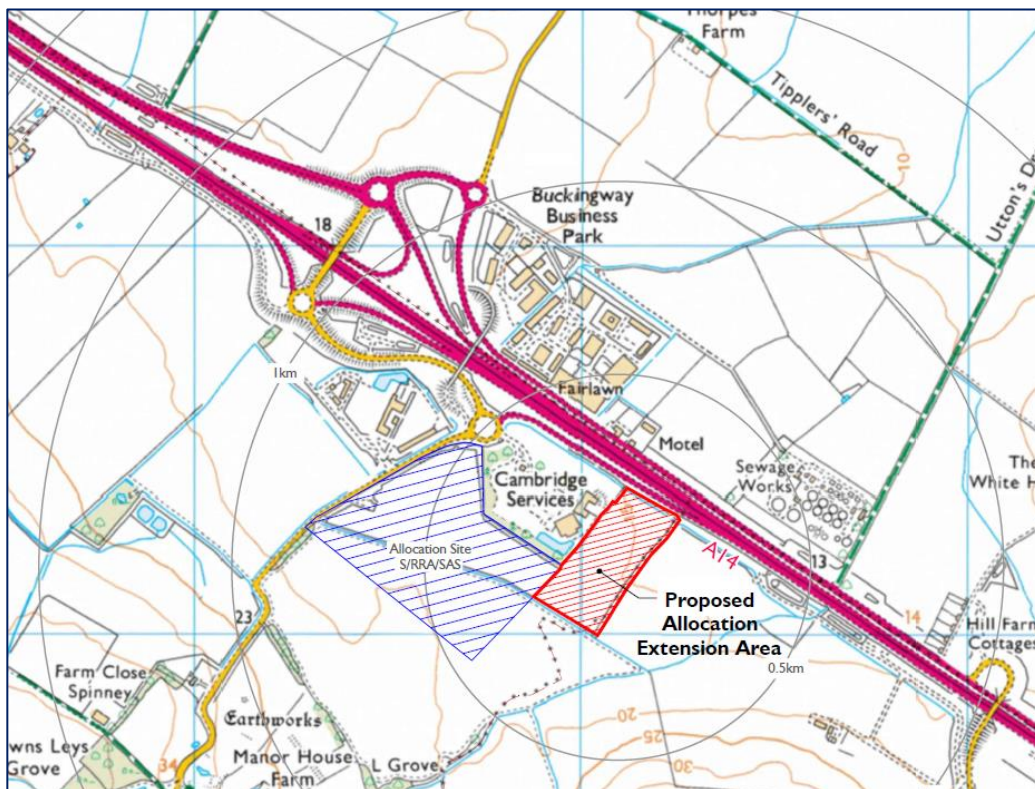
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## 1. INTRODUCTION

- 1.1. This submission responds to the Call for Sites Consultation: Site Submissions Update 2025 which Greater Cambridge Planning Policy Department is running from the 14<sup>th</sup> February to the 7<sup>th</sup> March 2025. This submission concerns the request to allocate additional land to the east of Cambridge Services, to provide land for additional HGV parking associated with the adjacent motorway services, together with an extension of the proposed employment site, which was previously a draft allocation in the previous Regulation 18 of the Greater Cambridge Local Plan. The allocation reference was (S/RRA/SAS).
- 1.2. The previously allocated land (S/RRA/SAS) is shown in the plan below hatched in blue and comprises around 18.62 Ha, and the proposed extension land to the east is shown hatched in red, comprising around 6.05 Ha.



- 1.3. This submission is made on behalf of land promoter and developer Jaynic Properties Ltd, with input from Extra MSA Cambridge Ltd (owners of the Cambridge Services) and also references a conference call on 24<sup>th</sup> May 2022 attended by the following:

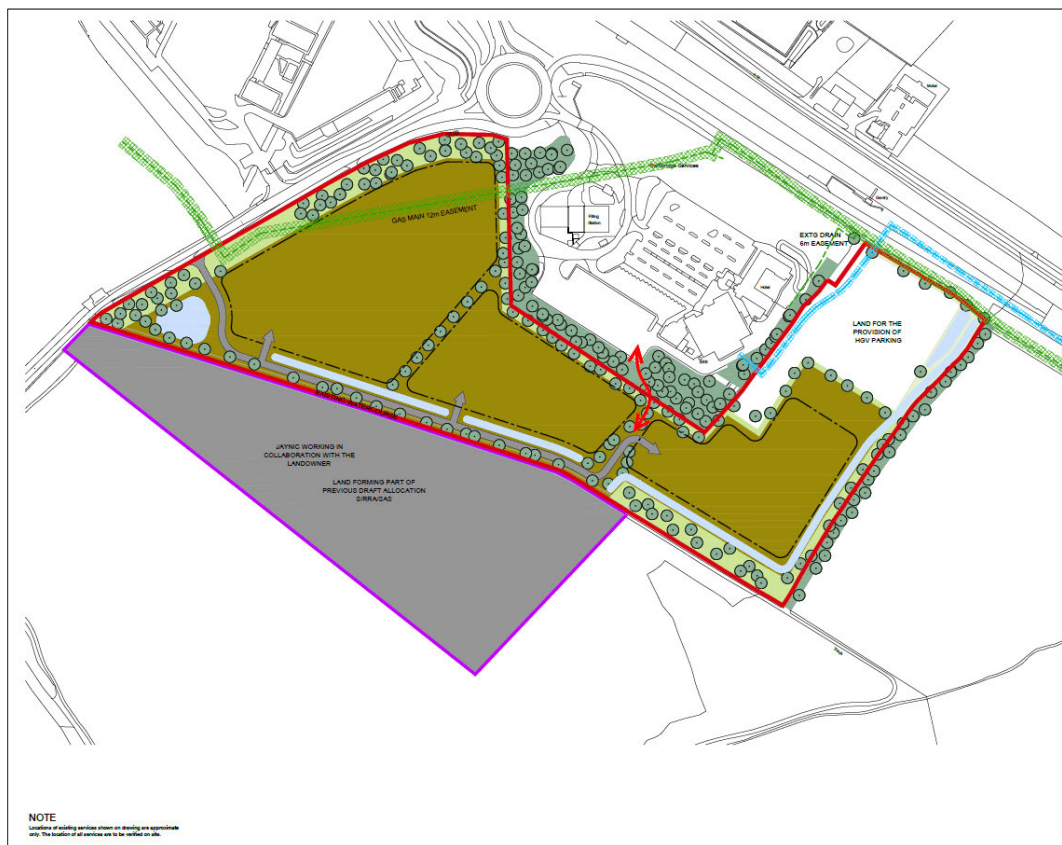
Jonathan Dixon (Greater Cambridge Partnership)  
 Johanna Davies (Great Cambridge Partnership)  
 Nikki Sills (Zerum, on behalf of Extra MSA Cambridge Ltd)  
 Andrew Anderson (Jaynic Properties Ltd)

Jaynic Properties Ltd act as land promoter on behalf of the landowner.

- 1.4. The 24<sup>th</sup> May 2022 conference call was to discuss the following:



- a) The need for Cambridge Services to provide additional HGV parking spaces in order to meet current and future demand in this location, by extending its site to the east, and;
  - b) The potential to extend the previous draft employment allocation, both to meet additional need for employment land and to make use of an otherwise severed, and therefore unviable, small agricultural field.
- 1.5. The illustration below shows an indicative masterplan incorporating the previous draft allocation, together with the "eastern field", where it is proposed the previous draft allocation is extended. This proposed additional allocation comprises approximately 6.05 Ha, of which 2.25 Ha is for additional HGV parking associated with the adjacent Services and 3.8 Ha of additional employment land. (Please see the plan at a larger scale at Appendix 1).



- 1.6. On the 24/5/22 conference call, Jaynic Properties and Extra MSA Cambridge Ltd were advised by the officers of the Greater Cambridge Partnership that it would be useful to provide the following further information in order for the local planning authority to consider the proposals further in the future:
- 1) A statement outlining landscape impact and mitigation in respect of the proposals;
  - 2) A commentary regarding potential flood risk and surface water drainage;
  - 3) An Indicative Masterplan.
- 1.7. This submission contains all the information above, summarised in the body of the report, and the reports reproduced in full (where relevant) as appendices.

## 2. HGV PARKING NEED

- 2.1. An assessment was prepared by DTA Transport Planning Consultants in 2022, on behalf of Extra MSA Cambridge Ltd (Extra), to set out the need, case and transport issues relating to their proposals for the provision of additional HGV parking at Cambridge Services. An update to this assessment is underway and will be available for the next consultation of the emerging Local Plan.
- 2.2. The importance of service areas in general is set out in DfT Circular 02/2013. This confirms, at Para B4, that: "Motorway service areas and other roadside facilities perform an important road safety function by providing opportunities for the travelling public to stop and take a break in the course of their journey". The Service Area is an essential part of the strategic MSA (Motorway Service Area) network.
- 2.3. The publication (June 2022) of the Department for Transport's "Future of Freight: A long term plan" recognises the importance of the freight industry to the UK economy and confirms its intention to support and develop it. Specifically, the report refers to updating Circular 02/2013 *"including higher standards for roadside facilities on the strategic road network so that government can provide better facilities for HGV drivers"*. The government recognises that the planning system should be modernised in order to support the land use needs of the sector including: *"How the requirement for HGV parking can be better facilitated within the planning system, particularly at freight sites such as distribution and logistics centres along with the better utilisation of existing infrastructure to accommodate HGV parking"*
- 2.4. Cambridge Services forms an essential part of the MSA network. The DTA report reflects its crucial location on the A14 in close proximity to the M11. It finds that works undertaken in 2021 by National Highways involved removal of a significant number of existing roadside HGV laybys. At the same time, overall HGV movements are increasing. As a result, there has been a marked increase in the use of the MSA by HGVs. Whilst the most recent site improvements were designed to accommodate expected flows, demand already exceeds capacity, particularly at night time.
- 2.5. The important existing and future role of Cambridge Services will further grow over time as flows on the A14 increase and it is inevitable that certain elements of the overall facilities will need to increase in scale, particularly car and HGV parking, to help ensure it fully fulfils its purpose.
- 2.6. A letter of support from MSA Extra is appended to this statement at Appendix 4.

## 3. STATEMENT ON LANDSCAPE IMPACT/MITIGATION

- 3.1. Prepared by Indigo Landscape Architects Ltd.
- 3.2. The findings of the landscape and visual appraisal are summarised below:
  - The scheme will principally exert a localised area of influence in terms of landscape and visual effects, seen in context with the existing Cambridge Services and Buckingham Business Park sites from a limited number of locations within 0.5 – 1km of the proposal site.
  - The proposal will not have significant landscape or visual effects upon any statutory designations.
  - The site land use will change from that of brownfield and arable land to a commercial and industrial development, however the proposed development would not cause any loss to the defining characteristics of the local character or result in any substantial additional feature over and above those which already exist and no key landscape characteristics would be harmed by the proposal.

- The proposal is judged to have a moderate to low adverse visual effect on receptors in the medium to long term.
  - Over time, the landscape buffer around the proposed extension to the existing draft allocation (i.e. land east of the Services) will increasingly filter and screen views of the development as the planting establishes and matures. This will ultimately replace the existing landscape buffer surrounding the Cambridge Services site, forming a new field boundary in keeping with local landscape character.
- 3.3. It is therefore anticipated that there would be no significant effect upon any of the landscape or visual resources that the development proposal is likely to have an influence over.
- 3.4. The proposed development, experienced in the context of the existing Cambridge Services site and Buckingham Business Park is consistent with the local landscape setting and would not cause any loss to the defining characteristics of the LCA or result in any substantial additional feature over and above those which already exist.
- 3.5. The proposed development would also not constitute an uncharacteristic element within views available at a local level and will, on balance, have limited effect on the overall scene in the medium to long term. Any change would be seen in the context of similar development and will be filtered and screened over time as the landscape buffer around the Site perimeter matures. Consequently, it is judged the development proposal would be a slightly detrimental alteration that would not significantly change baseline views in the long term.
- 3.6. In conclusion, it is considered that the Site (i.e. existing draft allocation and additional land to the east) is a suitable location to accommodate the proposed development.
- 3.7. A copy of the full report is attached to this report at Appendix 2.

#### **4. STATEMENT ON FLOOD RISK / SURFACE WATER DRAINAGE**

- 4.1. Prepared by Richard Jackson Engineering Consultants.
- 4.2. Catchment Assessment
- 4.3. The GOV.UK surface water flood mapping is a mass-produced dataset and does not always represent the surface water flood risk / flow route accurately and may exaggerate the flood risk. This is especially the case in the first 5km<sup>2</sup> of a catchment where the method used for the production of flood mapping has been shown to exaggerate flood risk in the past.
- 4.4. With the benefit of a topographical survey of the site and surrounding watercourse network (dated July 2022), a Catchment Assessment has been undertaken to investigate the capacity, hydraulic restrictions and potential flood zones of the watercourses running within the site. The study then reviews the water flows by catchment to assess the actual level of flood risk.
- 4.5. The study concludes that the existing drainage system does have the capacity to convey the flows for all events up to and including the 1 in 1,000 plus CC year event and that development of the site for commercial use would be acceptable in flood risk terms, given the site is located entirely within Flood Zone 1. A copy of the full report is attached at Appendix 3.
- 4.6. Surface Water Management
- 4.7. The British geological survey mapping shows that this site is underlain by the West Walton Formation and Ampthill Clay formations. This geology does not suit infiltration. Therefore the proposed development will be served by a Sustainable Urban Drainage System (suds) that will control both surface water outflow rate and also improve the water quality before the outfall. At this stage of the development process there are no fully designed solutions, however the indicative masterplan has considered the need to convey flows to the north and the south of the site such that water remains in its current catchments.

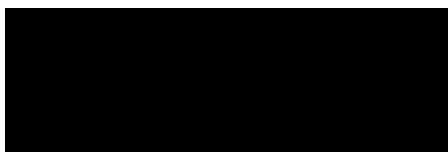
- 4.8. The Suds train will include rainwater harvesting, green/blue or brown roofs on small buildings, permeable paving, swales and basins. The train will slow the flow of water to the outfalls. At the outfalls the rate of discharge will be restricted to greenfield rate to reduce flood risk off site.
- 4.9. The development will consider extreme rainfall events and provide over land flow routes. This will reduce the risk of internal flooding in an extreme event.
- 4.10. The bodies responsible for the maintenance of the Suds train elements will be defined at application stage, however it is anticipated that each plot occupier will be responsible for maintaining the Suds elements within their boundary and that a management company will be responsible for the remainder of the system.
- 4.11. It is also anticipated that the extension to the HGV parking area will be served by a separate system that will be maintained by Cambridge Services.
- 4.12. Residual Risk
- 4.13. At this site residual flood risk will be related to extreme rainfall events that produce more water than the drainage system is designed for. The extreme flood flow routing will direct water to areas that are less vulnerable to flooding such as parking and open space.

## **5. INDICATIVE MASTERPLAN**

- 5.1. Prepared by Frank Shaw Associates Ltd.
- 5.2. An indicative Masterplan showing the integration of land proposed as an extension to the previous draft allocation is reproduced at Appendix 1.

## 6. CONCLUSION

- 6.1. The need to expand the HGV parking area can be demonstrated to be a requirement for Cambridge Services to continue to play its role as an integral part of national transport infrastructure. The DfT's (June 2022) publication "Future of Freight: A long term plan" clearly recognizes the importance of the freight industry to the UK economy and to its Levelling Up agenda. This report sets out a plan to support the land use needs of the sector to enable the development of improved facilities for HGV drivers.
- 6.2. The eastward expansion of Cambridge Services could potentially provide around 150 HGV parking spaces and would require around 2.25 Ha in the landowner's "eastern field". This field is already well-defined in terms of established boundary features, including ditches, hedgerows and a tree belt; and comprises approximately 6.05 Ha.
- 6.3. The proposed expansion to the Services would sever the existing agricultural access to the remainder of the field (around 3.8 Ha), which with its reduction in area, would render the land unviable for agricultural use. In light of the need for additional employment land, we propose that this 3.8 Ha 'remainder' land is allocated for employment use and incorporated into the land included in the previous draft allocation site, (LPA Ref: S/RRA/SAS).
- 6.4. Our indicative masterplan demonstrates how this can be achieved and we consider that the need for additional employment land in this location has been well demonstrated, and this submission demonstrates that there would be no significant effect on landscape or visual resources.
- 6.5. In respect of flood risk, a Catchment Assessment has been prepared, which demonstrates that the existing drainage system does have the capacity to convey the flows for all events up to and including the 1 in 1,000 plus CC year event. Furthermore, the development of the site for commercial use would be acceptable in flood risk terms as the focussed study confirms that the entire site is within Flood Zone 1.
- 6.6. The land promoter would welcome further discussions with officers following this submission.



For and on behalf of  
Cheffins,  
Clifton House, 1&2 Clifton Road,  
Cambridge, Cambridge CB1 7EA.

Appendix 1 – Indicative Masterplan, Frank Shaw Associates, March 2025





Status

FOR INFORMATION

- Zonal Masterplan Legend**
- Gross site boundary  
16.39 hectares
  - Line of existing sewer pipe  
and associated easement
  - Line of existing gas pipe  
and associated easement
  - landscape buffer / planting
  - Indicative developable land
  - Potential balancing ponds /  
biodiversity enhancements
  - Existing landscaping / trees
  - Potential footpath / cycle  
link to adjacent amenities
  - Indicative development  
parcels
  - Potential new access and  
feeder roads

P12	BOUNDARY UPDATED	28/2/25	DHW
P11	UPDATED TO CLIENT COMMENTS	27/02/25	DHW
P10	UPDATED TO CLIENT COMMENTS	26/02/25	CAP
P09	UPDATED TO SHOW POSSIBLE ACCESS POINTS & ADDITIONAL LAND	24/07/23	MJB
P08	UPDATED TO RETAIN / ENHANCE THE EXISTING WATERCOURSE	17/07/23	MJB
P07	UPDATED TO CLIENT COMMENTS	06/09/22	DHW
P06	UPDATED TO CLIENT COMMENTS	24/06/22	MJB
P05	ADDITIONAL SWALES ADDED, BUFFERS TO SERVICES EXTENSION ADDED.	22/06/22	MJB
P04	CAMBRIDGE SERVICES EXTENSION ADDED AND SITE AMENDED TO SUIT	20/06/22	MJB
P03	UPDATED TO CLIENT COMMENTS	06/12/21	DHW
P02	UPDATED TO CLIENT COMMENTS	02/12/21	MJB
P01	UPDATED TO CLIENT COMMENTS	02/12/21	MJB
No	Revision	Date	Initls

LAND SOUTH AND EAST OF THE  
A14 SERVICES

Drawing

INDICATIVE MASTERPLAN

Client

FRANK

SHAW

ASSOCIATES

LIMITED

ARCHITECTS

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Tel 01246 233255				www.frankshawassociates.co.uk
Scale		Drawn/Checked		
1 : 1500@A1		MJB / DHW		
Job No		Date		
20045		25/11/21		
Drawing Number		Rev		
20045-FSA-XX-XX-DR-A-0005		P12		

**NOTE**

Locations of existing services shown on drawing are approximate only. The location of all services are to be verified on site.



## Appendix 2 – Landscape Statement, Indigo Landscape Architects, March 2025





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# **LANDSCAPE STATEMENT**

**CAMBRIDGE SERVICES, SWAVESEY**

**FOR**

**JAYNIC PROPERTIES LIMITED**

MARCH 2025

Ref: I036-LS Rev A4

In the interest of sustainability, this document is intended  
to be printed double sided on A3 paper.

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DOCUMENT REFERENCE	I036-LS RevA4
AUTHOR(S)	<div></div>
STATUS	PLANNING

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- 2.0 PLANNING CONTEXT**
- 3.0 LANDSCAPE AND VISUAL BASELINE**
  - 3.1 SITE DESCRIPTION**
  - 3.2 LANDSCAPE CHARACTER**
- 4.0 DESIGN PROPOSALS**
- 5.0 VISUAL ANALYSIS**
- 6.0 LANDSCAPE ANALYSIS**
- 7.0 SUMMARY AND CONCLUSIONS**

1.0 INTRODUCTION

Reason for study

This Landscape Statement is provided to support the further evidence submitted as part of the Call for Sites Submissions Update 2025 consultation. The site shaded blue was originally proposed as a draft allocation in the Regulation 18 Greater Cambridge Local Plan iteration under policy S/RRA/SAS. This additional information relates to land within the same ownership to the east of the previous draft allocation.

The purpose of this document is to provide a preliminary review of the Landscape and Visual effects that may occur as a result of development on the extended site, and has been prepared by Indigo Landscape Architects Ltd. This document is not intended to provide a full Landscape and Visual Impact Assessment (LVIA), however we have endeavoured to provide sufficient information, level of detail and analysis to explain the likely effects of the proposal at this stage. As the Council is only asking for updates and changes to previous submissions, this Landscape Statement focuses on the additional land, rather than the draft allocation as details pertaining to this part of the site have already been submitted.

Site Location

The Site is located immediately east of the Cambridge Services (Extra) A14 / M11 site, adjacent to the A14 abutting the previous draft Allocation Site S/RRA/SAS.

1.1 METHODOLOGY

The methodology and guidelines used in the preparation of this analysis have been developed from the following:

- An Approach to Landscape Character Assessment, Natural England, 2014; and
- Guidelines for Landscape and Visual Impact Assessment (GLVIA), Third Edition, Landscape Institute and IEMA, 2013.

The approach to the Analysis has involved the following steps:

- Recording and analysis of the existing landscape elements (physical features), landscape character and visual amenity associated with the proposed Extension Area and surrounding area through desk based study and field appraisal;
- Appreciation of the form and scale of the proposal having regard to the landscape and visual context;
- Identification and evaluation of the sensitivity of the existing landscape and visual receptors likely to be affected by the proposed Extension Area;
- An assessment of the level of effect likely to result from development of the proposed Extension Area.

As such, this report aims to assess the effects of develop within the proposed Extension Area on the existing landscape and views / visual amenity, having regard to the potential harm or benefit to the receiving environment and sensitive receptors.

The visual analysis was carried out from a range of publicly accessible points in the surrounding landscape to establish the possible extent of visual influence of the proposed Extension Area. While public views are generally given more weight due to the greater number of people likely to experience the view, private / not publicly accessible locations have also been considered using a combination of desktop study and observation from the nearest publicly accessible location.

The site was visited on 29 November 2021 and re-verified on 14 February 2025 based on current site photographs. Representative photographs were taken from the position where the proposal site would likely be most visible where many similar view points were available. The photographs demonstrate the potential extent of the development’s visual envelope.

Photographs were taken with a Nikon D3500 digital SLR camera with a fixed focal length Nikon 35mm lens.

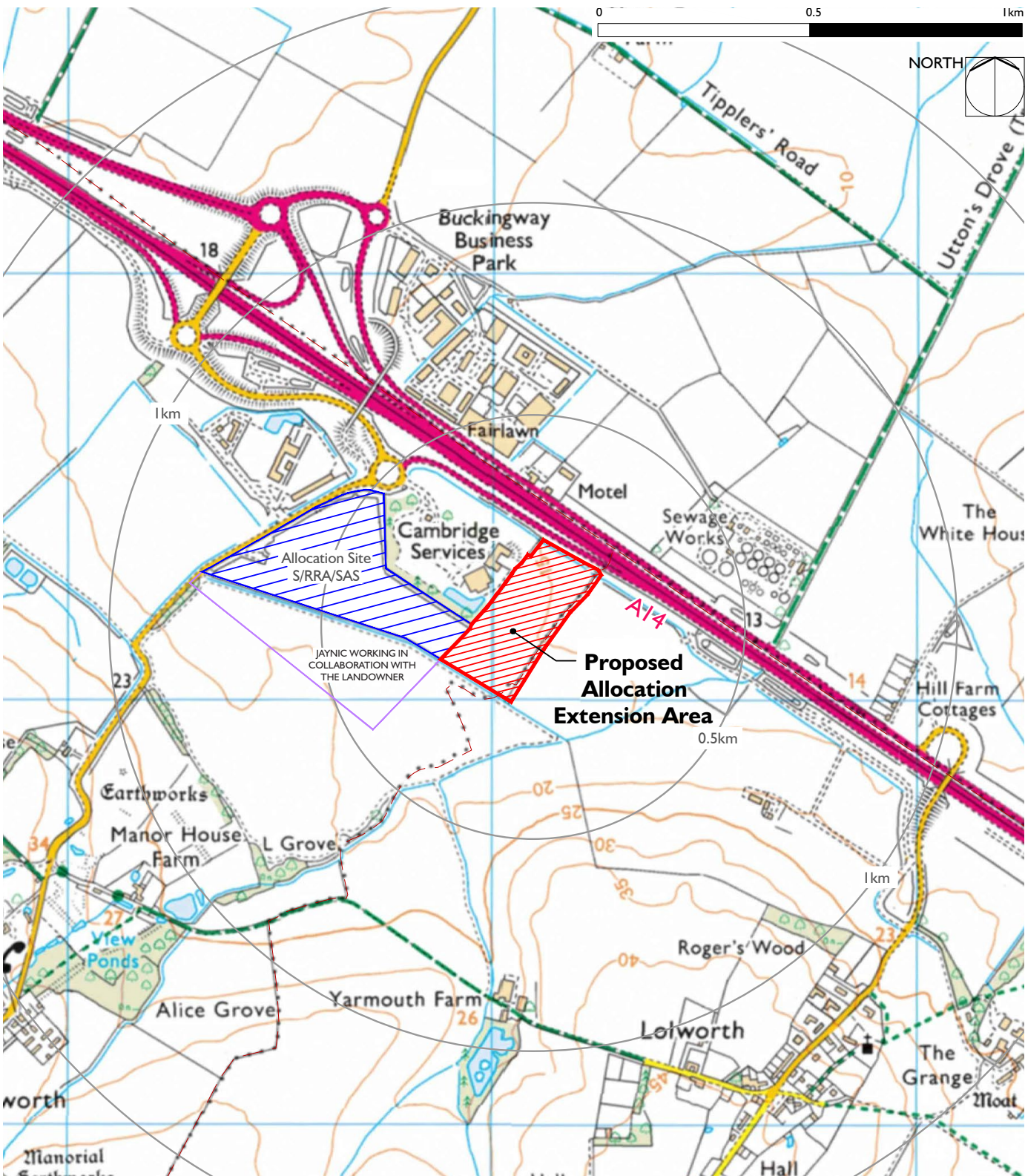


FIG. 1 - SITE LOCATION PLAN

**2.0 PLANNING CONTEXT**

This document was originally prepared in response to the Greater Cambridge Local Plan - First Proposals which were issued for consultation between 1st November and 13 December 2021.

The Site is a proposed extension of the previous draft allocation (ref: S/RRA/SAS) which was previously allocated in the Reg 18 stage. The Site is approximately 6.5 hectares located east of the A14 Cambridge Services accessed from Boxworth Road through the already promoted site. The Site is located within the administrative boundary of South Cambridgeshire in the Parish of Boxworth and is being considered for additional HGV parking serving Cambridge Services and for Class B2 General Industrial and Class B8 Storage or Distribution uses with ancillary supporting uses.



3.0 LANDSCAPE AND VISUAL BASELINE

3.1 SITE DESCRIPTION

THE SITE

The Extension Area is an approximately 6.5 hectare site located east of the A14 Cambridge Services. The Site is an existing cultivated field bound by the A14 to the north, Cambridge Services to the west, and cultivated fields to the south and east. A double layered hedgerow with access track forms the Site's eastern boundary.

TOPOGRAPHY

The Extension Area, previous draft allocation site and adjacent Services and business park lie within a relatively flat area at the base of a low ridge. To the north, the landscape remains low and flat, transitioning to the Fens National Character Area further north. To the south the immediate landscape rises  $\pm 40\text{m}$  transitioning into a gently undulating plateau characteristic of the Cambridgeshire Claylands National Character Area. This low ridge generally encircles the Site, cutting off views further south.

LAND USE

The Extension Area is located on the eastern edge of the Cambridge Services site and opposite the Buckingham Business Park site (located on the north side of A14 / A1307). The Site is to be accessed through the previously promoted allocation site (and previous draft allocation) from Boxworth Road and the A14. Beyond this built up employment area, the surrounding landscape generally consists of cultivated fields with low hedge boundaries and occasional tree belts or woodland blocks. Two small villages, Boxworth and Lolworth, are located south and east of the Site respectively.

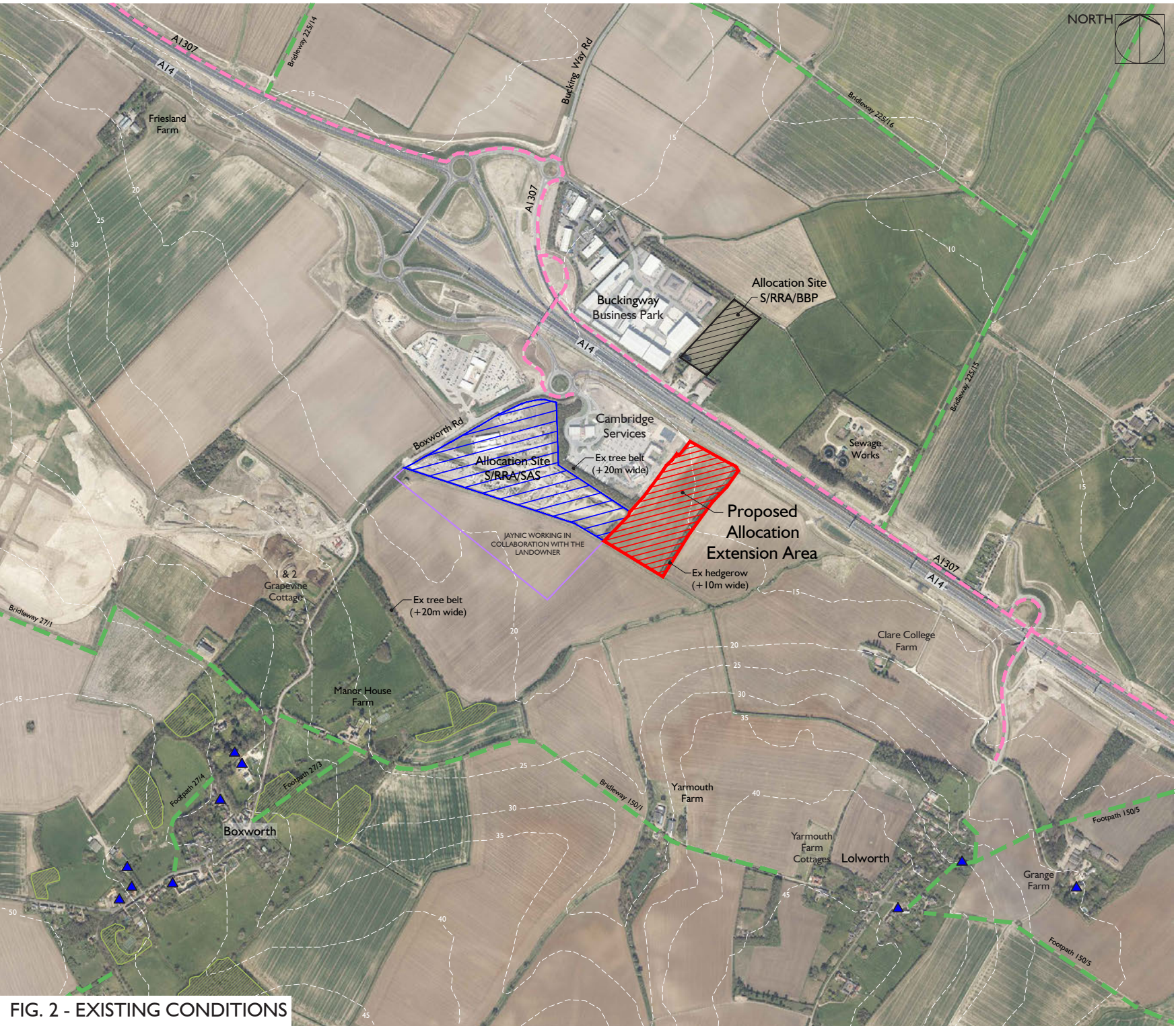


FIG. 2 - EXISTING CONDITIONS

KEY:

Proposed Extension Site

Allocation S/RRA/SAS

Public Footpath / Bridleway

Cycleway

Listed Building

Ancient Woodland

0 0.5 1km

KILOMETRES

SCALE 1:12,500@A3

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3.2 LANDSCAPE CHARACTER

Landscape Character Assessment (LCA) is the process of identifying and describing variation in the character of the landscape. It seeks to identify and explain the unique combination of elements and features (characteristics) that make landscapes distinctive.

PUBLISHED LANDSCAPE CHARACTER STUDIES

A number of landscape character studies have been completed for the region looking at different landscape scales. Brief outlines are included here to bring out landscape elements and character features relevant to the proposal and site environs.

NATIONAL LANDSCAPE CHARACTER AREA

The Extension Area is located in NCA Profile 88, the ‘Bedfordshire and Cambridgeshire Claylands’. The main characteristic of the Bedfordshire and Cambridgeshire Claylands is a broad, gently undulating, lowland plateau dissected by shallow river valleys that gradually widen as they approach the Fens NCA to the north. The character area is predominantly an arable and commercially farmed landscape. The key characteristics of NCA 129 are identified as:

- Gently undulating, lowland plateau divided by shallow river valleys that gradually widen to the north.
- Underlying geology of Jurassic and Cretaceous clays overlain by more recent Quaternary glacial deposits of chalky boulder clay (till) and sand and gravel river terrace deposits within the river valleys. Lime-rich, loamy and clayey soils with impeded drainage predominate, with better drained soils in the river valleys.
- The River Great Ouse and its tributaries meander slowly across the landscape. Three aquifers underlie the NCA and a large manmade reservoir, Grafham Water, supplies water within and outside the NCA.
- Variable, scattered woodland cover comprising smaller plantations, secondary woodland, pollarded willows and poplar along river valleys, and clusters of ancient woodland, particularly on higher ground to the north-west represent remnant ancient deer parks and Royal Hunting Forests.
- Predominantly open, arable landscape of planned and regular fields bounded by open ditches and trimmed, often species-poor hedgerows which contrast with those fields that are irregular and piecemeal.
- Wide variety of semi-natural habitats supporting a range of species, some notably rare and scarce, including designated sites for species associated with ancient woodland, wetland sites important for birds, great crested newt and species of stonewort, and traditional orchards and unimproved grassland supporting a rich diversity of wildflowers.
- Rich geological and archaeological history evident in fossils, medieval earthworks, deserted villages and Roman roads. A number of historic parklands, designed landscapes and country houses.
- Diversity of building materials including brick, render, thatch and stone. Locally quarried limestone features in villages such as Lavendon, Harrold and Turvey on the upper stretches of the River Great Ouse.
- Settlements cluster around major road and rail corridors, with smaller towns, villages and linear settlements widely dispersed throughout, giving a more rural feel. Small villages are usually nucleated around a church or village green, while fen-edge villages are often in a linear form along roads.

DESIGNATED LANDSCAPES

The previously promoted (and previous draft allocation) does not sit within any statutory designations of national, regional or local importance and is not in the immediate proximity of any historic buildings, world heritage sites, battlefields or gardens. The nearest landscape of ecological statutory designation is the Overhall Grove Site of Special Scientific Interest (SSSI), approximately 2.5 km south of the Extension Area. A cluster of seven Listed Buildings are located within Boxworth to the south, the closest being the Parish Church of St Peter, a Grade II listed building approximately 1.1 km south of the Site. Another group of Listed Buildings is located in Lolworth to the south-east approximately 1.3 km from the proposed Extension Area. No Listed Buildings are visible from the site.

LOCAL LANDSCAPE CHARACTER ASSESSMENT

At a county level, the Site and surrounding landscape is covered by the Greater Cambridge Landscape Character Assessment (Chris Blandford Associates, February 2021). The Application Site itself sits at the edge of the Wooded Claylands (LCA 4A & 4B) and the Fen Edge Claylands (LCA 2A). This can be observed in the change in local topography, rising from low farmlands to the north, to a gently rolling elevated landscape to the south. Given the character site’s low lying landscape character with large-scale open fields, it is judged that the Site’s character is most consistent with the Fen Edge Claylands (LCA 2A). The LCA describes the Fen Edge Claylands have a moderate landscape condition and moderate strength of character whilst the Wooded Claylands have a good landscape condition and strong strength of character.

Key characteristics of the Fen Edge Claylands are identified as:

- Low-lying, gently undulating landscape with extensive vistas and large skies
- Gradually rising landform, south from the edge of The Fens
- Large-scale open field system defined by a hierarchy of drains, ditches and lodes
- Predominantly arable farmland supplemented with small scale pastoral field patterns around settlements
- Little vegetation cover, limited to dispersed fragments of deciduous woodland
- Hedgerows, shelterbelts and small clumps of trees create a distinctive vegetation pattern

Key characteristics of the Wooded Claylands are identified as:

- Gently rolling, elevated arable landscape forming a lowland clay plateau
- Minor streams which create shallow depressions or valleys that dissect the landscape
- Wooded landscape with substantial areas of deciduous and mixed woodland particularly at higher altitudes and associated with parkland and farm estates
- Strong evidence of medieval settlement, including deserted medieval villages, substantial earthworks and green lanes and several moated sites
- Low density settlement, comprising small linear or nuclear villages interspersed with farms and woodlands
- Open, peaceful and rural landscape

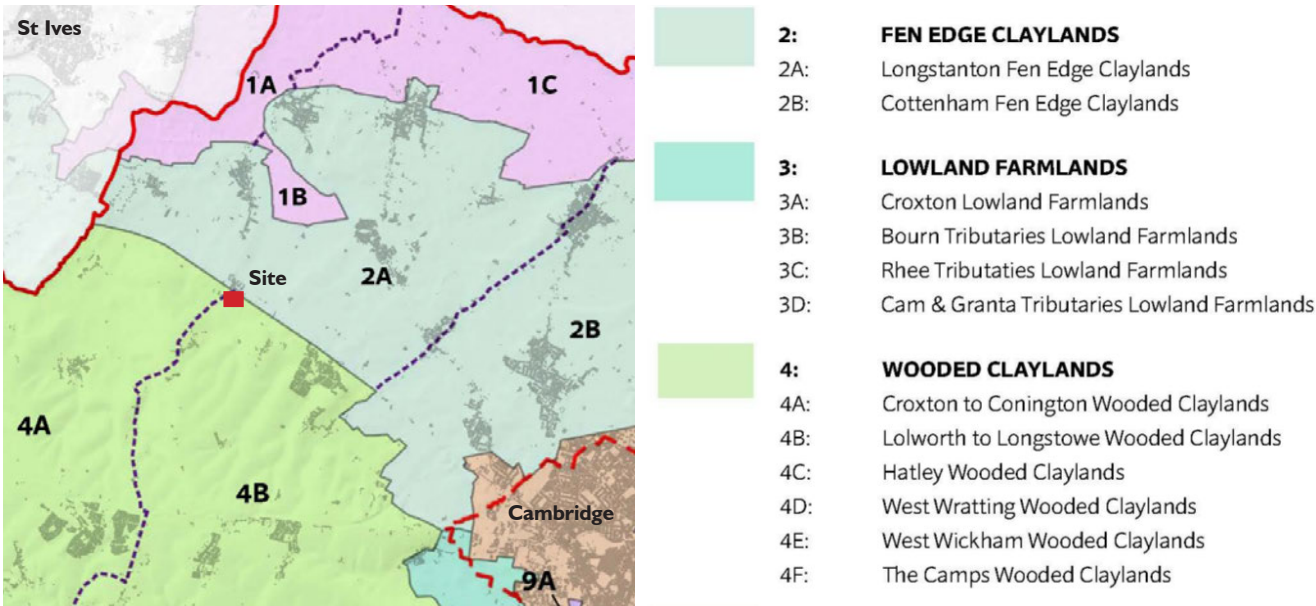


FIG. 3 - LOCAL LANDSCAPE CHARACTER AREAS

4.0 DESIGN PROPOSALS

Refer to the Indicative Masterplan prepared by Frank Shaw Associates Limited for an overview of how the proposal could be developed in association with the part of the previous draft allocation under control of the Promotor.

The proposal is for additional HGV parking and circulation at the north end of the proposed Extension Area, accessed through Cambridge Services, and Class B2 General Industrial and Class B8 Storage or Distribution uses with ancillary supporting uses in the southern half of the Site, accessed through the previous draft allocation from Boxworth Road.

A new 25m landscape buffer is proposed along the Extension Area’s southern boundary with an additional 10m wide buffer planted along the Site’s eastern boundary reinforcing the existing hedgerow. 5m landscape buffers are also proposed at the Site’s northern boundary and within the Site between the proposed HGV parking and B2/B8 uses.

The Applicant proposes to hold development in the southern half of the Extension Area until a later phase of development to allow the landscape buffers an opportunity to establish.

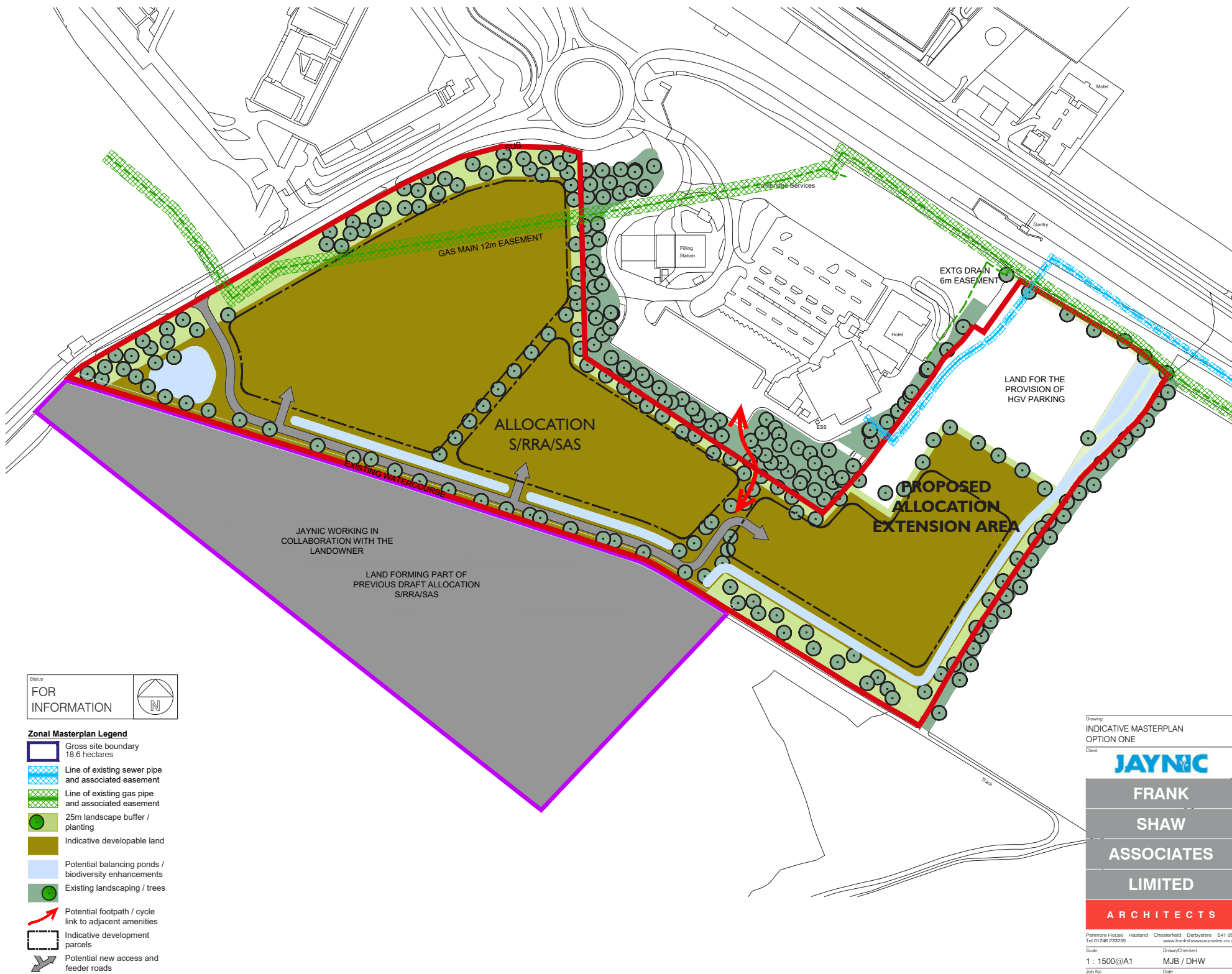


FIG. 4 - INDICATIVE MASTERPLAN



5.0 VISUAL ANALYSIS

The site was visited on 29 November 2021 and re-verified on 14 February 2025 based on current site photographs.

Photographs were taken with a Nikon D3500 digital SLR camera with a fixed focal length Nikon 35mm lens at a normal eye level view at 1.6 meters. Photographs are presented for context only and have not been prepared at a sufficient scale / resolution to fully represent the views found on site.

The photographs demonstrate the potential extent of the development’s visual envelope. Where many similar viewpoints were available, representative photographs were taken from the position where the proposal site is likely to be most visible.

The visual analysis was carried out from a range of publicly accessible points in the surrounding landscape to establish the possible extent of visual influence of the proposed Extension Area. While public views are generally given more weight due to the greater number of people likely to experience the view, private / not publicly accessible locations have also been considered using a combination of desktop study and observation from the nearest publicly accessible location.

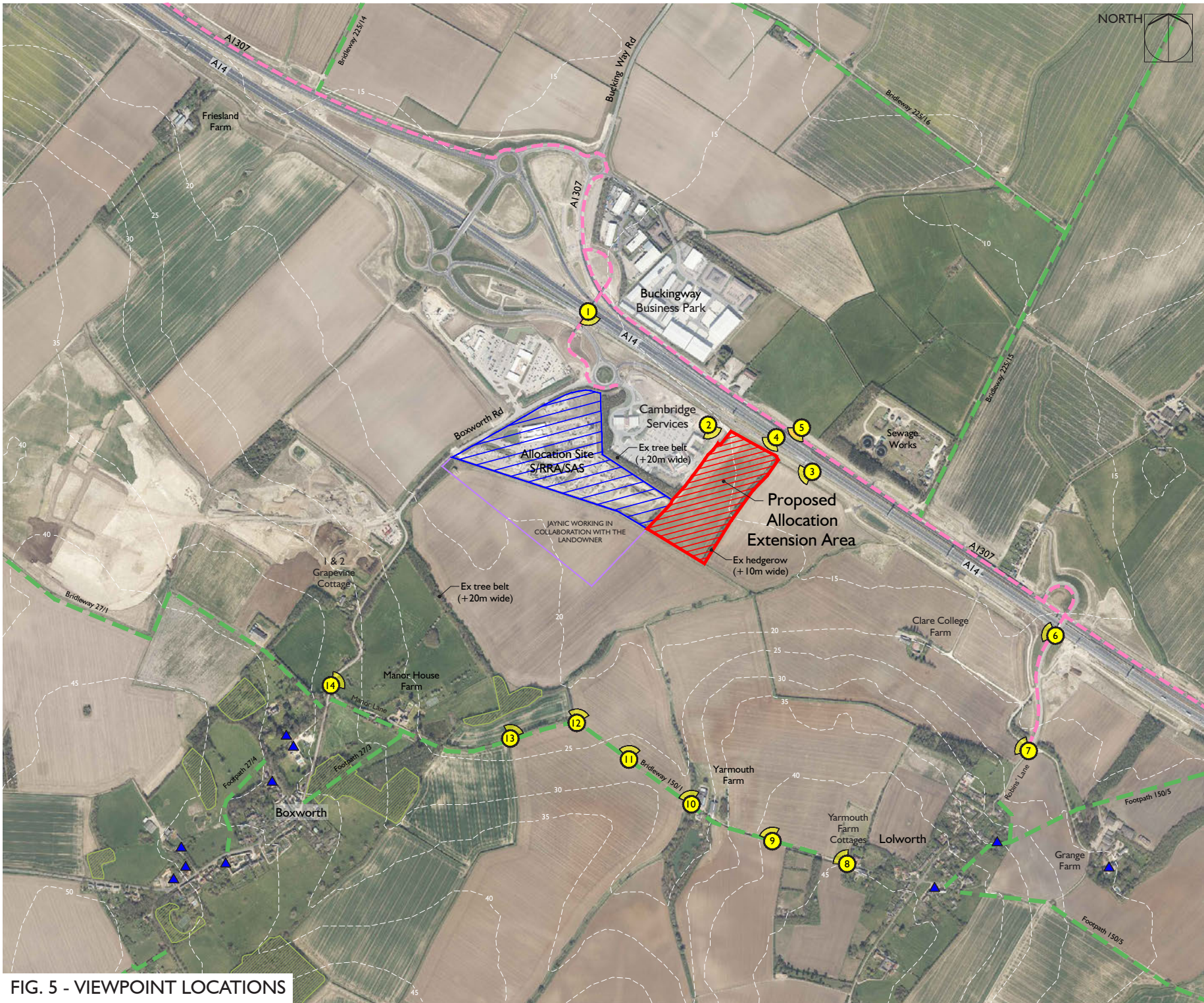
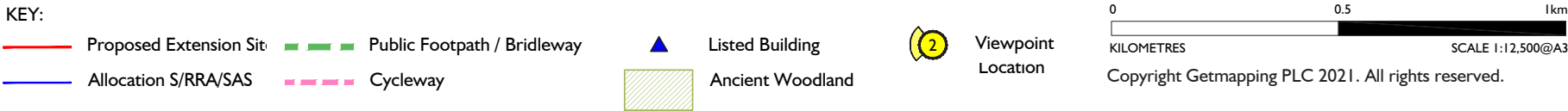
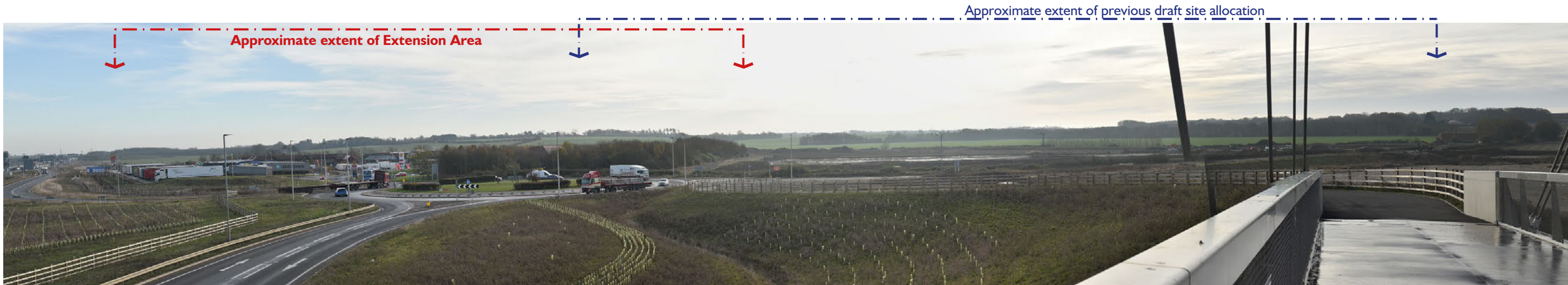


FIG. 5 - VIEWPOINT LOCATIONS





5.1 VIEWPOINT ANALYSIS



Viewpoint 01 - View from the A14 cycleway bridge

VIEWPOINT COMMENTARY

Existing View

These views are taken from the A14 cycle way approaching the Cambridge Services. The Cambridge Services site can be seen in the mid-ground on the left side of the view. The previous draft allocation site is clearly visible in the centre / right half of the view with the Extension Area largely out of sight beyond the Cambridge Services development and existing landscape buffer (for reference the existing buffer planting is approximately 25 yrs old). The view is seen for a short duration while cycling or a medium duration while walking along the cycleway and is experienced in relation to the Cambridge Services and busy A14 roadway junction.

Anticipated view

The Extension Area will largely be out of sight beyond the Cambridge Services site and future development in Allocation Site S/RRASAS.

5.1 VIEWPOINT ANALYSIS



**Viewpoint 02** - View from the Cambridge Services lorry parking facility

VIEWPOINT COMMENTARY

*Existing View*

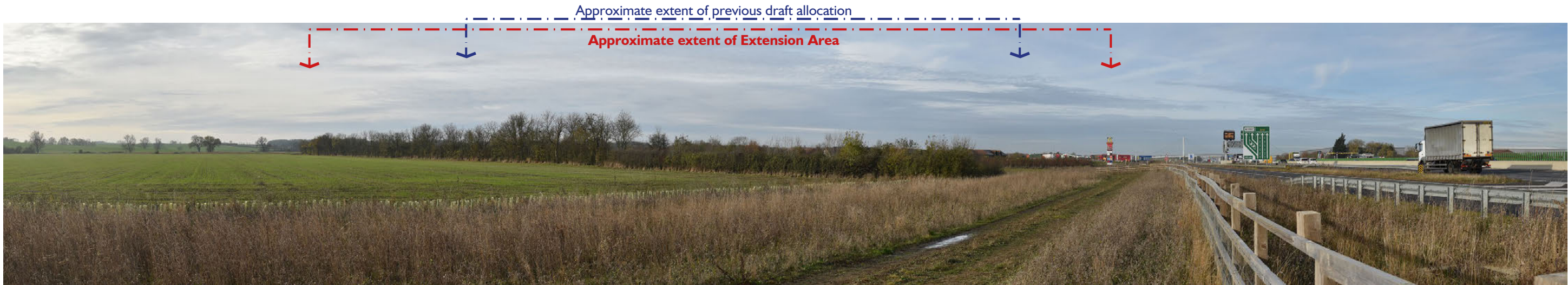
This view, taken from the lorry parking facility at the Cambridge Services, overlooks the Extension Area to the east of the Services site. The previous draft allocation site is not visible from this viewpoint, screened by the Cambridge Services development and the existing landscape buffer along the Services site's south and western boundaries. The proposed Extension Area is directly ahead in the view, with the A14 to the left and the Ramada hotel to the right. Existing vegetation along the Services east boundary and a 10m wide hedgerow along the Extension Area's east boundary filter views of the countryside further east. The view is seen by a limited number of receptors, potentially for a medium to longer term duration while stopped at the lorry parking facility. The experience of the view is negatively impacted by noise and activity from heavy vehicle traffic along the A14.

*Anticipated view*

The proposed Cambridge Services parking extension will be immediately apparent in the centre foreground, however this will be seen in context of the Cambridge Services site, existing lorry parking and traffic along the A14 as well as Buckingway Business Park north of the A14. In the medium to long term the landscape buffer along the north edge of the site will soften the view and partially screen traffic along the A14 while planting to the rear of the Ramada hotel will partially filter and screen views of the lorry park and proposed development in the southwest portion of the Extension Area as the planting establishes and matures.



5.1 VIEWPOINT ANALYSIS



Viewpoint 03 - View from west bound A14 approaching the Site



Viewpoint 04 - View from the A14 at the corner of the NE corner of the Extension Area

VIEWPOINT COMMENTARY

Existing View

These viewpoints represent a sequence of views seen while traveling west on the A14 approaching the Cambridge Services. An existing 10m wide hedgerow along the Extension Area’s east boundary filters and screens views of the Site on approach and the Extension Area can only be seen for a brief moment while passing the Site. The views are experienced for a short duration while traveling along the A14.

Anticipated view

Lorry parking and development in the rear of the Extension Area will be visible above the existing hedgerow while approaching the Site and will become more prominent while passing the Site, however this will be seen in context of the Cambridge Services and Buckingham Business Park sites to either side of the roadway and heavy vehicle traffic along the A14. In the medium to long term the widened landscape buffer along the Site’s eastern boundary will provide further screening at a medium to high level and planting along the A14 and within the Extension Area will provide additional screening and break up views of the proposal.



5.1 VIEWPOINT ANALYSIS



**Viewpoint 05** - View from west bound A14 approaching the Site

VIEWPOINT COMMENTARY

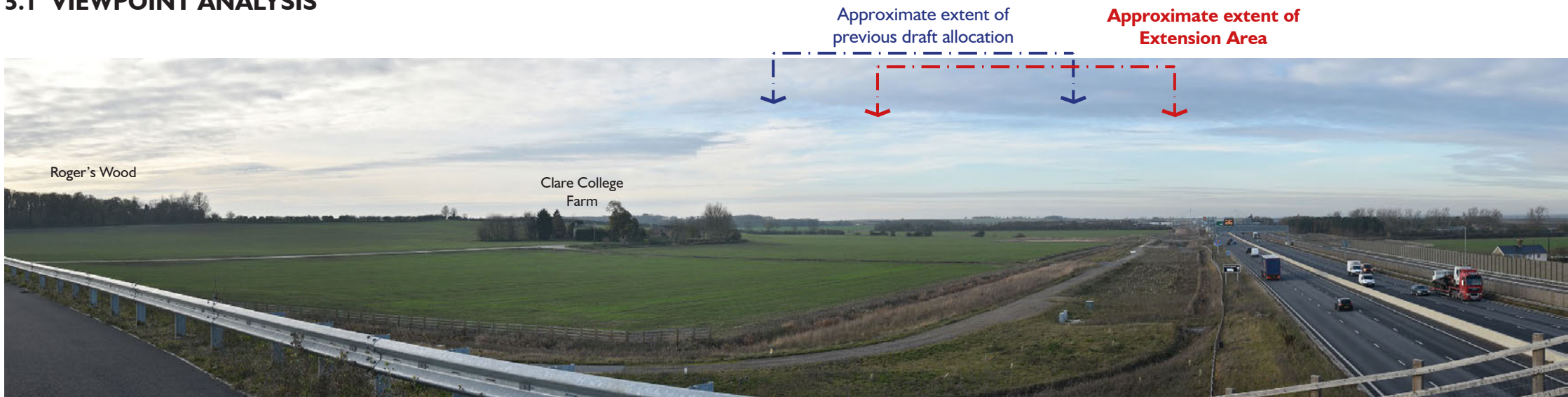
*Existing View*

This viewpoint represents the experience of traveling along the A1307 north of the A14 roadway. Views to looking south toward the Extension Area are largely blocked by highway glare screens with the exception of a brief glimpse of the existing 10m wide hedgerow on the east boundary of the Site. The views are experienced for a short duration by vehicles traveling along the A1307 and for a medium duration for receptors using the cycleway.

*Anticipated view*

Lorry parking and development within the Extension Area may be visible for a short period above the highway glare screens while traveling along the A1307 and seen more fully through the screens for a brief period immediately opposite the Site. Receptors using the cycleway will see similar views, for a slightly longer duration. In the medium to long term the landscape buffer around the Site perimeter will increasingly filter and screen views of the lorry parking and development at the rear of the Site as the planting establishes and matures.

5.1 VIEWPOINT ANALYSIS



**Viewpoint 06** - View from Robin's Lane overpass above the A14

VIEWPOINT COMMENTARY

*Existing View*

This more distant viewpoint looks west across cultivated fields to the Extension Area from the cycleway alongside Robin's Lane at it's overpass with the A14 which can be seen to the right side of the view. Cambridge Services and Buckingham Business Park can be glimpsed on the right beyond intervening vegetation. Clare College Farm is visible left of centre with Roger's Wood on the far left. The Extension Area is out of site beyond the existing landscape belt on the Extension Area's eastern boundary, however land with Allocation Site S/RRR/SAS can be seen in the distance between Clare College Farm and the Extension Area. The view is seen for a short duration will travelling along Robin's Lane.

*Anticipated view*

In the short term, lorry parking and development within the Extension Area may be visible above the existing hedgerow, however this will be seen in context of the Cambridge Services and Buckingham Business Park sites to either side of the A14 for a short duration. In the medium to long term the landscape buffer along the Site's eastern perimeter will increasingly filter and screen views of development as the planting establishes and matures.



5.1 VIEWPOINT ANALYSIS



**Viewpoint 07** - View from Robin's Lane at the entrane to The Grange

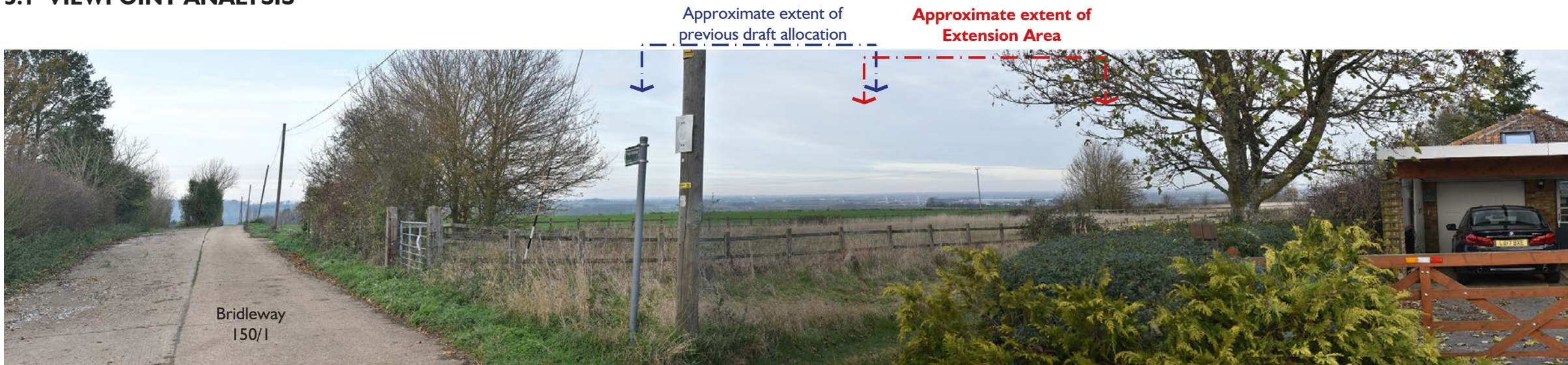
VIEWPOINT COMMENTARY

*Existing View*  
View looking west from Robin's Lane at the entrance to Clare College Farm and the Grange Farm. Roger's Wood can seen on the left. Rising ground blocks most views to the west and the Extension Area cannot be seen from this section of Robin's Lane.

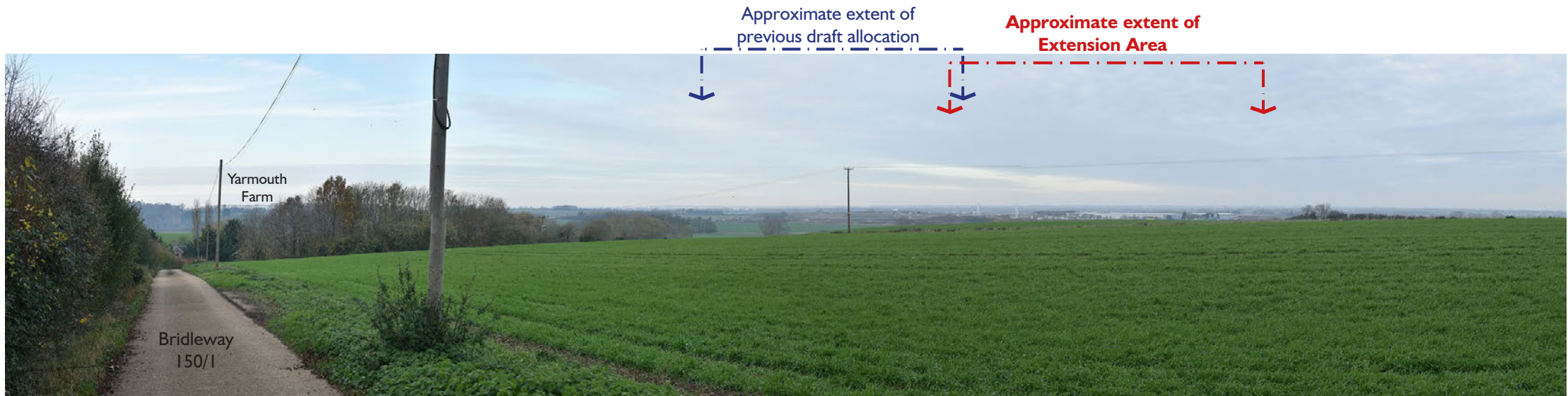
*Anticipated view*  
The view will be unchanged.



5.1 VIEWPOINT ANALYSIS



Viewpoint 08 - View looking west the end of Redlands Rd / Bridleway 150/I leaving Lolworth



Viewpoint 09 - View from Bridleway 150/I looking west between Lolworth and Yarmouth Farm

VIEWPOINT COMMENTARY

Existing View

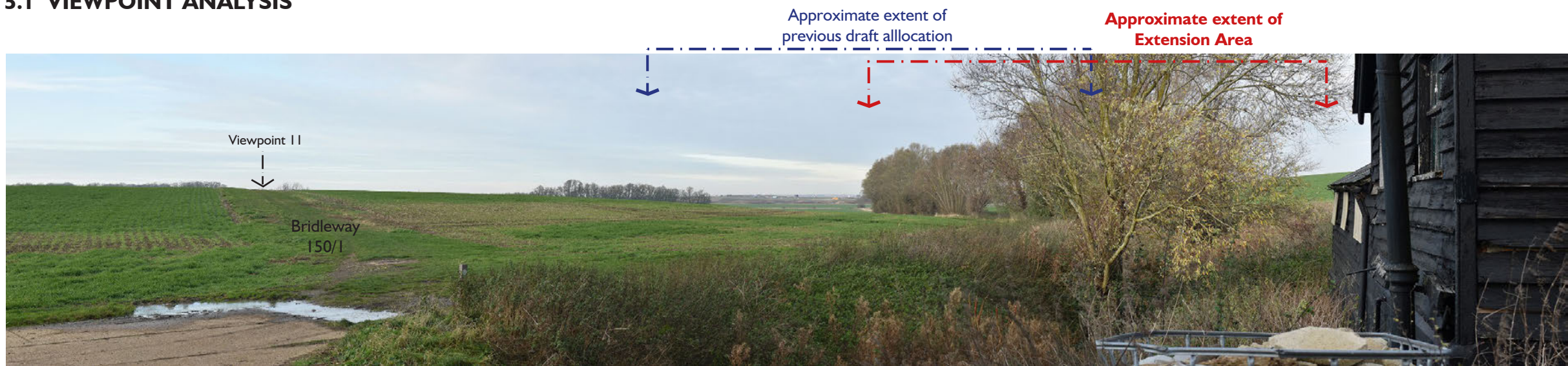
These viewpoints represent a sequence of views seen while traveling west on Bridleway 150/I between Lolworth and Yarmouth Farm. Setting off from Lolworth (Viewpoint 08), the majority of the Extension Area is out of view, hidden by rising ground in the foreground and intervening vegetation, however a portion of the Cambridge Services site and Buckingway Business Park can be glimpsed with the A14 cycleway bridge pylons beyond. Land within the previous draft allocation is gradually revealed while traveling westward, however the Extension Area remains largely out of view along this section of bridleway. The view is seen for a medium duration in the distance while traveling along the bridleway.

Anticipated view

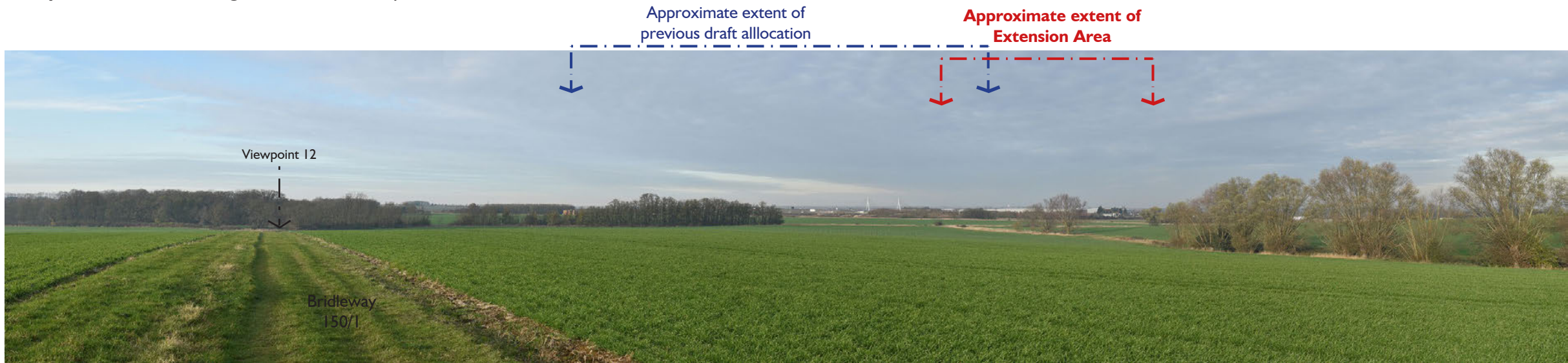
The rooflines of development in the southern half of the Extension Area will be visible in the distance however the majority of development within the Extension Area will be out of view beyond the rising ground and foreground vegetation. In the medium to long term the landscape buffers around the Site perimeter will increasingly filter and screen views of development as the planting establishes and matures. Overall proposed development makes up a small portion of the view and will be seen in context of the Cambridge Services, Buckingway Business Park and previous draft allocation in the background.



5.1 VIEWPOINT ANALYSIS



Viewpoint 10 - View looking west from Bridleway 150/1 at Yarmouth Farm



Viewpoint 11 - View from Bridleway 150/1 looking west between Yarmouth Farm and Boxworth

VIEWPOINT COMMENTARY

Existing View

These viewpoints represent a sequence of views seen while traveling west on Bridleway 150/1 between Yarmouth Farm and Boxworth. Leaving Yarmouth Farm (Viewpoint 10), rolling terrain and trees block the majority of westward views and the Extension Area is out of view. Portions of the previous draft allocation can be seen in the distance with the A14 Cambridge Services overpass beyond. Further along the Bridleway (Viewpoint 11) the path crosses over the crest of the ridge and the southern half of the the Extension Area becomes visible. Buildings within Buckingham Business Park can be seen in the distance with the A14 cycleway bridge pylons beyond however the majority of the Cambridge Services site is out of view behind the existing 20m wide landscape buffer. The view is seen for a medium duration while traveling along the bridleway.

Anticipated view

Development within the southern half of the Extension Area will be visible in the distance, gradually increasing from a distant glimpse near Yarmouth Farm (Viewpoint 10) to an immediately apparent element when cresting the ridge along the bridleway (Viewpoint 11). In the short term, development will be a visible element, however it will make up a small portion of the overall view experienced to either side of the bridleway and will be seen in the context of the existing development at Cambridge Services and Buckingham Business Park. In the short term, the Applicant proposes to hold development in the southern half of the Extension Area until later phases of development whilst the landscape buffer around the Site establishes. In the medium to long term the 25m landscape buffer around the Site perimeter will increasingly filter and screen views of development as the planting establishes and matures, ultimately forming a new tree belt, blending into surrounding field boundaries.



5.1 VIEWPOINT ANALYSIS



**Viewpoint 12** - View looking north-west from Bridleway 150/1 approaching Boxworth



**Viewpoint 13A** - View looking north from Bridleway 150/1 near Boxworth



**Viewpoint 13B** - View looking north-east from Bridleway 150/1 near Boxworth

VIEWPOINT COMMENTARY

*Existing View*

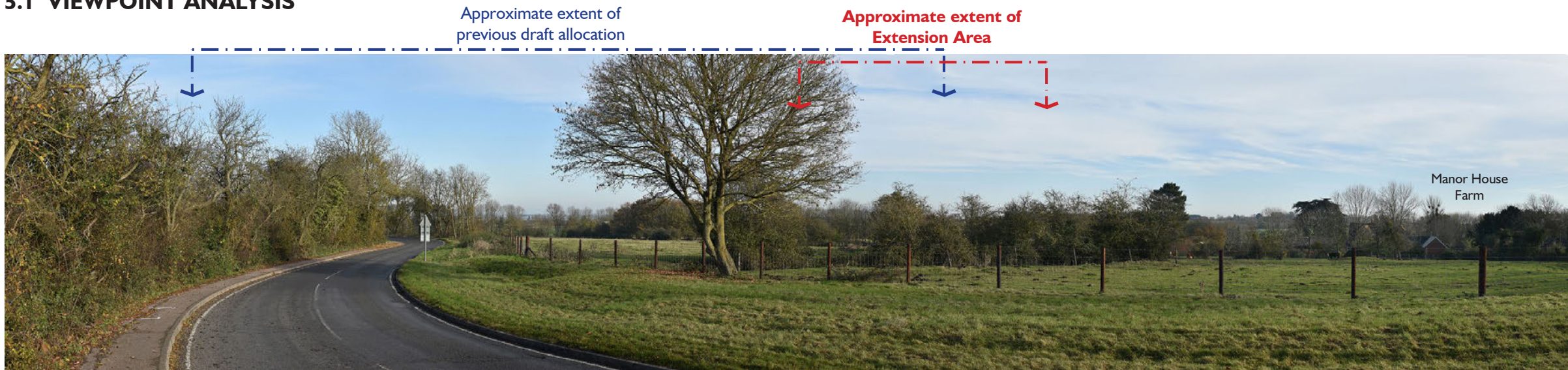
These viewpoints represent a sequence of views seen while traveling on Bridleway 150/1 between Boxworth Road and Viewpoint 11. Leaving Boxworth Road traveling east toward Lolworth (Viewpoint 13A & 13B), several layers of hedgerow and woodland blocks fully screen views of the Extension Area to the northeast. Further east along the bridleway (Viewpoint 12), the hedgerow falls away, leaving an open view of the Extension Area to the north and the A14 beyond. The views are seen for a medium duration while traveling along the bridleway.

*Anticipated view*

Development within the Extension Area will be fully screened by existing hedgerow and woodland blocks whilst traveling between Boxworth Road and Viewpoint 12. Approximately 700m east of Boxworth Road, at Viewpoint 12, the hedgerow falls away and an open view of the southern edge of development within the Extension area becomes visible whilst travelling between Viewpoints 11 and 12. In the short term the Applicant proposes to hold development in the southern half of the Extension Area until later phases of development whilst the landscape buffer establishes. Lorry parking in the northern portion of the Site will be visible however this will be increasingly screened as the buffer planting establishes. In the medium to long term the 25m landscape buffer around the Site's southern boundary will increasingly filter and screen views of development as the planting matures, ultimately forming a new tree belt along the Site's southern and eastern boundaries.



5.1 VIEWPOINT ANALYSIS



**Viewpoint 14** - View looking north-west from Boxworth Road at the north edge of Boxworth village

VIEWPOINT COMMENTARY

*Existing View*  
This view looks north along Boxworth Road, from a position just north of Manor Lane. Manor House Farm can be seen to the right through existing vegetation beyond the foreground pasture. Views to the north are largely blocked by layers of trees and vegetation and the Extension Area is not visible from this location. Views to the west are blocked by the roadside hedgerow. This view is seen for a short duration while traveling north along Boxworth Road, leaving Boxworth village.

*Anticipated view*  
The Extension Area is not visible from this location.

## 5.2 VISUAL ANALYSIS - SUMMARY

### 5.2.1 RECEPTORS TRAVELING ON ROADS / ACCESSING CAMBRIDGE SERVICES

The Extension Area is located immediately east of the Cambridge Services, opposite Buckingham Business Park and would be accessed through the previous draft allocation site S/RRA/SAS the A14 via Boxworth Road. The A14 junction includes a significant road / ramp network with earthworks, elevated cycleway bridge and cycleway. Receptors using these facilities are considered to be of low sensitivity to the type of development proposed and representative views are discussed in Viewpoint 1. The proposals are considered to have a low to negligible adverse effect on receptors using the A14, the A14 junction and the Cambridge Services site.

Receptors along Boxworth Road will not be affected by development within the Extension Area, located as it is on the far side of the previous draft allocation development and beyond the Cambridge Services.

It is therefore considered that the proposal will have a low to negligible adverse effect on road users.

### 5.2.2 RECEPTORS TRAVELING ALONG PUBLIC RIGHTS OF WAY

Receptors using Public Rights of Way (PRoW) within the surrounding landscape are considered to be of high sensitivity to the type of change proposed. PRoW north of the A14, including the cycleway along the A1307, are strongly influenced by the A14 and existing business / industrial development and the proposals will be scarcely appreciated in the overall view (Viewpoint 5).

The principal PRoW south of the A14, Bridleways 150/1 and 27/1, cross the area east / west through Lolworth and Boxworth villages south of previous draft allocation and the Extension Area and are represented by Viewpoints 8 - 14. To the east, near Lolworth, Viewpoints 8 and 9 are elevated approximately 20m above the Site however rolling terrain and intervening vegetation generally limit and screen views of the proposed development. The proposals will be most visible from Bridleway 150/1 between Viewpoints 11 and 12 where the path crests a low ridge and the southern edge of the Extension Area will be seen in the mid-ground. The proposals will be immediately apparent from this vantage point in the short term, having a moderately adverse effect on the scene although the proposal will make up a small portion of the overall view experienced to either side of the bridleway and will be seen in context of the existing development at Cambridge Services and Buckingham Business Park. To mitigate this view, the Applicant proposes to hold development in the southern half of the Extension Area until later phases of development, whilst the landscape buffer establishes. In the medium to long term the landscape buffer around the Site perimeter will increasingly filter and screen views of the development as the planting establishes and matures, reducing the effect to low adverse.

It is therefore considered that the proposal will have a moderate adverse effect in the short term falling to a low adverse effect in the medium to longer term on receptors using PRoW south of the proposals Site.

### 5.2.3 PRIVATE / RESIDENTIAL VIEWPOINTS

Residential receptors, particularly upper storey views, are considered to be of medium to high sensitivity to change. Three residences, Manor House Farm, Yarmouth Farm, and Clare College Farm are located within 0.6-0.9 km of the proposed Extension Area and are reviewed in greater detail below.

Manor House Farm, located near Viewpoint 14 is approximately 0.9km south-west of the Extension Area. The residence's front elevation is oriented to the southwest, away from the proposals, with northeast views from the rear aspect over a large garden and associated pasture towards the Extension Area. An existing 20m wide mature tree belt generally screens views north, although filtered glimpses of previous draft allocation S/RRA/SAS and the proposed Extension Area may be possible, particularly in winter. This is considered to be a low adverse effect, having a slightly detrimental effect on the character of the scene in the short to medium term, receding to a neutral effect in the long term as the Site's proposed landscape buffer matures.

Yarmouth Farm, is located 0.6km south east of the Extension Area near Viewpoint 10. The residence is oriented to the east with western views from the rear. The residence is surrounded by a small garden with large mature trees and two large farm buildings to the north. The Extension Area is not visible from the residence or garden and is therefore considered to have a neutral effect.

Clare College Farm is located 0.6km east of the Extension Area and can be seen in Viewpoint 6. The general viewing aspect of the property is to the east from the front elevation with views to the west, toward the Extension Area, from the rear. The residence is set within a small garden with large mature trees to the north and south and smaller trees along the west boundary with stables and a large barn located north west of the residence. The view west, toward the Extension Area, will include the stables and barn to the side and will be filtered through the rear garden trees and an existing intermediate field hedgerow. In the short term, lorry parking in the north portion of the Extension area will be out of sight behind the barn and stables and any glimpses will be filtered and screened by the existing hedgerow along the Site's east boundary. In the medium to long term, as development occurs in the southern half of the Site, development will be a visible element above the existing hedgerow, however this will be increasing filtered and screened as the new landscape buffer establishes and matures. This is considered to be a negligible effect in the short term with medium adverse effects in the medium term receding to a low adverse effect in the long term as the Site's landscape buffer matures.

Other residential properties in the local area include Yarmouth Farm Cottages and residences along Robin's Lane in Lolworth village. The visual effects on these residences are comparable to those described in Viewpoint 8 and are considered to be a low adverse effect in the short to medium term, receding to a negligible effect in the long term as the Extension Area's proposed landscape buffer matures.

It is therefore considered that the proposal will have a low to negligible adverse effect on residential receptors.

6.0 LANDSCAPE ANALYSIS

6.1 EFFECTS ON LANDSCAPE CHARACTER

The application site sits on the edge of the Wooded Claylands (LCA 4A & 4B) and Fen Edge Claylands (LCA 2A) local landscape character areas. Given the character site’s low lying landscape character with large-scale open fields, it is judged that the Extension Area is most consistent with the Fen Edge Claylands (LCA 2A) whilst the surrounding gently rolling elevated landscape south and east of the proposal Site lies within the Wooded Claylands (LCA 4A & 4B).

At a local level, the high level development proposals is considered to have a consistent land use, material and scale with surrounding business and large scale commercial development already found in the immediate area. Seen within the context of the Cambridge Services and Buckingham Business Park, such proposed development would not cause any loss to the defining characteristics of the local character or result in any substantial additional feature over and above those which already exist. Over time, as the landscape buffer matures, a new field boundary will be formed south and east of the Site, in effect shifting the current landscape buffered boundary around the Cambridge Services site south and east. Key characteristics of the local character areas would therefore remain unaffected beyond the current baseline condition in the long term.

It is therefore judged that the proposed development would have no significant effects upon the existing landscape character.

6.2 EFFECTS ON DESIGNATED LANDSCAPE IN THE AREA

Neither the Extension Area nor the previous draft allocation site sit within any statutory designations of national, regional or local importance and is not in the immediate proximity of any historic buildings, world heritage sites, battlefields or gardens. The nearest landscape of ecological statutory designation is the Overhall Grove Site of Special Scientific Interest (SSSI), approximately 2.5 km south of the previous draft allocation. A cluster of seven Listed Buildings are located within Boxwood to the south, the closest being the Parish Church of St Peter, a Grade II listed building approximately 1.1 km south of the Extension Area. Another group of Listed Buildings is located in Lolworth to the south-east approximately 1.3 km from the Extension Area. No Listed Buildings are visible from the site.

It is therefore judged that there would be no significant landscape or visual effects upon statutory designations as a result of the proposed development.

7.0 SUMMARY AND CONCLUSIONS

The findings of this landscape and visual appraisal are summarised below:

- The scheme will principally exert a localised area of influence in terms of landscape and visual effects, seen in context with the existing Cambridge Services and Buckingham Business Park sites from a limited number of locations within 0.5 - 1 km of the proposal site.
- The proposal will not have significant landscape or visual effects upon any statutory designations.
- The site land use will change from that of previously developed land and arable land to a commercial and industrial development, however the proposed development would not cause any loss to the defining characteristics of the local character or result in any substantial additional feature over and above those which already exist and no key landscape characteristics would be harmed by the proposal.
- The proposal is judged to have a moderate to low adverse visual effect on receptors in the medium to long term.
- Over time, the landscape buffer around the Extension Area will increasingly filter and screen views of the development as the planting establishes and matures. This will ultimately replace the existing landscape buffer surrounding the Cambridge Services site, forming a new field boundary in keeping with local landscape character.

It is therefore anticipated that there would be no significant effect upon any of the landscape or visual resources that the development proposal is likely to have an influence over.

The proposed development, experienced in the context of the existing Cambridge Services site and Buckingham Business Park is consistent with the local landscape setting and would not cause any loss to the defining characteristics of the LCA or result in any substantial additional feature over and above those which already exist.

The proposed development would also not constitute an uncharacteristic element within views available at a local level and will, on balance, have limited effect on the overall scene in the medium to long term. Any change would be seen in the context of similar development and will be filtered and screened over time as the landscape buffer around the Site perimeter matures. Consequently it is judged the development proposal would be a slightly detrimental alteration that would not significantly change baseline views in the long term.

Therefore in conclusion, it is considered on the whole that the effects of the Extension Area in addition to the previously submitted draft allocation would be limited and could accomodate the proposed development without significantly changing the landscape and visual character of the area in the long term.

### Appendix 3 – Catchment Assessment – Surface Water Drainage Report, Richard Jackson, March 2025





## CATCHMENT ASSESSMENT – SURFACE WATER DRAINAGE REPORT

Land South of the A14 Services, Boxworth

Jaynic Properties Ltd

March 2025

Project no: 61033

## Document Review Sheet: -

Document  
prepared by: -

on behalf of Richard Jackson Ltd

Date: -

09 / 09 / 2022

Document  
checked by: -

on behalf of Richard Jackson Ltd

Date: -

09 / 09 / 2022

Document  
Approved by: -

on behalf of Richard Jackson Ltd

Date: -

09 / 09 / 2022

### Document Status

DRAFT

☐

FINAL

☒

### Revision Status

Issue	Date	Description	Prepared	Checked	Approved
Rev1	20.02.25	Report updated with FEH 22 current data	NJB	MJG	MJG
Rev2	04.03.25	Masterplan revised	MJG	MJG	MJG

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Title:	CATCHMENT ASSESSMENT – SURFACE WATER DRAINAGE MODEL REPORT
Project:	Land South of the A14 Services, Boxworth
Client:	Jaynic Properties Ltd
Project No.:	61033



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2. ReFH2 Input Hydrograph .....	3
3. Output .....	5
4. Conclusions.....	6

## Appendix

Appendix A: Site Location Plan and Proposed Master Plan

Appendix B: Topographic Survey

Appendix C: GOV.UK Flood Mapping

Appendix D: ReFH2 Output

Appendix E: FEH Mapping Plan

Appendix F: FLOW Model Results and Node Locations

## **1. Introduction**

- 1.1. Richard Jackson Ltd has been appointed by Jaynic to undertake a catchment assessment and investigate the capacity, hydraulic restrictions and potential flood zones of the watercourses running within the site. The site is being promoted as part of the Greater Cambridge Local Plan review process. The site is generally located in flood zone 1 for fluvial flood risk, but the far south area is shown to be at risk of fluvial flooding on the Gov.uk Flood mapping. As this mapping represents the upper 5km<sup>2</sup> of the catchment it is likely that the mapping does not accurately reflect the flood risk at the site. This study will review the water flows by the catchment to allow the actual level of flood risk to be assessed.
- 1.2. This report has been revised to include updated calculations, which have been re-run to include FEH-22 and a CV of 1.

### **Site Location**

- 1.3. The site extends to approximately 24.4 hectares and is located to the south of the A14 and is existing brownfield (former NH depot) and agricultural land. The site can be accessed from the A14 Trunk Road J24 via Boxworth Road. The site was most recently used as a compound for the A14 improvement works, and the additional land to the east is agricultural. A site location plan is included as Appendix A.
- 1.4. A topographical survey has been undertaken that shows that the site is quite flat but has falls to the south and the north. A system of existing ditches and land drainage exist to reduce the water levels and allow agricultural use on the site.
- 1.5. Published records of the British Geological Survey (BGS) show that the proposed development site is underlain by the West Walton Formation and Ampthill clay formations. A number of borehole records are available on the BGS viewer. These all show that clays exist below the topsoil throughout the site.
- 1.6. The GOV.uk fluvial flood mapping identifies an area of flood zones 2 and 3 located to the south and east of the site associated with an existing ordinary watercourse which flows eastward and passes below the A14 in a large culvert.
- 1.7. The GOV.UK surface water flood mapping, see Appendix C, shows that there is limited surface water flooding associated with the above watercourse and also with the ditch systems in the high and medium risk events. In the low risk event, there is a large area of the site and its surroundings shown to be at risk of surface water flooding less than 300mm deep. This flow pattern suggests that water flows to the north of the site and also to the south of the site.

### **Project Brief**

- 1.8. The brief for this scheme is to:



- Undertake an assessment of the existing catchments draining towards the proposed site and outfall watercourses.
- Generate input hydrographs for the watercourses located around the site and model the flows.
- Assess the capacity of the existing watercourses and advice on flood zones, with reference to the current GOV.UK flood mapping.

### **Supplied Data**

1.9. Data has been provided by the client:

- Indicative Masterplan
- Topographic survey of the proposed site.

## **2. ReFH2 Input Hydrograph**

- 2.1. In order to model the upstream catchment areas draining into the watercourse with a more realistic approach, input hydrographs have been generated using ReFH2 software, based on the Flood Estimation Handbook (FEH) catchment descriptors. The hydrographs have been created for the estimated catchments draining to the watercourses around the site based on the FEH catchment, contour data and the GOV.UK surface water flood mapping.
- 2.2. The site has three FEH catchments within it. These have been characterized as north, central and south catchments. Each of these catchments has been reviewed against the existing watercourse and ditch system shown on the Topographical survey and also recorded during a site visit undertaken in July 2022.
- 2.3. The north catchment is generally located to the north of Boxworth Road. The watercourse system noted in site includes ditches to the north and south of Boxworth Road that will carry these flows to the east and then north. These ditches will restrict the flow of water from the north of Boxworth Road to the site. The Area of this site that is of interest is quite small and the catchment does not flow to the main area of interest to the south of the site and hence is not considered further.
- 2.4. The central catchment flows from the west to the east through the central part of the site. The topo survey shows that an existing ditch would intercept these flows and direct them southward to the watercourse that flows eastward to the south of the site. The area of this catchment has been adjusted to remove the area of the existing adjacent services facility and also the area to the east of the A14, which will not in reality contribute to the flows in the watercourse within this site. The services area has more recently been constructed and is served by a drainage system that includes surface water attenuation. The area of this proposal will also be served by a new drainage system that will include surface water attenuation.

- 2.5. The southern catchment is also mostly located outside of the site boundary, but the watercourse that is receiving the flows is the source of the Flood risk noted on the fluvial mapping and hence this catchment is key to the assessment. This catchments area has not been adjusted.
- 2.6. As the aim of this assessment is to define the edge of Floodzone 1 only the 1 in 1000 year event with an allowance for climate change has been made at this time. The rationale for this being if this event scale can be accommodated within the watercourse channels, then lesser scale events need not be considered further.
- 2.7. As part of the revisions to this report the hydrographs have been recalculated with FEH-22 data and used in the 'FLOW' calculation.

#### **Baseline Flow**

- 2.8. The ReFH2 hydrographs have been developed as described above and are used to determine the existing flow within the watercourse. The assessment criteria can be seen below:
- 1000 (0.1% AEP) year rainfall events,
  - FEH catchment areas and descriptors to provide rainfall parameters,
  - ReFH2 generated input hydrographs.

#### **Climate Change**

- 2.9. For a watercourse, the National Planning Policy Frameworks (NPPF) updated climate change allowance guidance, dated July 2021, states that for development defined as 'less vulnerable' the central allowance should be used. Based on the Upper Bedford Ouse Management Catchment peak river flow allowances table this would provide an uplift of 19%, for 2080's epoch, 2070 to 2125.

#### **Assumptions**

- 2.10. A number of assumptions have been made during the model build process:
- The drainage networks upstream / downstream of the site are clean and free of defects and run-off enters the watercourses via the existing sewers and also overland.
  - Catchment area is assessed based on the FEH mapping, see Appendix E.
  - Manning roughness co-efficient of 0.035.
  - Sample cross sections will be used to profile the watercourse model, due to limited information available a simplified model of the watercourse has been generated based on the available information.



- The topographical survey indicates there is a culvert located on the southern watercourse. This culvert is shown to be a 950mm pipe. This pipe is located some considerable distance from the site that is being promoted and does not have adequate capacity to deal with the flows for the rainfall event in question. There is no hindrance to water flowing around this culvert and re-entering the watercourse downstream. Therefore for ease of modelling the culvert has been removed from the model.
- The ReFH2 software has calculated peak flows from different durations from the central and southern catchments. These peak flows have been combined although these 2 events could not simultaneously occur. This is robust approach as it provides a larger combined flow. The 11 hour storm is the critical event.

### 3. Output

- 3.1. As noted above the central and southern catchments will be combined by the ditch system serving the site. Based on the topography of the site, the hydrographs have been split proportionally along the ditches. The revised central catchment has been split evenly across the central ditch and the southern catchment area has been split with % at the western end and % to the central node.
- 3.2. As part of the revised report, the split of the catchment has been reassessed and the southern catchment has been split into 3 areas, with 80% at the western node and 10% to the central and eastern nodes. This gives a better representation of where the runoff water enters the system
- 3.3. The catchment areas derived from the FEH mapping provides the following adjusted contributing area:  
  
FEH Total Central catchment area: 0.68km<sup>2</sup>  
  
Revised Central catchment area: 0.5km<sup>2</sup>  
  
FEH Total southern catchment area: 5.0km<sup>2</sup>
- 3.4. The ReFH2 output is based on the criteria stated in section 2 above and have been exported. These files can be found in Appendix D.
- 3.5. The proportioned hydrographs have been added to a 'FLOW' model of the watercourse system. The peak flow, depth and available freeboard for the watercourses modelled at the downstream end of the central ditch site can be seen below, see Appendix F for the full results and plan showing the node locations:

Event CC @ 19%	Peak Flow (l/s)	Peak Depth (m)	Freeboard (m)
1 in 1000 + CC	10874.7	1.394	0.006

Table 1: Results for DSouthern-3, downstream end of Southern ditch

- 3.6. Table 1 above show that the watercourses, although full, still have the capacity to convey the flows generated from the catchment for events up to and including the 1 in 1000 plus CC year event.
- 3.7. Hence, the published flood mapping for this watercourse overstates the extent of flooding within the site. As such the site is shown by this study to be entirely within flood zone 1.
- 3.8. The 'FLOW' results can be seen in Appendix F.

#### 4. Conclusions

- 4.1. The existing drainage system does have the capacity to convey the flows for all events up and including the 1 in 1000 plus CC year event. The GOV.UK flood mapping for fluvial and surface water flood risk show a greater area of flood risk.
- 4.2. The development of the site proposals for commercial use would be acceptable in flood risk terms as the site is entirely located in flood zone 1.



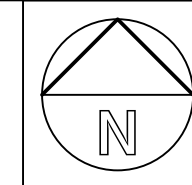
## **Appendix A**

### Site Location Plan



REPRODUCED FROM ORDNANCE SURVEY MAP WITH THE PERMISSION OF THE CONTROLLER OF HER MAJESTY'S STATIONARY OFFICE, ©  
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**Zonal Masterplan Legend**

- Gross site boundary  
24.4 hectares
- Line of existing sewer pipe  
and associated easement
- Line of existing gas pipe  
and associated easement
- landscape buffer / planting
- Indicative developable land
- Potential balancing ponds /  
biodiversity enhancements
- Existing landscaping / trees
- Potential footpath / cycle  
link to adjacent amenities
- Indicative development  
parcels
- Potential new access and  
feeder roads

P12	BOUNDARY UPDATED	28/2/25	DHW
P11	UPDATED TO CLIENT COMMENTS	27/02/25	DHW
P10	UPDATED TO CLIENT COMMENTS	26/02/25	CAP
P09	UPDATED TO SHOW POSSIBLE ACCESS POINTS & ADDITIONAL LAND	24/07/23	MJB
P08	UPDATED TO RETAIN / ENHANCE THE EXISTING WATERCOURSE	17/07/23	MJB
P07	UPDATED TO CLIENT COMMENTS	06/09/22	DHW
P06	UPDATED TO CLIENT COMMENTS	24/06/22	MJB
P05	ADDITIONAL SWALES ADDED, BUFFERS TO SERVICES EXTENSION ADDED.	22/06/22	MJB
P04	CAMBRIDGE SERVICES EXTENSION ADDED AND SITE AMENDED TO SUIT	20/06/22	MJB
P03	UPDATED TO CLIENT COMMENTS	06/12/21	DHW
P02	UPDATED TO CLIENT COMMENTS	02/12/21	MJB
P01	UPDATED TO CLIENT COMMENTS	02/12/21	MJB
No	Revision	Date	Initls

LAND SOUTH AND EAST OF THE  
A14 SERVICES

Drawing  
INDICATIVE MASTERPLAN

Client

**JAYNIC**

**FRANK**

**SHAW**

**ASSOCIATES**

**LIMITED**

**ARCHITECTS**

Penmore House Hasland Chesterfield Derbyshire S41 0SJ  
Tel 01246 233255 www.frankshawassociates.co.uk

Scale Drawn/Checked

1 : 1500@A1 MJB / DHW

Job No Date

20045 25/11/21

Drawing Number Rev

20045-FSA-XX-XX-DR-A-0005 P12

**NOTE**

Locations of existing services shown on drawing are approximate  
only. The location of all services are to be verified on site.



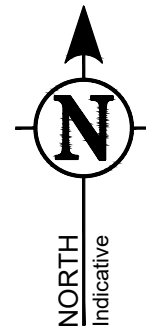
## **Appendix B**

### Topographic Survey









## TOPOGRAPHICAL &amp; MEASURED BUILDING SURVEYS

[illegible]

**DRAWING NOTES**

### Topographical Surveys

Trees are drawn to scale showing the average canopy spread. Descriptions and heights should be used as a guide only.

All building names, descriptions, number of storeys, construction type including roof line details are indicative only and taken externally from ground level.

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Detail, services and features may not have been surveyed if obstructed or not reasonably visible at the time of the survey.

Surveyed physical features may not necessarily represent the legal boundary line.

### Measured Building Surveys

Measurements to internal walls are taken to the wall finishes at approx. 1m above the floor level and the wall assumed to be vertical.

Cill heights are measured as floor to the cill and head heights are measured from cill to the top of window.

### General

The contractor must check and verify all site and building dimensions, levels, utilities and drainage details and connections prior to commencing work. Any errors or discrepancies must be notified to Survey Solutions immediately.

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SURVEY CONTROL CO-ORDINATES				
STATIONS	EASTINGS	NORTHINGS	LEVEL	DESCRIPTION
ST01	535393.24	265435.48	18.901	PK No. 1
ST02	535399.672	265338.90	18.054	PK No. 2
ST03	535308.762	265246.617	18.249	PK No. 3
ST04	535493.949	265148.657	17.602	PK No. 4
ST05	535638.321	265492.753	17.057	PK No. 5
ST06	535720.864	265509.817	17.461	PK No. 6
ST07	535790.656	265514.602	17.334	PK No. 7
ST08	535740.613	265569.038	17.810	PK No. 8
ST09	535250.192	265232.993	19.522	PK No. 9
ST10	535161.424	265138.110	21.469	PK No. 10

#### SURVEY GRID AND LEVEL DATUM

The coordinate system established for this survey is related to Ordnance Survey (OS) national grid at a single point using Smarinet, then orientated to grid north with a scale factor of 1.000.

The level datum established for this survey is related to Ordnance Survey (OS) using GPS Smartnet.

To avoid discrepancies any coordinated data used in conjunction with this survey must be derived directly from this control data.

REV	DESCRIPTION	DRAWN	APPR	DATE
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BUILDING SURVEYING  
UNDERGROUND SURVEYING  
SITE ENGINEERING  
MONITORING

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IPSWICH BRENTWOOD COVENTRY GLASGOW NORMICH NOTTINGHAM YEovil

PROJECT TITLE  
CAMBRIDGE SERVICES, BOXWORTH ROAD,  
CAMBRIDGE, CAMBS, CB3 8WU.

DRAWING DETAIL  
TOPOGRAPHICAL SURVEY  
Sheet 2 of 29

CLIENT JAYNIC				SCALE 1:200
SURVEYOR JDC	SURVEY DATE 26/07/2022	CHECKED BY JIA	APPROVED BY JIA	DWG STATUS FINAL
DRAWING NUMBER 42737/NOI S-2			REVISION	ISSUE DATE 26.07.22



#### ABBREVIATIONS & SYMBOLS

### Topographical Surveys

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Detail, services and features may not have been surveyed if obstructed or reasonably visible at the time of the survey.

### Measured Building Surveys

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The accuracy of the digital data is the same as the plotting scale implies: dimensions are in metres unless otherwise stated.

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SURVEY GRID AND LEVEL DATUM

The level datum established for this survey is related to Ordnance Survey

must be derived directly from this control data.

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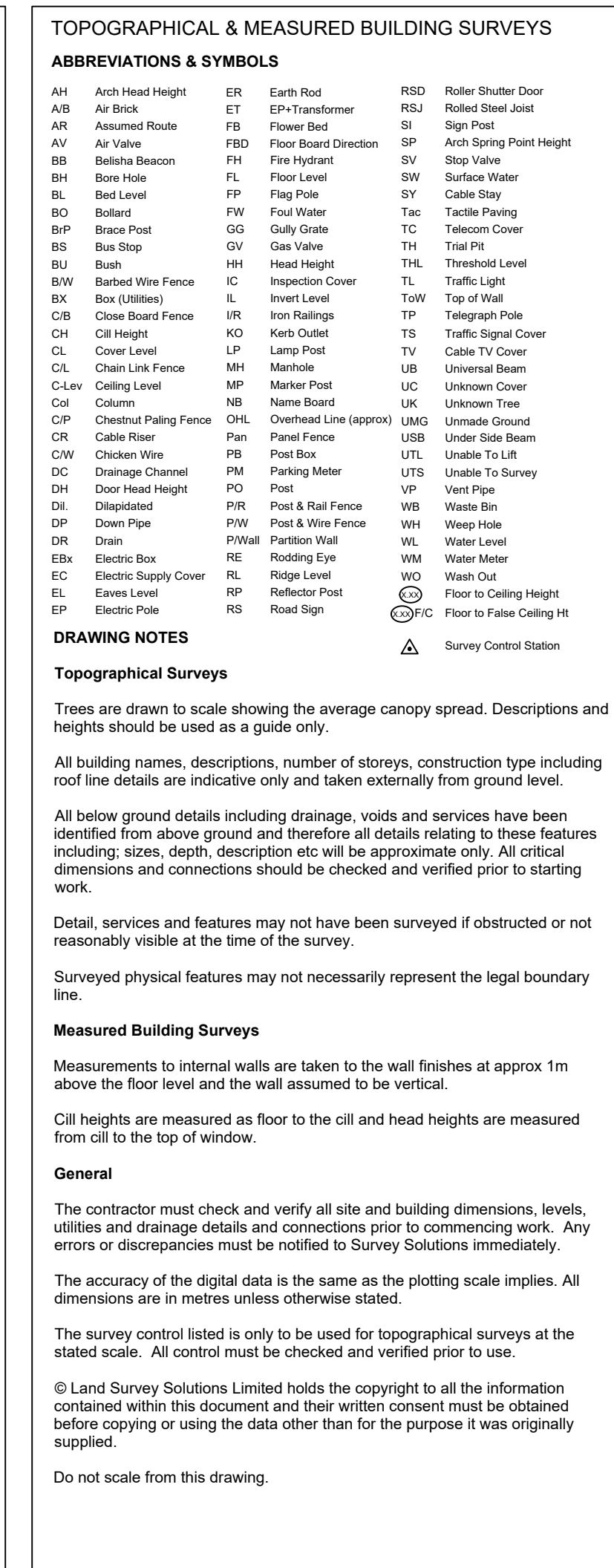
IPSWICH BRENTWOOD COVENTRY GLASGOW NORWICH NOTTINGHAM YEO

DRAWING DETAIL

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SURVEY CONTROL CO-ORDINATES				
STATIONS	EASTINGS	NORTHINGS	LEVEL	DESCRIPTION
ST01	535332.4143	265318.4164	18.00	Peg & Nail
ST02	535399.6972	265348.960	18.054	PK Nail
ST03	535308.762	265246.617	18.249	PK Nail
ST04	534993.949	265418.657	17.902	PK Nail
ST05	536638.321	265492.753	17.057	PK Nail
ST06	535720.864	265509.817	17.461	PK Nail
ST07	535790.655	265514.602	17.334	PK Nail
ST08	535740.613	265569.038	17.810	PK Nail
ST09	535250.152	265232.993	19.522	PK Nail
ST10	535161.424	265138.110	21.469	PK Nail

**SURVEY GRID AND LEVEL DATUM**

The coordinate system established for this survey is related to Ordnance Survey (OS) national grid at a single point using Smartnet, then orientated to grid north with a scale factor of 1.000.

The level datum established for this survey is related to Ordnance Survey (OS) using GPS Smartnet.

To avoid discrepancies any coordinated data used in conjunction with this survey must be derived directly from this control data.

REV	DESCRIPTION	DRAWN	APPR	DATE
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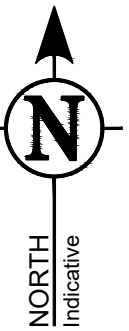
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DRAWING DETAIL	TOPOGRAPHICAL SURVEY Sheet 4 of 29

CLIENT JAYNIC				SCALE 1:200
SURVEYOR JDC	SURVEY DATE 26/07/2022	CHECKED BY JIA	APPROVED BY JIA	DWG STATUS FINAL
DRAWING NUMBER			REVISION	ISSUE DATE









TOPOGRAPHICAL & MEASURED BUILDING SURVEYS					
ABBREVIATIONS & SYMBOLS					
AD	Arch Head	EM	East End	ESD	Right Side
AE	Arch End	ET	East Transverse	ESL	Right Side Floor
AW	Assumed Face	FE	Flow End	SH	Shallow
BA	Back Area	FEH	Flow End Head	SHF	Shallow Floor
BB	Back Bay	FEH	Flow End Head	SV	Value
BC	Back Core	FEH	Flow End Head	SV	Value
BD	Back Deck	FEH	Flow End Head	SV	Value
BE	Back End	FEH	Flow End Head	SV	Value
BF	Back Face	FEH	Flow End Head	SV	Value
BG	Back Ground	FEH	Flow End Head	SV	Value
BI	Back In	FEH	Flow End Head	SV	Value
BJ	Back In	FEH	Flow End Head	SV	Value
BL	Back Line	FEH	Flow End Head	SV	Value
BM	Back Map	FEH	Flow End Head	SV	Value
BN	Back North	FEH	Flow End Head	SV	Value
BO	Back Out	FEH	Flow End Head	SV	Value
BP	Back Point	FEH	Flow End Head	SV	Value
BR	Back Room	FEH	Flow End Head	SV	Value
BS	Back Shop	FEH	Flow End Head	SV	Value
BT	Back Top	FEH	Flow End Head	SV	Value
BU	Back Unit	FEH	Flow End Head	SV	Value
CV	Close View	FEH	Flow End Head	SV	Value
DE	Deck End	FEH	Flow End Head	SV	Value
DF	Deck Face	FEH	Flow End Head	SV	Value
DI	Deck In	FEH	Flow End Head	SV	Value
DO	Deck Out	FEH	Flow End Head	SV	Value
DP	Deck Point	FEH	Flow End Head	SV	Value
DR	Deck Room	FEH	Flow End Head	SV	Value
DS	Deck Side	FEH	Flow End Head	SV	Value
DT	Deck Top	FEH	Flow End Head	SV	Value
DU	Deck Unit	FEH	Flow End Head	SV	Value
EV	East View	FEH	Flow End Head	SV	Value
EW	East Wall	FEH	Flow End Head	SV	Value
EX	East Exit	FEH	Flow End Head	SV	Value
FL	Flow Line	FEH	Flow End Head	SV	Value
FR	Flow Room	FEH	Flow End Head	SV	Value
FS	Flow Side	FEH	Flow End Head	SV	Value
FT	Flow Top	FEH	Flow End Head	SV	Value
FW	Flow Wall	FEH	Flow End Head	SV	Value
FX	Flow Exit	FEH	Flow End Head	SV	Value
GY	Ground Y	FEH	Flow End Head	SV	Value
HA	Head Area	FEH	Flow End Head	SV	Value
HB	Head Bay	FEH	Flow End Head	SV	Value
HC	Head Core	FEH	Flow End Head	SV	Value
HD	Head Deck	FEH	Flow End Head	SV	Value
HE	Head End	FEH	Flow End Head	SV	Value
HF	Head Face	FEH	Flow End Head	SV	Value
HI	Head In	FEH	Flow End Head	SV	Value
HO	Head Out	FEH	Flow End Head	SV	Value
HP	Head Point	FEH	Flow End Head	SV	Value
HR	Head Room	FEH	Flow End Head	SV	Value
HS	Head Side	FEH	Flow End Head	SV	Value
HT	Head Top	FEH	Flow End Head	SV	Value
HU	Head Unit	FEH	Flow End Head	SV	Value
IV	In View	FEH	Flow End Head	SV	Value
JE	Joint End	FEH	Flow End Head	SV	Value
JF	Joint Face	FEH	Flow End Head	SV	Value
JI	Joint In	FEH	Flow End Head	SV	Value
JO	Joint Out	FEH	Flow End Head	SV	Value
JP	Joint Point	FEH	Flow End Head	SV	Value
JR	Joint Room	FEH	Flow End Head	SV	Value
JS	Joint Side	FEH	Flow End Head	SV	Value
JT	Joint Top	FEH	Flow End Head	SV	Value
JU	Joint Unit	FEH	Flow End Head	SV	Value
KE	Key End	FEH	Flow End Head	SV	Value
KF	Key Face	FEH	Flow End Head	SV	Value
KI	Key In	FEH	Flow End Head	SV	Value
KO	Key Out	FEH	Flow End Head	SV	Value
KP	Key Point	FEH	Flow End Head	SV	Value
KR	Key Room	FEH	Flow End Head	SV	Value
KS	Key Side	FEH	Flow End Head	SV	Value
KT	Key Top	FEH	Flow End Head	SV	Value
KU	Key Unit	FEH	Flow End Head	SV	Value
LE	Left End	FEH	Flow End Head	SV	Value
LF	Left Face	FEH	Flow End Head	SV	Value
LI	Left In	FEH	Flow End Head	SV	Value

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### DRAWING NOTES

### Topographical Surveys

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STATION CONTROL CO-ORDINATES				
STATIONS	EASTINGS	NORTHINGS	LEVEL	DESCRIPTION
ST01	535332.243	265318.418	18.801	PK Nail
ST02	535399.672	265348.960	18.054	PK Nail
ST03	535308.762	265246.617	18.249	PK Nail
ST04	535493.949	265418.657	17.602	PK Nail
ST05	535638.321	265492.753	17.057	PK Nail
ST06	535720.864	265509.817	17.461	PK Nail
ST07	535790.655	265514.602	17.334	PK Nail
ST08	535740.613	265569.038	17.810	PK Nail
ST09	535250.192	265322.993	19.522	PK Nail
ST10	535161.424	265138.110	21.461	PK Nail

#### SURVEY GRID AND LEVEL DATUM

The coordinate system established for this survey is related to Ordnance Survey (OS) national grid at a single point using Smartnet, then orientated to grid north with a scale factor of 1.000.

The level datum established for this survey is related to Ordnance Survey (OS) datum using GPS Smartnet.

To avoid discrepancies any coordinated data used in conjunction with this standard must be derived directly from this control data.

V	DESCRIPTION	DRAWN	APPR	C
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IPSWICH BRENTWOOD COVENTRY GLASGOW NORWICH NOTTINGHAM YEOV

PROJECT TITLE  
CAMBRIDGE SERVICES, ROXBOROUGH ROAD

DRAWING DETAIL

CLIENT	SCALE
JAYNIC	1:200

SURVEYOR				SURVEY DATE	CHECKED BY	APPROVED BY	DWG ST
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JDC	26/07/2022	JIA	JIA	FINAL
DRAWING NUMBER			DESIGNATION	ISSUE





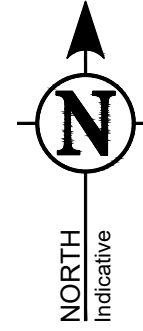












## ABBREVIATIONS & SYMBOLS

[illegible]

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SURVEY CONTROL CO-ORDINATES				
STATIONS	EASTINGS	NORTHINGS	LEVEL	DESCRIPTION
ST01	535393.24	265346.48	18.901	PK No. 1
ST02	535399.672	265338.90	18.054	PK No. 2
ST03	535308.762	265246.617	18.249	PK No. 3
ST04	535493.949	265418.657	17.602	PK No. 4
ST05	535638.321	265492.753	17.057	PK No. 5
ST06	535720.864	265509.817	17.461	PK No. 6
ST07	535790.656	265514.602	17.334	PK No. 7
ST08	535740.613	265569.038	17.810	PK No. 8
ST09	535250.192	265232.993	19.522	PK No. 9
ST10	535161.424	265138.110	21.469	PK No. 10

#### SURVEY GRID AND LEVEL DATUM

The coordinate system established for this survey is related to Ordnance Survey (OS) national grid at a single point using Smartnet, then orientated to grid north with a scale factor of 1.000.

The level datum established for this survey is related to Ordnance Survey (OS) using GPS Scream.

To avoid discrepancies any coordinated data used in conjunction with this survey must be derived directly from this control data.

REV	DESCRIPTION	DRAWN	APP'D	DATE
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LAND SURVEYING  
BUILDING SURVEYING  
UNDERGROUND SURVEYING  
SITE ENGINEERING  
MONITORING

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[survey-solutions.co.uk](http://survey-solutions.co.uk)

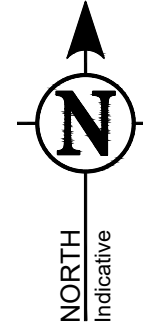
IPSWICH BRENTWOOD COVENTRY GLASSGOW NORWICH NOTTINGHAM YEovil

PROJECT TITLE  
CAMBRIDGE SERVICES, BOXWORTH ROAD,  
CAMBRIDGE, CAMBS, CB3 8WU.

**DRAWING DETAIL**

TOPOGRAPHICAL SURVEY Sheet 10 of 29					SCALE 1:200
CLIENT JAYNIC					
SURVEYOR JDC	SURVEY DATE 26/07/2022	CHECKED BY JIA	APPROVED BY JIA	DWG STATUS FINAL	
DRAWING NUMBER 42737NOL-S-10			REVISION	ISSUE DATE 26.07.22	





**DRAWING NOTES**

 Survey Control Station

### Topographical Surveys

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reasonably visible at the time of the survey.

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### Measured Building Surveys

moderate to high stresses were due either to the wall inclined at approx. 10° above the floor level and the wall assumed to be vertical.

Cill heights are measured as floor to the cill and head heights are measured from cill to the top of window.

**General**

The contractor must check and verify all site and building dimensions, level

The contractor must check and verify all site and building dimensions, reveal utilities and drainage details and connections prior to commencing work. Any errors or discrepancies must be notified to Survey Solutions immediately.

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**SURVEY GRID AND LEVEL DATUM**  
The coordinate system established for this survey is related to Ordnance Survey

(OS) national grid at a single point using Smartnet, then orientated to grid n with a scale factor of 1.000.

The level datum established for this survey is related to Ordnance Survey (OS) using GPS Smartnet.

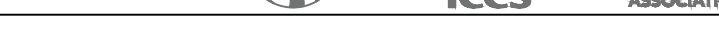
To avoid discrepancies any coordinated data used in conjunction with this s must be derived directly from this control data.

MONITORING 1

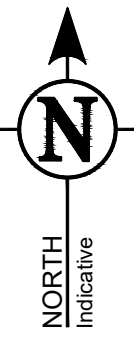
IPSWICH BRENTWOOD COVENTRY GLASGOW NORMICH NOTTINGHAM YEOV

PROJECT TITLE  
CAMBRIDGE SERVICES, ROXBOROUGH ROAD

42737NOLS-11		26.07.2011
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[illegible]

### Topographical Surveys

Trees are drawn to scale showing the average canopy spread. Descriptions and heights should be used as a guide only.

All building names, descriptions, number of storeys, construction type including roof line details are indicative only and taken externally from ground level.

All below ground details including drainage, voids and services have been identified from above ground and therefore all details relating to these features including; sizes, depth, description etc will be approximate only. All critical dimensions and connections should be checked and verified prior to starting work.

Detail, services and features may not have been surveyed if obstructed or not reasonably visible at the time of the survey.

Surveyed physical features may not necessarily represent the legal boundary line.

### Measured Building Surveys

Measurements to internal walls are taken to the wall finishes at approx 1m above the floor level and the wall assumed to be vertical.

Cill heights are measured as floor to the cill and head heights are measured from cill to the top of window.

## General

The contractor must check and verify all site and building dimensions, levels, utilities and drainage details and connections prior to commencing work. Any errors or discrepancies must be notified to Survey Solutions immediately.

The accuracy of the digital data is the same as the plotting scale implies. All dimensions are in metres unless otherwise stated.

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Do not scale from this drawing.

SURVEY CONTROL CO-ORDINATES				
STATIONS	EASTINGS	NORTHINGS	LEVEL	DESCRIPTION
ST01	535332.443	265338.454	18.001	Peg & Nail
ST02	535399.672	265348.960	18.054	PK Nail
ST03	535306.762	265246.617	18.249	PK Nail
ST04	534549.949	265418.657	17.602	PK Nail
ST05	535638.321	265492.753	17.057	PK Nail
ST06	535720.864	265509.817	17.461	PK Nail
ST07	535790.655	265514.602	17.334	PK Nail
ST08	535740.613	265569.038	17.810	PK Nail
ST09	535250.192	265232.993	19.522	PK Nail
ST10	535161.424	265138.110	21.469	PK Nail

SURVEY GRID AND LEVEL DATUM

The coordinate system established for this survey is related to Ordnance Survey (OS) national grid at a single point using Smartnet, then orientated to grid north with a scale factor of 1.000.

The level datum established for this survey is related to Ordnance Survey (OS) using GPS Smartnet.

To avoid discrepancies any coordinated data used in conjunction with this survey must be derived directly from this control data.

REV	DESCRIPTION	DRAWN	APP'D	DATE
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LAND SURVEYING  
BUILDING SURVEYING  
UNDERGROUND SURVEYING  
SITE ENGINEERING

0845 040 5969  
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IPSWICH BRENTWOOD COVENTRY GLASGOW NORWICH NOTTINGHAM YEovil

PROJECT TITLE CAMBRIDGE SERVICES, BOXWORTH ROAD, CAMBRIDGE, CAMBS, CB3 8WU.				
DRAWING DETAIL TOPOGRAPHICAL SURVEY Sheet 12 of 29				
CLIENT JAYNIC				SCALE 1:200
SURVEYOR JDC	SURVEY DATE 26/07/2022	CHECKED BY JIA	APPROVED BY JIA	DWG STATUS FINAL
DRAWING NUMBER 42737NOLS-12			REVISION	ISSUE DATE 26.07.22



TOPOGRAPHICAL & MEASURED BUILDING SURVEYS[illegible]

**DRAWING NOTE:**

### Topographical Surveys

Trees are drawn to scale showing the average canopy spread. Description heights should be used as a guide only.

All building names, descriptions, number of storeys, construction type incl roof line details are indicative only and taken externally from ground level.

All below ground details including drainage, voids and services have been identified from above ground and therefore all details relating to these features including; sizes, depth, description etc will be approximate only. All critical dimensions and connections should be checked and verified prior to start of work.

Detail, services and features may not have been surveyed if obstructed or reasonably visible at the time of the survey.

Surveyed physical features may not necessarily represent the legal boundary.

### Measured Building Surveys

Measurements to internal walls are taken to the wall finishes at approx. 1m above the floor level and the wall assumed to be vertical.

Cill heights are measured as floor to the cill and head heights are measured from cill to the top of window.

## General

The contractor must check and verify all site and building dimensions, levels, utilities and drainage details and connections prior to commencing work. Any errors or discrepancies must be notified to Survey Solutions immediately.

The accuracy of the digital data is the same as the plotting scale implies. All dimensions are in metres unless otherwise stated.

The survey control listed is only to be used for topographical surveys at the stated scale. All control must be checked and verified prior to use.

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Do not scale from this drawing.

SURVEY CONTROL CO-ORDINATES				
STATIONS	EASTING	NORTHING	LEVEL	DESCRIPTION
ST01	355332.843	265318.484	18.001	Pg & Nail
ST02	355399.672	265348.960	18.004	PK Nail
ST03	355306.762	265246.617	18.249	PK Nail
ST04	354933.949	265418.657	17.602	PK Nail
ST05	355638.321	265492.753	17.057	PK Nail
ST06	355220.864	265509.817	17.461	PK Nail
ST07	355790.655	265514.602	17.334	PK Nail
ST08	355740.613	265569.038	17.810	PK Nail
ST09	355250.192	265232.993	19.622	PK Nail
ST10	355161.424	265138.110	21.469	PK Nail

SURVEY GRID AND LEVEL DATUM

The coordinate system established for this survey is related to Ordnance Survey (OS) national grid at a single point using Smartnet, then orientated to grid north with a scale factor of 1.000.

The level datum established for this survey is related to Ordnance Survey (OS) using GPS Smartnet.

To avoid discrepancies any coordinated data used in conjunction with this s must be derived directly from this control data.

REV	DESCRIPTION	DRAWN	APPR	C
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LAND SURVEYING  
BUILDING SURVEYING  
UNDERGROUND SURVEYING  
SITE ENGINEERING  
MONITORING

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IPSWICH BRENTWOOD COVENTRY GLASGOW NORWICH NOTTINGHAM YEOV

PROJECT TITLE CAMBRIDGE SERVICES, BOXWORTH ROAD, CAMBRIDGE, CAMBS, CB3 8WU.			
DRAWING DETAIL TOPOGRAPHICAL SURVEY Sheet 13 of 29			
CLIENT JAYNIC			SCALE 1:200
SURVEYOR JDC	SURVEY DATE 26/07/2022	CHECKED BY JIA	APPROVED BY JIA
DRAWING NUMBER 42737NOLS-13			ISSUE DATE 26.07.22









[illegible]

**DRAWING NOTE**

Trees are drawn to scale showing the average canopy spread. Description heights should be used as a guide only.

All below ground details including drainage, voids and services have been identified from above ground and therefore all details relating to these features including: sizes, depth, description etc will be approximate only. All critical dimensions and connections should be checked and verified prior to start work.

Detail, services and features may not have been surveyed if obstructed or reasonably visible at the time of the survey.

Surveyed physical features may not necessarily represent the legal boundary.

### Measured Building Surveys

Measurements to internal walls are taken to the wall finishes at approx 1m above the floor level and the wall assumed to be vertical.

Cill heights are measured as floor to the cill and head heights are measured from cill to the top of window.

## General

The contractor must check and verify all site and building dimensions, levels, utilities and drainage details and connections prior to commencing work. All errors or discrepancies must be notified to Survey Solutions immediately.

The accuracy of the digital data is the same as the plotting scale implies. All dimensions are in metres unless otherwise stated.

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Do not scale from this drawing

SURVEY CONTROL CO-ORDINATES				
STATION	EASTINGS	NORTHINGS	LEVEL	DESCRIPTION
ST01	535332.3	265318.4	18.051	PK Nail
ST02	535399.672	265343.960	18.054	PK Nail
ST03	535308.762	265246.611	18.249	PK Nail
ST04	535493.949	265416.657	17.602	PK Nail
ST05	535638.321	265492.753	17.057	PK Nail
ST06	535720.864	265509.817	17.461	PK Nail
ST07	535790.655	265514.602	17.334	PK Nail
ST08	535740.613	265669.038	17.810	PK Nail
ST09	535250.192	265232.393	19.622	PK Nail
ST10	535615.144	265138.110	21.469	PK Nail

#### SURVEY GRID AND LEVEL DATUM

The coordinate system established for this survey is related to Ordnance Survey (OS) national grid at a single point using Smartnet, then orientated to grid north with a scale factor of 1.000.

The level datum established for this survey is related to Ordnance Survey (OS) using GPS Smartnet.

To avoid discrepancies any coordinated data used in conjunction with this system must be derived directly from this control data.

REV	DESCRIPTION	DRAWN	APPR	CHECKED
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LAND SURVEYING  
BUILDING SURVEYING  
UNDERGROUND SURVEYING  
SITE ENGINEERING  
MONITORING

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IPSWICH BRENTWOOD COVENTRY GLASGOW NORWICH NOTTINGHAM YEOV

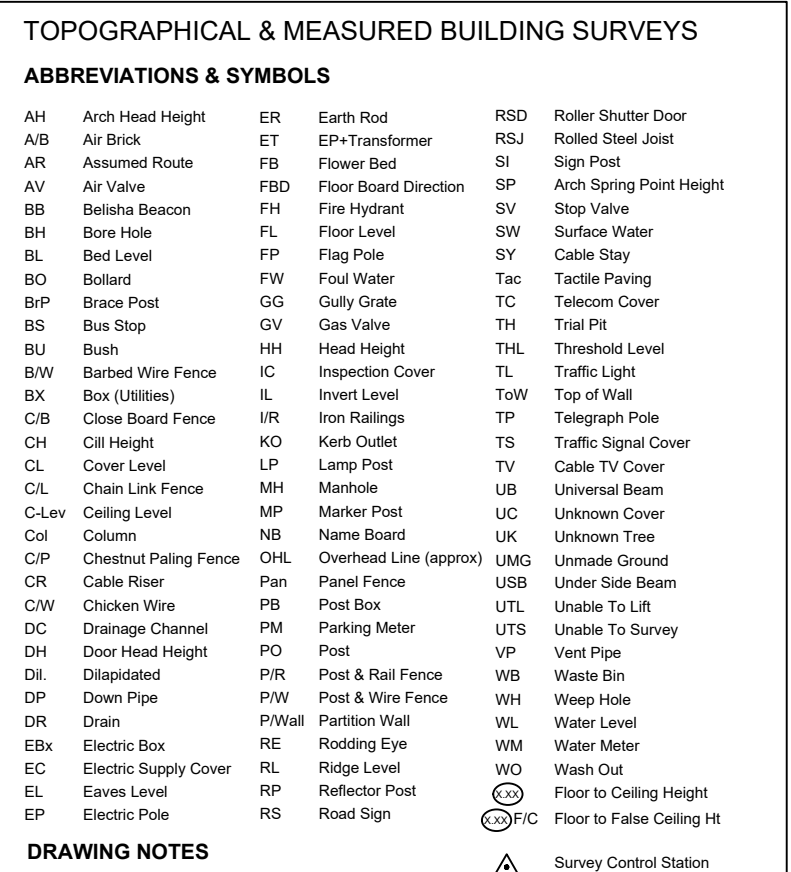
PROJECT TITLE  
CAMBRIDGE SERVICES, BOXWORTH ROAD,  
CAMBRIDGE, CAMBS, CB3 8WU.

DRAWING DETAIL  
TOPOGRAPHICAL SURVEY  
Sheet 15 of 29

CLIENT JAYNIC				SCALE 1:200
SURVEYOR JDC	SURVEY DATE 26/07/2022	CHECKED BY JIA	APPROVED BY JIA	DWG ST FINAL
DRAWING NUMBER 42737NOLS-15			REVISION	ISSUE D 26.07

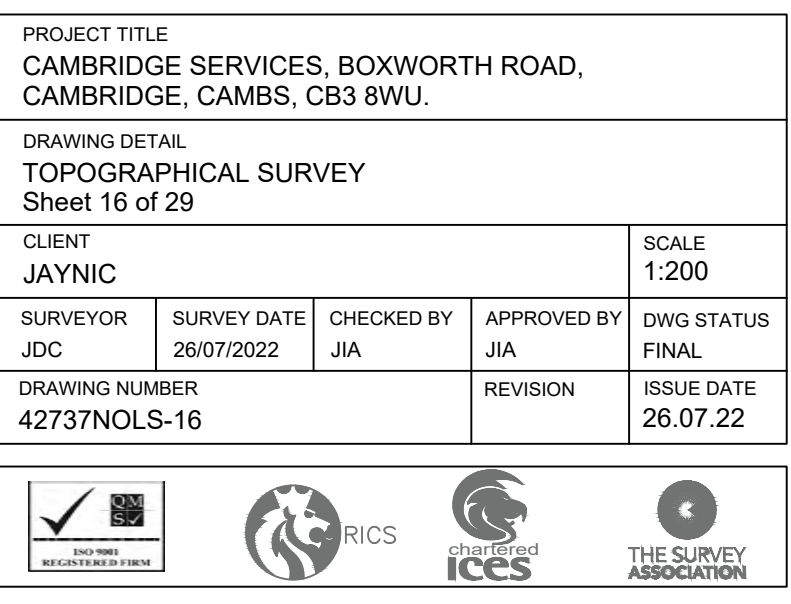






SURVEY CONTROL CO-ORDINATES				
STATIONS	EASTINGS	NORTHINGS	LEVEL	DESCRIPTION
ST01	635332.843	265328.884	18.001	PK g Nail
ST02	635389.672	265348.960	18.054	PK Nail
ST03	635306.762	265246.617	18.249	PK Nail
ST04	635493.949	265418.657	17.602	PK Nail
ST05	635638.321	265492.753	17.057	PK Nail
ST06	635720.864	265509.817	17.461	PK Nail
ST07	635790.655	265514.602	17.334	PK Nail
ST08	635740.613	265569.038	17.810	PK Nail
ST09	635250.192	265232.993	19.522	PK Nail
ST10	635161.424	265138.110	21.469	PK Nail

REV	DESCRIPTION	DRAWN	APPR	DATE
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## ABBREVIATIONS & SYMBOLS

▲ Nursery Control Station

**DRAWING NOTES**

### Topographical Surveys

Trees are drawn to scale showing the average canopy spread. Descriptions and heights should be used as a guide only.

All building names, descriptions, number of storeys, construction type including roof line details are indicative only and taken externally from ground level.

All below ground details including drainage, voids and services have been identified from above ground and therefore all details relating to these features including; sizes, depth, description etc will be approximate only. All critical dimensions and connections should be checked and verified prior to starting work.

Detail, services and features may not have been surveyed if obstructed or not reasonably visible at the time of the survey.

Surveyed physical features may not necessarily represent the legal boundary

#### Measured Building Success

Measurements to internal walls are taken to the wall finishes at approx 1m above the floor level and the wall assumed to be vertical.

Cill heights are measured as floor to the cill and head heights are measured

Concept

The contractor must check and verify all site and building dimensions, levels, utilities and drainage details and connections prior to commencing work. Any errors or discrepancies must be notified to Survey Solutions immediately.

The accuracy of the digital data is the same as the plotting scale implies. All dimensions are in metres unless otherwise stated.

The survey control listed is only to be used for topographical surveys at the stated scale. All control must be checked and verified prior to use.

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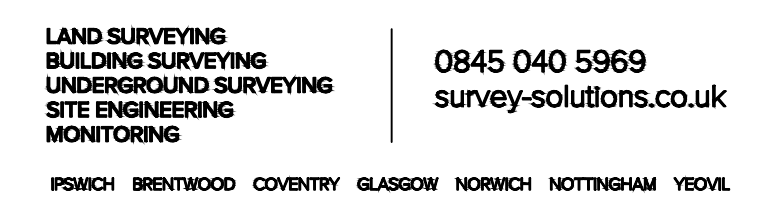
**SURVEY GRID AND LEVEL DATUM**

The coordinate system established for this survey is related to Ordnance Survey (OS) national grid at a single point using Smartnet, then orientated to grid north with a scale factor of 1.000.

The level datum established for this survey is related to Ordnance Survey (OS) using GPS Smartnet.

To avoid discrepancies any coordinated data used in conjunction with this survey must be derived directly from this control data.

REV	DESCRIPTION	DRAWN	APPD	DATE
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PROJECT TITLE  
CAMBRIDGE SERVICES, BOXWORTH ROAD,  
CAMBRIDGE CB3 8WJ

DRAWING DETAIL  
TOPOGRAPHICAL SURVEY  
Sheet 19 of 29

CLIENT JAYNIC				SCALE 1:200
SURVEYOR JDC	SURVEY DATE 26/07/2022	CHECKED BY JIA	APPROVED BY JIA	DWG STATUS FINAL
DRAWING NUMBER 42737NOL S-19			REVISION	ISSUE DATE 26.07.22





## TOPOGRAPHICAL & MEASURED BUILDING SURVEYS

[illegible]

### Topographical

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Trees are drawn to scale showing the average canopy spread. Description heights should be used as a guide only.

All building names, descriptions, number of storeys, construction type incl roof line details are indicative only and taken externally from ground level.

All below ground details including drainage, voids and services have been identified from above ground and therefore all details relating to these feat including; sizes, depth, description etc will be approximate only. All critical dimensions and connections should be checked and verified prior to start work

Detail, services and features may not have been surveyed if obstructed or

Surveyed physical features may not necessarily represent the legal bound

#### Measured Building Surveys

Measurements to internal walls are taken to the wall finishes at approx 1m

Cill heights are measured as floor to the cill and head heights are measured

from sill to the top of window.

The contractor must check and verify all site and building dimensions, level

utilities and drainage details and connections prior to commencing work. Any errors or discrepancies must be notified to Survey Solutions immediately.

The accuracy of the digital data is the same as the plotting scale implies. All dimensions are in metres unless otherwise stated.

The survey control listed is only to be used for topographical surveys at the stated scale. All control must be checked and verified prior to use.

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contained within this document and their written consent must be obtained before copying or using the data other than for the purpose it was originally supplied.

Do not scale from this drawing.

SURVEY CONTROL CO-ORDINATES				
STATION	EASTINGS	NORTHINGS	LEVEL	DESCRIPTION
ST01	535332.3	265188.4	18.951	PK & Nail
ST02	535399.672	265348.960	18.054	PK & Nail
ST03	535308.762	265246.617	18.249	PK Nail
ST04	535493.949	265418.657	17.602	PK Nail
ST05	535638.321	265492.753	17.057	PK Nail
ST06	535720.864	265509.817	17.461	PK Nail
ST07	535790.655	265514.602	17.334	PK Nail
ST08	535740.613	265669.038	17.810	PK Nail
ST09	535250.192	265232.393	19.622	PK Nail
ST10	535161.424	265138.110	21.469	PK Nail

**SURVEY GRID AND LEVEL DATUM**

The coordinate system established for this survey is related to Ordnance Survey (OS) national grid at a single point using Smartnet, then orientated to grid north with a scale factor of 1.000.

The level datum established for this survey is related to Ordnance Survey (OS) using GPS Smartnet.

To avoid discrepancies any coordinated data used in conjunction with this s must be derived directly from this control data.

REV	DESCRIPTION	DRAWN	APPR	C
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LAND SURVEYING  
BUILDING SURVEYING  
UNDERGROUND SURVEYING  
SITE ENGINEERING  
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IPSWICH BRENTWOOD COVENTRY GLASGOW NORWICH NOTTINGHAM YEOV

PROJECT TITLE  
CAMBRIDGE SERVICES, BOXWORTH ROAD,  
CAMBRIDGE, CAMBS, CB3 8MU

DRAWING DETAIL  
TOPOGRAPHICAL SURVEY  
Sheet 20 of 29

CLIENT JAYNIC	SCALE 1:200
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SURVEYOR JDC	SURVEY DATE 26/07/2022	CHECKED BY JIA	APPROVED BY JIA	DWG ST FINAL
DRAWING NUMBER 15750-01-00			REVISION	ISSUE D 00-00

42737NOLS-20		26.07.20
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[illegible]

### Topographical Surveys

All building names, descriptions, number of storeys, construction type and roof line details are indicative only and taken externally from ground level.

Detail, services and features may not have been surveyed if obstructed or

Surveyed physical features may not necessarily represent the legal boundary line.

Cill heights are measured on floor to the cill and head heights are measured

**General**

The contractor must check and verify all site and building dimensions, level

The accuracy of the digital data is the same as the plotting scale implies. All dimensions are in metres unless otherwise stated.

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Do not scale from this drawing.

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**SURVEY GRID AND LEVEL DATUM**

The coordinate system established for this survey is related to Ordnance Survey (OS) national grid at a single point using Smartnet, then orientated to grid north with a scale factor of 1.000.

To avoid discrepancies any coordinated data used in conjunction with this set must be derived directly from this master data.

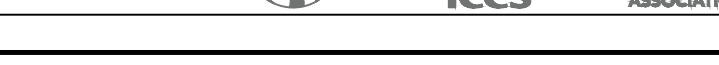


PROJECT TITLE  
CAMBRIDGE SERVICES, ROXBOROUGH ROAD

DRAWING DETAIL  
TOPOGRAPHICAL SURVEY

JAYNIC				1:200
SURVEYOR	SURVEY DATE	CHECKED BY	APPROVED BY	DWG. NO.

DRAWING NUMBER 42737NOLS-22	REVISION	ISSUE DATE 26.07.2012
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[illegible]

Trees are drawn to scale showing the average canopy spread. Description heights should be used as a guide only.

All building names, descriptions, number of storeys, construction type and roof line details are indicative only and taken externally from ground level.

All below ground details including drainage, voids and services have been identified from above ground and therefore all details relating to these features including: sizes, depth, description etc will be approximate only. All critical dimensions and connections should be checked and verified prior to starting work.

Detail, services and features may not have been surveyed if obstructed or reasonably visible at the time of the survey.

Surveyed physical features may not necessarily represent the legal boundary line.

### Measured Building Surveys

Measurements to vertical walls are taken to the wall finishes at approx. 1 m above the floor level and the wall assumed to be vertical.

from cill to the top of window.

**General**

The contractor must check and verify all site and building dimensions, level, utilities and drainage details and connections prior to commencing work.

The accuracy of the digital data is the same as the plotting scale implies.

The survey control listed is only to be used for topographical surveys at the

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Do not scale from this drawing.

SURVEY CONTROL CO-ORDINATES				
STATIONS	EASTINGS	NORTHINGS	LEVEL	DESCRIPTION
ST01	635332.844	265318.484	18.801	Peg & Nail
ST02	635339.672	265343.960	18.054	PK Nail
ST03	635308.762	265246.617	18.249	PK Nail
ST04	635493.949	265418.657	17.602	PK Nail
ST05	635638.321	264922.753	17.057	PK Nail
ST06	635720.864	265059.817	17.461	PK Nail
ST07	635790.655	265514.602	17.334	PK Nail
ST08	635740.613	265959.038	17.810	PK Nail
ST09	635250.192	265322.993	19.522	PK Nail
ST10	635161.424	265138.110	21.469	PK Nail

The coordinate system established for this survey is related to Ordnance Survey (OS) national grid at a single point using Smartnet, then orientated to grid north with a scale factor of 1.000.

The level datum established for this survey is related to Ordnance Survey (OS) datum using GPS Smartnet.

To avoid discrepancies any coordinated data used in conjunction with this system must be derived directly from this control data.

NO	DESCRIPTION	CRWIN	APPR	C
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LAND SURVEYING  
BUILDING SURVEYING  
UNDERGROUND SURVEYING  
SITE ENGINEERING  
MONITORING

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IPSWICH BRENTWOOD COVENTRY GLASGOW NORWICH NOTTINGHAM YEOV

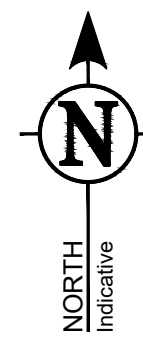
PROJECT TITLE  
CAMBRIDGE SERVICES, BOXWORTH ROAD,  
CAMBRIDGE, CAMBS, CB3 8WU.

DRAWING DETAIL  
TOPOGRAPHICAL SURVEY  
Sheet 25 of 29

CLIENT JAYNIC				SCALE 1:200
SURVEYOR JDC	SURVEY DATE 26/07/2022	CHECKED BY JIA	APPROVED BY JIA	DWG ST FINAL
DRAWING NUMBER 12737NOLS-25			REVISION	ISSUE D 26.07.22







## TOPOGRAPHICAL &amp; MEASURED BUILDING SURVEYS

[illegible]

**DRAWING NOTE:**

### Topographical Survey

Trees are drawn to scale showing the average canopy spread. Descriptions and heights should be used as a guide only.

All building names, descriptions, number of storeys, construction type including roof line details are indicative only and taken externally from ground level.

All below ground details including drainage, voids and services have been identified from above ground and therefore all details relating to these features including; sizes, depth, description etc will be approximate only. All critical dimensions and connections should be checked and verified prior to starting work.

Detail, services and features may not have been surveyed if obstructed or not reasonably visible at the time of the survey.

Surveyed physical features may not necessarily represent the legal boundary line.

### Measured Building Success

Measurements to internal walls are taken to the wall finishes at approx 1m above the floor level and the wall assumed to be vertical.

Cill heights are measured as floor to the cill and head heights are measured from cill to the top of window.

Current

The contractor must check and verify all site and building dimensions, levels,

utilities and drainage details and connections prior to commencing work. Any errors or discrepancies must be notified to Survey Solutions immediately.

The accuracy of the digital data is the same as the plotting scale implies. All dimensions are in metres unless otherwise stated.

The survey control listed is only to be used for topographical surveys at the stated scale. All control must be checked and verified prior to use.

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Do not scale from this drawing.

STATIONS	EASTINGS	NORTHINGS	LEVEL	DESCRIPTION
ST01	635332.843	265318.984	18.901	Peg S of
ST02	635399.672	265348.460	18.054	PK NAL
ST03	635306.762	265246.617	18.249	PK NAL
ST04	635493.949	265148.657	17.602	PK NAL
ST05	635638.321	265492.753	17.007	PK NAL
ST06	635720.864	265509.817	17.461	PK NAL
ST07	635790.656	265514.602	17.334	PK NAL
ST08	635740.613	265569.038	17.810	PK NAL
ST09	635250.192	265238.993	19.522	PK NAL
ST10	635161.424	265232.110	21.469	PK NAL

SURVEY GRID AND LEVEL DATUM

The coordinate system established for this survey is related to Ordnance Survey (OS) national grid at a single point using Smartnet, then orientated to grid north with a scale factor of 1.000.

The level datum established for this survey is related to Ordnance Survey (OS) using GPS Smartnet.

To avoid discrepancies any coordinated data used in conjunction with this survey must be derived directly from this control data.

REV	DESCRIPTION	DRAWN	APPR	DATE
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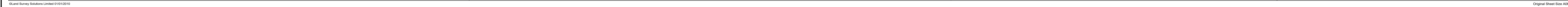
LAND SURVEYING  
BUILDING SURVEYING  
UNDERGROUND SURVEYING  
SITE ENGINEERING  
MONITORING

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IPSWICH BRENTWOOD COVENTRY GLASGOW NORWICH NOTTINGHAM YEO

PROJECT TITLE CAMBRIDGE SERVICES, BOXWORTH ROAD, CAMBRIDGE, CAMBS, CB3 8WU.			
DRAWING DETAIL TOPOGRAPHICAL SURVEY Sheet 26 of 29			
CLIENT JAYNIC			SCALE 1:200
SURVEYOR JDC	SURVEY DATE 26/07/2022	CHECKED BY JIA	APPROVED BY JIA
DRAWING NUMBER 42737NOLS-26			DWG STATUS FINAL
			REVISION 26.07.22





**Topographical Surveys**

Trees are drawn to scale showing the average canopy spread. Description heights should be used as a guide only.

All building names, descriptions, number of storeys, construction type incl roof line details are indicative only and taken externally from ground level.

All below ground details including drainage, voids and services have been identified from above ground and therefore all details relating to these feat including; sizes, depth, description etc will be approximate only. All critical dimensions and connections should be checked and verified prior to start work

Detail, services and features may not have been surveyed if obstructed or

Surveyed physical features may not necessarily represent the legal bound

#### Measured Building Systems

Measurements to internal walls are taken to the wall finishes at approx 1m

Cill heights are measured as floor to the cill and head heights are measured

from cill to the top of window.

The contractor must check and verify all site and building dimensions, level

utilities and drainage details and connections prior to commencing work. Any errors or discrepancies must be notified to Survey Solutions immediately.

The accuracy of the digital data is the same as the plotting scale implies. All dimensions are in metres unless otherwise stated.

The survey control listed is only to be used for topographical surveys at the stated scale. All control must be checked and verified prior to use.

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contained within the document and shall remain confidential and shall not be disclosed before copying or using the data other than for the purpose it was originally supplied.

Do not scale from this drawing.

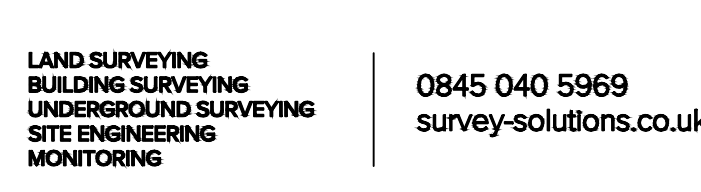
**SURVEY GRID AND LEVEL DATUM**

The coordinate system established for this survey is related to Ordnance Survey (OS) national grid at a single point using Smartnet, then orientated to grid north with a scale factor of 1.000.

The level datum established for this survey is related to Ordnance Survey (OS) using OS Spotheight.

To avoid discrepancies any coordinated data used in conjunction with this survey must be obtained directly from this medical data.

must be derived directly from this control data.



IPSWICH BRENTWOOD COVENTRY GLASGOW NORWICH NOTTINGHAM YEOV

PROJECT TITLE  
CAMBRIDGE SERVICES, BOXWORTH ROAD,  
CAMBRIDGE, CAMBS, CB3 8WU.

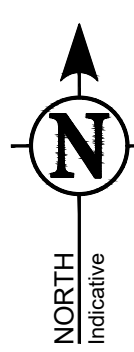
DRAWING DETAIL	
TOPOGRAPHICAL SURVEY	
Sheet 27 of 29	
CLIENT	SCALE

JAYNIC				1:200
SURVEYOR JDC	SURVEY DATE 26/07/2022	CHECKED BY JIA	APPROVED BY JIA	DWG ST FINAL









#### ABBREVIATIONS & SYMBOLS

[illegible]

### Topographical Survey

Trees are drawn to scale showing the average canopy spread. Descriptions and heights should be used as a guide only.

All building names, descriptions, number of storeys, construction type including roof line details are indicative only and taken externally from ground level.

All below ground details including drainage, voids and services have been identified from above ground and therefore all details relating to these features including: sizes, depth, description etc will be approximate only. All critical dimensions and connections should be checked and verified prior to starting work.

Detail, services and features may not have been surveyed if obstructed or not reasonably visible at the time of the survey.

Surveyed physical features may not necessarily represent the legal boundary line.

### Measured Building Surveys

Measurements to internal walls are taken to the wall finishes at approx 1m above the floor level and the wall assumed to be vertical.

Cill heights are measured as floor to the cill and head heights are measured from cill to the top of window.

**General**

The contractor must check and verify all site and building dimensions, levels

The contractor must check and verify all site and building dimensions, levels, utilities and drainage details and connections prior to commencing work. Any errors or discrepancies must be notified to Survey Solutions immediately.

The accuracy of the digital data is the same as the plotting scale implies. All dimensions are in metres unless otherwise stated.

The survey control listed is only to be used for topographical surveys at the stated scale. All control must be checked and verified prior to use.

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before copying or using the data other than for the purpose it was originally supplied.

Do not scale from this drawing.

STATIONS	EASTINGS	NORTHINGS	LEVEL	DESCRIPTION
ST01	535332.843	265318.984	18.901	Pg 5 NAL
ST02	535399.672	265348.460	18.054	PK NAL
ST03	535306.762	265346.617	18.249	PK NAL
ST04	535493.949	265418.657	17.602	PK NAL
ST05	535638.321	265492.753	17.067	PK NAL
ST06	535720.864	265509.817	17.461	PK NAL
ST07	535790.655	265514.602	17.334	PK NAL
ST08	535740.613	265569.038	17.810	PK NAL
ST09	535250.192	265238.919	19.522	PK NAL
ST10	535161.424	265132.110	21.469	PK NAL

**SURVEY GRID AND LEVEL DATUM**

The coordinate system established for this survey is related to Ordnance Survey (OS) national grid at a single point using Smartnet, then orientated to grid north with a scale factor of 1.000.

The level datum established for this survey is related to Ordnance Survey (OS) using GPS Smartnet.

To avoid discrepancies any coordinated data used in conjunction with this survey must be derived directly from this control data.

REV	DESCRIPTION	DRAWN	APPR	DATE
-----	-------------	-------	------	------



LAND SURVEYING  
BUILDING SURVEYING  
UNDERGROUND SURVEYING  
SITE ENGINEERING  
MONITORING

0845 040 5969  
survey-solutions.co.uk

IPSWICH BRENTWOOD COVENTRY GLASSGOW NORWICH NOTTINGHAM YEO

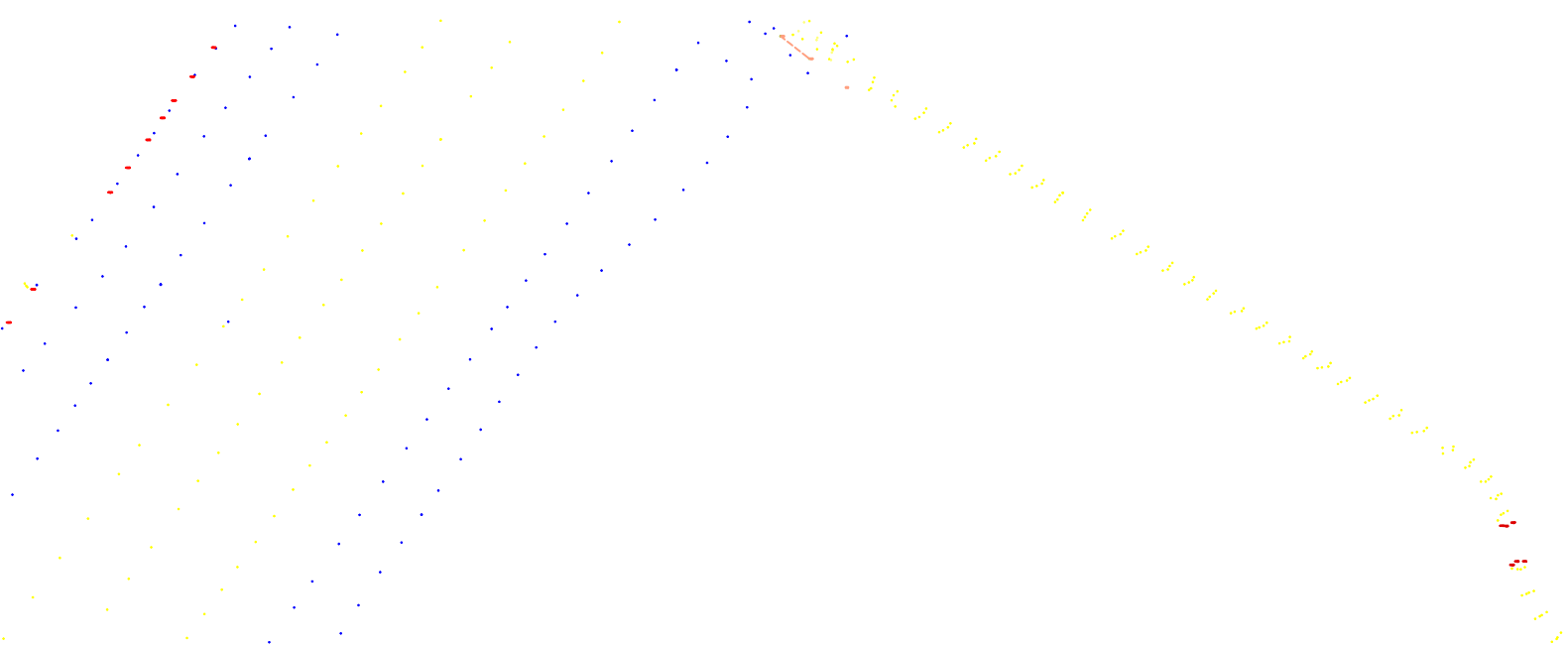
PROJECT TITLE  
CAMBRIDGE SERVICES, BOXWORTH ROAD  
CAMBRIDGE, CAMBS, CB3 8WU.

DRAWING DETAIL  
TOPOGRAPHICAL SURVEY  
Sheet 29 of 29

CLIENT JAYNIC				SCALE 1:200
SURVEYOR JDC	SURVEY DATE 26/07/2022	CHECKED BY JIA	APPROVED BY JIA	DWG STATUS FINAL
DRAWING NUMBER 42737NOLS-29			REVISION	ISSUE DATE 26.07.22







## **Appendix C**

### Flood Map for Planning



# Flood map for planning

Your reference  
<Unspecified>

Location (easting/northing)  
535771/265306

Created  
20 Feb 2025 13:14

**Your selected location is in flood zone 3, an area with a high probability of flooding.**

## This means:

- you must complete a flood risk assessment for development in this area
- you should follow the Environment Agency's standing advice for carrying out a flood risk assessment (see [www.gov.uk/guidance/flood-risk-assessment-standing-advice](https://www.gov.uk/guidance/flood-risk-assessment-standing-advice))

## Notes

The flood map for planning shows river and sea flooding data only. It doesn't include other sources of flooding. It is for use in development planning and flood risk assessments.

This information relates to the selected location and is not specific to any property within it. The map is updated regularly and is correct at the time of printing.

Flood risk data is covered by the Open Government Licence which sets out the terms and conditions for using government data. <https://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/>

Use of the address and mapping data is subject to Ordnance Survey public viewing terms under Crown copyright and database rights 2024 OS AC0000807064. <https://flood-map-for-planning.service.gov.uk/os-terms>



## Surface water map

### Yearly chance of flooding

#### ☒ Extent

- ☒ High chance  
More than 3.3% chance each year
- ☐ Medium chance  
Between 1% and 3.3% chance each year
- ☐ Low chance  
Between 0.1% and 1% chance each year

#### ☐ Depth

### Yearly chance of flooding between 2040 and 2060

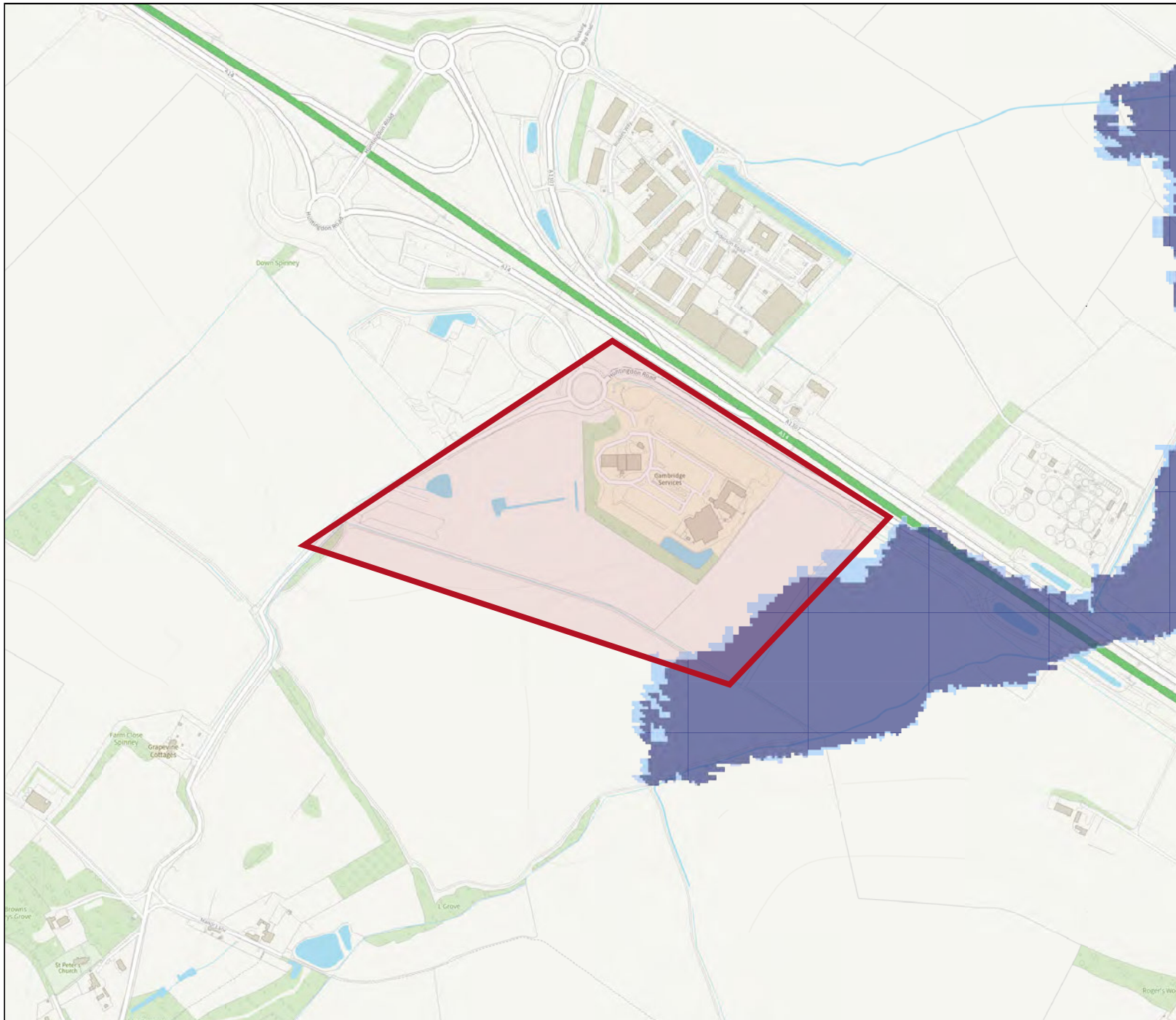
#### ☐ Extent

#### ☐ Depth

### Map details

#### ☒ Show flooding





## Flood map for planning

Your reference  
**<Unspecified>**

Location (easting/northing)  
**535771/265306**

Scale  
**1:10000**

Created  
**20 Feb 2025 13:14**

-  Selected area
-  Flood zone 3
-  Flood zone 2
-  Flood zone 1
-  Flood defence
-  Main river
-  Water storage area

0 100 200 300m



Rivers and the sea

Reservoirs

## Surface water map

### Yearly chance of flooding

☐ Extent

☐ Depth

### Yearly chance of flooding between 2040 and 2060

☒ Extent

☒ High chance

More than 3.3% chance each year

☐ Medium chance

Between 1% and 3.3% each year

☐ Low chance

Between 0.1% and 1% each year

☐ Depth

### Map details

☒ Show flooding





Rivers and the sea

Reservoirs

## Surface water map

### Yearly chance of flooding

☐ Extent

☐ Depth

### Yearly chance of flooding between 2040 and 2060

☒ Extent

☒ High chance

More than 3.3% chance each year

☐ Medium chance

Between 1% and 3.3% each year

☐ Low chance

Between 0.1% and 1% each year

☐ Depth

### Map details

☒ Show flooding





## Rivers and sea ma

### Yearly chance of flooding

#### ☒ Extent

High chance

More than 3.3% chance  
each year

Medium chance

Between 1% and 3.3%  
each year

Low chance

Between 0.1% and 1%  
each year

Very low chance

Less than 0.1% chance  
each year

#### ☐ Depth

### Yearly chance of flooding between 2036 and 2069

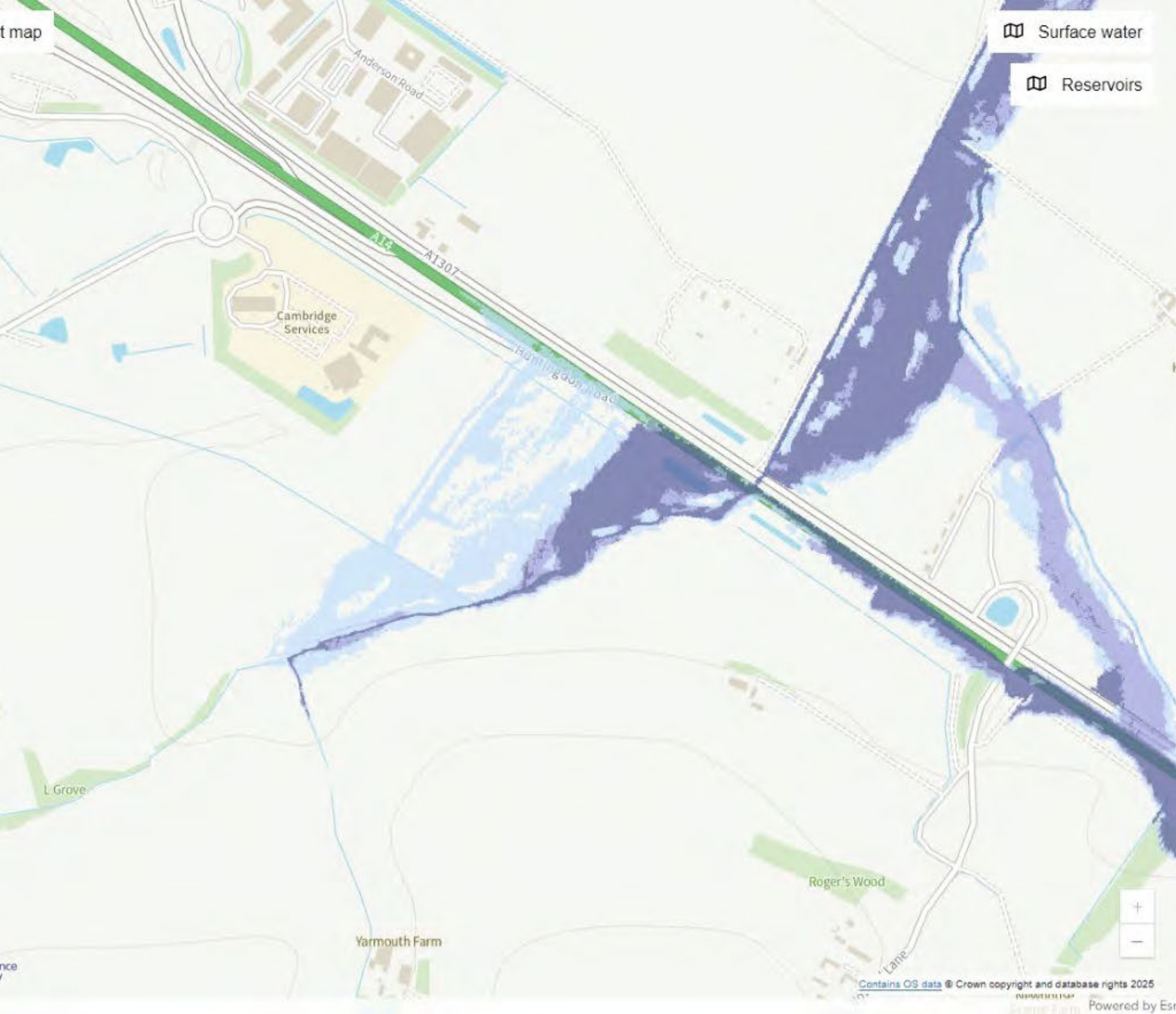
#### ☐ Extent

#### ☐ Depth

### Map details

☒ Show flooding





## Rivers and sea ma

### Yearly chance of flooding

- ☐ Extent
- ☐ Depth

### Yearly chance of flooding between 2036 and 2069

- ☒ Extent

- ☒ High chance  
More than 3.3% chance each year
- ☐ Medium chance  
Between 1% and 3.3% each year
- ☐ Low chance  
Between 0.1% and 1% each year
- ☐ Very low chance  
Less than 0.1% chance each year
- ☐ No data available

- ☐ Depth

### Map details

- ☒ Show flooding

## Appendix D

ReFH2 Output



# UK Design Flood Estimation

Generated on 19 February 2025 11:57:46 by markgeddes  
Printed from the ReFH2 Flood Modelling software package, version 4.0.8560.23190

## Summary of estimate using the Flood Estimation Handbook revitalised flood hydrograph method (ReFH2)

### Site details

Checksum: 03E9-3BF8

Site name: FEH\_Point\_Descriptors\_536444\_265841\_v5\_0\_1 central

Easting: 536444

Northing: 265841

Country: England, Wales or Northern Ireland

Catchment Area (km<sup>2</sup>): 0.5

Using plot scale calculations: Yes

Model: 2.3

Site description: None

## Model run: 1000 year 1.19 CC

### Summary of results

Rainfall - FEH22 (mm):	159.95	Total runoff (ML):	40.43
Total Rainfall (mm):	101.78	Total flow (ML):	50.93
Peak Rainfall (mm):	23.13	Peak flow (m <sup>3</sup> /s):	1.50

### Parameters

*Where the user has overridden a system-generated value, this original value is shown in square brackets after the value used.*

*\* Indicates that the user locked the duration/timestep*

#### Rainfall parameters (Rainfall - FEH22)

Name	Value	User-defined?
Duration (hh:mm:ss)	11:00:00 [04:30:00]	Yes
Timestep (hh:mm:ss)	01:00:00 [00:30:00]	Yes
SCF (Seasonal correction factor)	0.64	No
ARF (Areal reduction factor)	0.99	No
Seasonality	Winter	No
Climate change factor	1.19	Yes

#### Loss model parameters

Name	Value	User-defined?
Cini (mm)	152.1	No
Cmax (mm)	252.13	No
Use alpha correction factor	No	No
Alpha correction factor	n/a	No

#### Routing model parameters

Name	Value	User-defined?
Tp (hr)	3.17	No
Up	0.65	No
Uk	0.8	No

#### Baseflow model parameters

Name	Value	User-defined?
BF0 (m <sup>3</sup> /s)	0.03	No
BL (hr)	31.79	No
BR	0.24	No

#### Urbanisation parameters

Name	Value	User-defined?
Sewer capacity (m <sup>3</sup> /s)	0	No
Exporting drained area (km <sup>2</sup> )	0	No
Urban area (km <sup>2</sup> )	0	No
Urbext 2000	0	No
Impervious runoff factor	0.7	No
Imperviousness factor	0.4	No
Tp scaling factor	0.75	No
Depression storage depth (mm)	0.5	No



# Time series data

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (m³/s)	Net Rain (mm)	Runoff (m³/s)	Baseflow (m³/s)	Total Flow (m³/s)
00:00:00	2.2346	0.0000	1.3580	0.0000	0.025	0.025
01:00:00	3.7437	0.0000	2.3195	0.0061	0.0243	0.0304
02:00:00	6.2395	0.0000	3.9893	0.0287	0.0238	0.0525
03:00:00	10.3169	0.0000	6.9350	0.0795	0.0238	0.103
04:00:00	16.7898	0.0000	12.1885	0.1728	0.0249	0.198
05:00:00	23.1288	0.0000	18.2962	0.3281	0.0278	0.356
06:00:00	16.7898	0.0000	14.6109	0.5792	0.0331	0.612
07:00:00	10.3169	0.0000	9.5326	0.9081	0.041	0.949
08:00:00	6.2395	0.0000	5.9700	1.2260	0.0505	1.28
09:00:00	3.7437	0.0000	3.6562	1.4191	0.0603	1.48
10:00:00	2.2346	0.0000	1.9956	1.4278	0.0692	1.5
11:00:00	0.0000	0.0000	0.0000	1.3010	0.0764	1.38
12:00:00	0.0000	0.0000	0.0000	1.1029	0.0819	1.18
13:00:00	0.0000	0.0000	0.0000	0.8837	0.0856	0.969
14:00:00	0.0000	0.0000	0.0000	0.6661	0.0876	0.754
15:00:00	0.0000	0.0000	0.0000	0.4662	0.088	0.554
16:00:00	0.0000	0.0000	0.0000	0.3001	0.0873	0.387
17:00:00	0.0000	0.0000	0.0000	0.1740	0.0857	0.26
18:00:00	0.0000	0.0000	0.0000	0.0926	0.0837	0.176
19:00:00	0.0000	0.0000	0.0000	0.0443	0.0814	0.126
20:00:00	0.0000	0.0000	0.0000	0.0178	0.079	0.0968
21:00:00	0.0000	0.0000	0.0000	0.0049	0.0766	0.0815
22:00:00	0.0000	0.0000	0.0000	0.0004	0.0742	0.0746
23:00:00	0.0000	0.0000	0.0000	0.0000	0.0719	0.0719
24:00:00	0.0000	0.0000	0.0000	0.0000	0.0697	0.0697
25:00:00	0.0000	0.0000	0.0000	0.0000	0.0676	0.0676
26:00:00	0.0000	0.0000	0.0000	0.0000	0.0655	0.0655
27:00:00	0.0000	0.0000	0.0000	0.0000	0.0634	0.0634
28:00:00	0.0000	0.0000	0.0000	0.0000	0.0615	0.0615
29:00:00	0.0000	0.0000	0.0000	0.0000	0.0596	0.0596
30:00:00	0.0000	0.0000	0.0000	0.0000	0.0577	0.0577
31:00:00	0.0000	0.0000	0.0000	0.0000	0.0559	0.0559
32:00:00	0.0000	0.0000	0.0000	0.0000	0.0542	0.0542
33:00:00	0.0000	0.0000	0.0000	0.0000	0.0525	0.0525
34:00:00	0.0000	0.0000	0.0000	0.0000	0.0509	0.0509

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (m <sup>3</sup> /s)	Net Rain (mm)	Runoff (m <sup>3</sup> /s)	Baseflow (m <sup>3</sup> /s)	Total Flow (m <sup>3</sup> /s)
35:00:00	0.0000	0.0000	0.0000	0.0000	0.0493	0.0493
36:00:00	0.0000	0.0000	0.0000	0.0000	0.0478	0.0478
37:00:00	0.0000	0.0000	0.0000	0.0000	0.0463	0.0463
38:00:00	0.0000	0.0000	0.0000	0.0000	0.0449	0.0449
39:00:00	0.0000	0.0000	0.0000	0.0000	0.0435	0.0435
40:00:00	0.0000	0.0000	0.0000	0.0000	0.0421	0.0421
41:00:00	0.0000	0.0000	0.0000	0.0000	0.0408	0.0408
42:00:00	0.0000	0.0000	0.0000	0.0000	0.0396	0.0396
43:00:00	0.0000	0.0000	0.0000	0.0000	0.0384	0.0384
44:00:00	0.0000	0.0000	0.0000	0.0000	0.0372	0.0372
45:00:00	0.0000	0.0000	0.0000	0.0000	0.036	0.036
46:00:00	0.0000	0.0000	0.0000	0.0000	0.0349	0.0349
47:00:00	0.0000	0.0000	0.0000	0.0000	0.0338	0.0338
48:00:00	0.0000	0.0000	0.0000	0.0000	0.0328	0.0328
49:00:00	0.0000	0.0000	0.0000	0.0000	0.0318	0.0318
50:00:00	0.0000	0.0000	0.0000	0.0000	0.0308	0.0308
51:00:00	0.0000	0.0000	0.0000	0.0000	0.0298	0.0298
52:00:00	0.0000	0.0000	0.0000	0.0000	0.0289	0.0289
53:00:00	0.0000	0.0000	0.0000	0.0000	0.028	0.028
54:00:00	0.0000	0.0000	0.0000	0.0000	0.0271	0.0271
55:00:00	0.0000	0.0000	0.0000	0.0000	0.0263	0.0263
56:00:00	0.0000	0.0000	0.0000	0.0000	0.0255	0.0255



## Appendix

### Catchment descriptors

Name	Value	User-defined value used?
BFIHOST	0.28	No
BFIHOST19	0.29	No
PROPWET	0.24	No
SAAR (mm)	543	No

# UK Design Flood Estimation

Generated on 19 February 2025 11:41:07 by markgeddes  
Printed from the ReFH2 Flood Modelling software package, version 4.0.8560.23190

## Summary of estimate using the Flood Estimation Handbook revitalised flood hydrograph method (ReFH2)

### Site details

Checksum: 9E39-634F

Site name: FEH\_Point\_Descriptors\_536605\_265104\_v5\_0\_1 south

Easting: 536605

Northing: 265104

Country: England, Wales or Northern Ireland

Catchment Area (km<sup>2</sup>): 5

Using plot scale calculations: Yes

Model: 2.3

Site description: None

## Model run: 1000 year 1.19 CC

### Summary of results

Rainfall - FEH22 (mm):	160.07	Total runoff (ML):	392.19
Total Rainfall (mm):	100.27	Total flow (ML):	501.69
Peak Rainfall (mm):	22.79	Peak flow (m <sup>3</sup> /s):	9.71

### Parameters

*Where the user has overridden a system-generated value, this original value is shown in square brackets after the value used.*

*\* Indicates that the user locked the duration/timestep*

#### Rainfall parameters (Rainfall - FEH22)

Name	Value	User-defined?
Duration (hh:mm:ss)	11:00:00 [09:00:00]	Yes
Timestep (hh:mm:ss)	01:00:00	No
SCF (Seasonal correction factor)	0.64	No
ARF (Areal reduction factor)	0.97	No
Seasonality	Winter	No
Climate change factor	1.19	Yes

#### Loss model parameters

Name	Value	User-defined?
Cini (mm)	150.82	No
Cmax (mm)	255.43	No
Use alpha correction factor	No	No
Alpha correction factor	n/a	No

#### Routing model parameters



Name	Value	User-defined?
Tp (hr)	6.06	No
Up	0.65	No
Uk	0.8	No

#### Baseflow model parameters

Name	Value	User-defined?
BF0 (m <sup>3</sup> /s)	0.25	No
BL (hr)	38.29	No
BR	0.27	No

#### Urbanisation parameters

Name	Value	User-defined?
Sewer capacity (m <sup>3</sup> /s)	0	No
Exporting drained area (km <sup>2</sup> )	0	No
Urban area (km <sup>2</sup> )	0	No
Urbext 2000	0	No
Impervious runoff factor	0.7	No
Imperviousness factor	0.4	No
Tp scaling factor	0.75	No
Depression storage depth (mm)	0.5	No

# Time series data

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (m³/s)	Net Rain (mm)	Runoff (m³/s)	Baseflow (m³/s)	Total Flow (m³/s)
00:00:00	2.2016	0.0000	1.3094	0.0000	0.246	0.246
01:00:00	3.6885	0.0000	2.2363	0.0161	0.24	0.256
02:00:00	6.1474	0.0000	3.8455	0.0759	0.234	0.31
03:00:00	10.1646	0.0000	6.6830	0.2104	0.229	0.44
04:00:00	16.5419	0.0000	11.7407	0.4746	0.226	0.7
05:00:00	22.7872	0.0000	17.9277	0.9654	0.225	1.19
06:00:00	16.5419	0.0000	14.2877	1.8214	0.23	2.05
07:00:00	10.1646	0.0000	9.3108	3.0510	0.242	3.29
08:00:00	6.1474	0.0000	5.8273	4.5039	0.264	4.77
09:00:00	3.6885	0.0000	3.2842	6.0280	0.297	6.32
10:00:00	2.2016	0.0000	1.9857	7.4650	0.34	7.8
11:00:00	0.0000	0.0000	0.0000	8.6185	0.391	9.01
12:00:00	0.0000	0.0000	0.0000	9.2313	0.446	9.68
13:00:00	0.0000	0.0000	0.0000	9.2124	0.502	9.71
14:00:00	0.0000	0.0000	0.0000	8.7356	0.554	9.29
15:00:00	0.0000	0.0000	0.0000	7.9787	0.6	8.58
16:00:00	0.0000	0.0000	0.0000	7.0779	0.637	7.72
17:00:00	0.0000	0.0000	0.0000	6.1408	0.667	6.81
18:00:00	0.0000	0.0000	0.0000	5.2738	0.69	5.96
19:00:00	0.0000	0.0000	0.0000	4.5384	0.706	5.24
20:00:00	0.0000	0.0000	0.0000	3.9019	0.717	4.62
21:00:00	0.0000	0.0000	0.0000	3.3292	0.724	4.05
22:00:00	0.0000	0.0000	0.0000	2.7956	0.726	3.52
23:00:00	0.0000	0.0000	0.0000	2.2902	0.725	3.02
24:00:00	0.0000	0.0000	0.0000	1.8074	0.72	2.53
25:00:00	0.0000	0.0000	0.0000	1.3465	0.713	2.06
26:00:00	0.0000	0.0000	0.0000	0.9236	0.702	1.63
27:00:00	0.0000	0.0000	0.0000	0.5669	0.688	1.26
28:00:00	0.0000	0.0000	0.0000	0.3123	0.673	0.986
29:00:00	0.0000	0.0000	0.0000	0.1554	0.657	0.813
30:00:00	0.0000	0.0000	0.0000	0.0672	0.641	0.708
31:00:00	0.0000	0.0000	0.0000	0.0227	0.624	0.647
32:00:00	0.0000	0.0000	0.0000	0.0039	0.608	0.612
33:00:00	0.0000	0.0000	0.0000	0.0000	0.593	0.593
34:00:00	0.0000	0.0000	0.0000	0.0000	0.577	0.577



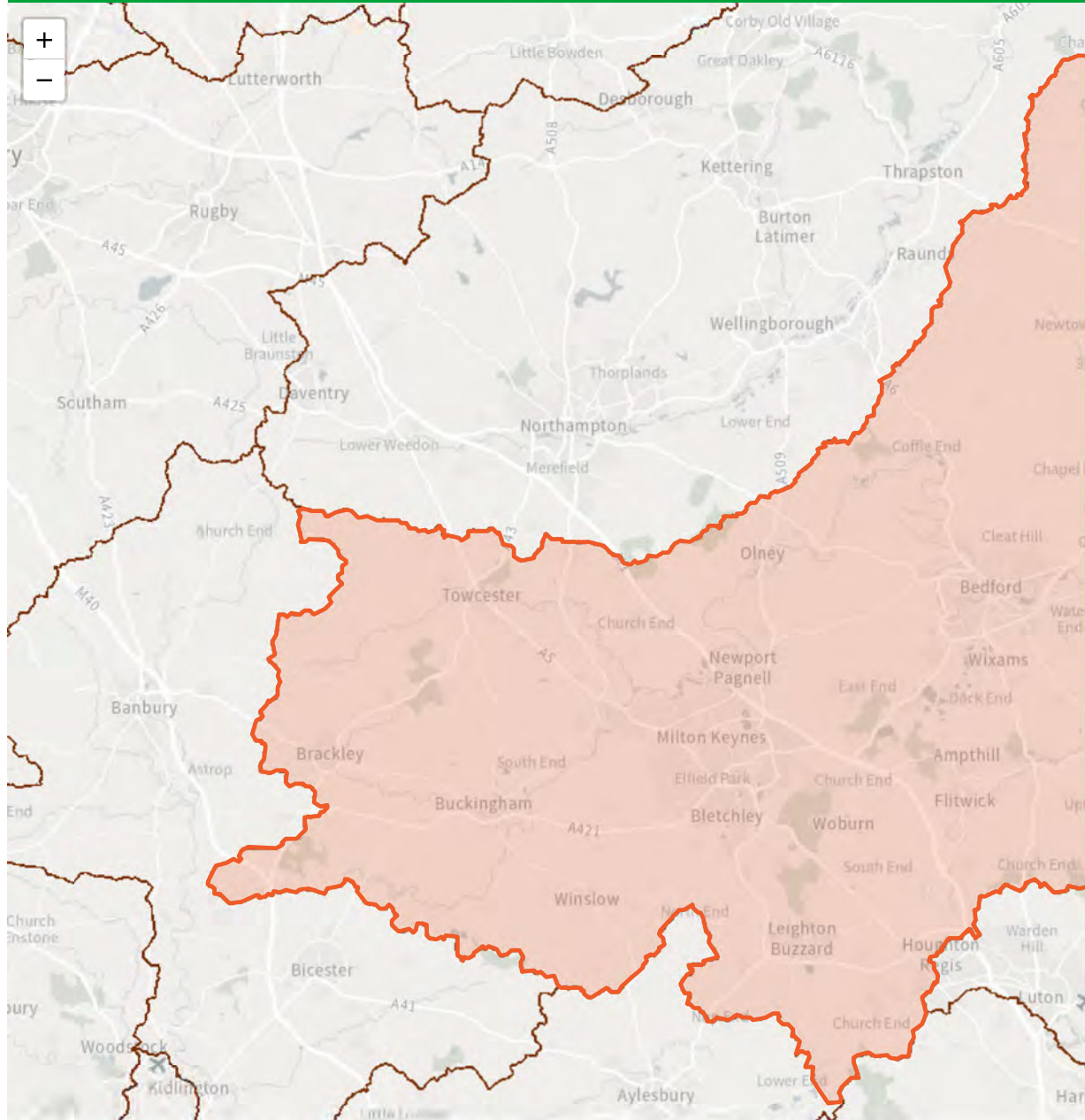
Time (hh:mm:ss)	Rain (mm)	Sewer Loss (m <sup>3</sup> /s)	Net Rain (mm)	Runoff (m <sup>3</sup> /s)	Baseflow (m <sup>3</sup> /s)	Total Flow (m <sup>3</sup> /s)
35:00:00	0.0000	0.0000	0.0000	0.0000	0.563	0.563
36:00:00	0.0000	0.0000	0.0000	0.0000	0.548	0.548
37:00:00	0.0000	0.0000	0.0000	0.0000	0.534	0.534
38:00:00	0.0000	0.0000	0.0000	0.0000	0.52	0.52
39:00:00	0.0000	0.0000	0.0000	0.0000	0.507	0.507
40:00:00	0.0000	0.0000	0.0000	0.0000	0.494	0.494
41:00:00	0.0000	0.0000	0.0000	0.0000	0.481	0.481
42:00:00	0.0000	0.0000	0.0000	0.0000	0.469	0.469
43:00:00	0.0000	0.0000	0.0000	0.0000	0.457	0.457
44:00:00	0.0000	0.0000	0.0000	0.0000	0.445	0.445
45:00:00	0.0000	0.0000	0.0000	0.0000	0.433	0.433
46:00:00	0.0000	0.0000	0.0000	0.0000	0.422	0.422
47:00:00	0.0000	0.0000	0.0000	0.0000	0.411	0.411
48:00:00	0.0000	0.0000	0.0000	0.0000	0.401	0.401
49:00:00	0.0000	0.0000	0.0000	0.0000	0.39	0.39
50:00:00	0.0000	0.0000	0.0000	0.0000	0.38	0.38
51:00:00	0.0000	0.0000	0.0000	0.0000	0.37	0.37
52:00:00	0.0000	0.0000	0.0000	0.0000	0.361	0.361
53:00:00	0.0000	0.0000	0.0000	0.0000	0.352	0.352
54:00:00	0.0000	0.0000	0.0000	0.0000	0.343	0.343
55:00:00	0.0000	0.0000	0.0000	0.0000	0.334	0.334
56:00:00	0.0000	0.0000	0.0000	0.0000	0.325	0.325
57:00:00	0.0000	0.0000	0.0000	0.0000	0.317	0.317
58:00:00	0.0000	0.0000	0.0000	0.0000	0.309	0.309
59:00:00	0.0000	0.0000	0.0000	0.0000	0.301	0.301
60:00:00	0.0000	0.0000	0.0000	0.0000	0.293	0.293
61:00:00	0.0000	0.0000	0.0000	0.0000	0.285	0.285
62:00:00	0.0000	0.0000	0.0000	0.0000	0.278	0.278
63:00:00	0.0000	0.0000	0.0000	0.0000	0.271	0.271
64:00:00	0.0000	0.0000	0.0000	0.0000	0.264	0.264
65:00:00	0.0000	0.0000	0.0000	0.0000	0.257	0.257
66:00:00	0.0000	0.0000	0.0000	0.0000	0.25	0.25

## Appendix

### Catchment descriptors

Name	Value	User-defined value used?
BFIHOST	0.29	No
BFIHOST19	0.29	No
PROPWET	0.24	No
SAAR (mm)	543	No





## Upper and Bedford Ouse Management Catchment peak river flow allowances

	Central	Higher	Upper
2020s	5%	10%	24%
2050s	4%	11%	30%
2080s	19%	30%	58%

This map contains information generated by [UK Centre for Ecology and Hydrology](#) using UK Climate projections.



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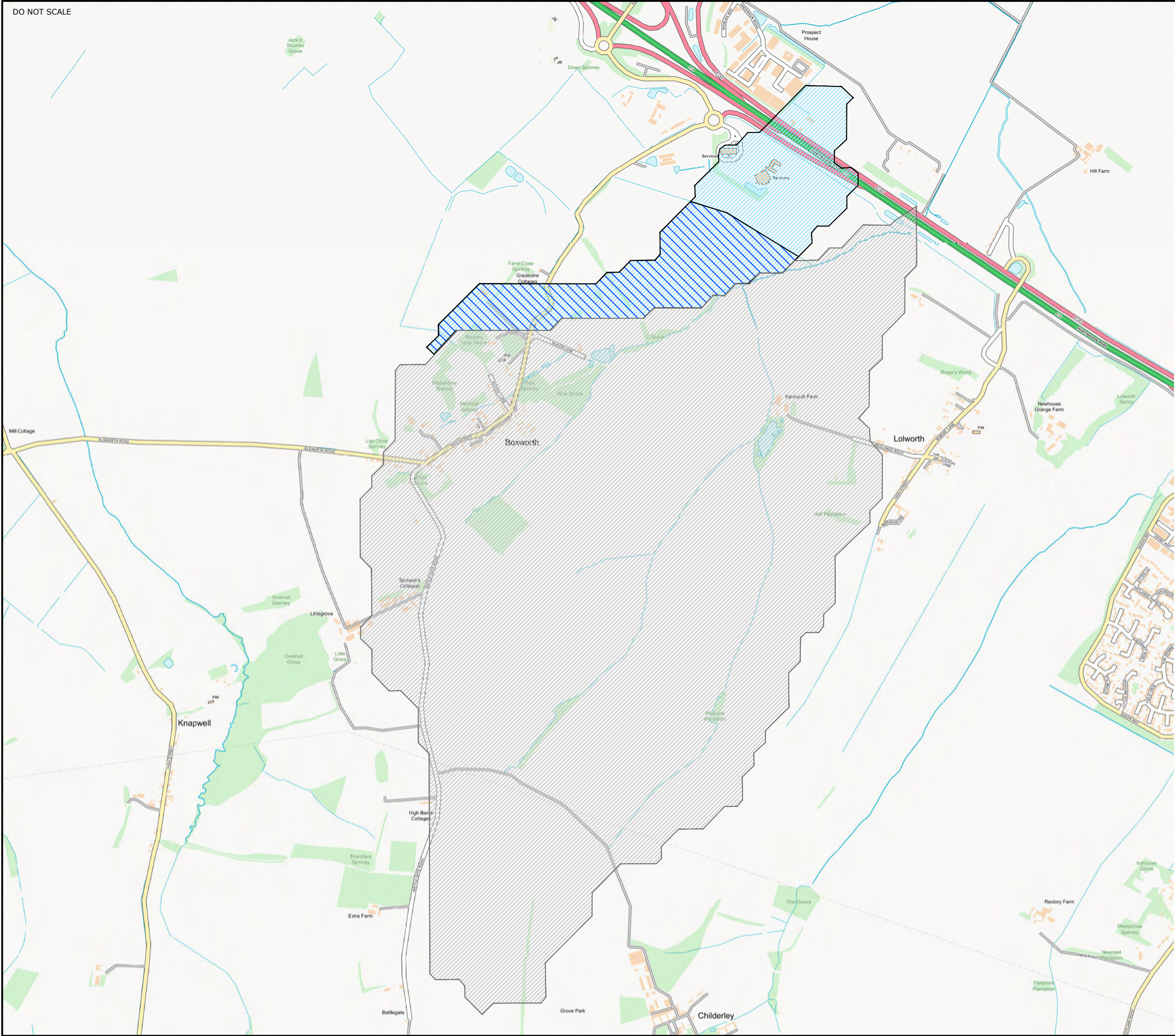
Built by [Epimorphics](#)






## **Appendix E**

### FEH Mapping Extracts

DO NOT SCALE



-  SOUTHERN CATCHMENT AREA
-  CENTRAL CATCHMENT AREA
-  REVISED CENTRAL CATCHMENT AREA

REV	DATE	DESCRIPTION	DRAWN	CHKD
REVISIONS				

This drawing is to be read in conjunction with all other Engineer's drawings and all other project information. Any discrepancy between the Engineer's drawings and other project information is to be reported to the Engineer immediately.



Project  
**LAND SOUTH OF THE A14 SERVICES, BOXWORTH**

Title  
**FEH CATCHMENT ASSESSMENT**

Client  
**JAYNIC PROPERTIES LTD**

Scale	Drawn	Date
NTS	NB	13/09/22
Job Manager	Checked	Approved
MG	NB	NB



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Drawing No.	Revision
60133-PP-002	-

Drawing Status		
<input checked="" type="checkbox"/> INFORMATION	<input type="checkbox"/> APPROVAL	<input type="checkbox"/> COSTING
<input type="checkbox"/> TENDER	<input type="checkbox"/> CONSTRUCTION	<input type="checkbox"/> AS CONSTRUCTED



## **Appendix F**

### FLOW Model Results

### Design Settings

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	100	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	0.200
CV	1.000	Preferred Cover Depth (m)	1.200
Time of Entry (mins)	20.00	Include Intermediate Ground	✓
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	x
Maximum Rainfall (mm/hr)	50.0		

### Nodes

Name	T of E (mins)	Cover Level (m)	Depth (m)
DCentral-1	20.00	18.510	0.860
DCentral-2		18.495	0.895
DCentral-3		18.070	0.870
DCentral-4		17.520	0.730
DSouthern-1	20.00	18.870	1.600
DSouthern-2		16.480	1.210
DSouthern-3		14.800	1.400
DSouthern-4		13.500	1.450

### Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
1.001	DCentral-1	DCentral-2	275.000	0.035	17.650	17.600	0.050	5500.0	600	30.00	50.0
1.002	DCentral-2	DCentral-3	237.000	0.035	17.600	17.200	0.400	592.5	675	30.00	50.0
1.003	DCentral-3	DCentral-4	188.000	0.035	17.200	16.790	0.410	458.5	750	30.00	50.0
1.004	DCentral-4	DSouthern-2	253.000	0.035	16.790	15.270	1.520	166.4	750	30.00	50.0
2.001	DSouthern-1	DSouthern-2	330.000	0.035	17.270	15.270	2.000	165.0	1200	23.31	50.0
1.005	DSouthern-2	DSouthern-3	210.000	0.035	15.270	13.400	1.870	112.3	1200	30.00	50.0
1.006	DSouthern-3	DSouthern-4	210.000	0.035	13.400	12.050	1.350	155.6	1200	30.00	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
1.001	0.181	217.0	0.0	0.260	0.295	0.000	0.0	0	0.000
1.002	0.591	872.4	0.0	0.220	0.195	0.000	0.0	0	0.000
1.003	0.715	1274.0	0.0	0.120	-0.020	0.000	0.0	0	0.000
1.004	1.187	2114.5	0.0	-0.020	0.460	0.000	0.0	0	0.000
2.001	1.664	8086.1	0.0	0.400	0.010	0.000	0.0	0	0.000
1.005	2.017	9801.5	0.0	0.010	0.200	0.000	0.0	0	0.000
1.006	1.714	8328.0	0.0	0.200	0.250	0.000	0.0	0	0.000



### Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.001	275.000	5500.0	600	Swale 3100	18.510	17.650	0.260	18.495	17.600	0.295
1.002	237.000	592.5	675	Swale 3100	18.495	17.600	0.220	18.070	17.200	0.195
1.003	188.000	458.5	750	Swale 3100	18.070	17.200	0.120	17.520	16.790	-0.020
1.004	253.000	166.4	750	Swale 3100	17.520	16.790	-0.020	16.480	15.270	0.460
2.001	330.000	165.0	1200	Swale 5200	18.870	17.270	0.400	16.480	15.270	0.010
1.005	210.000	112.3	1200	Swale 5200	16.480	15.270	0.010	14.800	13.400	0.200
1.006	210.000	155.6	1200	Swale 5200	14.800	13.400	0.200	13.500	12.050	0.250

Link	US Node	Node Type	DS Node	Node Type
1.001	DCentral-1	Junction	DCentral-2	Junction
1.002	DCentral-2	Junction	DCentral-3	Junction
1.003	DCentral-3	Junction	DCentral-4	Junction
1.004	DCentral-4	Junction	DSouthern-2	Junction
2.001	DSouthern-1	Junction	DSouthern-2	Junction
1.005	DSouthern-2	Junction	DSouthern-3	Junction
1.006	DSouthern-3	Junction	DSouthern-4	Junction

### Manhole Schedule

Node	CL (m)	Depth (m)	Connections	Link	IL (m)	Dia (mm)
DCentral-1	18.510	0.860	◦			
			0	1.001	17.650	600
DCentral-2	18.495	0.895	◦	1	1.001	17.600
			0	1.002	17.600	675
DCentral-3	18.070	0.870	◦	1	1.002	17.200
			0	1.003	17.200	750
DCentral-4	17.520	0.730	◦	1	1.003	16.790
			0	1.004	16.790	750
DSouthern-1	18.870	1.600	◦			
			0	2.001	17.270	1200
DSouthern-2	16.480	1.210	◦	1	2.001	15.270
			2	1.004	15.270	750
			0	1.005	15.270	1200
DSouthern-3	14.800	1.400	◦	1	1.005	13.400
			0	1.006	13.400	1200

**Manhole Schedule**

Node	CL (m)	Depth (m)	Connections	Link	IL (m)	Dia (mm)
DSouthern-4	13.500	1.450	1	1.006	12.050	1200
			°			

**Simulation Settings**

Rainfall Methodology	FEH-22	Analysis Speed	Detailed	Starting Level (m)
Rainfall Events	Singular	Skip Steady State	x	Check Discharge Rate(s) x
Summer CV	1.000	Drain Down Time (mins)	240	Check Discharge Volume x
Winter CV	1.000	Additional Storage (m³/ha)	0.0	

**Storm Durations**

600 | 720

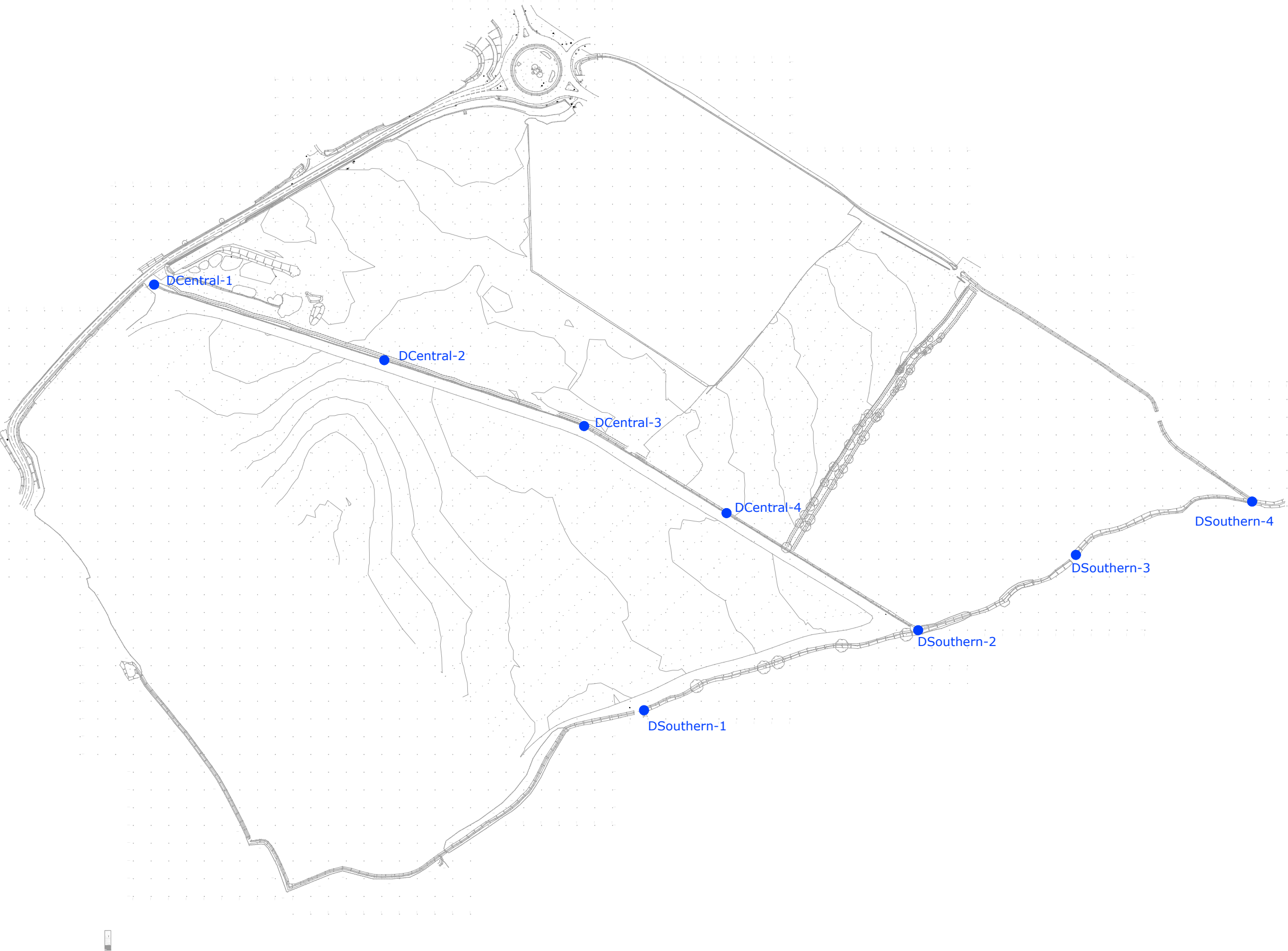
Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
1000	0	0	0



**Results for 1000 year Critical Storm Duration. Lowest mass balance: 99.96%**

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute summer	DCentral-1	300	18.330	0.680	374.2	0.0000	0.0000	FLOOD RISK
600 minute summer	DCentral-2	300	18.231	0.631	747.2	0.0000	0.0000	OK
600 minute summer	DCentral-3	300	17.927	0.727	1119.2	0.0000	0.0000	OK
600 minute summer	DCentral-4	300	17.437	0.647	1491.2	0.0000	0.0000	OK
600 minute summer	DSouthern-1	390	18.450	1.180	7771.6	0.0000	0.0000	OK
600 minute summer	DSouthern-2	360	16.475	1.205	9939.1	0.0000	0.0000	FLOOD RISK
600 minute summer	DSouthern-3	375	14.794	1.394	10874.7	0.0000	0.0000	FLOOD RISK
600 minute summer	DSouthern-4	375	13.170	1.120	10868.2	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute summer	DCentral-1	1.001	DCentral-2	373.0	0.266	1.719	386.0043	
600 minute summer	DCentral-2	1.002	DCentral-3	745.0	0.499	0.854	355.1562	
600 minute summer	DCentral-3	1.003	DCentral-4	1117.0	0.733	0.877	287.1520	
600 minute summer	DCentral-4	1.004	DSouthern-2	1488.9	0.659	0.704	688.0745	
600 minute summer	DSouthern-1	2.001	DSouthern-2	7770.5	1.623	0.961	1584.7267	
600 minute summer	DSouthern-2	1.005	DSouthern-3	9906.9	1.774	1.011	1177.4233	
600 minute summer	DSouthern-3	1.006	DSouthern-4	10868.2	2.064	1.305	1115.9725	242568.5



P01	21/02/2025	DITCH NODES DSOUTHERN-3 AND DSOUTHER-4 AMENDED TO REVISED CALCULATION	NB	MG
REV	DATE	DESCRIPTION	DRAWN	CHKD

REVISIONS

This drawing is to be read in conjunction with all other Engineer's drawings and all other project information. Any discrepancy between the Engineer's drawings and other project information is to be reported to the Engineer immediately.



Project  
LAND SOUTH OF THE A14 SERVICES, BOXWORTH

Title  
DITCH NODE LOCATION PLAN

Client  
JAYNIC PROPERTIES LTD

Scale	Drawn	Date
NTS	NB	13/09/22
Job Manager	Checked	Approved
MG	NB	NB

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Tel: 01223 314794  
Tel: 01603 230240  
Tel: 01172 020070  
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Drawing No.	Revision
60133-PP-003	P01
Drawing Status	
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<input type="checkbox"/> TENDER <input type="checkbox"/> CONSTRUCTION <input type="checkbox"/> AS CONSTRUCTED	





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## Appendix 4 – MSA Extra Letter of Support, March 2025





Motorway Service Area Group

Extra MSA Property (UK) Ltd, A1(M), Junction 17, Great North Road, Haddon, Peterborough, PE7 3UQ

[www.extraservices.co.uk](http://www.extraservices.co.uk)

Tel: 01494 678876 Fax: 01494 675654

4th March 2025

Dear Planning Policy,

**Proposed Extension to Previous Draft Allocation S/RRA/SAS - Additional HGV parking on land adjacent to A14 Cambridge Services, Swavesey**

I write in support of this submission to the Greater Cambridge Local Plan 'Call-For-Sites' process and Jaynic Properties' (the landowner's promoter/development partner) representations in expanding the previous draft allocation across land to the east of the Motorway Service Area (MSA) (Site Ref: S/RRA/SAS Land to the south of the A14 Services).

As owners of the existing Services we fully support a proposed allocation on land to the east of the Motorway Service Area (MSA). We previously set out in a meeting with Greater Cambridge Officers that there is significant need for Cambridge Services to provide additional HGV parking spaces in order to meet current and future demand in this location, and by extending its site to the east.

Currently the Services operate within a constrained site with peak demand for HGV parking at times often exceeding existing provision, despite recent improvements. There is evidence of HGVs having to park on the public highway when the site is at capacity and driver time limits prevent travelling further to the next MSA. The shortage of parking provision is also beginning to cause concerns in terms of vehicle parking within the facility in non HGV parking areas. The expansion space created by an allocation incorporating land to the east would also allow a redesign of the traffic flows around the Services, which should remove the periodic conflict between cars and HGV's at the entrance. In addition to this, there is an opportunity to work with the wider Jaynic development to help create more sustainable travel options for employees travelling to and from the Services for work, and to facilitate pedestrian access from the new employment area through to the existing amenities on our site.

The important existing and future role of Cambridge Services will further grow over time and we hope that our future needs can be accommodated within the land being promoted by Jaynic Properties.

Your faithfully,



Group Development Director  
Extra MSA Group