

# SUPPORTING TECHNICAL STATEMENT

## SITE CONTEXT AND CONSTRAINTS

### Introduction:

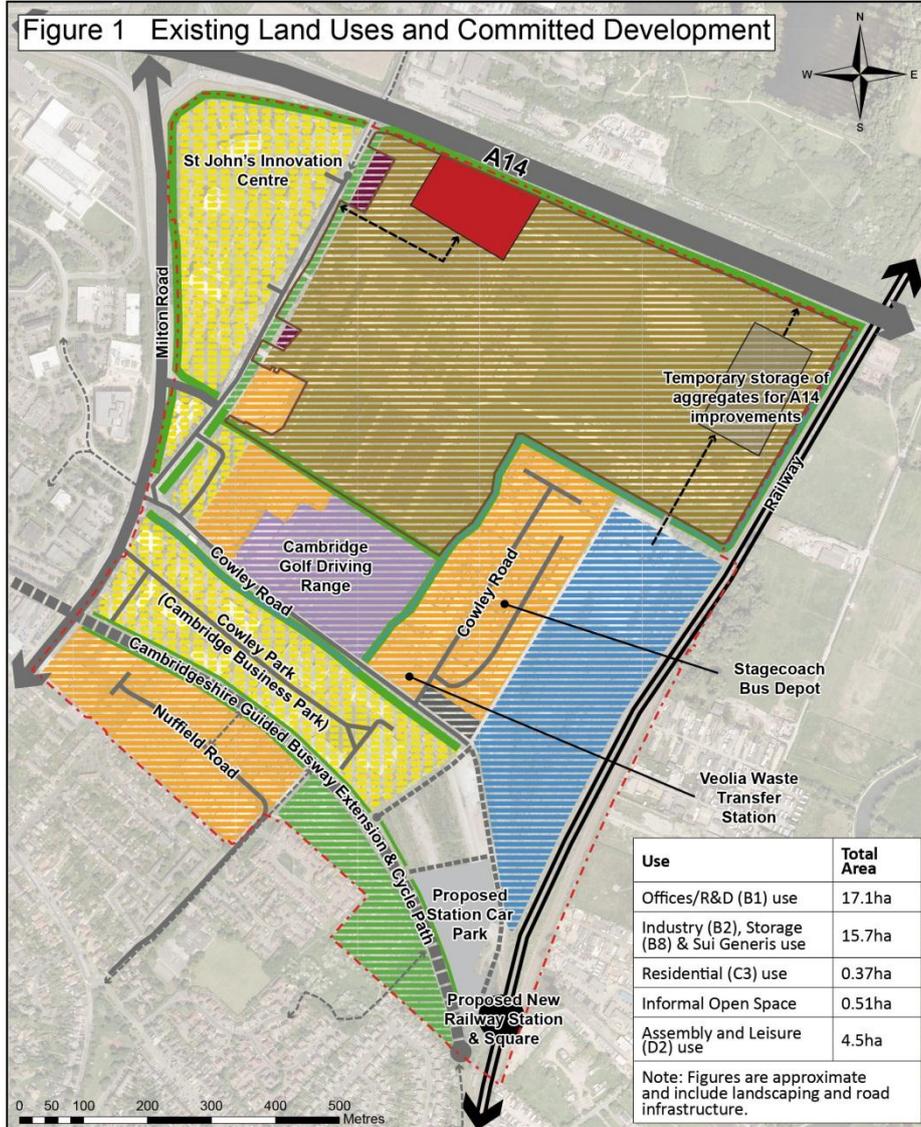
- 1.1 Before starting to plan for the future of CNFE it is necessary to understand the area's physical characteristics and what it is like in social and economic terms. This statement highlights the key constraints currently facing the CNFE and wider area.
- 1.2 The main key issues and challenges which have been identified as being specifically relevant to CNFE are listed below and are addressed within this statement:
  - Land Uses and creating mixed and Balanced Communities
  - Movement/Transport
  - Environment/Open Space
  - Built Form
  - Infrastructure
  - Other considerations

### Land Uses and creating mixed and Balanced Communities:

#### *Mixed land uses and densities*

- 1.3 As illustrated on Figure 1 (Existing and Committed Land Uses), CNFE is currently a mixed use area with the predominant use being employment including offices, industrial, storage and minerals and waste activities. These businesses provide valuable employment and where possible need to be retained or successfully relocated as part of a comprehensive development of the area. However, much of the area is under-utilised and therefore not an efficient use of the land. Where possible, opportunities should be found that accommodate existing occupiers whilst rationalising and increasing the density of the CNFE as a whole. This will require sensitive planning and a phased approach.
- 1.4 Anglian Water's Water Recycling Centre (WRC) – formerly known as Waste Water Treatment Works) - occupies around 40% of the CNFE area. The company has recently commenced a £20M+ upgrade to the WRC to meet the city's planned growth needs to 2031. Its future is both an important consideration and potential constraint on further

Figure 1 Existing Land Uses and Committed Development



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- Cambridge Northern Fringe East Area Action Plan Boundary
- Proposed roads
- Cycle/pedestrian routes
- Offices/R&DB1 business use (no intensification)
- Existing Industry (B2), Storage (B8) & Sui-Generis uses
- Existing Assembly and Leisure (D2) use
- Water Recycling Centre (upgraded)
- Existing Residential (C3) use
- Boundary of existing Water Recycling Centre
- Lafarge Tarmac Concrete Batching Plant
- Reconfigured aggregates railhead & sidings
- Protected Open Space/City Wildlife Sites
- Landscape and Open Space
- First Public Drain Watercourse
- Indicative location for Household Waste Recycling Centre and inert recycling facility<sup>1</sup>

<sup>1</sup> Could also be located on B2, B8 & Sui-Generis land in the vicinity of Cowley Road.

development on the WRC site and across the wider area due to the impact of the odour and flies. This is discussed in further detail on page 14 of this statement.

### *Neighbouring communities*

- 1.5 Figure 2 (Ward and Parish Boundaries) below sets the context of the area within which CNFE sits, in terms of ward and parish boundaries. It will be important for CNFE to respond positively to these neighbouring communities.
- 1.6 Of these neighbouring communities, three wards fall within the 20 most deprived wards in Cambridgeshire in terms of indices of multiple deprivation<sup>1</sup>, namely the King's Hedges, East Chesterton and Arbury wards. A key objective of the Council is to address issues of social exclusion, poverty and disadvantage within Cambridge, ensuring that the prosperity benefits of growth are shared more fairly by all in the city. CNFE represents a significant opportunity to provide employment opportunities and other benefits for these local residents.

### *Employment*

- 1.7 Greater Cambridge includes some of the country's most significant assets. The combined strength of the research institutions and universities is unparalleled, and the current economic contribution and future potential of businesses in the area is very substantial. On virtually all global rankings, Cambridge University is consistently among the top five in the world, and many of the area's research institutes have outstanding reputations. Cambridge has been identified as one of the five most competitive cities in the UK<sup>2</sup>, and one of the most recession proof cities that is likely to lead Britain back to growth<sup>3</sup>.
- 1.8 The continuing vibrancy of the Cambridge high technology business sector is fuelled by the scale and excellence of the wider research community. This has two key impacts: the science itself, and the influence on the character of the labour market in and around Cambridge. The high technology business sector and the research community overlap in important respects and the relationship between them is central to the cluster's character and performance. Operating in a global marketplace, their competitors are as likely to be overseas businesses as they are businesses based the UK. For this reason, maintaining the quality of life and place in Cambridge, including its key competitive advantage of compactness, is critical.
- 1.9 Cambridge also has a thriving business, financial and professional services sector, including offices in the city centre associated with the high technology economy as well as other businesses serving the local economy. There is also a legacy of industrial uses alongside the railway and on industrial estates in Cambridge. Over the last ten years, and beyond, Cambridge has seen a loss of land and premises in industrial use as higher

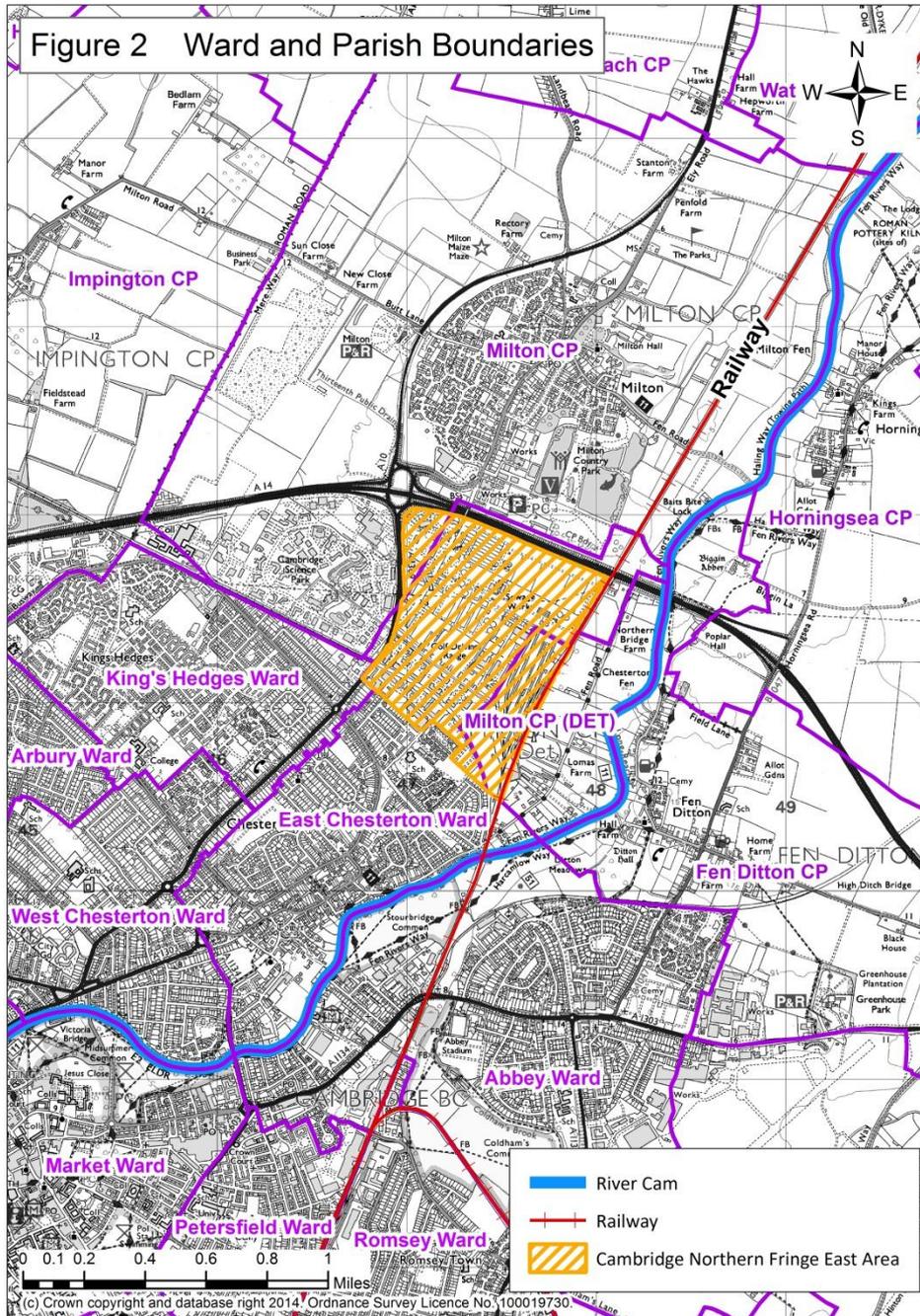
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<sup>1</sup> Source: Cambridgeshire Index of Multiple Deprivation (2010)

<sup>2</sup> Source: 2010 UK Competitiveness Index

<sup>3</sup> Source: Cities Outlook 2011

Figure 2 Ward and Parish Boundaries



value uses, such as residential and retail, have put pressure on sites. The offices and industrial uses make up an important part of the economy, meeting the needs of people and businesses in the local area, in particular the business services that high technology firms rely on, as well as helping to provide a diverse range of jobs.

1.10 Cambridge Business Park, St John's Innovation Park and the nearby Cambridge Science Park comprise around 30% of the office and R&D stock in the urban area of Cambridge. The Councils' Employment Land Reviews 2008-2012 indicate that North Cambridge (Cambridge Science Park, Cowley Road, Cowley Park and Chesterton Sidings) is recognised as a strategic location for further employment development.

1.11 The Cambridge Cluster at 50 report<sup>4</sup>, a study commissioned by a range of stakeholders including Cambridge University, made the following recommendations for the Northern Fringe Employment Area including CNFE:

- Further improvements to links between Cambridge based firms and London based firms;
- Plan in facilities and focal points for social interaction for all new developments;
- Encourage further development of incubator/innovation centres in Greater Cambridge;
- Stop the net loss of manufacturing land;
- Ensure business space in and around the city is planned to incorporate social and small scale retail facilities in order to provide a better social environment for the workforce;
- Support a frequent shuttle bus service and high quality cycling routes to complement the Cambridge Guided Busway and provide fast, frequent and convenient links to other major employment sites and City centre; and
- Assess demand for, and if proven identify and reserve, an appropriate location for a conference centre and concert hall.

1.12 In June 2014, Cambridge City Council and South Cambridgeshire District Council jointly commissioned SQW and BBP Regeneration to undertake an employment options study to inform the preparation of the CNFE AAP. The findings of their work are available in their Final Report and Sector Profile.

### *Housing*

1.13 There is a high level of housing need in the Cambridge area<sup>5</sup> and as such, it is important to increase the supply of all types of housing, including affordable housing, and maintain a mix of different types of sizes, types and tenures of housing to meet a wide range of housing needs. Opportunities for housing at CNFE are limited, but the site can still make a valuable contribution to the overall supply. The South Cambridgeshire Local Plan refers to seeking opportunities to deliver new Gypsy and Traveller sites through major

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<sup>4</sup> East of England Development Agency and Partners. Cambridge Cluster at 50: The Cambridge Economy; Retrospect and Prospect (2011)

<sup>5</sup> Source: Cambridge Sub-Region Strategic Housing Market Assessment (2012)

developments, but the proposed high densities and environmental constraints of the location make the area unsuitable and unviable for site provision.

### *Community and Leisure Facilities*

- 1.14 CNFE has very limited facilities (retail, leisure, community etc.) both within its boundary and in the surrounding area. Such facilities are important for both employment and residential development, and the Employment Options Study has identified the need to address this deficit as prerequisite for securing further employment development. Recommended facilities include a new community core with shops, services, cafés, restaurants, etc. with potential links to improved facilities at Cambridge Science Park.
- 1.15 At a local scale, the local centres distributed around the city provide a range of local services and community facilities that serve the day-to-day needs of residents and visitors. It is therefore essential that these facilities be given careful consideration with regard to any related development proposal that may affect their provision.

### **Movement/Transportation:**

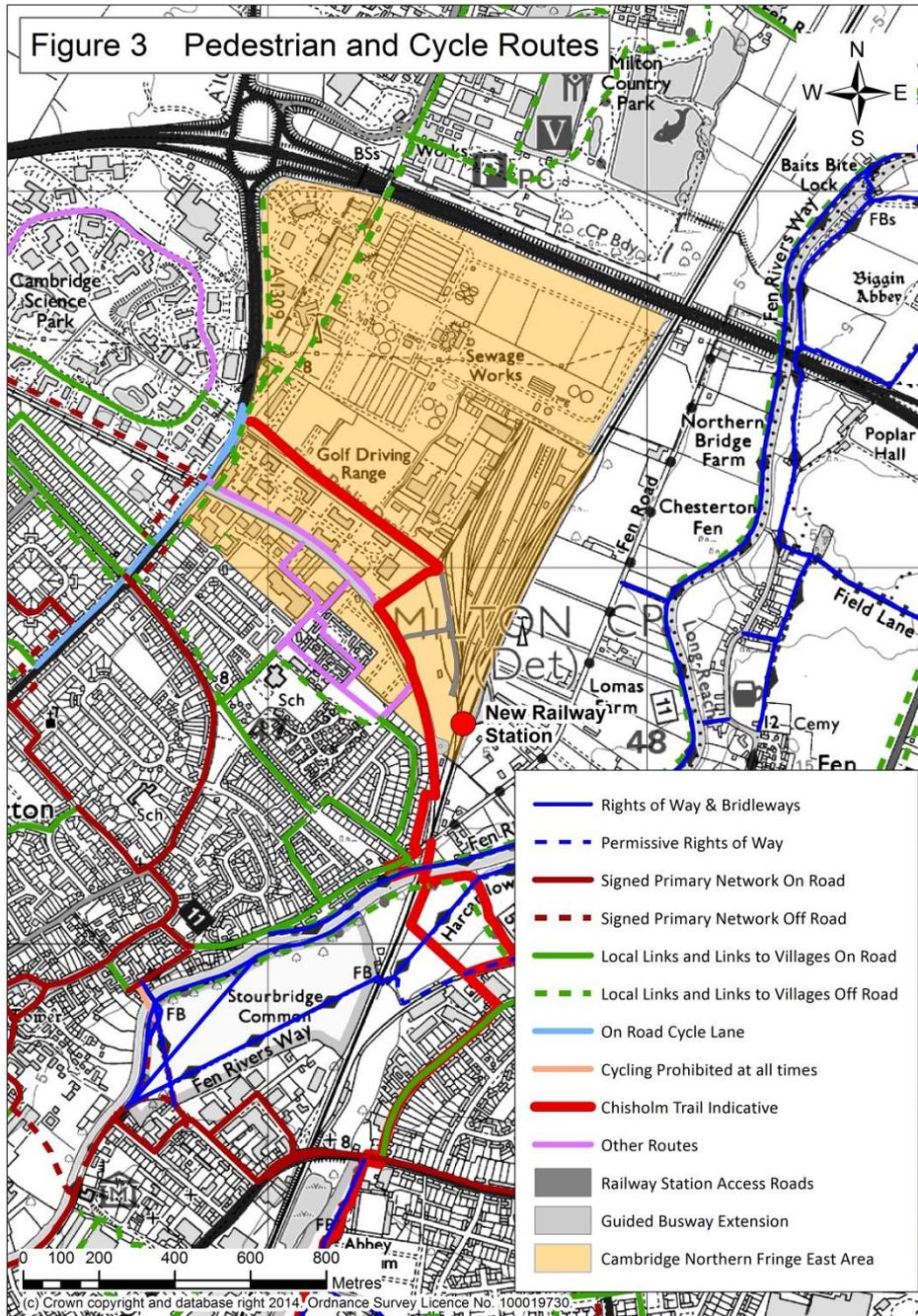
#### *Introduction*

- 1.16 The transport network in the city is relatively constrained and has a finite capacity for vehicles. In peak periods, parts of the network frequently operate at or near capacity. Significant increases in general vehicular traffic cannot be accommodated on the city's road network. This therefore emphasises the need for a switch to other modes of transport.
- 1.17 In addition to capacity issues, physical barriers that create severance of CNFE with surrounding communities exist to the north and east with the A14 (overcome to some extent by the cycle/pedestrian bridge) and railway line respectively. There are lesser barriers to the west and south with Milton Road, Science Park and Business Park. Increasing permeability should, therefore, be a key objective for CNFE. The AAP will need to consider how people move about within the area and gain access to other parts of the city and beyond. Figure 3 shows existing and some proposed pedestrian and cycle routes.

#### *Sustainable Travel and Modal Shift*

- 1.18 The 2011 census showed that despite the increase in population in the ten years since the previous census, the proportion of employed residents of the city who drove to work dropped from 37.5% to 30%. This figure confirms trends seen in traffic monitoring data collected by Cambridgeshire County Council which show that monitored traffic levels into and out of the city have been relatively stable since the mid-1990s and traffic levels across an inner River Cam screen line have decreased in the same period. This is due, in large part, to the way in which demand for road space in the city has been managed

Figure 3 Pedestrian and Cycle Routes



through the use of rising bollards, coupled with the development of the ring of Park & Ride sites around the city and other improvements in bus service provision such as the Citi bus services.

- 1.19 In order for these traffic levels to continue to remain stable, despite the forecast growth for the city, the proportion of employed city residents who drive to work needs to fall even further, to 24%.
- 1.20 The site's highly sustainable location highlights the areas potential to achieve the 24% target needed across the city to keep traffic levels stable. With the existing and future pressures on the city's road network, CNFE must seek to facilitate the greatest possible public transport and cycle mode share. Good urban design, with safe routes and higher densities will help to encourage people to move about by foot, cycle and bus. The new railway station will provide rail connectivity to destinations outside the city and the link the extension to the guided busway to more local destinations. It will also be connected to a high quality network of off-road cycle paths, such as the path alongside the existing guided busway towards St Ives, as well as the plans for the new 'Chisholm Trail'. Improved connections by bus planned as part of the City Deal will provide a much needed orbital facility that will connect to the Science Park, Cambridge Station and the Addenbrooke's campus. The Transport Strategy for Cambridge and South Cambridgeshire (TSCSC) also sets out ambitions for a strategic cycle route running north along the A10 to connect with the planned new town at Waterbeach, as well as a direct route along Milton Road towards the city centre. Depending on other factors, such as the amount of available parking on the site, it may be able to reduce this figure further.
- 1.21 The benefits of the site's sustainable location and the existing and planned transport schemes for the area can be enhanced through softer measures such as travel planning. A partnership is already in place in the area called Travel Plan Plus. It focuses on the Science and Business Park area, linking three major business parks, a large solicitor's office and Cambridge Regional College. The project – running since 2008 – has had great success in raising awareness of, and encouraging a shift towards the sustainable transport choices available in this area. There have already been significant shifts away from single-occupancy car use and particularly towards cycling and public transport particularly for commuter journeys.
- 1.22 A Station Travel Plan covering both Cambridge Station and the new railway station in Chesterton is also in the process of being developed by Network Rail, Cambridgeshire County Council, Cambridge City Council, South Cambridgeshire District Council and the Train Operating Companies. This will look to assess and respond to customer needs for their journeys to and from the stations, and the facilities provided when they get there and will aim to increase sustainable travel to and from both stations, as well as looking to attract more rail users.

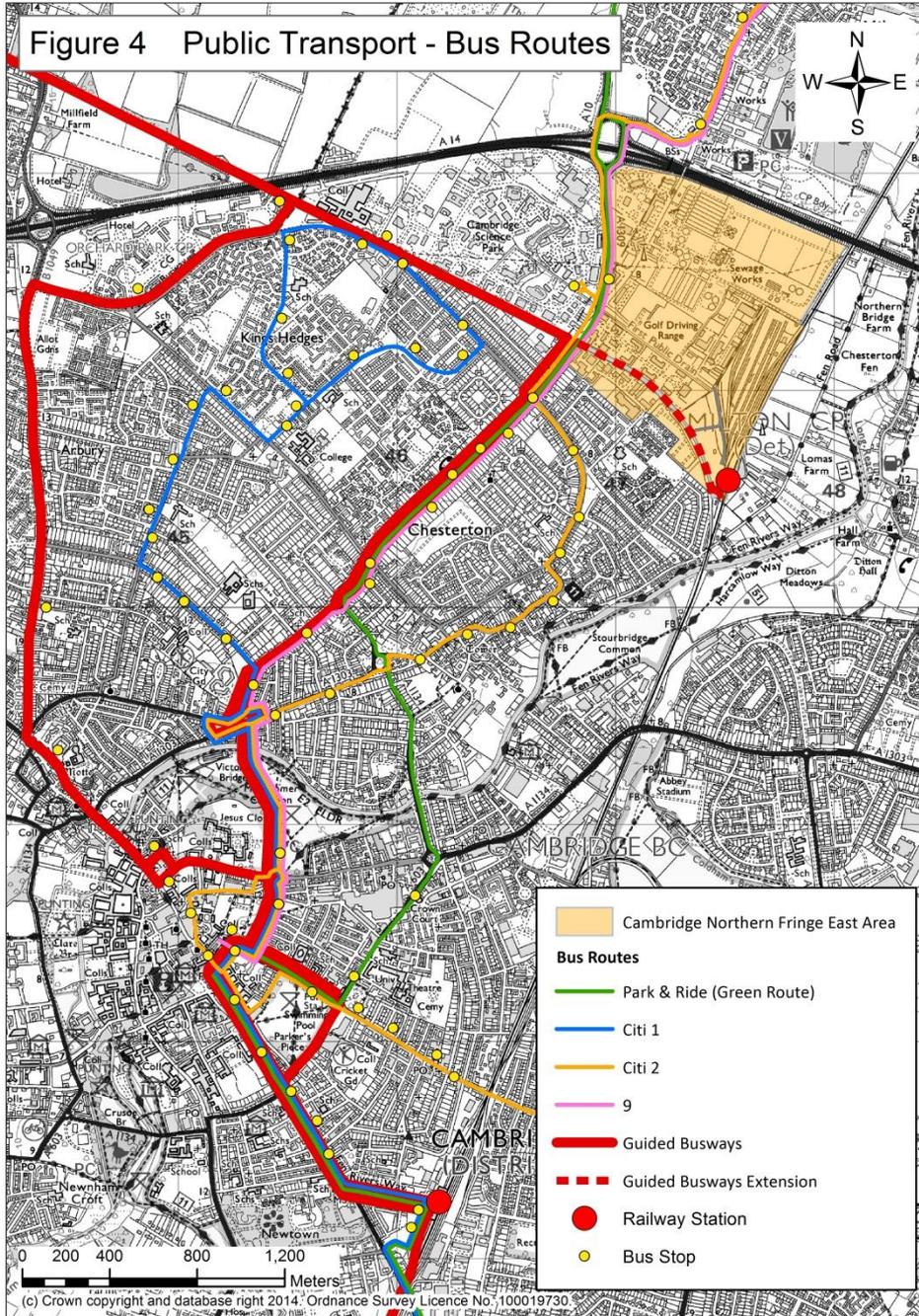
### *Vehicular Access*

- 1.23 The current access to the site is limited with just one main route in and out onto Milton Road. The junction acts as a constraint to further development, due to heavy congestion in the morning and evening traffic peaks. Access along Milton Road is also difficult at peak times. The current transport investigations on the Milton Road corridor should help to determine whether a better solution is available, with the results being available to inform the Proposed Submission Plan.
- 1.24 Milton Road is a key arterial route into the City Centre and the Transport Strategy for Cambridge and South Cambridgeshire prioritises this route for sustainable modes of transport. Similarly, the A10 corridor north towards Waterbeach and Ely has significant growth planned. Two separate, yet closely related pieces of work are currently underway to investigate transport options for both Milton Road and the Mitcham's Corner area and also the A10 north corridor. These transport options are closely linked to the funding proposals in the Cambridge City Deal for the Milton Road corridor. Both studies will look at ways in which sustainable transport can be developed in each case, which will benefit the CNFE site due to its proximity.
- 1.25 Commercial access into the Nuffield Road Industrial Estate is relatively constrained being off Green End Road and through the adjacent residential area which is a safety and amenity concern for the local residents. It is not practical to have alternative accesses either directly off Milton Road or via the Cambridgeshire Guided Busway (CGB) extension because of the existing junction and traffic volume constraints on Milton Road. This issue could be addressed to some extent if the area was developed for residential purposes.

### *Railway station/bus interchange and public transport provision*

- 1.26 Proposals for a new railway station and an extension of the Cambridgeshire Guided Busway to form a new transport interchange in CNFE have been developed by Cambridgeshire County Council, the Department of Transport and Network Rail, with planning permission granted earlier this year. These proposals are being progressed with a planned opening date of May 2016.
- 1.27 The interchange proposals include parking for 450 cars and around 1,000 bicycles. It is proposed these are provided at ground level. Any significant changes to these parking proposals will require a further planning consent, and it is essential that appropriate provision has been implemented in time for the opening of the new interchange.
- 1.28 Figure 4 shows the existing bus routes and planned extension to the Cambridgeshire Guided Busway network. The TSCSC has the ambition of creating more orbital public transport movements around Cambridge, particularly with the aim of linking up key employment areas. The extension of the CGB into the new railway station will create

Figure 4 Public Transport - Bus Routes



links to the north and west of the city. Further study, as part of the TSCSC Action Plan, is to take place on how CNFE can be linked with areas to the east and south-east of the city.

- 1.29 The table below outlines the frequency of the bus services. Discussions will need to take place with the bus operators to determine what further improvements can be made to support the development of the area.

**Bus Frequency Table**

Bus Service	Frequency (minutes approximate)
Cambridgeshire Guided Busway A	15
Cambridgeshire Guided Busway B	15
Cambridgeshire Guided Busway C/D*	60
Milton Road/Babraham Road Park and Ride	10
Citi 1	10
Citi 2	10
No. 9	30

\*All Bus Services are Stagecoach except Busway Services C and D which are Whippet

*Parking Demand*

- 1.30 New development will bring further demand for parking provision. This needs to be carefully managed and discouraged where possible. Preferably suitable alternative means of transport can be provided for. The amount of parking that is available for motorised vehicles is a key factor in discouraging unnecessary car use.
- 1.31 Given the highly sustainable location of the site, coupled with the need to further reduce the proportion of people driving to work there is a strong argument for strict parking standards and management on the site. The TSCSC also aims to keep car usage in and around the city at current levels, and includes the option of expanding residents parking areas throughout the whole of the city.

**Environment:**

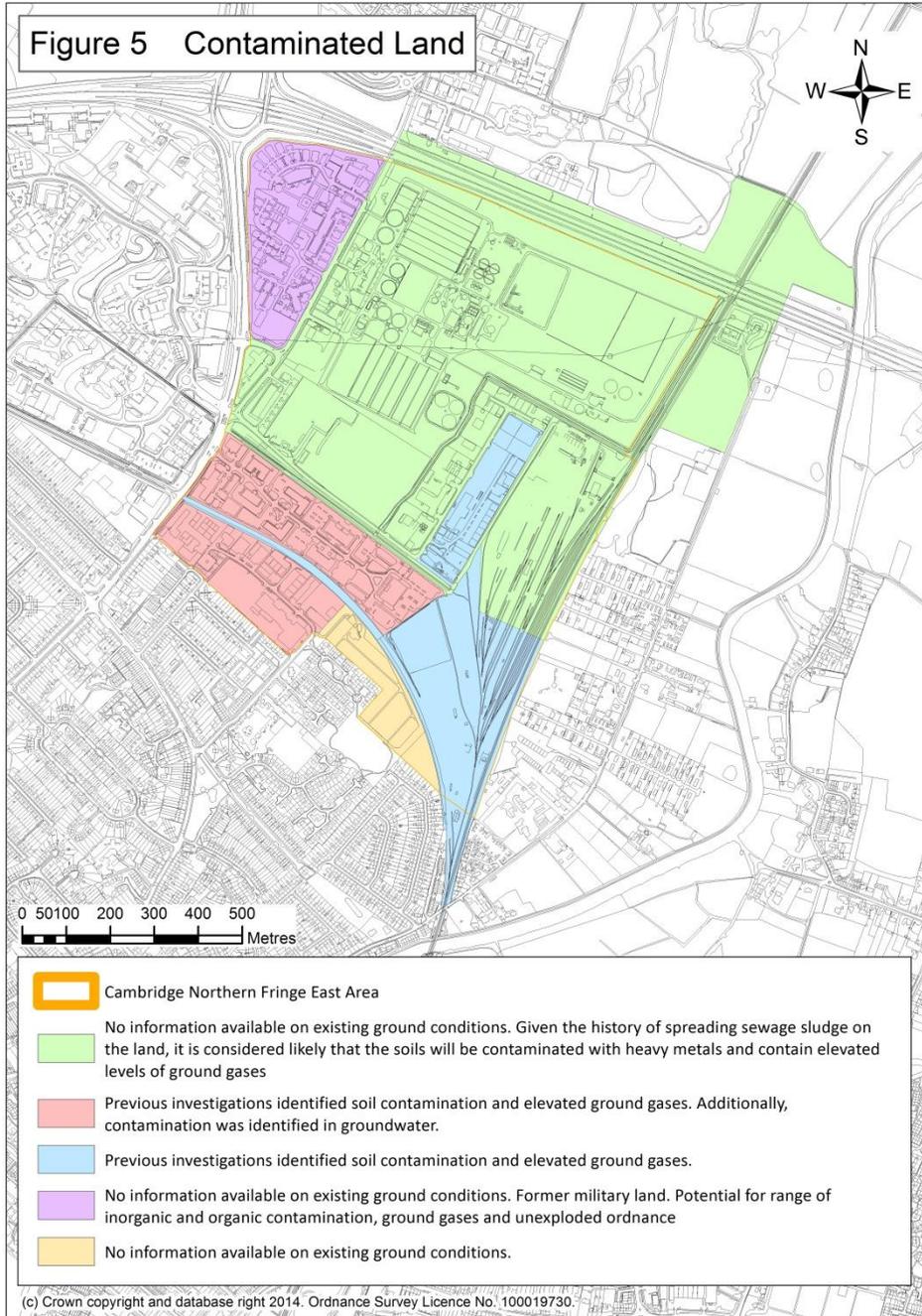
*Contamination*

1.32 A Preliminary Contamination Assessment, carried out in March 2014, identified various contaminants associated with the areas industrial nature, including heavy metals (such as arsenic and lead) in soils, hydrocarbons (such as petrol and diesel range fuel oils and Polycyclic Aromatic Hydrocarbons (PAHs)) in the soil and the groundwater and chlorinated solvents<sup>6</sup> (such as trichloroethane) also in the soil and groundwater. In addition each of the investigations identified elevated ground gases (methane and carbon dioxide). Figure 5 illustrates the distribution of contaminants in accordance with the latest information.

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<sup>6</sup> in the Nuffield Road area

**Figure 5 Contaminated Land**



1.33 Further investigation will be required to identify contaminated soils and groundwater particularly for the presence of chlorinated solvents (known to be carcinogenic, odorous and volatile) and ground gases (methane, carbon dioxide). Each parcel of land will therefore require a full and detailed site investigation in order to determine ground conditions and the presence, or not, of contamination. As a start, additional borehole investigations are being carried out to better understand the spread of contaminants across CNFE.

1.34 The Implementation and Phasing Strategy will need to include a comprehensive Remediation Plan setting out the level of remediation required. A much higher standard of remediation would be required for sensitive developments such as residential dwellings with gardens.

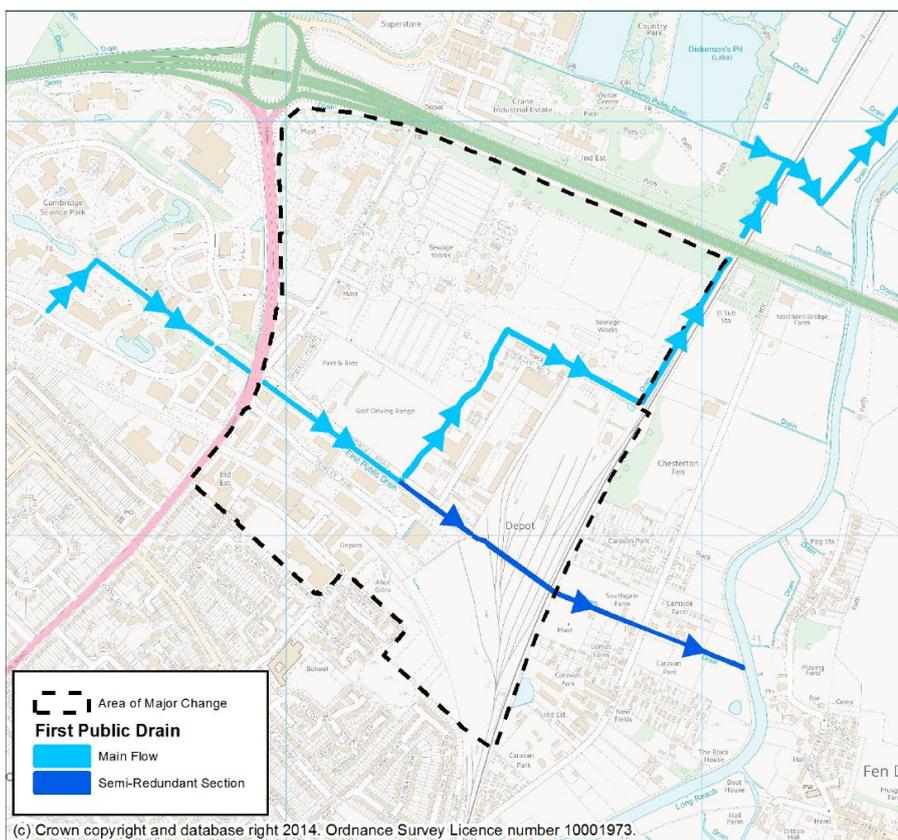
### Archaeology

1.35 Archaeological investigations to date have not revealed anything of particular note in the area. However, it is likely that an archaeological investigation will be required before any significant development takes place.

### Sources of Flood Risk

1.36 The River Cam is towards the east of the site. The area is generally flat with a gradual fall toward the east and the River Cam (see Figure 6 below).

Figure 6 - River Cam and First Public Drain



- 1.37 The First Public Drain flows through the area and provides the surface water drainage for the whole of the area under consideration. It flows from west to east through the Science Park, under Milton Road and the heads north east along and is the boundary to the WRC. It then passes underneath the A14 and then under the main railway line and flows towards the Cam. There is a semi-redundant tributary that continues the line from the Science Park and heads directly towards the Cam under the main railway line. This is only utilised in high flows, with the main flow heading north east.
- 1.38 Both the River Cam and the First Public Drain are sources of potential fluvial flood risk to the area although the risk to the CNFE area is low.
- 1.39 There is a risk of surface water flooding present within the area boundary, confined to small local areas. Any development proposals would have to take this level of risk into consideration and could be mitigated against with a carefully designed surface water management system (e.g. use of SuDS) and finished floor levels set to appropriate levels to mitigate against potential surface water flood risk.
- 1.40 Although levels of groundwater are known to be high, there are no recorded instances of groundwater flooding with CNFE. High groundwater and the contamination in the area are likely to have an impact of the proposed method of surface water disposal but should be regarded as a constraint to be dealt with through onsite mitigation.

#### *Odour and Insects*

- 1.41 The Cambridge WRC is a source of both odour and insects, which has an impact on the amenity of the surrounding area, and the mix of uses which will be considered acceptable across the CNFE.
- 1.42 There are 3 recent odour assessment reports available for reference, all providing odour contours for the subject area:
- Cambridge Environmental Research Consultants on behalf of St Johns College, 2012,
  - Anglian Water, 2012
  - Anglian Water, 2014.
- 1.43 The most recent and most detailed guidance on the assessment of odour is in the Institute of Air Quality Management (IAQM) 'Guidance on the assessment of odour for planning' (May 2014). This sets out the thresholds for the odour zones which have been mapped out on the following map (Figure 7) utilising the latest Anglian Water 2014 study. Anglian Water's proposed upgrade to the WRC is expected to improve the odour environment.



1.44 The IAQM guidance goes into some detail, but in summary distinguishes between uses in terms of their sensitivity to odour:

- High sensitivity uses (including residential)
- Moderate sensitivity uses (including offices and playing/recreational fields)
- Low sensitivity uses (including industrial and warehouse uses)

1.45 The IAQM guidance also provides advice on the acceptability of uses for the odour zones and this is shown in the following table. The map and table have in turn informed the redevelopment options. The consideration of each planning application will require good professional judgement by a responsible practitioner. It will be considered on its individual merits taking into account a number of considerations, including the FIDOL factors of Frequency, Intensity, Duration, Odour unpleasantness, and Location. The proposal will also require careful consideration of the consequences, scope for securing further mitigation, and the balance with any wider environmental, social and economic benefits that the proposal would bring.

**Table: Odour Zones and Uses Acceptable in principle**

Colour	OUE per cubic metre	Uses acceptable in principle
	12.0+	Low Sensitivity uses
	10.0-11.9	Low Sensitivity uses
	8.0-9.9	Low Sensitivity uses
	5.0-7.9	Low Sensitivity uses
	3.0-4.9	Moderate (subject to appropriate mitigation measures) or Low Sensitivity uses
	1.5-2.9	Moderate or Low Sensitivity uses
clear	0.0-1.4	High, Moderate or Low Sensitivity uses

*Noise*

1.46 Areas immediately adjacent to the A14, the railway line and sidings, and the minerals and waste operations will be potentially unsuitable for some forms of built development because of noise issues. Other areas will require mitigation to design our noise impacts, for example through the use of landscape features or building integrated measures.

1.47 For example, if residential dwellings are proposed close to the proposed new railway station consideration will need to be given to:

- Impacts of rail noise,
- Public address system at the station,
- Associated rail infrastructure (sidings etc).

1.48 Aspect, orientation and distance from the station would all need to be considered if residential development were to be suggested at this location and it may be appropriate to incorporate a barrier of commercial properties between the station and residential.

### *Other Environmental Impacts*

- 1.49 There will be a number of other environmental impacts which will need to be considered at the planning application stage such as air quality associated with the industrial areas and adjacent major roads, dust from the mineral and waste operations, and vibration close to the railway lines.
- 1.50 It is important to control the lighting of new developments to ensure that areas are appropriately lit, while avoiding or minimising light pollution. Excessive lighting reduces the visibility of the night sky, is a waste of energy and can harm residential amenity by disturbing people's sleep. It can also disturb wildlife and be visually intrusive in the landscape.

### *Landscape, Ecology and Open Space*

- 1.51 It is important that major high density development is complimented by landscaping and public realm improvements, so that the spaces around buildings are seen as being as important as the buildings themselves. CNFE includes several areas of landscape both around its boundary and through its centre, which are important for their amenity and biodiversity value. These features should be retained and enhanced where possible. A balance also needs to be struck, both along the boundaries and within the area, between protecting the amenity of existing and new residents and users, and making the development visible, open and welcoming.
- 1.52 The area includes three notable areas of ecological value;
- Bramblefields Local Nature Reserve on its southern boundary
  - Protected Hedgerow on the east side of Cowley Road opposite St. John's Innovation Centre which is a City Wildlife Site
  - The FirstPublic Drain which is a wildlife corridor
- 1.53 The first two areas are important for their current ecological value.
- 1.54 The Chesterton Sidings includes an area of Jersey Cudweed. This is a protected species under Schedule 8 of the Wildlife and Countryside Act 1981. Development must incorporate measures for protecting this species.
- 1.55 Whilst the First Public Drain has current ecological value, the potential it offers as an enhanced strategic wildlife corridor through the area is particularly important. The wider the corridor the better; allowing for riparian vegetation<sup>7</sup>, tree/shrub planting without shading the watercourse, and a footpath. Access for maintenance is also vital. It is ecologically important that this wildlife corridor is supplemented by a network of green infrastructure across the area.

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<sup>7</sup> Stream or river banks are riparian areas, and the plants that grow there are called riparian vegetation. Riparian vegetation is extremely important because of the many functions it serves including maintaining high water quality in streams, rivers and lakes.

- 1.56 CNFE has very limited existing open space. The Bramblefields Local Nature Reserve and Nuffield Road Allotments are on the southern boundary, and are used by the existing Chesterton residential communities to the south.
- 1.57 The East Chesterton Ward currently has 2.89 hectares of mixed quality protected open space per 1,000 population<sup>8</sup>, which compares poorly to the target of 4.1 hectares per 1,000 population in the updated Open Space Standards of the Cambridge Local Plan 2014:Proposed Submission. This lack of open space emphasises the importance of the CNFE providing sufficient multi-functional open space for the area's needs, balanced with other needs and the nature of the area.

### **Built Form:**

#### *Scale and Massing*

- 1.58 The scale of development will be determined by a number of factors including demand, viability and transport constraints. However, an important further consideration will be the resulting massing of the development and its visual impact on CNFE and the wider area. The scale and massing of development at CNFE needs to be appropriate for the area and its context.

#### *Building Heights*

- 1.59 CNFE cannot be seen in isolation of Cambridge as a whole in terms of building heights. Cambridge has a varied skyline composed of towers, chimneys and spires, many of which are associated with the historic core. The flat landscape and the relative uniformity of the existing built form, which is mainly three to four storeys in height, means that the few tall buildings, such as King's College Chapel, are major landmarks. Trees form an important element of the Cambridge skyline, within both the historic core and surrounding suburbs and the CNFE area is no exception in this respect. Buildings therefore work with subtle changes in topography and the tree canopy to create a skyline of 'incidents', where important buildings rise above those of a prevailing lower scale.
- 1.60 There is a need to maintain and where appropriate enhance the overall character and qualities of the skyline of Cambridge as the city continues to grow and develop into the future. Views and the wider landscape context will be important considerations. Notwithstanding this, the CNFE area is a significant distance from the historic core of the city and within this context there may be an opportunity for the development to include tall buildings depending upon consideration of:

- Location, setting and context;
- Historical impact;
- Scale, massing and architectural quality;
- Amenity and microclimate;

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<sup>8</sup> Source: Cambridge City Council Open Space and Recreation Strategy October 2011

- Public realm;
- Any implications for Cambridge Airport's Air Safeguarding Zones.

### *Urban Design*

- 1.61 An essential aspect of Cambridge's attractiveness as a place to live, work, study and visit is its character. This character stems from the interplay between its rich architecture and the spaces between buildings. Trees and high quality public realm also play a significant role. The interface between the urban edge and the countryside is a key component of how the city is appreciated in the landscape and contributes to the quality of life and place.
- 1.62 The challenge therefore of the CNFE development is to ensure that it complements and enhances city's character. This can be achieved with high quality design that maximises opportunities to support the natural environment with new and existing open spaces, among other benefits.
- 1.63 The built form will therefore need to reflect and enhance these important local characteristics whilst at the same time addressing the many other physical constraints that have been highlighted in this section. The limited vehicular accesses will determine the pattern and flow of the development. However, with careful design it is thought many of the other constraints can be overcome or be accommodated (including important natural features) into an efficient block layout. This tends to become more feasible where constraints can be removed or relocated and a bigger area of land can be made available for development.

### *Responding to Climate Change and Managing Resources*

- 1.64 To respond to climate change and manage resources effectively CNFE needs to develop in the most sustainable way possible. This means delivering social and economic aspirations without compromising the environmental limits for current and future generations, so that CNFE becomes a low carbon, water sensitive area with a thriving economy. The AAP will ensure that development proposals take a holistic approach to sustainable development, integrating the principles of sustainable design and construction into development proposals from the outset.

### **Infrastructure:**

- 1.65 The following infrastructure will be a potential constraint on development;
- Water – The WRC
  - Transport – Cambridge to Ely railway line on eastern boundary and strategic aggregates rail head
  - Electricity – 132kv overhead power line running east to west across the area

- 1.66 It may be possible to relocate or underground some features, albeit at a significant cost. If they are retained there may be easements or wayleaves to take into account or the need to set back development or provide some form of barrier or screen.
- 1.67 There are also a series of networks of underground cables and pipes across the CNFE, but currently they are not thought to be a major constraint on development.
- 1.68 Early provision of high quality broadband to new homes and offices in Cambridge will avoid future disruption and harm to the street scene, and ensure that all new development is fully integrated into modern communications technology.
- 1.69 It will also support the implementation of the Cambridgeshire and Peterborough Broadband Plan, prepared by the Connecting Cambridgeshire partnership.

**Other Considerations:**

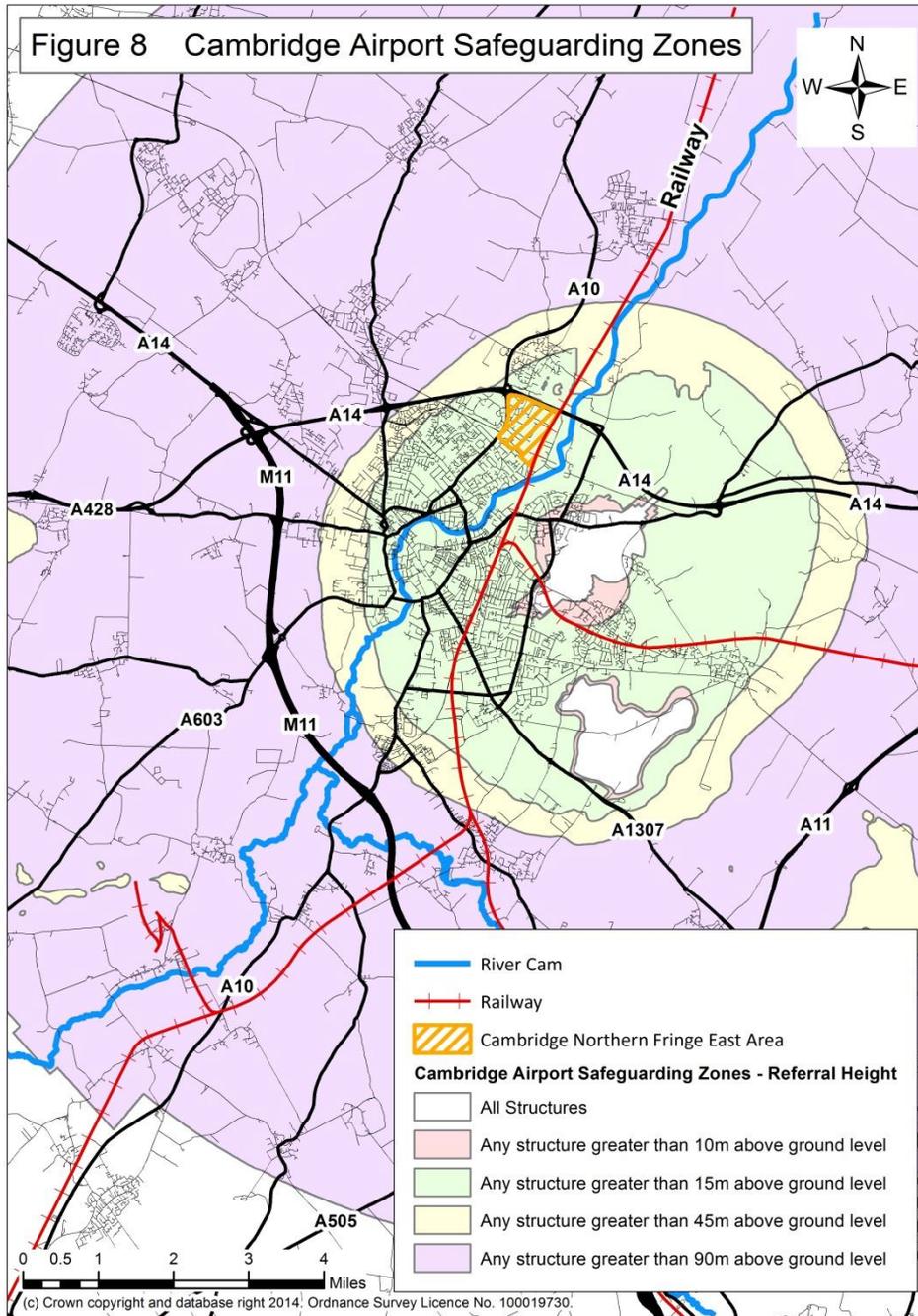
*Cambridge Airport Air Safeguarding Zones*

- 1.70 Air safeguarding zones (shown in Figure 8) are also taken into account in any relevant planning decisions. The zones represent referral heights for consultation with Marshall and the Ministry of Defence. The purpose of airport safeguarding is to take the measures necessary to ensure the safety of aircraft, their passengers and crew while taking off or landing or while flying in the vicinity of Cambridge Airport. The presence of these zones may have implications for the height of new development, and as such will need to be taken into consideration early on in the development of design proposals.

*Mullard Radio Astronomy Observatory, Lord's Bridge*

- 1.71 The Mullard Radio Astronomy Observatory at Lord's Bridge is of international importance and must be safeguarded. The observatory contains unique radio and optical telescopes. The telescopes measure signals that are very weak and hence highly susceptible to many forms of interference: specifically to electrical interference; microwave interference from telecommunications masts and equipment; and light pollution and mechanical vibration from domestic, industrial plant and other sources, such as the movement of vehicles, including aircraft.
- 1.72 The CNFE lies in a consultation area that requires consultation with the University of Cambridge on any applications that involve activities that could disrupt the workings of the observatory. Early consideration of potential impacts on the observatory will therefore be required in progressing development proposals.

Figure 8 Cambridge Airport Safeguarding Zones



### *Construction Process and Methods*

- 1.73 The CNFE development will take place over a number of years and the construction process can have implications for amenity, public safety, and the landscape setting of the area if not properly planned. The construction process will therefore need careful management in order to avoid or minimise disruption to the adjacent parts of the city and South Cambridgeshire as well as parts of CNFE which have already been built. Realistically, it will not be possible to avoid any impact when development is being undertaken immediately adjoining existing areas but measures should be undertaken to reduce the impact as far as possible.
- 1.74 It would not be appropriate to transport construction spoil over considerable distances as this would be unsustainable and simply transfer the problem elsewhere. The general principle should be for construction spoil to be treated and utilised on site. However, it would not be acceptable to alter the land forms locally by concentrating the spoil into one or more large mounds as this would introduce an alien character into this area.
- 1.75 The construction process utilises a significant amount of resources and development on this scale will generate a considerable amount of spoil and waste building material. Any existing resources available on the site, such as materials from redundant buildings, can help reduce the amount of materials that have to be imported onto the site.
- 1.76 A Construction Environmental Management Plan (CEMP) including a Site Waste Management Plan (incorporating a waste audit and strategy, consistent with the adopted Cambridgeshire and Peterborough Minerals and Waste Plan) will be required to support a planning application.
- 1.77 Developers will be encouraged to register with The Considerate Constructors Scheme which is a national initiative set up by the construction industry or the council's own Considerate Contractors Scheme . Any construction sites and companies that register with the scheme are monitored against a Code of Considerate Practice, which includes guidelines for respecting the community by considering the impact on their neighbours, and for protecting and enhancing the environment.