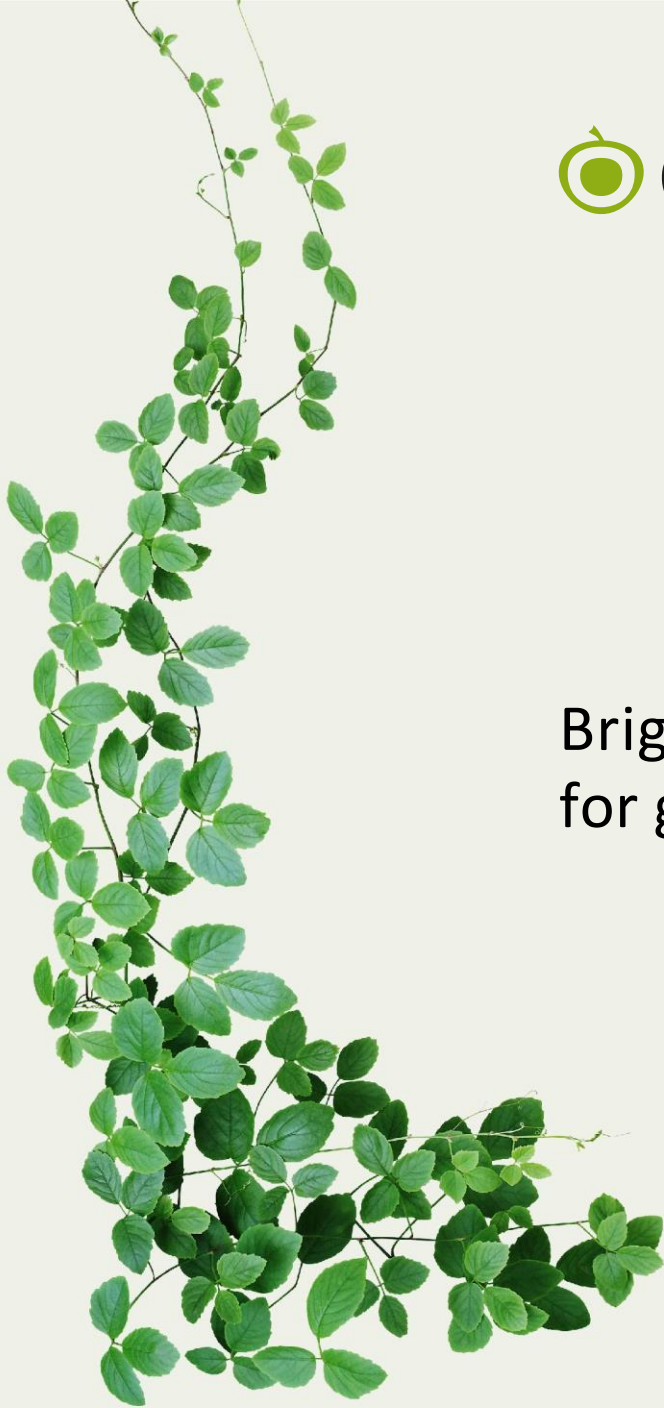




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**Client:** Fuel Properties  
**Project:** Carrow Works  
**Report:** Health Impact Assessment

## QUALITY ASSURANCE

Issue/Revision:	Draft	Final
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## 1.0 INTRODUCTION

Greengage Environmental Ltd has been commissioned by Fuel Properties (the 'Applicant') to undertake a Health Impact Assessment (HIA) in relation to a detailed planning application for the proposed development located at the Carrow Works site in Norwich.

The proposed development will comprise:

*“Hybrid application to develop Carrow Works for a phased residential-led development (use class C3) with supporting mixed-uses (non-residential Class E/F1 use class), demolition of buildings, the retention, conversion and adaptation of Listed and locally listed Buildings and structures, landscaping, open space, new and modified access, car parking and other ancillary works.*

*Detailed application component comprises the construction of the primary internal road and associated public spaces and public realm, restoration and change of use of Carrow Abbey back to original residential use (Class C3), enhanced access to Carrow Abbey and Scheduled Ancient Monument and associated ancillary works”.*

This report will consider the potential health risks and benefits that would result from the proposed development and consider the ability of local health services to cater for the additional demand created as a result of the proposed development.

## 2.0 PROPOSED DEVELOPMENT

The application site covers an area of approximately 16.9 hectares and is centred on National Grid Reference TG 241 074, OS Co-ordinates 624100, 307400.

The site is located in an industrial region of Norwich, 0.9 miles south east of Norwich City Centre. It is bound by the River Wensum in the north, the residential area of Lakenham in the south and in the west, and open agricultural land in the east.

The proposed development will comprise:

*“Hybrid application to develop Carrow Works for a phased residential-led development (use class C3) with supporting mixed-uses (non-residential Class E/F1 use class), demolition of buildings, the retention, conversion and adaptation of Listed and locally listed Buildings and structures, landscaping, open space, new and modified access, car parking and other ancillary works.*

*Detailed application component comprises the construction of the primary internal road and associated public spaces and public realm, restoration and change of use of Carrow Abbey back to original residential use (Class C3), enhanced access to Carrow Abbey and Scheduled Ancient Monument and associated ancillary works”.*

### 3.0 METHODOLOGY

The report will first conduct a review of the relevant local policy in relation to health and wellbeing. Following this, a desktop study of relevant data sources will form a health profile of the local area, considering both the health of the local population and the provision of healthcare facilities.

In assessing the potential health impacts of the proposed development, the HIA will follow the assessment criteria and procedure contained within the following key documents:

- The NHS Healthy Urban Development Unit's 'HUDU Planning for Health – Healthy Urban Planning Checklist'<sup>1</sup>; and
- The NHS Healthy Urban Development Unit's 'HUDU Planning for Health - Rapid Health Impact Assessment Tool'<sup>2</sup>.

The proposed development's health impacts will be assessed against the Healthy Urban Planning Checklist, considering impacts directly related to the particular proposals, as well as indirect influences on the wider community. The outcomes of this analysis will form the evidential base for the second stage of the assessment framework using the Rapid Health Impact Assessment Tool to determine the results of the proposed development's impact on health.



## 4.0 POLICY BACKGROUND

### 4.1 NATIONAL

#### National Planning Policy Framework (NPPF)

The NPPF<sup>3</sup> was published in July 2021, replacing the previous NPPF, adopted in February 2019. The revised NPPF sets out the Government’s planning policies for England and how they are expected to be applied. It provides a framework within which locally prepared plans for housing and other development can be produced. Within this framework, the chapter that is most relevant to this HIA is Chapter 8 ‘Promoting healthy and safe communities’. This states that:

*‘Planning policies and decisions should aim to achieve healthy, inclusive and safe places which:*

- a) promote social interaction, including opportunities for meetings between people who might not otherwise come into contact with each other – for example through mixed-use developments, strong neighbourhood centres, street layouts that allow for easy pedestrian and cycle connections within and between neighbourhoods, and active street frontages;*
- b) are safe and accessible, so that crime and disorder, and the fear of crime, do not undermine the quality of life or community cohesion – for example through the use of clear and legible pedestrian routes, and high quality public space, which encourage the active and continual use of public areas; and*
- c) enable and support healthy lifestyles, especially where this would address identified local health and well-being needs – for example through the provision of safe and accessible green infrastructure, sports facilities, local shops, access to healthier food, allotments and layouts that encourage walking and cycling.’*

Further guidance is also contained in the National Planning Practice Guidance (PPG) on Healthy and Safe Communities which states that:

*‘The design and use of the built and natural environments, including green infrastructure are major determinants of health and wellbeing. Planning and health need to be considered together in two ways: in terms of creating environments that support and encourage healthy lifestyles, and in terms of identifying and securing the facilities needed for primary, secondary and tertiary care, and the wider health and care system (taking into account the changing needs of the population).’*

The PPG defines a healthy place as:

*‘One which supports and promotes healthy behaviours and environments and a reduction in health inequalities for people of all ages. It will provide the community with opportunities to improve their physical and mental health, and support community engagement and wellbeing.*

*It is a place which is inclusive and promotes social interaction. The National Design Guide sets out further detail on promoting social interaction through inclusive design including guidance on tenure neutral design and spaces that can be shared by all residents.*

*It meets the needs of children and young people to grow and develop, as well as being adaptable to the needs of an increasingly elderly population and those with dementia and other sensory or mobility impairments.’*

## 4.2 LOCAL

### Norwich Development Management Plan (2014)

The Development Management Plan<sup>4</sup> provides the detailed policies required to guide and implement the Joint Core Strategy (JCS)<sup>5</sup> (2014-2026) for the greater Norwich area. The JCS sets out the strategy for regeneration and growth in the greater Norwich area. The Development Management Plan policies relevant to the Proposed Development include:

- Policy DM1 'Achieving and delivering sustainable development': Sets out goals to enhance and extend accessible opportunities for employment, education and training as well as protect and enhance the physical, environmental and heritage assets of the city. Proposals should help to combat the effects of climate change and achieve national and local carbon reduction targets. This policy also includes a focus on safety and security, safeguarding the interests of the elderly and vulnerable groups and promoting mixed, diverse, inclusive and equitable communities by increasing opportunities for social interaction.
- Policy DM2 'Amenity': Requests that proposals provide for a high standard of amenity, satisfactory living and working conditions, adequate protection from noise and pollution and adequate levels of light and outlook for future occupiers. External amenity space must form a fundamental part of the site design.
- Policy DM8 'Open space': Ensures that existing open spaces are protected. New open space must be provided for developments of 100 dwellings and above; or on sites over two hectares in size. This should be informal, publicly accessible recreational open space. In addition, on all sites which provide 100 child bed spaces or more, proposals should include the on-site provision of younger children's playspace (of at least 150 sq. metres in size with a minimum of four different pieces of equipment)
- Policy DM9 'The historic environment and heritage assets': Development shall maximise opportunities to preserve, enhance, or better reveal the significance of designated heritage assets. Where proposals which involve the unavoidable loss of any designated or locally identified heritage asset are accepted exceptionally under this policy, a legally binding commitment from the developer must be made to implement a viable scheme before any works affecting the asset are carried out.
- Policy DM13 'Flats, bedsits and larger houses in multiple occupation (HMOs)': Proposals that include flats should achieve a high standard of amenity and living conditions for residents and include satisfactory standard of servicing, parking and amenity space for all, including making provision for appropriately located bin storage, cycle storage and drying areas.
- Policy DM16 'Employment and business development': Proposals should assist in the creation of high-quality employment and business development and provide for the adaptation and expansion of local firms and allow accessible and equitable job opportunities for all.
- Policy DM22 'Provision and enhancement of community facilities': New or enhanced community facilities should contribute positively to the well-being and social cohesion of local communities.
- Policy DM28 'Encouraging sustainable travel': Details how developments must ensure that cycle and pedestrian links and public transport corridors are incorporated to maximise the opportunity for sustainable transport, both from within the development and the wider area.

## Emerging Greater Norwich Local Plan (2021)

Norwich City Council are working with Broadland District Council, Norfolk County Council and South Norfolk District Council to prepare the Greater Norwich Local Plan (GNLP) (2018-2036)<sup>6</sup>. The GNLP will aim to ensure that new homes are delivered, and the environment is protected and enhanced, promoting sustainability and the effective functioning of the area. It includes the specific site allocation to the Application Site at Carrow Works.

The GNLP comprises seven overarching Policies. Those relevant to the Proposed Development are outlined below:

**Policy 2: Sustainable Communities.** Development must be high quality, contributing to delivering inclusive growth in mixed, resilient and sustainable communities, enhancing the environment, and to mitigating and adapting to climate change, assisting in meeting national greenhouse gas emissions targets. To achieve this development proposals must:

- Ensure safe, convenient and sustainable access to on site and local facilities and services;
- Make provisions for changing technologies, e.g. electric vehicles;
- Contribute to multi-functional green infrastructure links, including through landscaping;
- Make efficient use of land with car free housing in the most sustainably accessible locations of Norwich;
- Provide safe access for all, manage travel demand, and promote public transport and active travel.
- Design layouts to encourage walking and cycling, whilst also integrating parking in a manner that does not dominate the streetscape;
- Provide a high standard of amenity through planting and the careful choice of materials;
- Be resource efficient, support sustainable waste management, reduce overheating, protect air quality, minimise pollution and take account of ground conditions;
- Support effective water management;
- Minimise flood risk and avoid inappropriate development in areas of flood risk; and
- Minimise energy demand through the design and orientation of development and maximise the use of sustainable energy, local energy networks and battery storage.
  - Provide a 19% reduction against Part L of the 2013 Building Regulations; and
  - Meet the BREEAM 'Very Good' energy efficiency standard (non-residential development).

**Policy 4 – Strategic Infrastructure.** Key elements will be:

- Transport improvements will support and embrace new technologies. A shift towards non-car modes will be promoted in the urban area. High density growth will be focused on locations with good access to improved sustainable transport networks in Norwich. Create a cycle where clean transport is prioritised, less use is made of cars and space is used more efficiently and attractively.
- On-site and local infrastructure, services and facilities. development proposals will provide on-site services and facilities and support local infrastructure capacity improvements through on-site provision, providing land and developer contributions.

**Policy 7 – Strategy for the areas of growth.** Policies 7.1 to 7.4 provide details of the distribution of growth set out in Policy 1, along with location specific strategy policies. The Application Site is located in East Norwich which is an area covered by Policy 7.1 ‘The Norwich urban area including the fringe parishes’ in the GNLP. The area masterplan will promote the development of a high density sustainable mixed-use community, coordinate delivery of new transport infrastructure and services, enhance green links, protect wildlife sites, and address flood risk issues.

Within the GNLP, the site is outlined under Policy GNLP0360/3053/R10 -‘East Norwich Strategic Regeneration Area’. This includes the Land at Carrow Works, Norwich (approx. 19.91 ha).

*‘The East Norwich Regeneration Area is allocated for residential led mixed use development including housing, community, education and leisure facilities, employment and retail, local greenspace, biodiversity areas and recreational open space as part of a balanced mix, together with all necessary supporting vehicular, pedestrian, cycle, and public transport access infrastructure. The site is expected to deliver in the region of 4000 homes subject to confirmation through detailed master planning as defined in policy 7.1 of this plan.’*

The policies that are of relevance to the Proposed development include the following:

- Development must create an inclusive, resilient, and safe community in which people of all ages have good access to high quality homes that meet housing needs along with opportunities to access high quality jobs and services.
- Co-ordinated delivery of new social (e.g. schools, community facilities and recreational spaces) and economic infrastructure (e.g. transport routes, bridges and utilities) and services, as informed by the detailed masterplan for the East Norwich Strategic Regeneration Area.
- Make the most of its riverside location, including the provision of a riverside walk along the northern and southern banks of the River Wensum, linking the sites and providing connections to the Football Club and the City Centre, as well as the establishment of a recreational route to Whitlingham County Park suitable for accommodating National Cycle Route 1 (NCR1).
- Improved access routes to Kerrison Road and Hardy Road over or under the railway line north of Trowse Swing Bridge.
- Repair and re-use of heritage assets on site as part of any site regeneration and conservation of all designated heritage assets. Development proposals should also consider heritage assets below ground and the impact upon the Broads.
- Proposals will maintain the open character of the Yare Valley and preserve long views towards the Broads and open countryside.
- Development proposals will include protection and enhancement of the existing biodiversity of the site including green infrastructure assets, corridors, trees and open spaces. Development must also achieve high quality landscaping, planting and biodiversity enhancements, including enhancements to the River Wensum and River Yare and the locally registered historic park and garden, along with appropriate improved public access.
- Be designed to mitigate the impact of vibration, noise generation, light and air pollution from adjacent industrial operations, roads and railways in order to protect the amenity of users and occupiers of the sites.
- Site specific flood risk assessment must be undertaken prior to development and the design of the development will need to be flood resilient and incorporate appropriate mitigation measures in order to address flood risk from both river and surface water flooding.

## The Norfolk Strategic Framework (2021)

Norfolk Strategic Planning Framework (NSPF)<sup>7</sup> (2021) was established by Norfolk's Local Planning Authorities to agree on shared objectives and strategic priorities to improve outcomes for Norfolk, inform the preparation of future Local Plans and demonstrate compliance with the NPPF. This framework brings together Norfolk's local planning authorities and outlines common strategic goals within the region.

The following key agreements are relevant to the proposal at Carrow Works:

- Section 5 'The Economy': The area is targeting 88,000 more jobs, 30,000 new businesses and 140,000 new houses by 2036. A number of Tier 1 employment sites have been designated and cannot be developed for other purposes. A technology corridor of employment is also proposed between Cambridge and Norwich.
- Section 6 'Housing': Ensures that new homes built are appropriate in size, type, and tenure to contribute positively towards affordable homes, homes for the elderly and students, and other groups in society requiring specialist living accommodation. New homes should be served and supported by adequate social infrastructure.
- Section 7 'Health': Recognising health benefits to the population by encouraging all to be moderately active by building short active journeys in everyday life. Consider the particular needs of an ageing population when designing open space, access to public transport and active travel. Inclusion of benches and shelters, availability of toilets, safety when sharing pathways, level terrain and the provision of adult outdoor exercise equipment. Provide opportunities for biodiversity enhancement by planting appropriate tree species, hedgerows and pollen and nectar rich flora, facilitating species movement and habitat connectivity.
- Section 9 'Infrastructure and Environment': aims to strengthen Norfolk's connection with the rest of the UK and Europe. A key part of this focuses on investment in utilities infrastructure. This also aims to reduce Norfolk's greenhouse gas emissions and create more sustainable communities that alleviate health inequalities.

## East Norwich Strategic Regeneration Area, Supplementary Planning Document (May 2022)

Policy 7.1 of the GNLP sets out the SPD for the East Norwich Regeneration Area. The East Norwich partnership is a public-private sector group which will steer the preparation of the East Norwich masterplan to create a new city quarter in the east of Norwich. Formal consultation on the SPD is not expected until late 2022.

The SPD will promote the development of a locally distinctive, high density and high quality sustainable residential-led mixed-use community, co-ordinate the delivery of new transport and connectivity infrastructure, social infrastructure, jobs and services, protect and enhance biodiversity and green infrastructure, set the objectives for implementation of a low carbon energy solution for the site.

Specifically within the Carrow Works site, the SPD is likely to outline the following;

- The potential for a new pedestrian/cycle access route connecting the Deal Ground to the Carrow Works site via an existing underpass under the rail line.

- There is a high concentration of both heritage and natural assets within the site. There are further assets within close proximity of the site (including the Broads), which may also impact on the proposals.
- Carrow Abbey comprises a scheduled monument (Carrow Priory) and contains listed buildings (grade I), there are individual and group TPOs and the land is a locally registered historic park and garden.
- Trees and green spaces on the Carrow Works site together with a number of buildings are likely to be important for wildlife and biodiversity. Protection of the wildlife and increasing biodiversity of the site will be required.
- Sequential building approach must be applied to avoid built development within this area of flood zone to allow it to continue to provide flood storage.
- It is anticipated that the Carrow Works/Carrow House site will deliver in the region of 1,692 homes.

## 5.0 HEALTH PROFILE BASELINE

It is important when undertaking an assessment of the health impacts of a proposed development that the geographical scope of the assessment is clearly understood.

The full geographical scope of the proposed development is as follows:

- Lower Layer Super Output Area (LSOA): Norwich 014D;
- Ward: Lakenham;
- Local Authority: Norwich;
- Region: Norfolk; and
- National: averages for England, Great Britain, or the United Kingdom dependent upon data availability to provide context.

### 5.1 HEALTH PROFILE BASELINE

A review of the relevant data sets has been conducted to establish a health profile baseline of the local area. Levels of general health have been considered, along with determinants of health. The World Health Organisation<sup>8</sup> (WHO) describes the determinants of health as the factors that combine to affect the health of individuals and communities. They identify the social and economic environment, the physical environment and the person's individual characteristics and behaviours as determinants of health. The health profile baseline has therefore considered data sets on determinants of health that have the potential to be affected by the proposed development, such as levels of deprivation and level of health. The health profile baseline has also considered the provision of primary healthcare services within the local area and their capacity.

Wherever possible, the health profile baseline of the local area has been compared to the wider local authority, regional, and national levels.

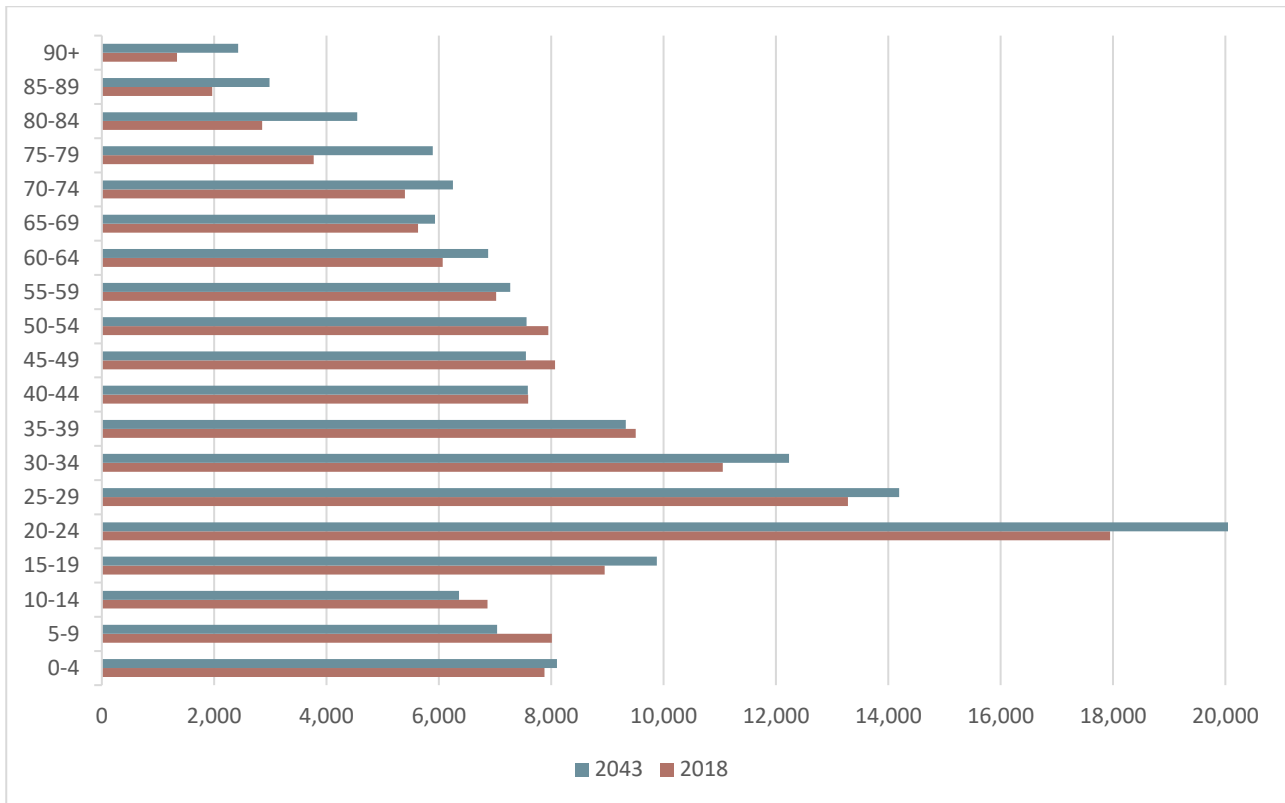
### 5.2 HEALTH PROFILE: POPULATION

Population change comprises the difference between birth rates and death rates, and the effects of internal and international migration.

Population forecasts for Norwich show that the population is expected to increase from 141,137 to 152,358 persons (by 8%) between 2018 and 2043<sup>9</sup>. This increase is slightly lower than the national average.

The younger age groups generally have a far less significant population change, with a reduction in numbers in age groups 0-15 years. More significant population increases are predicted to take place in the older age groups. The largest driver of this population increase is anticipated to be the number of residents over 65 due to an increase in life expectancy, resulting in an ageing population. For instance, the number of residents aged 80-84 in Norwich is predicted to increase by 59% from 2018 to 2043, and the proportion of residents over 65 will rise from 14.8% to 18.4% by 2043. Figure 5.1 demonstrates how Norwich's age profile is projected to change between 2018 and 2043.

Figure 5.1 Population Projections in Norwich from 2018 to 2043



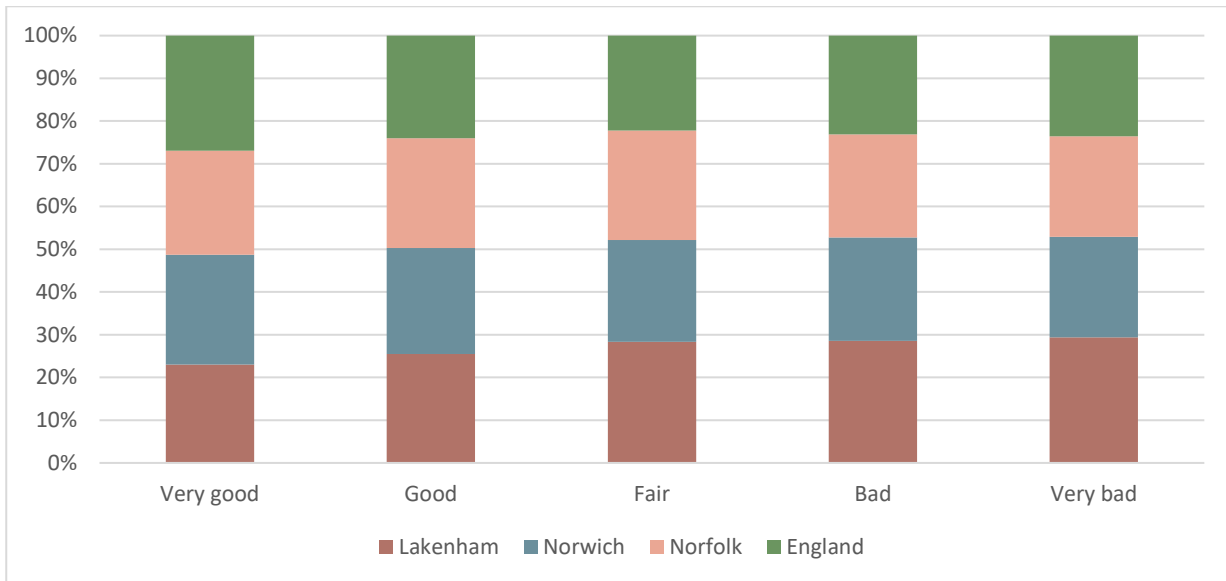
Source: ONS 2018-based population projections

In 2011 in Lakenham ward, the proportion of residents aged over 65 years was 18.1% which is higher than the Norwich average (14.6%). The Age UK Loneliness heat map estimates the risk of loneliness for over 65s in a neighbourhood based on marital status, self-reported health status, age and household size. These four factors predict around 20% of the loneliness observed amongst older people 65 and over. Despite the above regional average proportion of over 65s, the Age UK loneliness heat map identifies that the site is located in a neighbourhood of ‘Very low risk’ of loneliness for over 65s<sup>10</sup>.

According to the most recent published census data (2011 Census), 40.4% of residents in Lakenham ward are in ‘Very Good Health’ and 36.3% of residents are in ‘Good Health’<sup>11</sup>. This is lower than in Norwich where 44.9% of residents are in ‘Very Good Health’ and 35.4% are in ‘Good Health’. Only 1.5% of the ward’s population are in ‘Very Bad Health’, however, this is higher than the value for Norwich (1.2%). Figure 5.2 below shows general health by area, comparing Lakenham Ward with Norwich, Norfolk and England averages.



Figure 5.2 General Health by Area



Source: 2011 Census

According to data from the Office for National Statistics (ONS)<sup>12</sup>, the average life expectancy for males in Norwich is generally lower than in Norfolk and England, and the average female life expectancy in Norwich is generally higher than in England and similar to Norfolk.

Male life expectancy for Norwich peaked in 2012-2014 at 79.7 before drastically declining, and female life expectancy peaked at 83.5 in 2010-2012 and has fluctuated since.

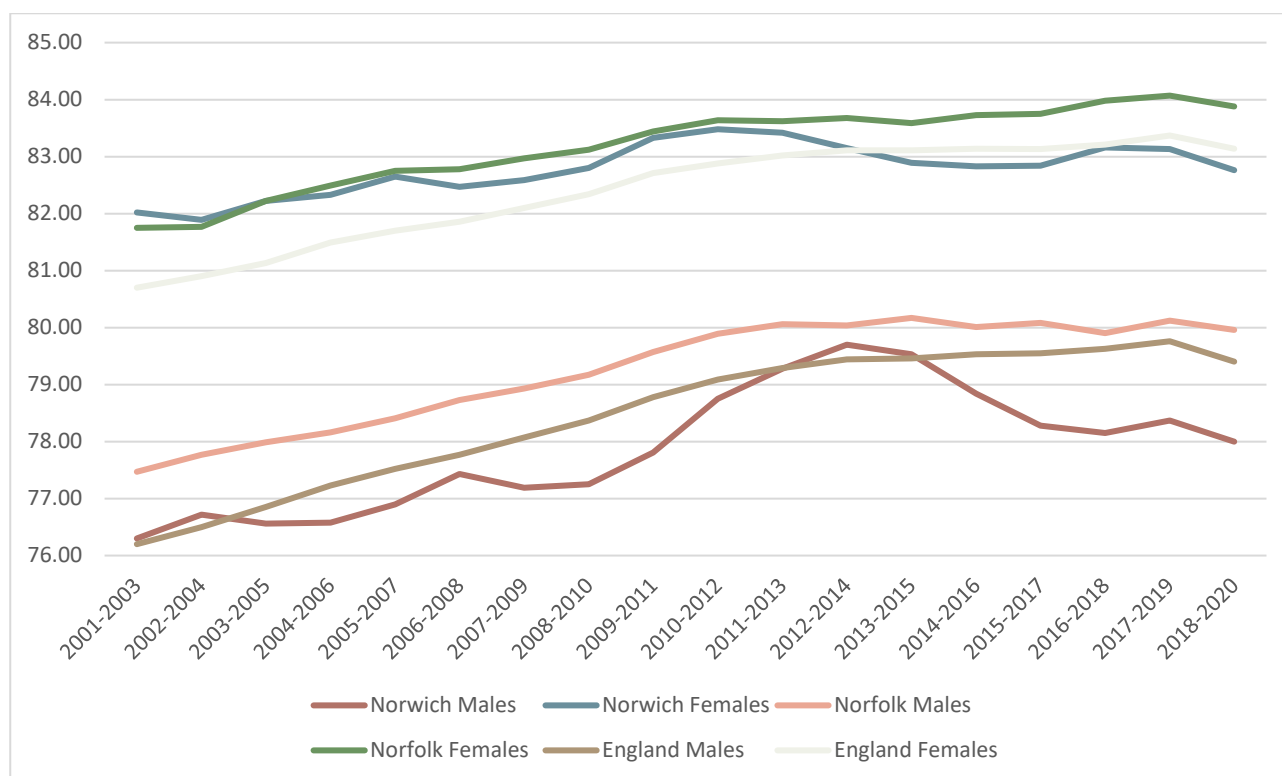
Male life expectancy in Norwich increased at a slower rate than that of Norfolk and England and fluctuates greatly. It remains consistently lower than Norfolk's male life expectancy and has only been greater than England's male life expectancy three times since 2001-2003.

Female life expectancy in Norwich increased at a similar rate to Norfolk and England, before peaking in 2010-2012 and gradually declining, eventually falling below the female life expectancies for both Norfolk and England.

In 2018-2020 (most recent data), male life expectancy was 78.0 and female life expectancy was 82.8 in Norwich.

Figure 5.3 demonstrates how life expectancy has changed in Norwich, Norfolk and England between 2001 and 2020.

Figure 5.3 Life Expectancy in Norwich, Norfolk and England



Source: ONS (2021), Life Expectancy

The Public Health Profile<sup>13</sup> for Norwich has shown that the Local Authority had an infant mortality value (rate of deaths in infants aged under 1 year per 1,000 live births) of 1.6 between 2018 and 2020. This is significantly lower than both Norfolk and England, which had values of 3.4 and 3.9, respectively.

Between 2016 and 2018, the under 75 mortality rate from all cardiovascular diseases in Norwich had a value (age-sex standardised rate per 100,000 people aged under 75) of 86.8. This is much higher than in Norfolk and England, with values of 64.7 and 70.4 respectively.

Norwich also had a high value for under 75 mortality rate from cancer (139.0), in comparison to Norfolk (121.5) and England (129.2).

In Norwich, 70.4% of adults are physically active (2020/21). This is significantly higher than in Norfolk (66.0%) and in England (65.9%). This is reflected in the lower prevalence of overweight or obese adults (18+) in Norwich than in Norfolk and England. However, data shows that there is a similar prevalence of childhood obesity within Norwich, Norfolk, and England. Table 5.1 below demonstrates these figures.

Table 5.1 Proportion of overweight or obese adults and children

Area	Proportion of overweight or obese adults (18+)	Proportion of obese children in year 6
Norwich	61.8%	20.8%
Norfolk	64.1%	19.7%
England	63.5%	21.0%

Source: Public Health Profile (2022)

According to the 2011 Census, 31.5% of residents in Lakenham ward reported a long-term illness or disability. This percentage is considerably greater than Norwich (26.2%) and England (25.7%).

The ONS publishes data to show satisfaction with life<sup>14</sup> under different factors. The scale for answers ranges from 1 (very unhappy) to 10 (extremely happy). The happiness score for Norwich was 7.4 in 2019/2020, which is slightly higher than the UK average of 7.31. However, in 2020/21 the happiness score reduced to 7.1 in Norwich and 7.3 in the UK. In 2019/2020 Norwich had a lower level of life satisfaction (7.4) compared to the UK (7.7). Again in 2020/21, the score dropped to 7.2 in Norwich, and 7.4 in the UK.

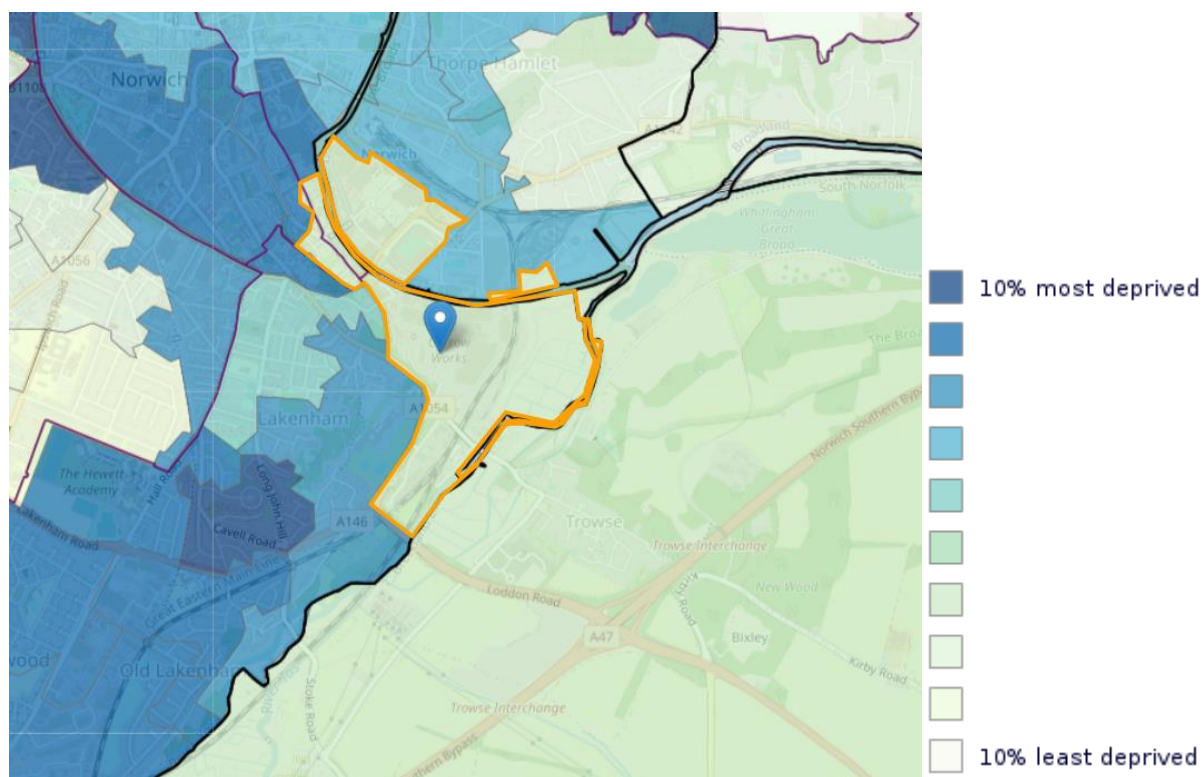
### 5.3 HEALTH PROFILE: AREA CONTEXT

#### Deprivation

The context of people’s lives directly influences their health. The Indices of Deprivation (2019) Multiple Deprivation Domain showed that Norwich ranks 61st out of the 317 local authority districts in the UK<sup>15</sup>. The Multiple Deprivation Domain measures the relative deprivation of small areas of England, the LSOAs, according to a range of variables including wealth, health and quality of life.

The site is located within LSOA Norwich 014D which is among the 40% of least deprived LSOAs nationally. The figure below illustrates the levels of deprivation at and around the site.

Figure 5.4 Indices of Multiple Deprivation



Source: Indices of Deprivation (2019)

The Indices of Deprivation (2019) also shows that the site is within the 30% most deprived LSOAs nationally under the Health Deprivation and Disability Domain. This domain combines four indicators of a range of health issues; Years of Potential Life Lost (YPLL); Comparative Illness and

Disability Ratio; Measures of acute morbidity, derived from Hospital Episode Statistics; and the proportion of adults under 60 suffering from mood or anxiety disorders based on prescribing suicide mortality rate and health benefits data.

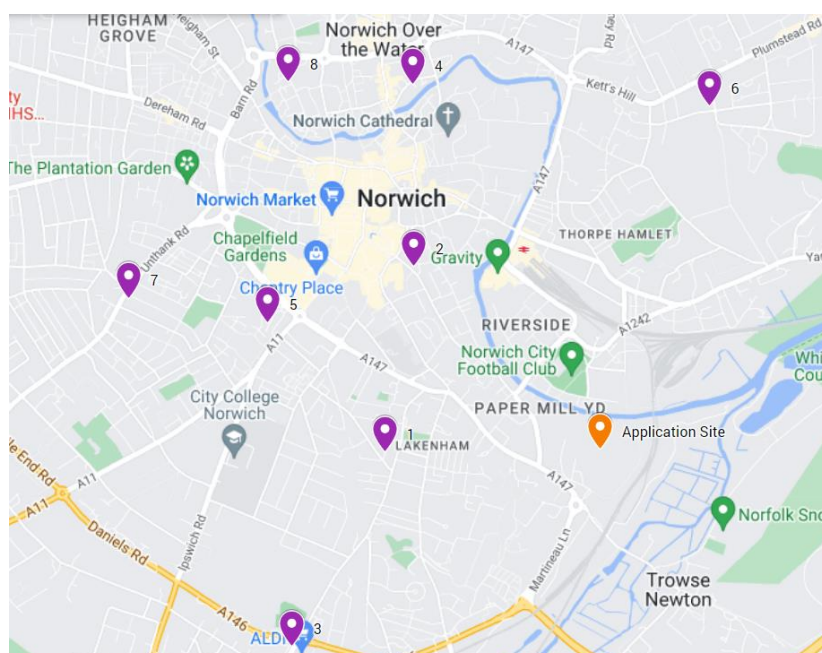
The site is also in the 30% least deprived areas nationally under the employment deprivation domain, the 40% least deprived areas nationally under the crime deprivation and income deprivation domains and in the 50% least deprived areas nationally under the education, skills and training domain.

## Local Health Services

### GP surgeries

The NHS database<sup>16</sup> has identified that there are 8 GP surgeries within 1.5 miles of the Application Site. The figure and table below summarise this. The average ratio of patients per GP at these 8 practices is 1,923<sup>17</sup> which is greater than the best practice of 1,800 patients per GP recommended by the General Medical Council (GMC) used by the Department of Health (DoH) and Primary Care Trusts. 7 of the 8 GP surgeries nearby are accepting new patients.

Figure 5.5 GP surgeries within 1.5 mile of the site



Source: googlemymaps.com

Table 5.2 GP surgeries within 1.5 mile of the site

Map ref.	GP surgery	Distance (miles)	No. of GPs (FTE)	No. of patients	GP to patient ratio	Accepting new patients?
1	Lakenham Surgery	0.3	4.8	8,619	1,795	Yes
2	Norwich Practices Health Centres and Walk-In Centre	0.8	7	10,301	1,471	Yes
3	Castle Partnership Including: The Tuckwood Surgery	1	11.1	17,333	1,561	Yes

Map ref.	GP surgery	Distance (miles)	No. of GPs (FTE)	No. of patients	GP to patient ratio	Accepting new patients?
4	Guney Surgery	1.3				
5	St. Stephens Gate Medical Practice	1.1	10	18,478	1,847	Yes
6	Lionwood Medical Practice	1.2	3.5	12,312	3,517	Yes
7	Trinity & Bowthorpe Medical Practice	1.4	5.2	11,010	2,117	Yes
8	Oak Street Medical Practice	1.5	4	7,755	1,938	No

Source: NHS Service Search and NHS Digital

### Dental Surgeries

Within 1 mile of the site, there are 5 dentists. The extent to which they are accepting new patients varies across each practice. Table 5.3 below summarises this.

Table 5.3 Dentists within 1 mile of the site

Dentist	Distance (mile)	Accepting new NHS patients?
Andrew Brown Dental Practice	0.6	Yes - with referral
All Saints Green Dental Practice	0.9	No information available
Cathedral Street Dental Practice	1	No
Orford Hill Dental Surgery	1	No
Peacock & Shrestha Dental Practice	1	Yes - with referral

### Hospitals

Within 2.5 miles of the site, there are 3 hospitals, as listed in Table 5.4 below.

Table 5.4 Hospitals within 2 miles of the site

Hospital	Distance (miles)
Colman Hospital	2
Julian Hospital	2.3
Norwich Community Hospital	2.4

The nearest hospital with an accident and emergency department is Norfolk and Norwich University Hospital, 3.7 miles away.

### Pharmacies

Within 1 mile of the site, there are 7 pharmacies. They all offer electronic prescription services.

## Education

Whilst not a direct indicator of health, the HUDU Healthy Urban Planning Checklist refers to the importance of access to education for mental health in terms of self-esteem, job opportunities and earning capacity. The current education provision in the proposed development's local area is therefore considered here.

The Department of Education states that statutory walking distances are 2 miles for children under 8 years and 3 miles for children aged 8 and over and further elaborates that '*Best practice suggests that the maximum each way length of journey for a child of primary school age to be 45 minutes and for secondary school age 75 minutes, but these should be regarded as the maximum*<sup>18</sup>.' Therefore, in order to assess the current state of local education provision for the proposed development, this assessment has taken a conservative approach and considered an appropriate distance as being 2 miles for primary schools and 2 miles for secondary schools, measured from the centre of the proposed development.

Using the government's search tool for schools<sup>19</sup>, primary schools within a 2 mile radius of the proposed development are listed below. This search identified 7 primary schools. The surplus capacity of each school is also identified using 2020/2021 data from the Department for Education<sup>20</sup>.

Table 5.5 Table 5.4 Primary schools within a 2 mile radius

Primary school	Distance (miles)	Number on roll	School places	Net capacity	Surplus capacity (%)
Lakenham Primary School	0.7	610	660	50	7.5%
The Free School	1.1	166	168	2	1.2%
Edith Cavell Academy	1.1	199	210	11	5.2%
Charles Darwin Primary School	1.3	180	420	240	57.1%
Bignold Primary School and Nursery	1.5	414	420	6	1.4%
Tuckswood Academy and Nursery	1.6	234	350	116	33.1%
Lionwood Junior School	1.9	271	324	53	16.4%
<b>Total</b>		<b>2,074</b>	<b>2,552</b>	<b>478</b>	<b>18.7%</b>

Source: Department for Education public capacity 2020/2021

The table above demonstrates that there is currently the capacity for 478 primary school pupils across the 7 primary schools. The Government recommends that for surplus capacity, in mainly urban areas, a reasonable target is 5%, a figure that both enables accommodation of unanticipated in-migration and minimises the expenditure on running oversized premises. 5 of these primary schools meet this target and the average surplus capacity is 18.7%.

Using the government's search tool for schools, secondary schools within a 2 mile radius of the proposed development are listed below. This search identified 2 secondary schools. The surplus capacity of each school is also identified using data from the Education Funding Agency and the Department for Education.

Table 5.6 Table 5.5 Secondary schools within a 2 mile radius

Primary school	Distance (miles)	Number on roll	School places	Net capacity	Surplus capacity (%)
Notre Dame High School	1	1,370	1,378	8	0.6%
The Hewett Academy	1.3	618	1,483	865	58.3%
<b>Total</b>		<b>1,988</b>	<b>2,861</b>	<b>873</b>	<b>30.5%</b>

Source: Department for Education Public Capacity 2020/2021

There is currently the capacity for 873 children across these 2 secondary schools. 1 of these secondary schools meets the 5% surplus capacity target, however, the average surplus capacity is 30.5%.

## Open Space

The site is within walking proximity to several parks and open spaces. The nearest area of open space is Sunny Hill Open Space, located 0.32 miles southwest of the site.

The nearest equipped playground for toddlers and juniors is located 0.42 miles west of the site in Argyle Street Children's Playground. Netherwood Green Children's Playground is also nearby, 0.45 miles south of the site. Lakenham Recreation Ground, located 0.5 miles west of the site, offers free playspace for young people and bookable tennis and bowls facilities. Public toilets are also available in this park.

Jubilee Park is another nearby equipped playground, offering playspace for toddlers, juniors and young people. It is located 0.53 miles southwest of the site. In addition to playgrounds, there are basketball courts and football pitches.

Whitlingham Country Park is a large waterfront park with space for running, sailing and socialising, located 1.2 miles east of the centre of the site. Norfolk Snowsports Club is located in Whitlingham Country Park, 0.6 miles west of the site.

Other nearby sports facilities include the Riverside Leisure Centre is 0.4 miles northwest and has a 25m swimming pool, gym, fitness classes, sauna, steam room and a creche. Wensum Sports Centre, 0.8 miles northwest, with a multifunctional sports hall, a gym, and exercise class studios/rooms.

## Community and Leisure Facilities

There are several community facilities near the site. The nearest community centre is the Jubilee Community Centre, 0.6 miles west of the site.

Riverside Leisure Centre is 0.4 miles northwest and is the closest leisure centre to the site.

The nearest public library is Norfolk and Norwich Millennium Library, 1.4 miles northwest of the site.

The nearest allotments are Lakenham baths allotments, 0.5 miles south of the site.

## Footways and Cycleways

As identified above, there is a variety of social infrastructure within walking distance from the site. Within a 0.5-mile (800m) walk, there are primary and secondary schools, medical facilities, and public open spaces. 800m is identified as a comfortable walking distance by Sport England.

There are various cycle networks near the site. The closest is the Red Route that runs from Drayton to Whitlingham (NCN1) which passes right by the site. There is a Purple Route - Outer Circuit, accessible 0.17 miles from the site, that circles Norwich. There are three additional Neighbourhood Cycle Routes within 0.5 miles of the site.



## 6.0 POTENTIAL IMPACTS OF THE PROPOSED DEVELOPMENT

The potential health impacts have been assessed against the Healthy Urban Planning Checklist, considering impacts directly related to the particular proposals as well indirect influences on the wider community. This assessment is set out in the below paragraphs. The outcomes of this analysis have formed the evidential base for the second stage of the assessment framework which uses the Rapid Health Impact Assessment Tool. This second stage of the assessment can be seen in Appendix 1.

### 6.1 HEALTHY HOUSING

Access to suitable housing is exceedingly important for the health and wellbeing of a resident population. A range of tenures with a high level of design is needed to meet the varying needs of the population. Consideration should be given to orientation, energy efficiency, use of recycled and renewable resources, adaptability, and accessibility.

A Design Code has been created for Carrow Works and sets out standards for building design in terms of sustainability, built form, building frontages, character areas and details. It also gives guidance for the integration of community and commercial spaces.

#### Healthy Design

The proposed development includes up to 1,855 dwellings across the site. All residential units will meet or exceed internal space standards and the orientation of houses will also be chosen to maximise natural light. Residential houses will also include the provision of private gardens.

#### Accessible Housing

20% of residential units will be accessible and adaptable in accordance with M4(2) in accordance with Policy DM12 of the Norwich Local Plan.

#### Housing mix and Affordability

The provision of affordable housing can have a positive impact on the physical and mental health of those that are living in unsuitable accommodation, particularly low-income people including those with dependent children.

The proposed development will bring forward up to 1,856 residential dwellings. These will be a mix of sizes and could range from 1/ 2 bed flats to 5 bed houses. The Joint Core Strategy Policy 4 requires sites over 16 dwellings to provide 33% affordable housing, comprising of 85% social rented and 15% intermediate tenures. The exact affordable provision will be developed through consultation with Norwich City Council after the planning application.

#### Daylight, Sunlight and Overshadowing

The layout of residential units has considered natural light into dwellings. As such 0% of homes are single aspect north facing, with 58% being dual aspect. Within the houses there is a set back at first floor to allow daylight into garden spaces below and many of the typologies include private amenity spaces to give a variety of spaces for residents.

## 6.2 SAFETY

It is important to consider the proposed development's ability to create a safe environment in which residents and building users feel secure, to avoid accidents and promote mental wellbeing.

A number of measures will be incorporated into the design to minimise crime in accordance with Crime Prevention By Design principles which will help residents feel safe. These will include:

- **Natural Surveillance:** with streets and spaces overlooked and landscaping features used to create natural buffers between public and private. CCTV will also be used in areas where there is not full visibility
- **Natural Access Control:** Clear building entrances and no low balconies or climbable elements.
- **Territorial Reinforcement:** Visually permeable barriers between public and private and subtle changes in material and character to differentiate
- **Maintenance:** Management company to keep the area clean and welcoming, creating a sense of ownership with the aim of reducing anti-social behaviour

The site layout has been developed to create several blocks with wide streets in between. The wrapped frontages will allow overlooking into all public areas and CCTV will be a proactive measure to ensure sheltered places are safe. Wide open streets and routes lined with homes will have appropriate lighting.

## 6.3 ACTIVE TRAVEL

### Promoting Walking and Cycling

Policy 2 of the GNLP states that the proposal must provide safe access for all, manage travel demand, and promote public transport and active travel. Design layouts must also encourage walking and cycling, whilst integrating parking in a manner that does not dominate the streetscape.

There are several pedestrian and cycle access points across the site linking to existing street networks and ensuring the safest and shortest routes for residents. There are also a number of pedestrian only routes through the grounds of Carrow Abbey.

The design supports pedestrian focussed spaces for residents and commercial activity supporting cyclists as well as servicing and emergency vehicle access. Wayfinding measures will make the site legible to help people find their way around a place, including connected, direct, streets with different characters that reflect their role as a principal or secondary route

Large residential catchments in the Lakenham and Richmond Hill area are within a 15-minute walk of the site as is the Riverside retail park. Measures to increase permeability across the river and the rail line would significantly improve the pedestrian catchment to the north and east of the site.

Norwich station is slightly more than 15minutes' walk from the site, but well within the 2km walking distance. Importantly, the main city centre with its range of retail, leisure and employment facilities is around 2km walking distance from the site.

The National Cycle Network Route1 runs past the south and west of the site and straight through the centre of Norwich; this national cycle route intersects multiple other cycle routes such as the inner circuit and the West to East route to access the majority of the city. NCN1 is a long-distance cycle route which runs in sections from Dover to the Scottish highlands however, locally it provides

a direct and convenient route to Fakenham (north-west of Norwich) and Beccles (to the south-east).

The layout has been designed to be highly permeable for pedestrians and to provide safe routes for cyclists. The pedestrian/cycle routes radiate outwards from the site to link to existing infrastructure as well as proposed or potential routes linking to the City Centre.

## Connectivity

Under policy GNLP0360/3053/R10 in the GNLP the development at Carrow Works must 'Make the most of its riverside location, including the provision of a riverside walk along the northern and southern banks of the River Wensum, linking the sites and providing connections to the Football Club and the City Centre, as well as the establishment of a recreational route to Whitlingham County Park suitable for accommodating National Cycle Route 1 (NCR1).'

A new railway underpass link ensures safe and improved connections with Whitlingham Little Broad and the Country Park via the underpass under the railway to the Deal Ground site. This is in line with the East Norwich Strategic Regeneration Area SPD.

## Minimising Car Use

Parking on site is provided in line with NPFF ratios. The proposed parking provision for the flats at Carrow Works will be in the order of 0.20spaces per dwelling. For the houses at parking will be in the order of one space per dwelling. 734 spaces are provided across the site, with provision for both residential dwellings and commercial space. Within some housing typologies, there is private parking provided within a garage. For flats, the parking is located within central car park areas.

To minimise car journeys through the space there are two points of access and minimal highways, focusing on pedestrianised routes through the site. There is also a 20mph speed limit on all routes within the site. There is a circular bus route proposed around the site with 3 bus stops throughout the development.

The nearest car club vehicles are located adjacent to Carrow Road Stadium.

## 6.4 HEALTHY ENVIRONMENT

### Construction

Best practice environmental management measures will be used during construction to ensure that environmental pollution as a result of construction work is kept to a minimum. This includes dust, noise, vibration and odours. Construction activity results in higher levels of dust, noise, vibration and traffic.

A Construction Environmental Management Plan (CEMP) will be secured through condition and will ensure that construction practices minimise any potential negative impacts of the construction works including all best practice mitigation identified in the EIA including air quality, noise, vibration and contamination.

### Air Quality

The long-term impact of poor air quality has been linked to life-shortening lung and heart conditions, cancer and diabetes. Policy 2 in the Emerging Greater Norwich Local Plan requires

proposals to respond to the need to reduce the generation of road traffic and help reduce air and noise pollution.

A Greater Norwich Growth Area Air Quality Pledge has been made by four local authorities. Though this is not legally binding it acts as a goal to ensure air quality is improved through evaluating and responding to current conditions.

An Air Quality ES Chapter has been prepared as part of the EIA in accordance with IAQM and EPUK guidance. It considers the air quality impacts during the construction and operational phase of the proposed development.

- Limited releases of dust and particulate matter are likely to be generated from on-site activities. However, through good site practice and the implementation of suitable mitigation measures, the impact of dust and particulate matter releases may be effectively mitigated and the resultant impacts are considered to be negligible.
- Predicted concentrations of relevant pollutants (NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub>) concentrations are well below the relevant objectives within the Proposed Development and at nearby sensitive receptors. The predicted increase in NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> concentrations is of negligible significance at worst-case receptor locations along the local road network.
- Future occupants of the Proposed Development would not be exposed to pollutant concentrations above the relevant objective levels, therefore the impact of the Proposed Development with regards new exposure to air quality is considered to be negligible.

It is concluded that air quality does not pose a constraint to the Proposed Development, either during construction or once operational.

## Noise

By reducing the noise pollution in a local area, the quality of urban life can be improved.

A Noise and Vibration ES Chapter has been prepared as part of the EIA to assess the noise and vibration impacts of the proposed development during construction and operation. The assessment concluded the following:

- Construction noise and vibration effects are likely to be Minor (not significant) in the short term with the majority of activities being Negligible (not significant).
- Noise levels at the residential dwellings associated with the proposed development are likely to be sufficiently mitigated with the implementation of typical insulated double glazing and attenuated ventilation. The residual noise effect is considered to be Negligible (not significant) with the incorporation of these measures.
- The impact of the increase in road traffic associated with the proposed development has been calculated as Negligible (not significant).

## Open Space

The provision of a network of high quality multi-functional public open spaces will enhance mental and physical wellbeing. Within the GNLP Policy GNLP0360/3053/R10 the site is required to include protection and enhancement of the existing biodiversity of the site including green infrastructure assets, corridors, trees and open spaces. Development must also achieve high quality landscaping, planting and biodiversity enhancements, including enhancements to the River Wensum and River

Yare and the locally registered historic park and garden, along with appropriate improved public access.

The proposals include the creation variety of open and amenity space provisions. In total, there will be 4.7 ha of open space. Of this total, there will be 0.8 hectares of parks and gardens, 2.62 natural and semi-natural greenspace, 1.15 ha of amenity greenspace, 0.05 ha of provision for children and young people and 0.13 of green corridor

Policy DM8 of the Norwich Development Management Plan also requires informal, publicly accessible recreational open space. There are a number of open space character areas created within the proposal. These include the enhancement of the land surrounding Carrow Abbey, new green spaces and formal public space.

Within the land surrounding Carrow Abbey, there will be a focus on tree retention, looking to protect the intangible nature of the abbey grounds site as well as dramatically increasing green space and tree planting throughout, enhancing the biodiversity, establishing new habitats, whilst adding to Norwich's tree planting legacy. Within the abbey grounds, the scheme creates more usable open space by removing scrub and enhancing the setting of the existing trees. Where paths are created to improve public access, these would be implemented using no-dig construction methods.

Throughout the proposal, several green spaces are included, woven into a network of streets, will be available for residents to use. A central water feature also links to the River Yare and a number of new habitats are created in this wetland planting area. Streets are designed to incorporate rain gardens and swales to aid run off attenuation and dramatically increase the range of planting. Community gardens are also provided within the plaza area for residents to access as growing space and communal areas. The proposal also provides significant greening to a site that is currently hard surfacing and of an industrial nature.

Three new public spaces are proposed as part of the development. These are Colmans Wharf, a public square fronted with commercial use, Chimney park, which includes a water feature connecting to the river, and a new public square surrounding the retained Mustard Driers.

## Play Space

Policy DM8 of the Norwich Development Management Plan requires an on-site provision of younger children's play space which is at least 150 sq. metres in size with a minimum of four different pieces of equipment.

A variety of play spaces will be distributed across the site which incorporates a range of different play experiences. These play spaces will adhere to Norwich City Council guidelines as set out in the Norwich Development Management Policies Local Plan (Adopted December 2014), Norwich Local Plan (Adopted December 2014), the Greater Norwich Local Plan Regulation 19 Publication (Adopted 2022), the Open Space and Play Supplementary Planning Document (adopted October 2015) and to the recommendations of Sports England and Fields In Trust.

These will take the form of LEAP's, several LAP's and a variety of informal play spaces will be located within the various character areas on site. The informal play spaces will be located within amenity green space to offer doorstep play experiences. There will also be opportunities to include playful learning within community growing spaces.

Within the land at Carrow Abbey a site sensitive play trail will be created, threading through the existing tree structure.

## Biodiversity

Access to nature and biodiversity can contribute to health and wellbeing by providing a relaxing environment and connection with the natural world.

An Ecology and Biodiversity ES Chapter has been prepared as part of the EIA. This has been prepared based on a variety of baseline ecological surveys.

It concludes that there are a number of notable and protected species and habitats on site and several statutory and non-statutory designated sites within 6km. The chapter proposes mitigation, compensation and enhancement actions, including further surveys where appropriate to enable legislative and policy compliance, aiming to achieve net gains in biodiversity for the site.

The detailed design of the proposed development will be informed by several key principles to minimise adverse effects on habitats during the operational phase. An outline of proposed enhancement measures is set out below:

- Series of open space typologies that each create a unique set of habitats and spaces for increased biodiversity
- Native tree species planting throughout to create new habitats. These are also used as a design tool to highlight connection routes or act as a visual buffer between areas.
- Retention and enhancement of Abbey Gardens areas with no vehicle access and a network of paths
- Water feature and wetland planting

## Flood Risk

Flooding can result in risks to physical and mental health. The stress of being flooded and cleaning up can have a significant impact on mental health and wellbeing. Therefore, it is important to ensure that any risk of flooding to the proposed development is being sufficiently managed and mitigation measures will be implemented to reduce any impact on the health of future residents.

The Yare River runs along the Northern side of the site. The vast majority of the site is Flood Zone 1. There is a very small area to the northeast of the site, adjacent to the river which is Flood Zone 3.

Within the design, there are a number of measures to reduce surface water flooding on site, including the incorporation of SuDS, attenuation ponds/basins, storage tanks and rain gardens. The SuDS strategy will be designed to ensure that the surface water runoff rates would be reduced.

A flood risk assessment has been carried out and concludes the following:

- From reviewing the baseline conditions within and surrounding the Site, groundwater and foul drainage are considered to be the key receptors in terms of the Proposed Development. Surface water is considered to be medium sensitivity as the Site is located within the 'Wensum' catchment which has a 'Moderate' ecological status. Flood risk and drainage are considered to be low sensitivity receptors as the site is located largely in Flood Zone 1 and is not in a critical drainage area.

- The key effect during the construction phase is the potential for the remobilisation of contaminants at the Site. However, with suitable mitigation measures, the residual effect is considered to be Negligible.
- Water demand and foul demand are considered to be the key potential effects during the operational phase of the Proposed Development. However, with suitable mitigation measures put in place, the residual effects are considered to be Minor Adverse for water demand and foul demand.
- The Proposed Development will include Sustainable Drainage Systems (SuDS), as detailed within the Flood Risk Assessment and Drainage Strategy reports. The system seeks to reduce the rate of surface water runoff in accordance with local policy. This runoff rate would be lower than the current natural rate of surface water runoff during extreme events.

The overall environmental effect of the Proposed Development in relation to water resources and flood risk following mitigation measures is considered to be Negligible to Minor Adverse. All residual effects are Negligible with the exception of surface water drainage (Minor Beneficial) and water/foul demand (Minor Adverse).

## Overheating

Due to higher temperatures as a result of climate change, it is likely that the urban heat island effect will be intensified and result in discomfort and excess summer deaths amongst vulnerable people. Therefore, it is important to ensure that the proposed development has been designed to respond to these projected changes.

The Design Code outlines the following proposals to minimise overheating:

- Detailed consideration of glazing specification;
- The use of adjustable shading or specification of planted features which can allow low level sun to penetrate in winter but block high-level summer sun (e.g. deciduous trees);
- Incorporation of natural ventilation to help dwellings stay cool in the summer and enhance the internal environment (e.g. by facilitating cross ventilation of habitable rooms, or using stack effect of staircases through provision of openable vents or rooflights).
- Ratio of window to total wall area must be a maximum of 35%.
- A minimum 40% of the area of all podium gardens and key public and shared spaces must meet BRE guidelines on daylight and sunlight.

**\*\*TBC on receipt of Sustainability Report \*\***

## 6.5 VIBRANT NEIGHBOURHOODS

### Consultation

'The design process has engaged the community and built trust by reaching out to involve local people and stakeholders. This will continue into construction and habitation.'

The community consultation was carried out on 23rd and 24th June 2022. Details of this will be outlined within the community consultation report.

## Social Infrastructure

The Socio-economics ES Chapter has considered how the local area and existing social infrastructure will accommodate the new residents from the proposed development:

- The proposed development could bring an additional 1,291 library service users
- Youth centres would need to accommodate approximately 222 new participants
- An additional 134 residents are likely to need access to adult learning and skills services
- Additional community centre space may be required as part of the overall masterplan however there is considered to be sufficient gym, sports and recreation services within the local area.

The proposed development will therefore provide Section 106 (S106) contributions towards social infrastructure with a particular focus on youth services, healthcare and early years/ primary education.

## Social Interaction

Overall, a variety of measures will be embedded into the designs to promote social interaction and community cohesion including:

A variety of design measures to promote walking and cycling which will increase social interaction:

- The provision of a public plaza near the Gateway building which is likely to provide a variety of retail opportunities and meeting places;
- Creation of character areas across the site with a mix of uses encouraging social interaction through employment and retail opportunities, as well as play spaces and planting;
- Creating a network of multi-functional open spaces with play areas for all age groups and provision of seating;
- Community growing spaces to allow informal interactions;
- Formal and informal spaces within walking distance of all homes on site;
- The provision of active travel routes that promote cycling and walking, encouraging people to travel together to school, work, and leisure activities; and
- The provision of community gardens and the large Abbey Gardens with a network of footpaths and open green areas.

## Healthcare services

The Proposed Development is anticipated to bring forward a residential population of 4,452 persons. The baseline assessment identified 8 GP surgery within 1.5 miles of the centre of the residential aspect of the Application Site. The average ratio of patients per GP across these GP surgeries is 1,780 which is slightly below the best practice of 1,800 patients per GP. The Proposed Development will increase the GP-to-patient ratio to 1,979 patients per GP. Therefore, there is not sufficient capacity to provide for incoming residents.

The baseline assessment identified that there are over 319 care homes (CQC registered) within a 25-mile radius of Norwich, the majority of these are provided for older people followed by those with dementia and learning disabilities. In addition, the ageing population in Norwich City is likely



to result in additional future demand for Adult Social Care. A proportion of the 4,452 residents brought forward by the Proposed Development are likely to use Adult Social Care services.

The Socio-economics ES Chapter concludes that there would be a minor adverse impact on the local healthcare provision due to the new development however Section 106 primary healthcare contributions would make this a negligible impact.

## Education

Access to education facilities at all ages for mental health in terms of self-esteem, job opportunities and future earning capacity. There is no policy obligation for a school to be provided on-site however Policy 7 of the Greater Norwich Local Plan suggests a cohesive vision for redevelopment and co-ordinated delivery of new social (e.g. schools, community facilities and recreational spaces) and economic infrastructure (e.g. transport routes, bridges and utilities) and services, as informed by the detailed masterplan for the East Norwich Strategic Regeneration Area.

The Socio-economics ES Chapter has calculated the child yield of the proposed development based on the proposed proportion of flats and houses and assuming that all proposed homes in the outline element are houses as a worst case scenario.

A summary of the baseline education capacity is outlined below:

- The Proposed Development could generate a total pupil product of 954 children. Of these pupils, 486 will be aged 3-4 years (52%), 329 will be aged 5-11 years (34.7%) and 139 will be aged 12-18 years (12.4%).
- The baseline assessment identified capacity for an additional 478 pupils across the 7 primary schools within a 1.5-mile radius. These will have sufficient capacity for the 329 pupils brought forward by the proposal.
- The Proposed Development is anticipated to bring forward 139 pupils aged 12 to 18 years who will require secondary school places. The two secondary schools within 2 miles of the site, currently have capacity for 873 secondary school students with an average capacity of 58.8%. Therefore, there is sufficient capacity to accommodate the additional secondary school pupils.
- The Proposed Development is anticipated to bring forward a number of new pupils who will require SEN school provision. Given the existing provision and the finding in place for two new schools, the total number of these pupils is likely to be accommodated within the existing specialist provision.
- There is unlikely to be sufficient early years education capacity to accommodate the potential 486 additional 3–4-year-olds in the area resulting from the proposed development.

The cumulative impact on primary schools is anticipated to be Minor Adverse in the long-term.

The cumulative impact on secondary schools is anticipated to be permanent Moderate Beneficial in the long-term as it is likely to increase numbers within local secondary schools that have high capacity.

## Local employment and healthy workplaces

Unemployment generally leads to poverty, illness and a reduction in personal and social self-esteem. Access to employment and training opportunities, as well as job security, can greatly contribute to mental wellbeing.

According to the 2011 Census, within Lakenham Ward 69.6% of the population aged 16 to 74 are economically active. The wholesale and retail industry employs the most residents equating to 20% of residents. Within Norwich City, 68.3% are economically active and 31.7% of residents are economically inactive. The greatest proportion of these are retired, equating to 10.7%.

Employment will be generated through the construction of the proposed development. The Socio-economics ES Chapter has identified that the proposed development will provide 73 FTE jobs during construction and bring forward an additional 54- 675 FTE jobs during operation on-site.

The commercial areas will provide several job opportunities, assuming the provision of a mix of retail, café, food store, restaurants and offices within this area. Based on the indicative GIA of the commercial and light industrial areas it has been calculated that the proposed development would provide 54 to 675 FTE jobs. This will contribute towards Section 5 of the Norfolk Strategic Framework which aims to bring forward 88,000 new jobs by 2036.

The provision of employment during construction and operation is viewed to have a minor beneficial to high beneficial impact in the long-term.

### Access to healthy food

The proposed development should provide easy access to local food production in the form of community gardens and potential foraging routes. Private gardens will also be provided for residential houses. This is considered to be a positive health impact as it will offer spaces for residents to grow their own food as well as ensuring access to community local food growing is maintained and improved for existing residents.

No takeaway units are proposed as part of the proposed development so this will not lead to any negative health impacts.

## 7.0 CONCLUSIONS

The potential health impacts of the proposed development have been fully assessed against the NHS Healthy Urban Development Unit's 'HUDU Planning for Health - Healthy Urban Planning Checklist', which has enabled the completion of the 'HUDU Planning for Health - Rapid Health Impact Assessment Tool'. This involved assessing the proposals against 51 criteria, with the full assessment available in Appendix a.

Of the 51 criteria the proposed development has been assessed against, 42 have a positive impact on health, 5 a neutral impact and 4 an uncertain impact.

Recommended enhancements to improve health outcomes have also been provided in this report where appropriate. Overall, the proposed development will generally have a positive impact on the health of the future and local residents.

The report and associated appendix have demonstrated a clear review of the current baseline health conditions of the area and assessed the proposed development and its associated health impacts accordingly. The outcomes demonstrate that the proposed development has incorporated many measures into the design to ensure its impact on health is as positive as possible throughout both the construction and operational phases. This therefore meets all identified policy requirements for production of an HIA as well as ensuring healthy lifestyles and healthier neighbourhoods are promoted.

## APPENDIX A HUDU RAPID HIA MATRIX

## REFERENCES

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- <sup>15</sup> Indices of Deprivation (2019); Indices of Deprivation explorer map.
- <sup>16</sup> NHS, (2021); NHS Service Search. <https://www.nhs.uk/service-search/GP/LocationSearch/>
- <sup>17</sup> NHS, (2021); GP practice workforce data searchable by practice name or practice code. <https://digital.nhs.uk/data-and-information/data-tools-and-services/data-services/general-practice-data-hub/workforce>
- <sup>18</sup> Department for Education (2014) Home to school travel and transport guidance.
- <sup>19</sup> HM Government, (2021); Search for schools and colleges to compare. <https://www.compare-school-performance.service.gov.uk>
- <sup>20</sup> Department for Education, (2020); School capacity: academic year 2018 to 2019. <https://www.gov.uk/government/statistics/school-capacity-academic-year-2018-to-2019>