

# Lincoln Urban Green Grid Green Infrastructure Profile and Opportunity Plan

June 2021



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## 1. Introduction

- 1.1. The Central Lincolnshire Green Infrastructure Strategy 2011 identifies Urban Green Grids for Lincoln, Gainsborough and Sleaford as part of a Green Infrastructure Network for Central Lincolnshire. Urban Green Grids are priority areas with key opportunities for green infrastructure improvements and greening the built environment. They comprise of multifunctional networks of green (and blue) spaces (as well as features such as street trees and green roofs) and green links, providing urban communities with green spaces for recreation, access to nature, a sense of place, education opportunities and safe routes for walking and cycling. Such networks are key in helping these urban areas adapt to a changing climate and to nature recovery and resilience.
- 1.2. This Green Infrastructure Profile and Opportunity Plan for Lincoln is one of a suite of documents for the Central Lincolnshire Urban Green Grids. A Green Infrastructure Profile and Opportunity Plan for Sleaford has been prepared and the Gainsborough Green Infrastructure Strategy (July 2019) sets out the opportunities for the green infrastructure network within the Gainsborough Urban Green Grid.
- 1.3. The primary aim of these documents is to:
  - To identify green infrastructure assets within and adjacent to each urban green grid and establish a baseline for green infrastructure;
  - To outline green infrastructure issues/threats for each urban green grid;
  - To identify opportunities to enhance, link and extend the green infrastructure network within and adjacent to each urban green grid.

### Lincoln

- 1.4. Lincoln is a world class cathedral city and the county town of Lincolnshire. As the principal urban area in the heart of Central Lincolnshire it is the main focus for growth and regeneration, including housing, retail, leisure cultural, office and other employment development.
- 1.5. The population of Lincoln at the time of the 2011 Census was 93,541. This had grown to 99,000 by 2018.<sup>1</sup> The spatial strategy within the Central Lincolnshire Local Plan seeks to concentrate growth (around 18,656 (64%) of the total homes needed) on Lincoln (and Sleaford and Gainsborough) as the principal urban area. This growth will be delivered through a combined strategy of urban regeneration, sustainable urban extensions to Lincoln, and growth at settlements which serve, and are serviced by, Lincoln.

## 2. Lincoln's Green Infrastructure Baseline

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<sup>1</sup> [www.ons.gov.uk](http://www.ons.gov.uk)

## Landscape and Townscape Character

- 2.1. Lincoln sits within three National Landscape Character Areas: Area 45 Northern Lincolnshire Edge with Coversands, Area 47 Southern Lincolnshire Edge and Area 48 Trent and Belvoir Vales (see **Map 6**).
- 2.2. Lincoln's special character arises in large part from its unique setting, with important views in and out of the City, principally to and from the Lincoln Ridge, which supports spectacular views of the cathedral, castle and uphill Lincoln
- 2.3. Lincoln Cathedral is one of the most important medieval buildings in Europe and its prominent, visually dominating position on the edge of the Witham Gap along the Lincoln Cliff makes it one of the country's finest sights. Lincoln's natural and historic environment and the relationship between the City and surrounding villages is a key element to the visitor economy and the Cathedral towering over the city is an important symbol for the area.
- 2.4. Green Wedges are one part of a wider network of multi-functional green infrastructure which serve the Lincoln area and a key landscape feature. Substantial linear open spaces are protected, safeguarding views of the Lincoln Edge and the historic City, providing land for formal and casual recreation as well as maintaining linkages between sites of known nature conservation interest.
- 2.5. The Brayford Pool and the waterways around Lincoln have been an important feature of the City landscape and townscape for centuries. In recent years the Brayford Pool has grown in importance as the focus for boating activities, with direct waterway connections to the River Trent to the west and to the sea at Boston. The Brayford Pool and the banks of Lincoln's waterways have also recently provided the focus for cultural, leisure and educational development.
- 2.6. Lincoln has a rich heritage which is reflected in the number and range of designated heritage assets in the city, as shown on **Map 8**. There are currently 11 Conservation Areas covering 226.91 ha, 26 Scheduled Monuments, 3 Historic Park and Gardens and 417 Listed Buildings.

## Biodiversity

- 2.7. **Map 3** shows the designated biodiversity resource in Lincoln and **Map 4** shows the priority habitat types.

## Swanholme Lakes SSSI

- 2.8. A Local Nature Reserve (LNR) and Site of Special Scientific Interest (SSSI), Swanholme Lakes is accessed through Hartsholme Country Park. It was formed from a series of flooded sand and gravel pits. The open water supports several uncommon species of submerged plants and is surrounded by a species rich mosaic of habitats. 24 species of butterfly have been recorded.
- 2.9. According to Natural England monitoring data<sup>2</sup>, 20.61% of the site is in an unfavourable –recovering condition (features of the site are not yet fully conserved but all the necessary management mechanisms are in place) and 79.39% is in

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<sup>2</sup>[https://designatedsites.naturalengland.org.uk/ReportConditionSummary.aspx?SiteCode=S1002272&ReportTitle=Swanholme Lakes SSSI](https://designatedsites.naturalengland.org.uk/ReportConditionSummary.aspx?SiteCode=S1002272&ReportTitle=Swanholme%20Lakes%20SSSI)

unfavourable – no change (features not being conserved and will not reach favourable condition unless there are changes to the site management or external pressures).

#### *Greetwell Hollow Quarry SSSI*

2.10. Designated for its geological importance, Greetwell Quarry is one of the most historically significant exposures in the Lincolnshire Limestone Formation. It has provided the bulk of the very rare ammonites from the Lincolnshire Limestone.

2.11. According to Natural England monitoring data<sup>3</sup>, the site is in 100% favourable condition, i.e. the features of the site are being adequately conserved.

#### *Local Nature Reserves*

2.12. There are 2 LNRs in Lincoln: Swanholme Lakes and Cross O'Cliff Orchard. Cross O'Cliff Orchard is a small site containing many rare Lincolnshire orchard varieties.

#### *Local Wildlife Sites*

2.13. Lincoln has 48 designated Local Wildlife Sites (LWSs) and 2 Local Geological Sites. Key publicly accessible sites include the 3 areas of common land: West Common, South Common and Cow Paddle, Hartsholme Country Park, Greetwell Hollow Quarry, Birchwood Nature Park and the River Witham corridor.

#### *Priority Habitats*

2.14. The main priority habitats types to be found within Lincoln are: good quality semi-improved grassland (including the South Common), wood-pasture and parkland (which includes Boultham Park, Hartsholme Park and the Arboretum), open mosaic habitats (such as on former landfill sites and disused mineral workings) and floodplain grazing marsh (either side of the River Witham in the east of the city). There are also small pockets of reedbeds and lowland heathland (see **Map 4** for locations).

#### *Biodiversity Opportunity Mapping*

2.15. The Central Lincolnshire Biodiversity Opportunity Mapping (BOM) Study highlights both the existing ecological network and where the best opportunities lie for improvement in regards to the extent of habitat in the network (see **Map 5**). Network improvement areas for Lincoln have been identified for all but the north and north eastern parts of the city (where there is limited existing natural and semi-natural greenspace).

### *Water Environment*

2.16. The main water assets within Lincoln are the River Witham, Fosdyke Navigation, Boultham Mere and Swanholme Lakes. There are also a number of drainage channels that cross the city, some of which are designated Local Wildlife Sites.

2.17. The River Witham (36.5 miles in length) and its tributaries provide an important land drainage and flood defence function whilst also being valued for their landscape and wildlife and recreation opportunities. Lincoln Canoe Club is based on the Brayford and Lincoln and District Angling Association operate along several stretches of water,

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<sup>3</sup>[https://designatedsites.naturalengland.org.uk/ReportConditionSummary.aspx?SiteCode=S1003018&ReportTitle=Greetwell Hollow Quarry SSSI](https://designatedsites.naturalengland.org.uk/ReportConditionSummary.aspx?SiteCode=S1003018&ReportTitle=Greetwell%20Hollow%20Quarry%20SSSI)

including the river and the Fossdyke Navigation. The river flows into the Brayford Pool from the south and exits through the city centre to the east.

- 2.18. Dating back to Roman times, the Fossdyke Navigation stretches 11.3 miles between Lincoln and Torksey, where it links to the River Trent. It is possible to walk or cycle between the Brayford Pool in the centre of Lincoln and the village of Saxilby to the west.
- 2.19. **Map 8** shows the Flood Zones within the Lincoln area. There are large areas of flood risk (Flood Risk Zones 2 and 3) from river flooding.
- 2.20. The Environment Agency's (EA) data catchment explorer provides data on the water environment. The River Witham falls within the Witham Catchment Management Area. It is classified as having 'moderate' water quality.

## Open Space Provision

### *Public, Outdoor Space for Recreation*

2.21. **Map 10** highlights the different types of open space in Lincoln. Key publicly accessible open space assets include:

- Lincoln has 3 award winning Green Flag Parks. Hartsholme Country Park is situated in the south-west of Lincoln, approximately 3 miles from the city centre. The park comprises Victorian landscaped gardens, a large reservoir, woodlands, grasslands, children's play area, visitor centre, café and toilets. Boultham Park is a recently restored Registered Historic Park and Garden, with a number of formal and informal recreation opportunities, including children's play area, bowling, crazy golf and boating lake. The Arboretum is a Registered Historic Park and Garden in the heart of the City. The park includes community access centre and visitor tea rooms, Victorian bandstand, gardens, lakes and bridges, and a children's play area;
- There are large areas of common land within the city, which are accessible to all members of the public: West Common, South Common and Cow Paddle. The West Common is the largest at around 100 ha. It is a designated LWS, consisting mainly of semi-improved grassland. The site supports a number of sports facilities including football, tennis, cricket, bowls and a golf course. The South Common is approximately 80ha and is also a LWS. It is used for informal recreation, such as walking and running, and hosts fairs and the circus. The Cow Paddle is the smallest area of common land at around 16ha. It is also a LWS and supports a number of football pitches and changing facilities;
- Birchwood Nature Park a small park of around 6 ha located to the south west of Lincoln and owned by the City of Lincoln Council. The park contains two summer meadows and a spring (wildflower) meadow, an area of rough grassland, a small pond area, and a variety of wooden sculptures among its winding footpaths.

2.22. Key private Open Space Assets include (used by local clubs or with pay and play facilities):

- Ruston Sports and Social Club is a large sports facility on the southern edge of the city. It is home to Ruston Football Academy, as well as providing opportunities for tennis and bowls. A membership fee must be paid for the use of the facilities;
- Lindum Sports Association is a members club offering a wide range of sporting and other facilities. Cricket and hockey are the main outdoor sports;
- Carholme Golf Course.

2.23. **Table 2.1** below shows the provision of publicly accessible open space in Lincoln by number of sites and total site area.<sup>4</sup>

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<sup>4</sup> Note this is a snapshot in time. The provision of open space will be reviewed and published on the Central Lincolnshire website every two years, using monitoring data on the creation of new open space/open space losses

2.24. **Table 2.2** shows, by type of open space, performance against local standards<sup>5</sup>, and national benchmark standards<sup>6</sup>. The results show that total amount of allotments, natural and semi-natural greenspace and parks and gardens is above both the local and national standards. Amenity greenspace, outdoor sports facilities and provision for children and young people fall below the recommended standards.

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<sup>5</sup> The local standards are set out in the Central Lincolnshire Local Plan as follows: 0.31ha allotments, 0.66ha amenity space, 0.12ha provision for children and young people, 0.38ha Local and Neighbourhood Parks and Gardens, 1.09ha outdoor sports facilities, 1ha natural and semi-natural greenspace

<sup>6</sup> Fields in Trust set the following benchmark standards: 0.60 ha for amenity space, 1.80 ha for natural and semi-natural greenspace, 1.60 ha for outdoor sports, 0.80 ha for parks and gardens, and 0.25 ha for provision for children and young people. There is no recommended standard for allotments, therefore 0.31ha has been used as the average for Central Lincolnshire.



**Table 2.1: Publicly accessible open space provision in Lincoln**

Open Space Type	Allotments		Amenity Space (above 0.2ha)		Natural and Semi-Natural Greenspace		Outdoor Sports		Parks and Gardens		Provision for Children and Young People	
Ward	Sites	Area (ha)	Sites	Area (ha)	Sites	Area (ha)	Sites	Area (ha)	Sites	Area (ha)	Sites	Area (ha)
Abbey	1	1.97	5	3.7	7	80.2	0	0	3	7.59	5	0.52
Birchwood	0	0	6	8.9	6	59.01	0	0	1	6.19	3	0.19
Boultham	4	12.41	3	0.74	6	41.77	5	7.43	1	18.66	4	0.51
Witham	3	4.64	1	0.83	5	29.57	0	0	0	0	3	1.97
Carholme	2	9.25	5	3.26	6	85.64	5	2.79	5	6.33	2	0.48
Castle	3	8.18	3	1.92	0	0	3	12.03	5	5.6	3	1.46
Glebe	0	0	5	2.63	0	0	2	9.58	0	0	1	0.06
Hartsholme	0	0	2	2.6	11	74.45	1	2.56	1	46.34	3	0.2
Minster	0	0	6	2.82	0	0	1	3.74	0	0	1	0.18
Moorland	2	4.04	5	10.06	6	18.69	1	1.94	0	0	5	0.62
Park	3	1.22	1	0.92	9	97.79	3	3.03	0	0	2	1.17
City Total	18	41.71	42	38.38	56	487.12	21	43.1	16	90.71	32	7.36

Open Space Type	Civic Space		Churchyards and Cemeteries		Green Corridors	
Ward	<i>Sites</i>	<i>Area (ha)</i>	<i>Sites</i>	<i>Area (ha)</i>	<i>Sites</i>	<i>Area (ha)</i>
Abbey	7	1.13	2	0.06	3	48.29
Birchwood	0	0	0	0	0	0
Boultham	0	0	1	0.52	0	0
Witham	0	0	0	0	1	12.97
Carholme	9	1.33	1	3.99	3	29.36
Castle	8	1.22	1	0.16	0	0
Glebe	0	0	1	0.11	0	0
Hartsholme	0	0	0	0	0	0
Minster	1	0.15	3	6.62	0	0
Moorland	0	0	0	0	0	0
Park	0	0	7	17.28	0	0
City Total	25	3.83	16	28.74	7	90.62

**Table 2.2: Assessment of quantity of open space in Lincoln against local and national standards**

Open Space Type	Local Plan Standards		National FiT Standards		Comments
	Provision per 1,000 population (2011)(ha)	Surplus/Shortfall Against Requirement (ha)	Provision per 1,000 population (2011)(ha)	Surplus/Shortfall Against Requirement (ha)	
Allotments	0.45	+0.14	0.45	+0.14	A new allotment site was recently opened in the south west of the city (Melbourne Road) providing 28 plots in an area where a deficiency in provision had been identified.
Amenity Space (above 0.2 ha)	0.41	-0.25	0.41	-0.19	
Natural and Semi-Natural Greenspace	5.21	+4.21	5.21	+3.41	
Outdoor Sports Facilities	0.46	-0.63	0.46	-1.14	<p>Pitches are available for members of the public to book at private outdoor sports facilities such as Ruston Sports and Social Club.</p> <p>There is a total area of 51.11 ha of private outdoor sports space and 49.87 ha of education outdoor sports space in Lincoln.</p> <p>The <b>Playing Pitch Strategy Update 2021</b> will review the need for Playing Pitches across Central Lincolnshire.</p>
Parks and Gardens	0.97	+0.59	0.97	+0.17	
Provision for Children and Young People	0.08	-0.04	0.08	-0.17	Amenity Space, Parks and Gardens and Natural and Semi-Natural Greenspace can play a valuable role in complementing formal, equipped play space provision found within these typologies.

## Access

- 2.25. Lincoln is generally well connected within the city and to the wider countryside, with good Public Rights of Way provision and cycle routes. The Viking Way long distance footpath enters the city from the east along the River Witham and exits the City to the south along the South Common and towards Bracebridge Heath.
- 2.26. The Spires and Steeples long distance footpath starts from Lincoln Cathedral and ends in Sleaford. It is 26 miles in length.
- 2.27. National Cycle Route 1 runs through the city from the north and out via the River Witham as part of the Water Rail Trail. Route 64 starts at the Brayford Pool and runs out of the city to the west along the Fosdyke Navigation;

## Health and Inequality

- 2.28. Life expectancy for both men and women living in the city is lower than the England average. Lincoln has a similar percentage of physically active adults to the regional and England average. The number of adults classed as overweight or obese is better than the regional average and similar to the national average. The prevalence of obesity in children is not significantly different to the regional average but is above the England average.
- 2.29. There are a number of areas in Lincoln that are in the top 20% most deprived areas in the country for multiple deprivation (**Map 12**). Life expectancy is 12.0 years lower for men and 8.7 years lower for women in the most deprived areas of Lincoln than in the least deprived areas<sup>7</sup>. Some of these areas are also deficient in publicly accessible open space and green infrastructure.
- 2.30. There is 1 Air Quality Management Area in Lincoln (see **Map 13** for location). The area generally follows the major road network in the City Centre and arterial routes and has been designated primarily due to road traffic emissions.

## 3. Green Infrastructure Issues/Threats

- 3.1. Existing provision of amenity greenspace, outdoor sports facilities and provision for children and young people is below local and national recommended quantity standards. Population growth associated with new housing will lead to increased demands on existing green infrastructure.
- 3.2. Large parts of the city fall within flood risk zones 2 and 3 and there are also areas at risk of surface water flooding. With climate change expected to cause wetter winters as well as more extreme weather events, measures to intercept and store water will be important considerations.
- 3.3. Lincoln is a green city, rich in wildlife and green infrastructure. However, biodiversity is in decline and faces adverse impacts from a changing climate. Key issues are therefore the protection of core biodiversity areas (existing protected areas within the ecological network- high quality), increasing the resilience and connectivity of habitats to respond and adapt to climate change and delivering measurable net gains in biodiversity, providing additional habitats and connections.

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<sup>7</sup> Public Health England (2019) Local Authority Health Profile - Lincoln

- 3.4. There are parts of Lincoln that are in the top 10% most deprived in the country and which therefore experience health inequalities. Such areas also lack access to green infrastructure. Research has shown that people who live in neighbourhoods with greater amounts of green infrastructure tend to be happier, healthier and live longer lives than those who live in less green places.<sup>8</sup> The coronavirus pandemic has exposed inequalities in access to green space between urban and rural areas. Natural England research has found that socio-economic status is related to access to natural spaces – you are less likely to have visited a natural space if you are living in an area of high deprivation, have a low income, have a low level of education, or are not working.<sup>9</sup>
- 3.5. The city centre suffers from poor air quality. It is anticipated the Lincoln Eastern Bypass will help to improve air quality by diverting traffic away from the city centre and reducing congestion. However, an Air Quality Management Areas remains in place, which follows the major road network in the city centre and arterial routes, and is primarily due to road traffic emissions. Air pollution from road traffic sources can adversely affect human health, contributing to respiratory issues and early mortality.
- 3.6. Lincoln has a significant concentration of heritage assets. Assets such as the Cathedral and Castle are an international tourist draw attracting thousands of visitors a year. A key issue is therefore to ensure the setting of heritage assets is protected and enhanced. Green spaces are limited within the city centre, however those that are present are associated with the key heritage assets, most notably the Cathedral, the Castle and Temple Gardens. Lincoln's Public Realm Strategy notes green spaces elsewhere are limited and poorly connected, and the historic character of the city is not benefiting from street trees due to its narrow streets and tight spaces.<sup>10</sup>
- 3.7. Lincoln has a strong landscape and townscape character. It's topography is hugely important, both historically and in the present, in providing a strong and distinctive landscape setting and providing important views. As the principal focus of growth within Central Lincolnshire, development, if inappropriately designed, has the potential to erode the character of the landscape and townscape and detract from important views.
- 3.8. There is pressure for future development within the boundaries of the Green Wedges as the City continues to grow. However these local designations function as wildlife corridors and, where publicly accessible, important areas for both informal and formal recreation.
- 3.9. Lincoln is well served with cycle links leading into the city. There are several cycle parking locations and opportunities to rent bikes. However, the cycle network is not comprehensive and is disjointed within the city centre. Existing local cycle paths do not always link well with the national cycle trails.<sup>11</sup> The A46 acts as a barrier to pedestrians and cyclists accessing rural areas and villages beyond the city to the north. There is a need to provide healthy, safe travel routes for residents and visitors that discourage

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<sup>8</sup> Public Health England (2020) Improving access to greenspace: A new review for 2020

<sup>9</sup> Natural England's The People and Nature Survey

<sup>10</sup> City of Lincoln Council (2017) Lincoln's Public Realm Strategy

<sup>11</sup> City of Lincoln Council (2017) Lincoln's Public Realm Strategy

the use of the private car and promote walking and cycling opportunities, both within the city and connecting to the wider Lincoln urban area.

#### 4. Existing Strategic Green Infrastructure Projects

- 4.1. Witham Valley Country Park: a strategic green infrastructure project which aims to deliver a sub-regional country park, and improve connections between the parks and open spaces within Lincoln and the countryside to the south west of the City. The country park is not a distinct site – it is a connected network of managed outdoor space covers around 40 square miles of green space. A partnership between North Kesteven District Council, City of Lincoln Council, West Lindsey District Council, Lincolnshire County Council, Natural England, the Environment Agency and the Lincolnshire wildlife Trust was established to oversee the project.
- 4.2. Life on the Verge (Completed): this project focused on roadside verges and sought to identify, conserve, enhance and extend the network of limestone grassland in Lincolnshire. A total road length of over 3,900km (2,400 miles) was surveyed which led to the designation of 159 new Local Wildlife Sites on verges along more than 250km of road which constitute nearly 100ha of wildflower-rich habitat.
- 4.3. Access LN6 was a £6.5million three year programme which aimed to improve sustainable transport options in the LN6 area of Lincoln and North Hykeham. The scheme was extended and rebranded to become the Access Lincoln project, funded by the Department of Transport until 2021.
- 4.4. Boultham Park was restored in 2017-18, grant aided by the Heritage Lottery Fund and Big Lottery Fund Parks for People initiative by Linkage Community Trust and City of Lincoln Council. Boultham Park play area has recently received £80,000 of improvements. The play area includes a climbing boulder, fly mobile, play trails, climbing platform, a nest swing and junior and toddler swings. Work has started on site to restore the boating lake, with a focus on biodiversity enhancements.
- 4.5. £64,000 worth of new equipment was recently installed at King George's Field in St Giles, including a traditional slide, swings and climbing frame for toddlers. A spider's web and sports wall, which includes a basketball ring, were installed to attract both young children and teenagers.
- 4.6. £59,000 transformed Sudbrooke Drive play area to include a sports wall (a permanent robust goal), two sets of swings, two climbing frames, a roundabout and a seesaw.
- 4.7. In April 2017, a place shaping framework was prepared for the Sincil Bank area of the city by consultants Open Plan. The report identified that the area was dominated by concrete and tarmac and lacked green infrastructure. It recommended the reconfiguring of "the whole length of Sincil Bank (the street) as a "green" route, primarily for cyclists and pedestrians, accompanied by the planting of street trees and other vegetation to create a softer, more relaxing environment".

#### 5. Local Plan Opportunities





- The Central Lincolnshire Local Plan allocates sites for residential development. These will bring opportunities to deliver new green spaces and link to the existing network (sites

with planning permission, under construction or completed are not listed with the exception of SUEs):




- COL/ABB/001 North East Quadrant
- COL/BOU/001 Western Growth Corridor
- COL/CAS/002 Land at Yarborough Leisure Centre
- COL/MIN/001 Romangate 2, Land off Flavian Road
- COL/MIN/005 Land at Cathedral Quarry, Riseholme Road
- COL/MIN/006 Land at Nettleham Road (Junction with Searby Road)
- COL/MOOR/001 Land North of Hainton Road
- NK/NHYK/001 South West Quadrant
- NK/CAN/001 South East Quadrant

## 6. Green Infrastructure Network Opportunities

	<p><i>Witham Valley Sub-Regional Country Park</i></p> <p>Continue to support the Witham Valley Country Park Project<sup>12</sup> as a key strategic green infrastructure project in the Lincoln urban area and beyond.</p> <p>Improve and increase connections between communities within the urban area and the Park, as well as improve and increase connections between greenspaces within the Park itself.</p> <p>Provide high quality signage and interpretation boards to promote understanding of the cultural and natural environment throughout the Park.</p>
	<p><i>Sustainable Urban Extensions</i></p> <p>The Central Lincolnshire Local Plan allocates four Sustainable Urban Extensions (SUEs) to Lincoln, which will offer significant opportunities to enhance and expand the green infrastructure network within and adjacent to Lincoln urban area. The scale of these developments will increase user demand on the network and therefore development will be expected to: protect the existing green network, integrate green infrastructure into the design process, create new green spaces as part of the development, and link to the existing network.</p> <p>Development should seek to incorporate SuDs, green roofs and rain gardens into their designs to intercept and store water. This is especially important in areas at risk of flooding.</p> <p>New development should provide new and/or enhanced areas of habitat, habitat connections and accessible natural greenspace to deliver a biodiversity net gain.</p> <p>Ensure new development takes account of landscape/townscape character and incorporates good design principles. Ensure that proposed developments and associated green infrastructure reflects the key characteristics and special features of the existing landscape/townscape.</p>

<sup>12</sup> See <https://www.withamvalleypark.co.uk> for a map of the area covered by the Country Park.



	<p>Enhance existing and create new gateways to the countryside and to the existing adjoining urban area.</p> <p>Provide new and/or enhance access to existing areas of public open space, taking into account the deficiencies identified in the Central Lincolnshire Open Space Audit Update 2021.</p>
	<p><i>City Centre</i></p> <p>Explore opportunities to increase street tree planting using the ‘right tree, right place’ approach.<sup>13</sup></p> <p>Encourage green/living roofs and walls into scheme design where space is limited.</p> <p>Target suitable green infrastructure improvements in the Air Quality Management Area to reduce the effects of air pollution along the main roads into the city centre.</p> <p>Every opportunity should be taken to retro-fit green infrastructure into existing development and to enhance existing public spaces.</p>
	<p><i>Green Wedges</i></p> <p>Seek opportunities to enhance access to, and use of, the existing Green Wedges for informal recreation for the benefit of residents and visitors, whilst ensuring the character of the Green Wedges is maintained.</p> <p>Seek opportunities to enhance and extend habitats within the existing Green Wedges to strengthen their role as wildlife corridors. The BOM identifies opportunities in the following Green Wedges:</p> <ul style="list-style-type: none"> <li>• Western Flank (West Common/Hartsholme)</li> <li>• Birchwood to Skellingthorpe</li> <li>• Witham Valley</li> <li>• Canwick to Washingborough</li> </ul>
	<p><i>Areas in Multiple Deprivation</i></p> <p>Target retro-fitting of green infrastructure, new and improved green infrastructure provision, and improved accessibility, towards areas of the city in the top 10% for multiple deprivation.</p>

<sup>13</sup> [Urban Tree Manual - Forest Research](#)



### *City Wide Opportunities*

- Identify gaps in existing PRoW provision and help deliver an enhanced network, providing routes to and between key destinations, together with circular routes close to the urban area.
- Increase the quantity and quality of local green space to address existing areas of deficit and mitigate increasing pressure where population growth is concentrated. Open spaces should be designed to be multifunctional and flexible, allowing for adaptation to allow for a range of uses by people of all ages.
- Protect and enhance green infrastructure features which are key to the historic and landscape character of the city. Promote high quality landscaping, tree planting and green roofs as part of new development.
- Protect communities at greatest risk of flooding. Manage and reduce surface water run-off through the use of SuDs as part of development proposals.
- Consider areas of land owned and managed by the Council that could be improved for biodiversity through cutting regimes, tree planting etc.
- Explore opportunities to increase street tree planting using the 'right tree, right place' approach.



There are opportunities to extend and enhance 'local green access links' within the city, as well as create new links, to improve connectivity within the city and to connect the Lincoln Urban Green Grid to the Strategic Green Access Links (set out in the Central Lincolnshire Green Infrastructure Strategy), greenspaces and habitats in the countryside around the city.

Opportunities should be taken to improve connectivity of communities and green spaces within Lincoln to the following strategic areas of green infrastructure:

- a. Witham Valley Country Park
- b. The River Witham and Fosdyke Navigation
- c. Lincoln Edge/Escarpment North
- d. Lincoln Edge/Escarpment South
- e. Lincoln Commons
- f. Greetwell Hollow and countryside to the east



The Central Lincolnshire BOM identifies the existing ecological network and potential improvement areas. Opportunities are identified surrounding most of the city, with the exception of the north/north east. Opportunities for management are focused along the River Witham in the east and south, and on existing open spaces such as Lincoln's Commons, Hartsholme Country Park and Greetwell Hollow. Opportunities for creation and joining up the network are primarily focused to the south, east and north east of the city.

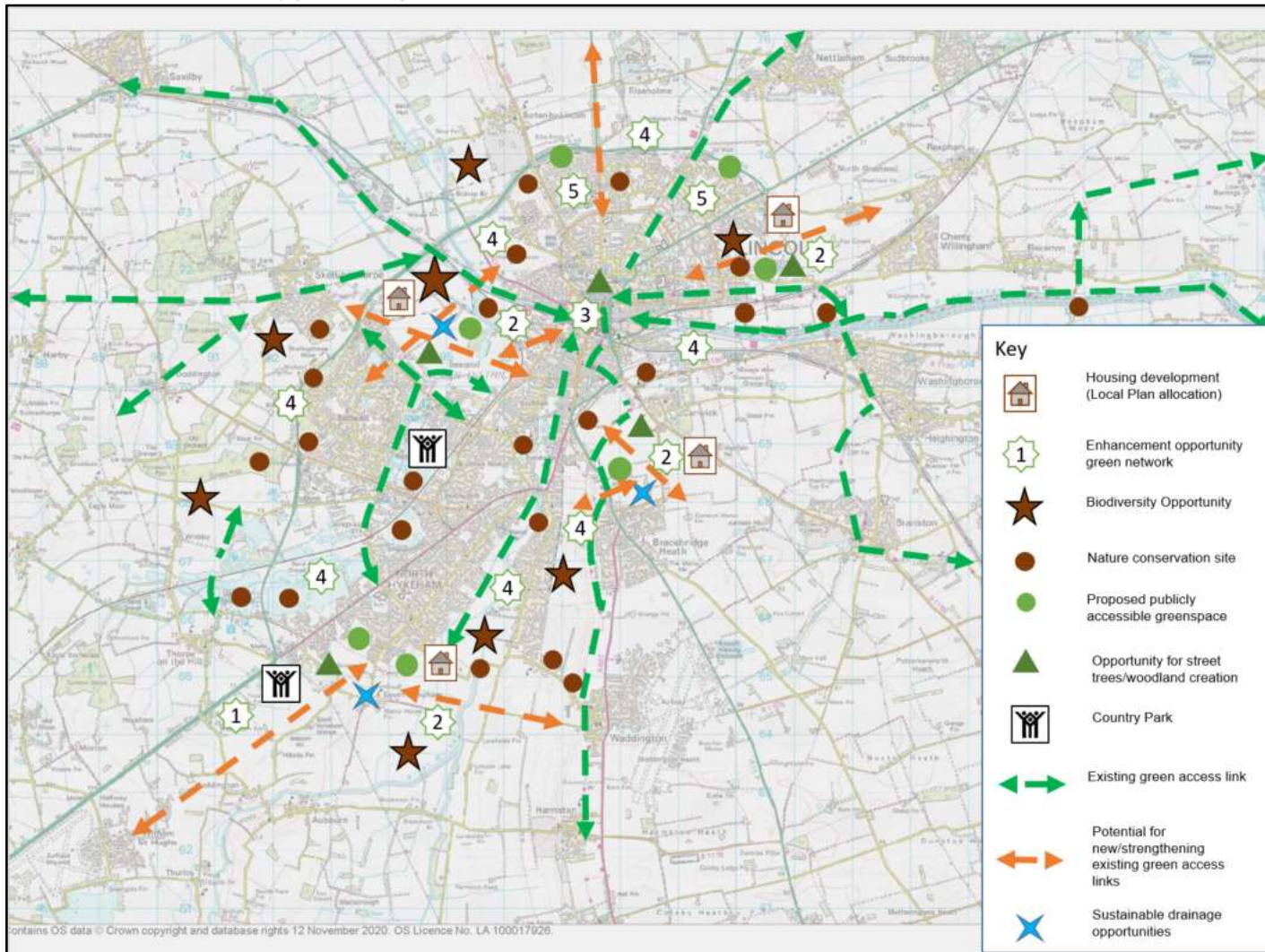
Within the existing ecological network, protect designated sites from adverse effects through planning policy and decisions. Encourage improvements to the condition of such sites through better habitat management.

On land immediately around the network identified as an opportunity for management or opportunity for creation, buffer existing wildlife sites, create new areas of habitat and join up existing sites and habitats through habitat creation.

## 7. Key Evidence/Policy Links

- City of Lincoln Transport Strategy (2014)
- City of Lincoln Public Realm Strategy (2017)
- Lincoln Townscape Assessment (2011)
- City of Lincoln Council Climate and Environment Emergency Declaration (July, 2019)
- Central Lincolnshire Local Plan (2017)
- Central Lincolnshire Green Infrastructure Study (2011)
- Central Lincolnshire Green Infrastructure Mapping (2019)
- Central Lincolnshire Biodiversity Opportunity Mapping (BOM) (2019)
- Central Lincolnshire Open Space Audit Update (2021)
- The Nature Strategy for Greater Lincolnshire (GLNP 2011, revised 2015)
- Central Lincolnshire Green Wedge and Settlement Breaks Review (2016)

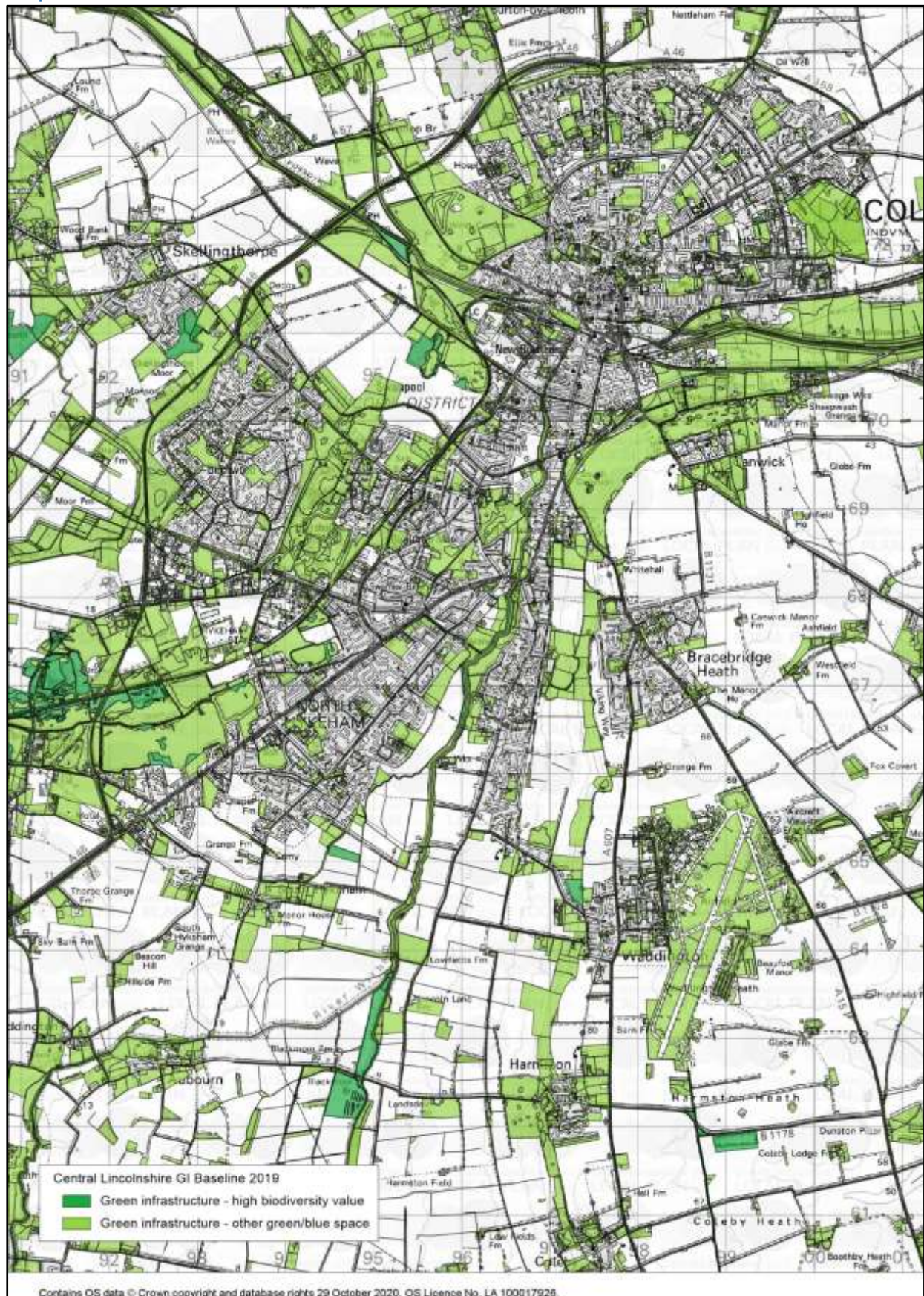
## 8. Green Infrastructure Network opportunity Plan for Lincoln Urban Green Grid





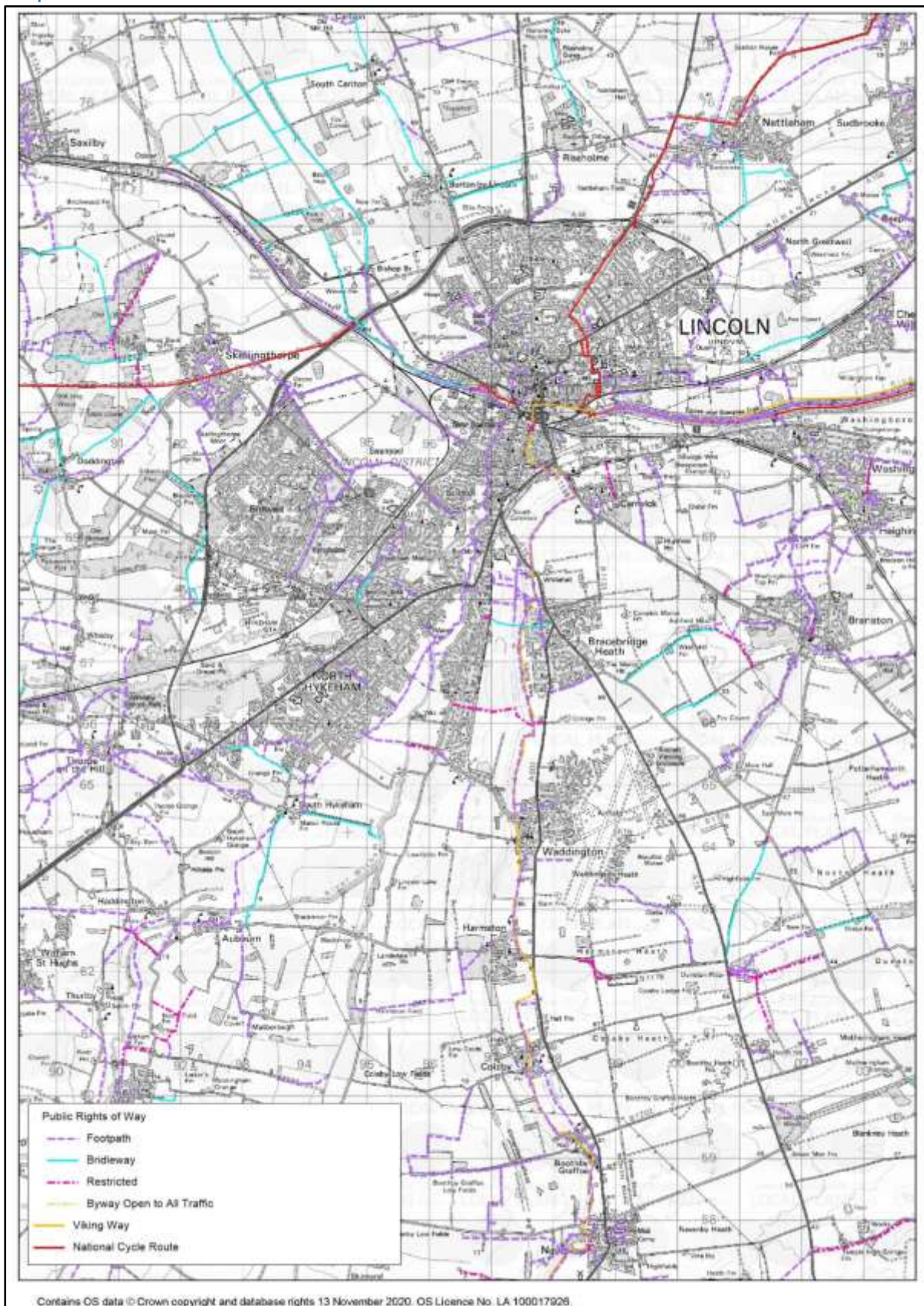
## Appendices

### Map 1: Green Infrastructure Baseline



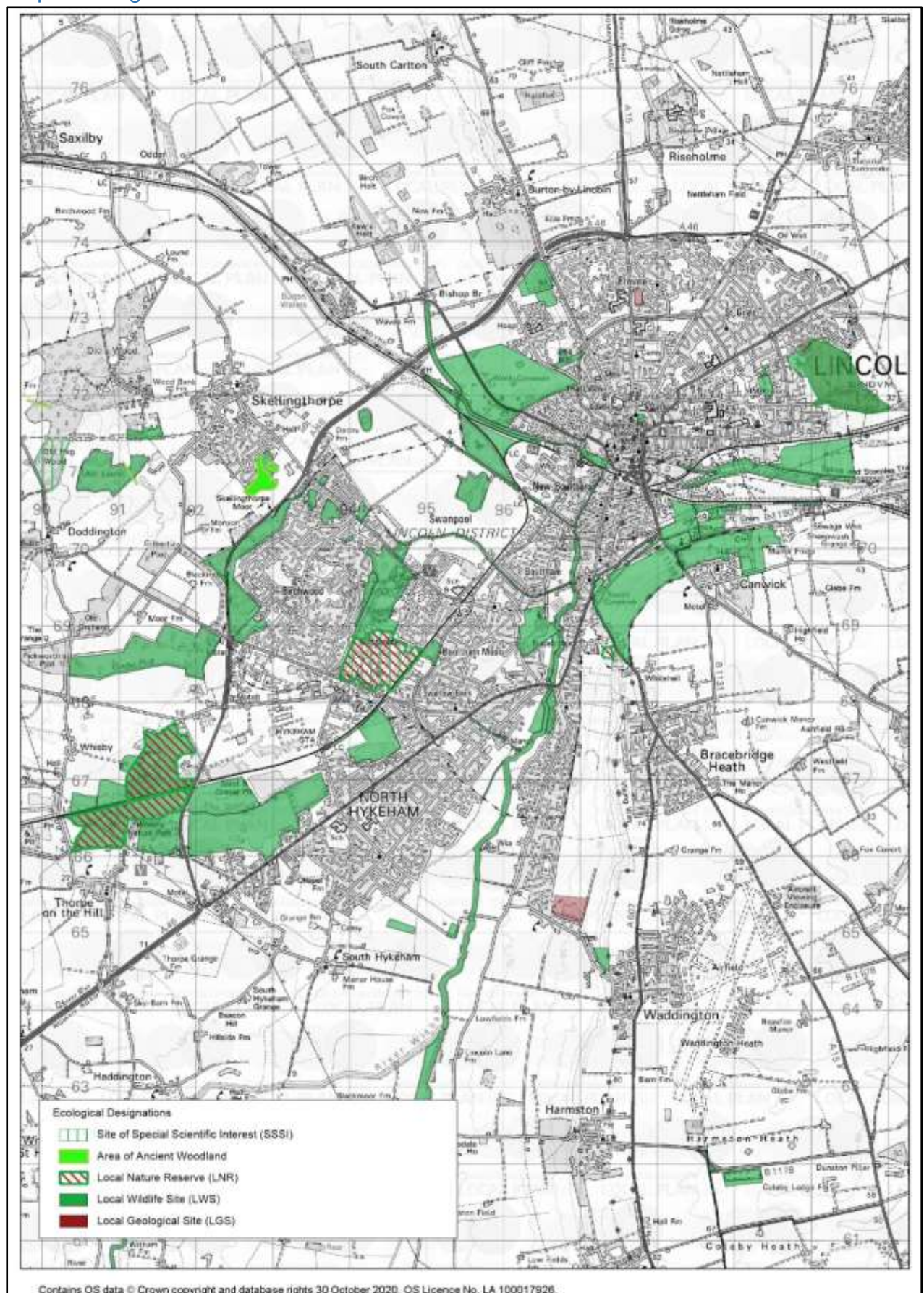


Map 2: Access



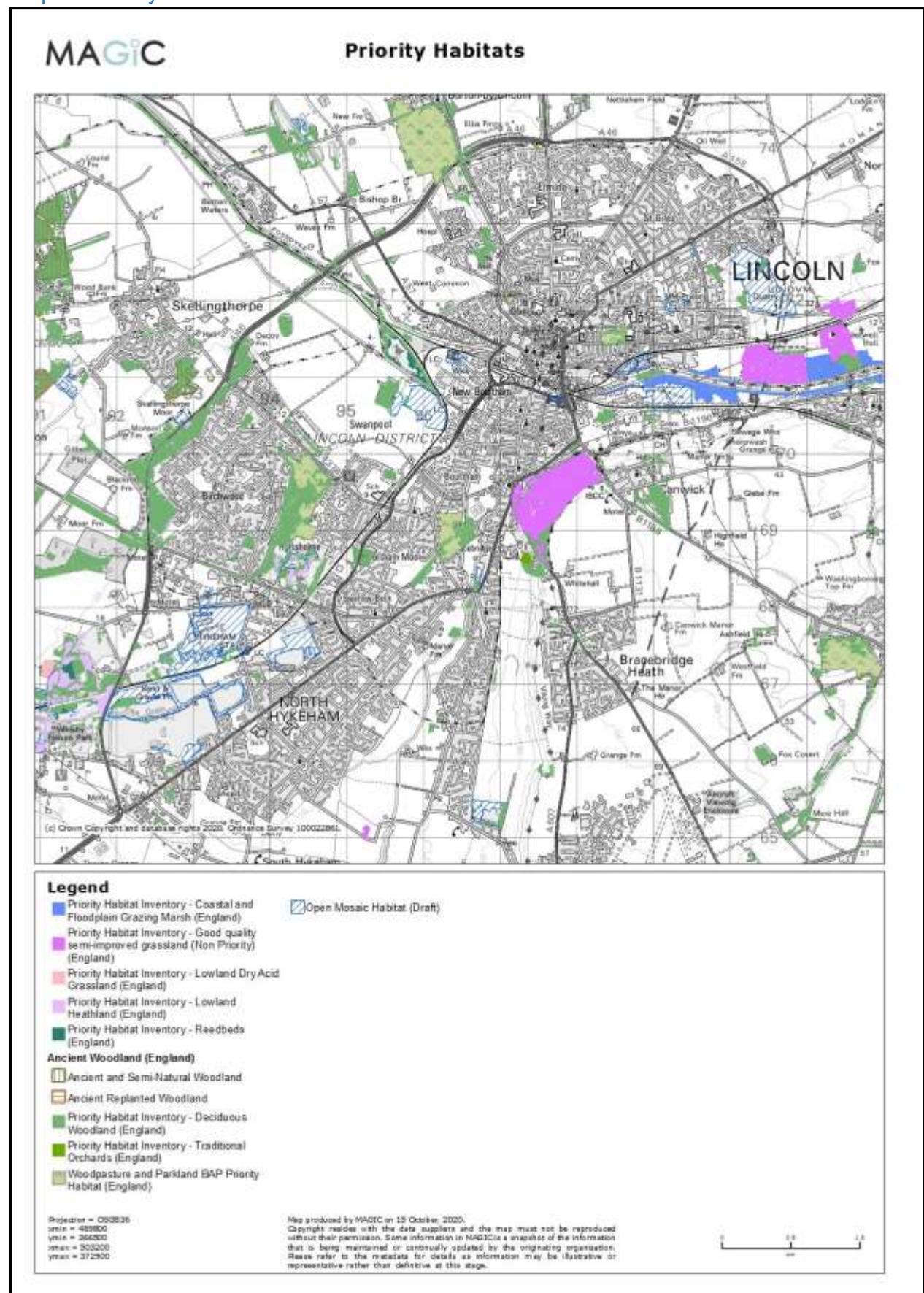


Map 3: Designated Wildlife Sites



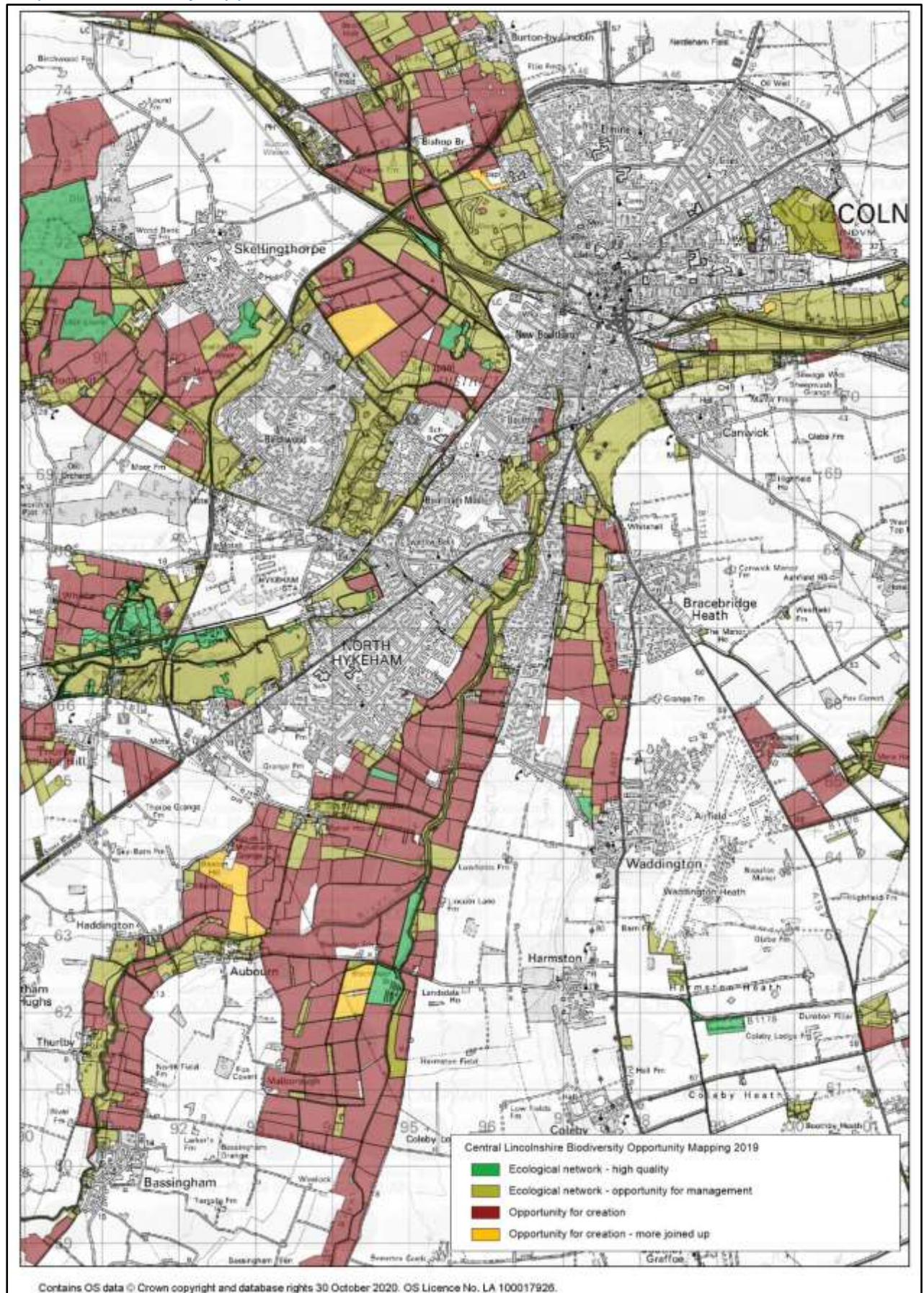


Map 4: Priority Habitats



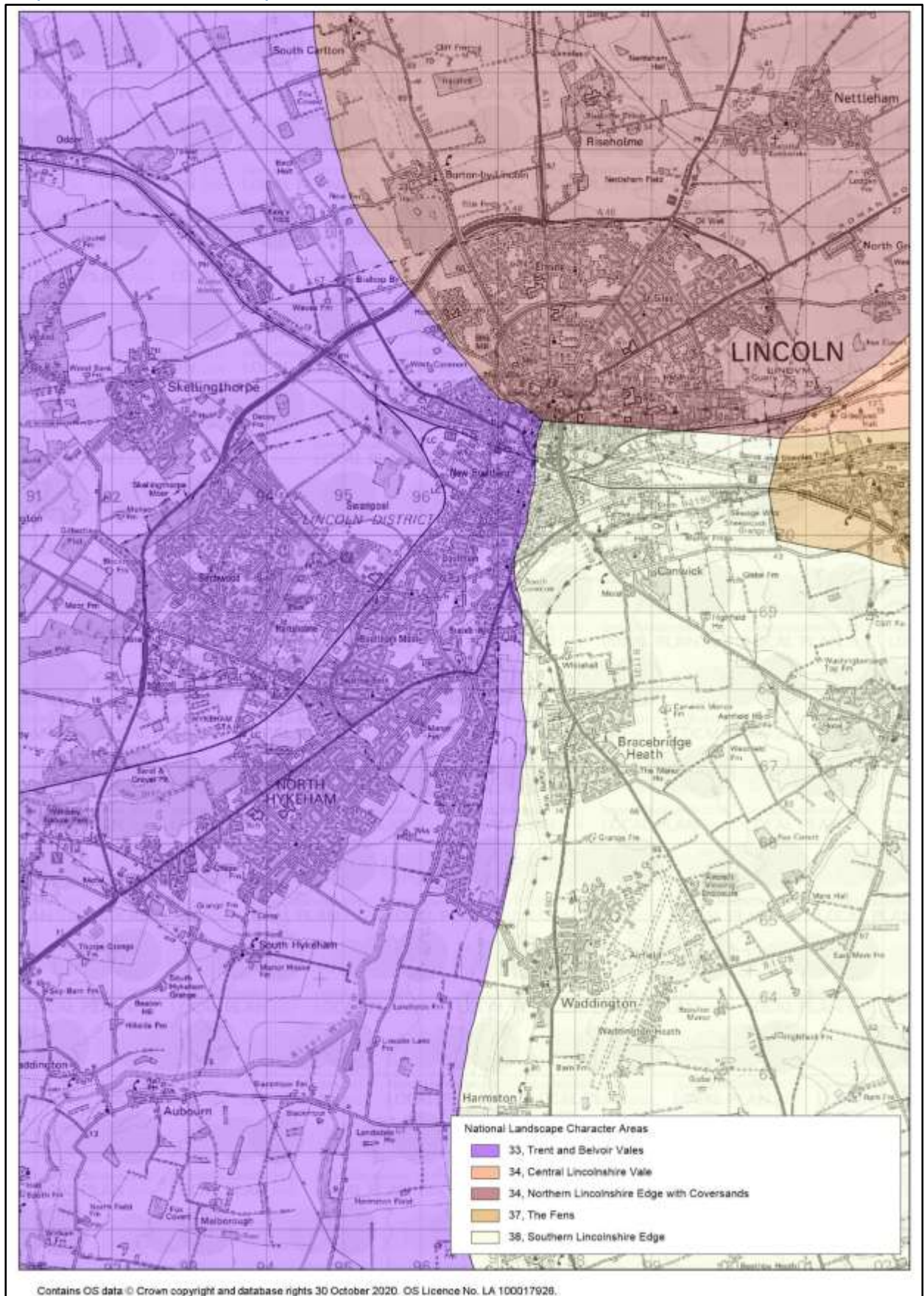


Map 5: Biodiversity Opportunities



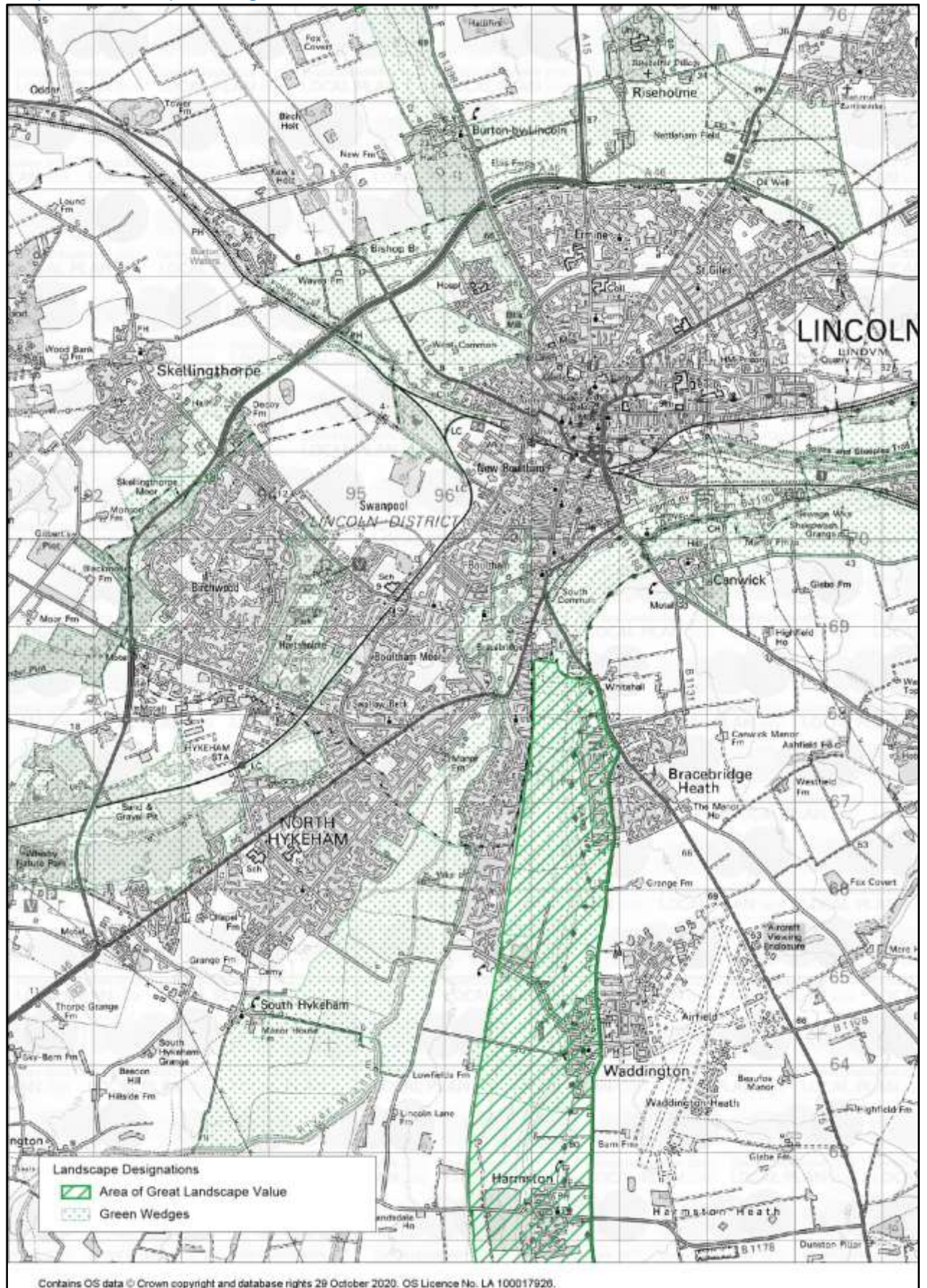


Map 6: National Landscape Character Areas



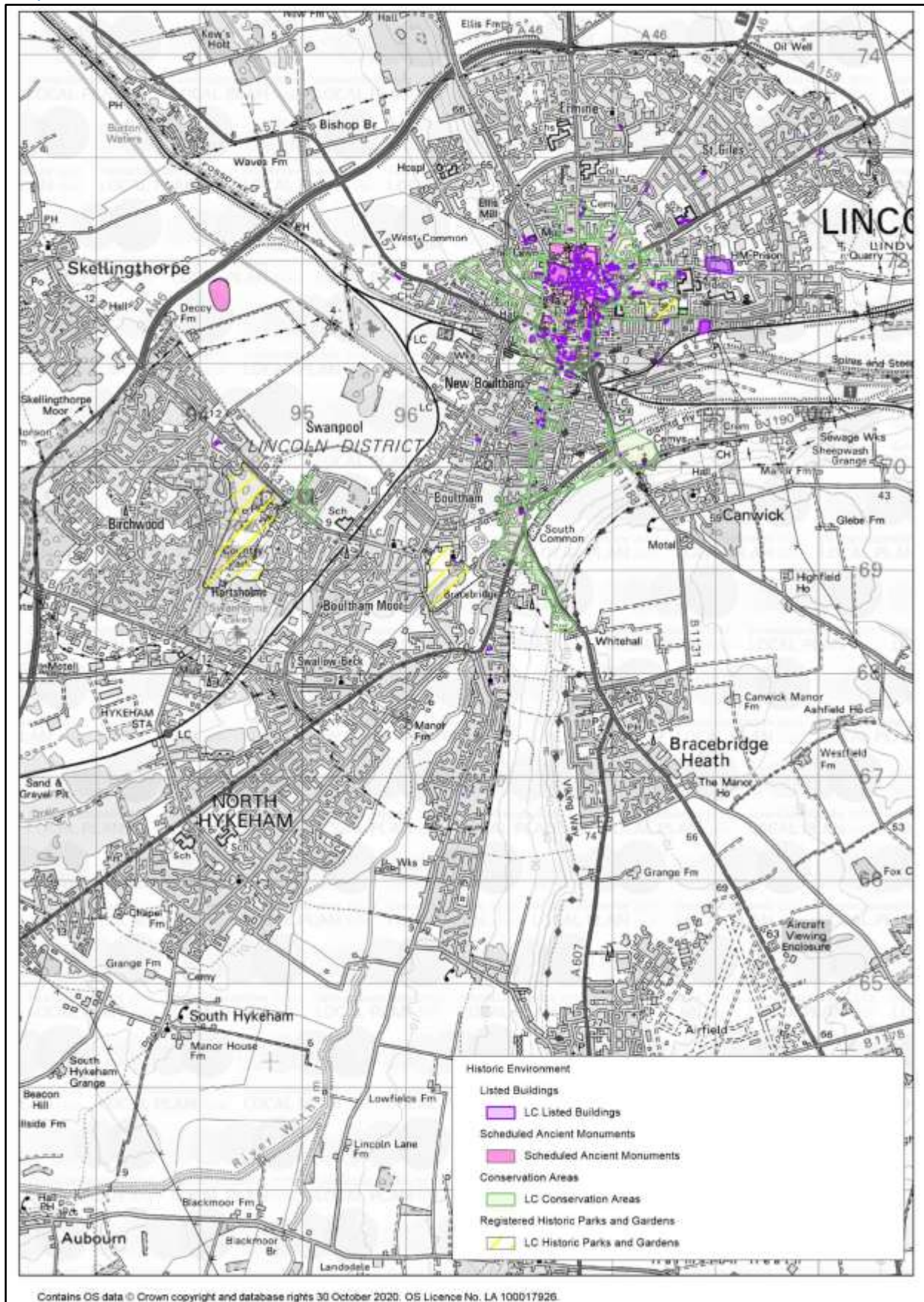


Map 7: Landscape Designations



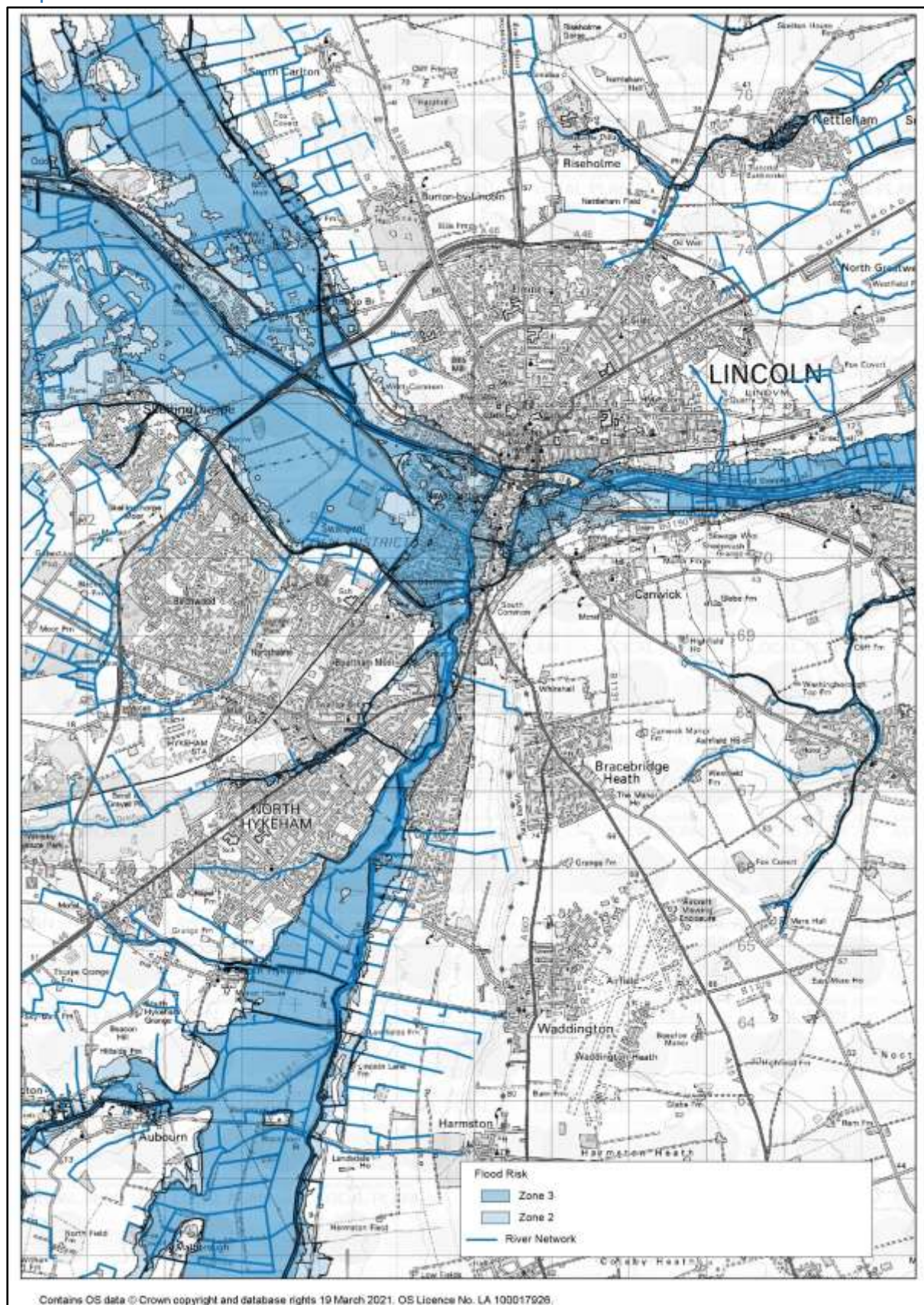


Map 8: Historic Environment



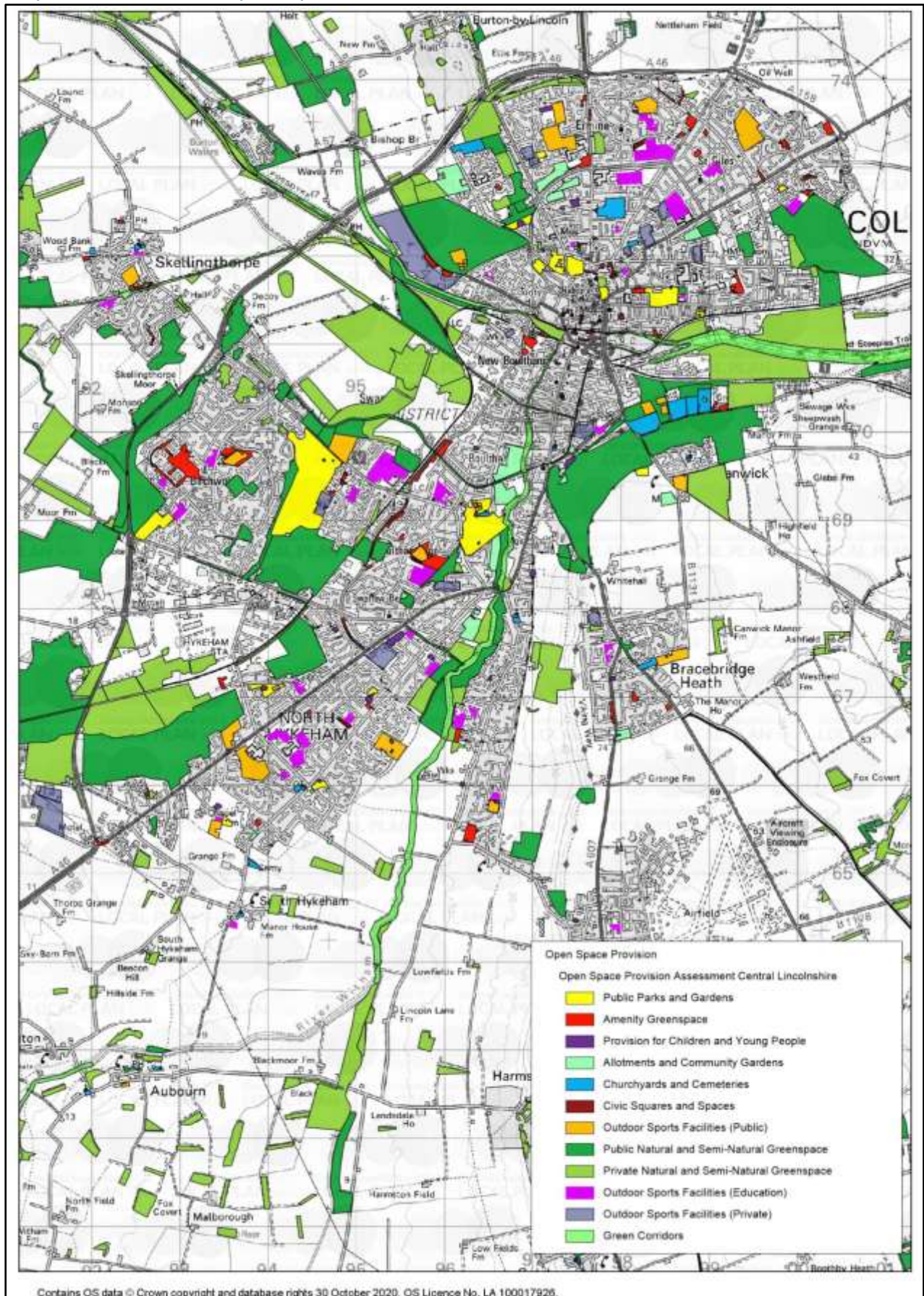


Map 9: Water Environment - Flood Risk Zones



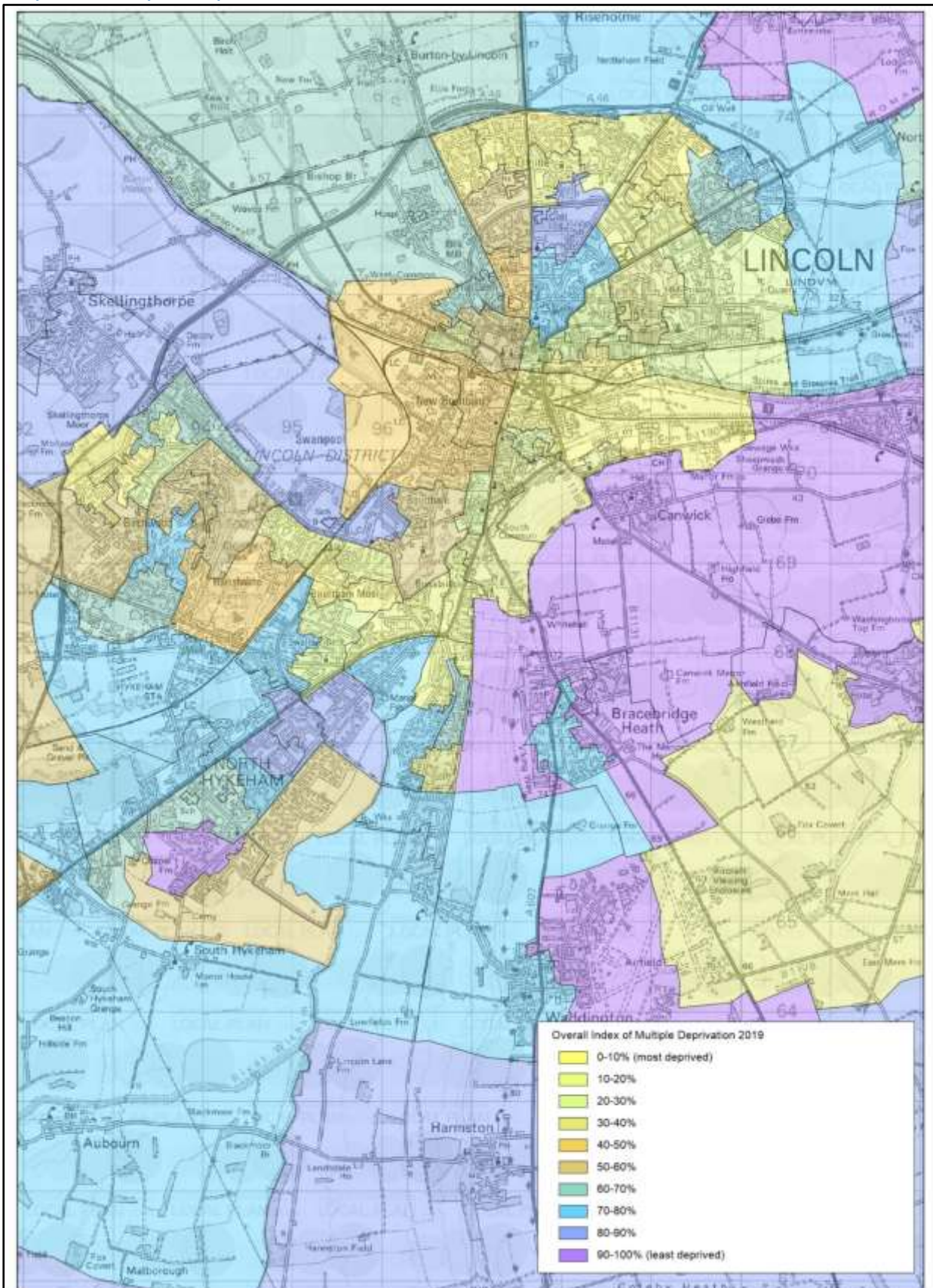


Map 11: Provision of Open Space





Map 12: Multiple Deprivation



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Map 13: Air Quality Management Area

