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NORTH WEST **cambridge**

International Symposium on the Creation of Sustainable
Campuses 2013

6 November 2013



- In top 6 of the World University Rankings
- First in The Complete University Guide, UK 2013
- More Nobel Prize Winners than any other institution – 85 since 1904
- 92% of permanent academic staff and 70% of volume were deemed 'world-leading' or 'internationally excellent' in the Research Assessment Exercise 2008
- Total income including University Press, Cambridge Assessment and Trusts exceeds £1 billion
- Research generates more income and employs more staff than teaching





- Over 300 buildings excluding the Colleges, some over 600 years old
- Over 600,000 m² (6,000,000 ft²) usable space
- Spread from the historic centre
- The City is full





The development of Cambridge's contribution to local, national and international economy and culture is currently constrained by a lack of adequate or affordable accommodation for:

- Postgraduate students
- Postdoctoral researchers
- Permanent staff
- Expansion space for research





- Many from outside UK
- Inadequate provision for students with families
- Academic pressure to increase numbers
- Many colleges lack capital and/or land to build additional accommodation



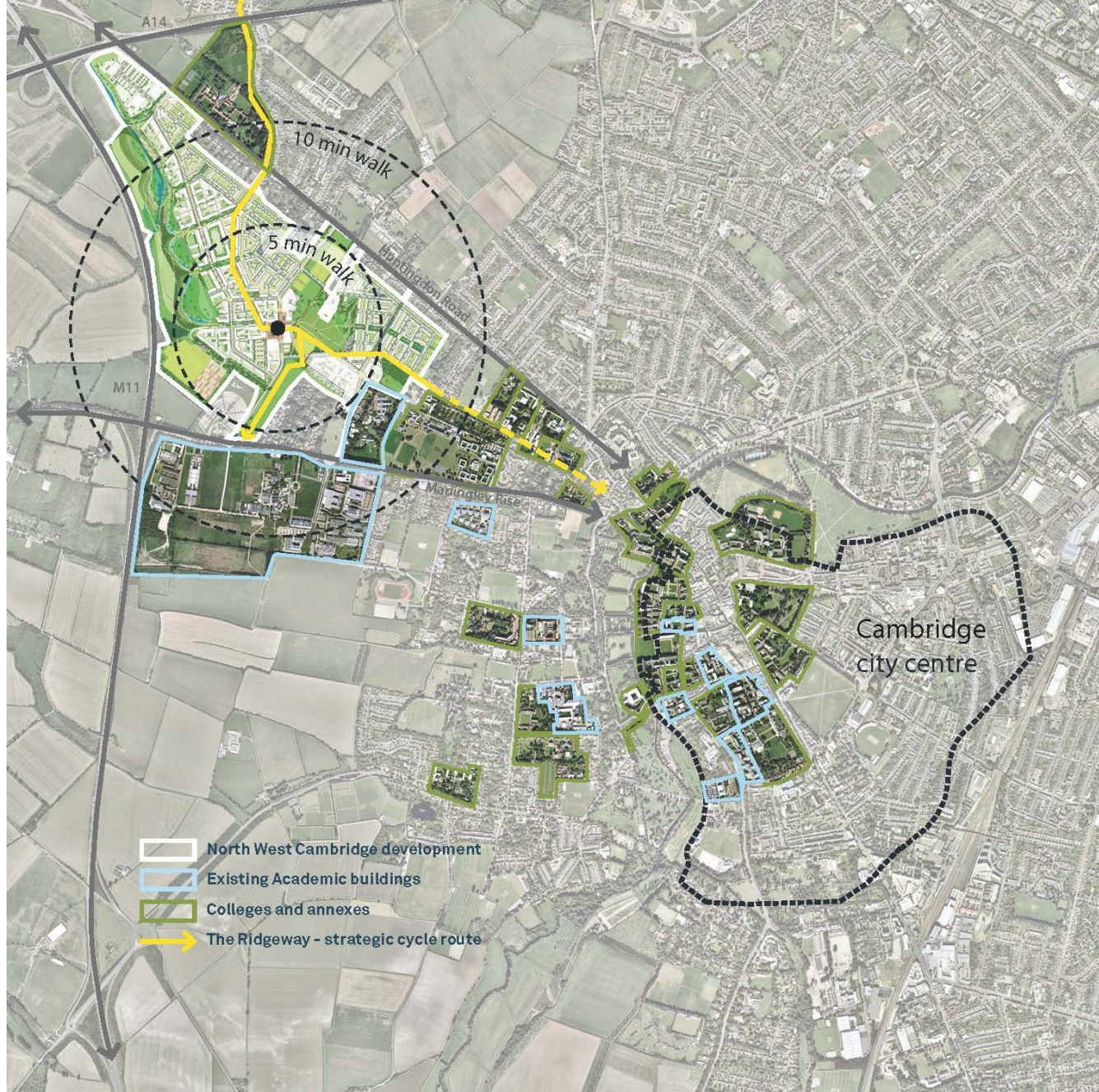


Post-Doctorate Researchers, our Key Workers

- Usually spend 1–3 working after PhD before obtaining permanent role in academic or other environments.
Paid from supervisor's grant or on a personal fellowship
- Currently 3500 and rising fast
Vital engine of our daily research success
- Very few in University or college accommodation
Accommodation in city is poor quality and expensive
- Mainly from outside UK
- Many with accompanying partners and children



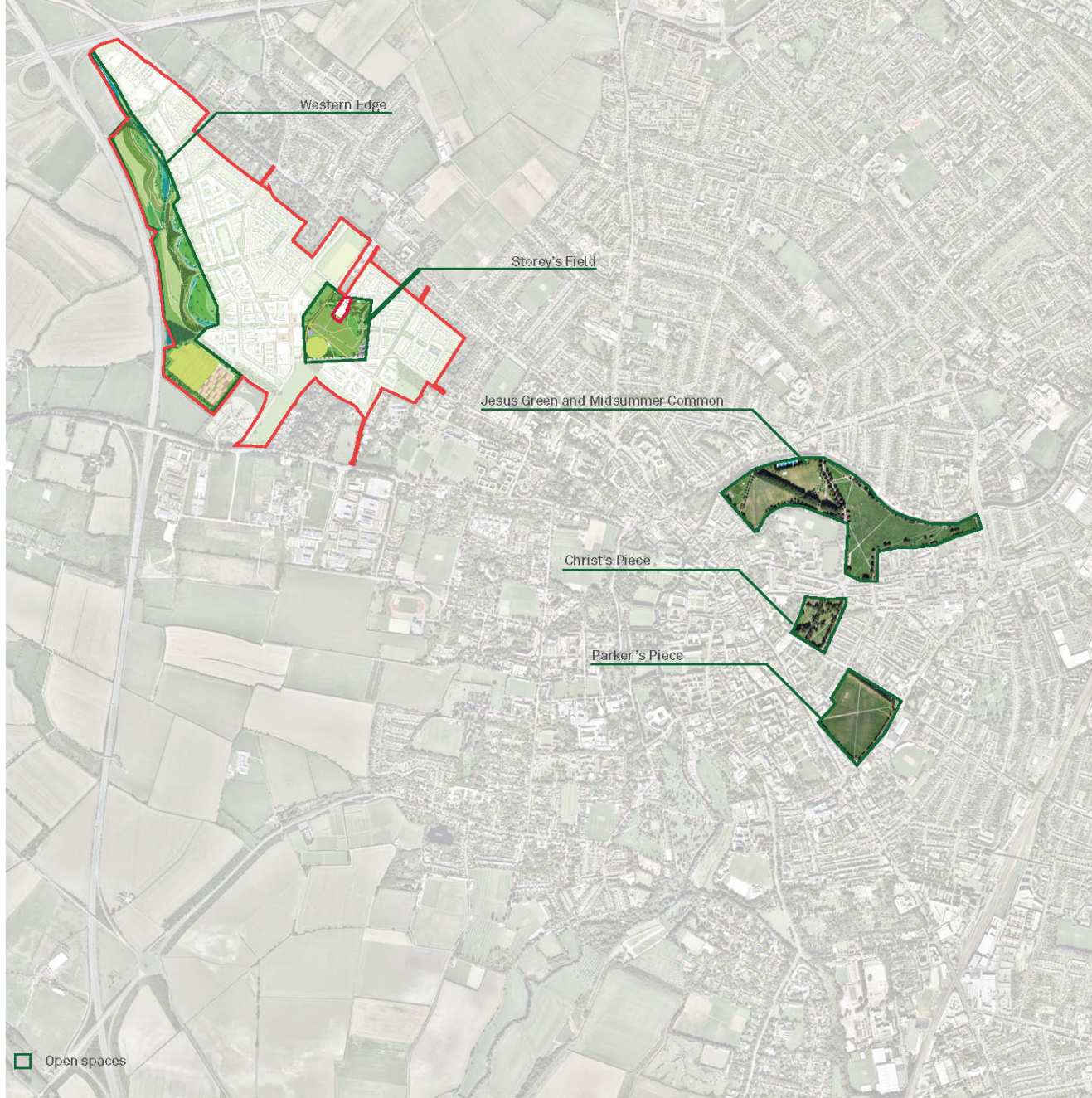
The vision for North West Cambridge is to create a new district and extension to the City, centred around a mixed academic and urban community: a place that is sustainable, long lasting and ambitious offering a high quality of life to enhance both the City and the University.



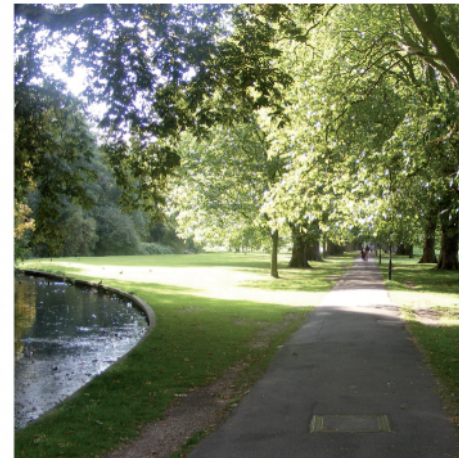
North West Cambridge - Location



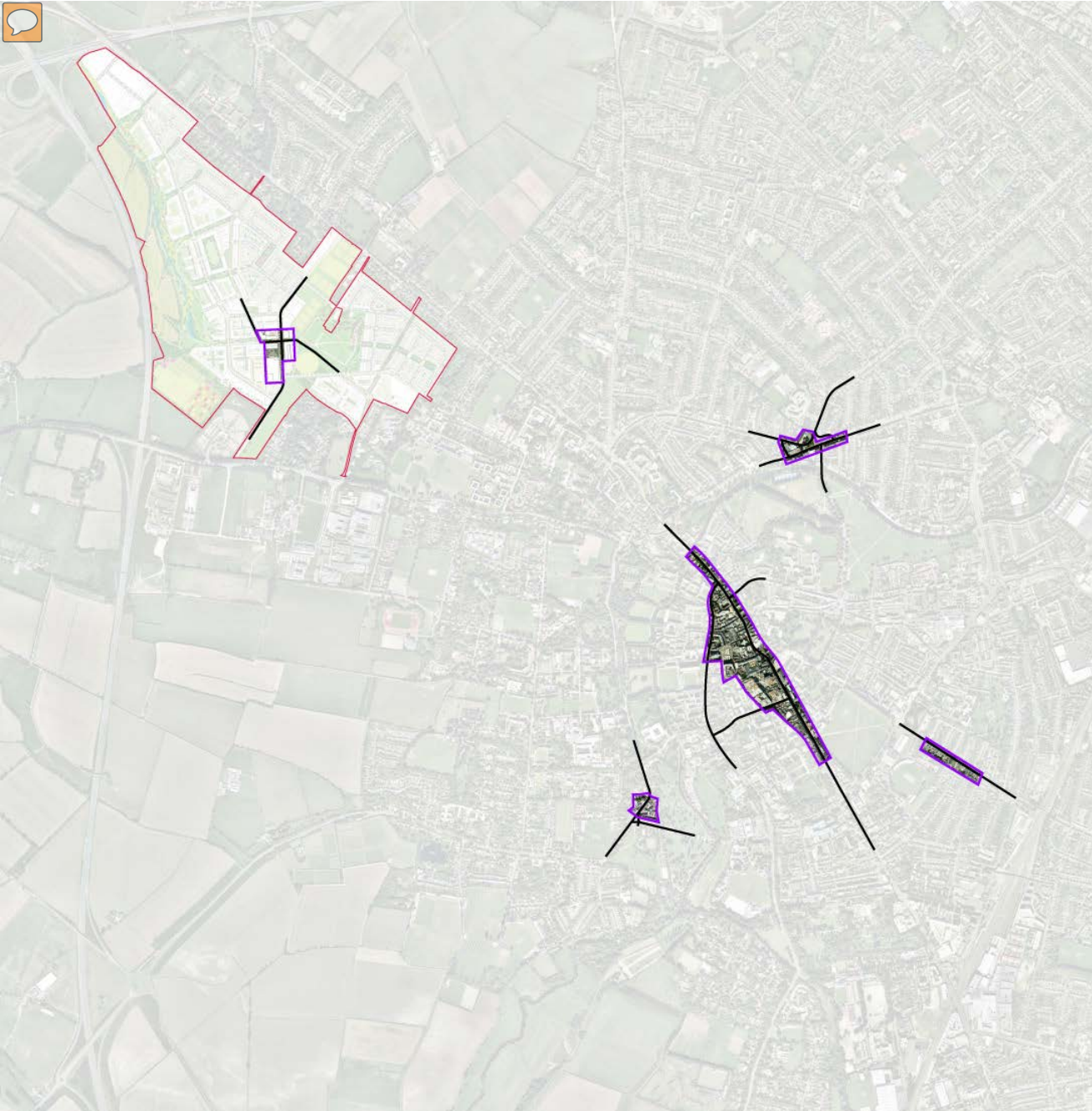
Creating a new, university-orientated urban quarter



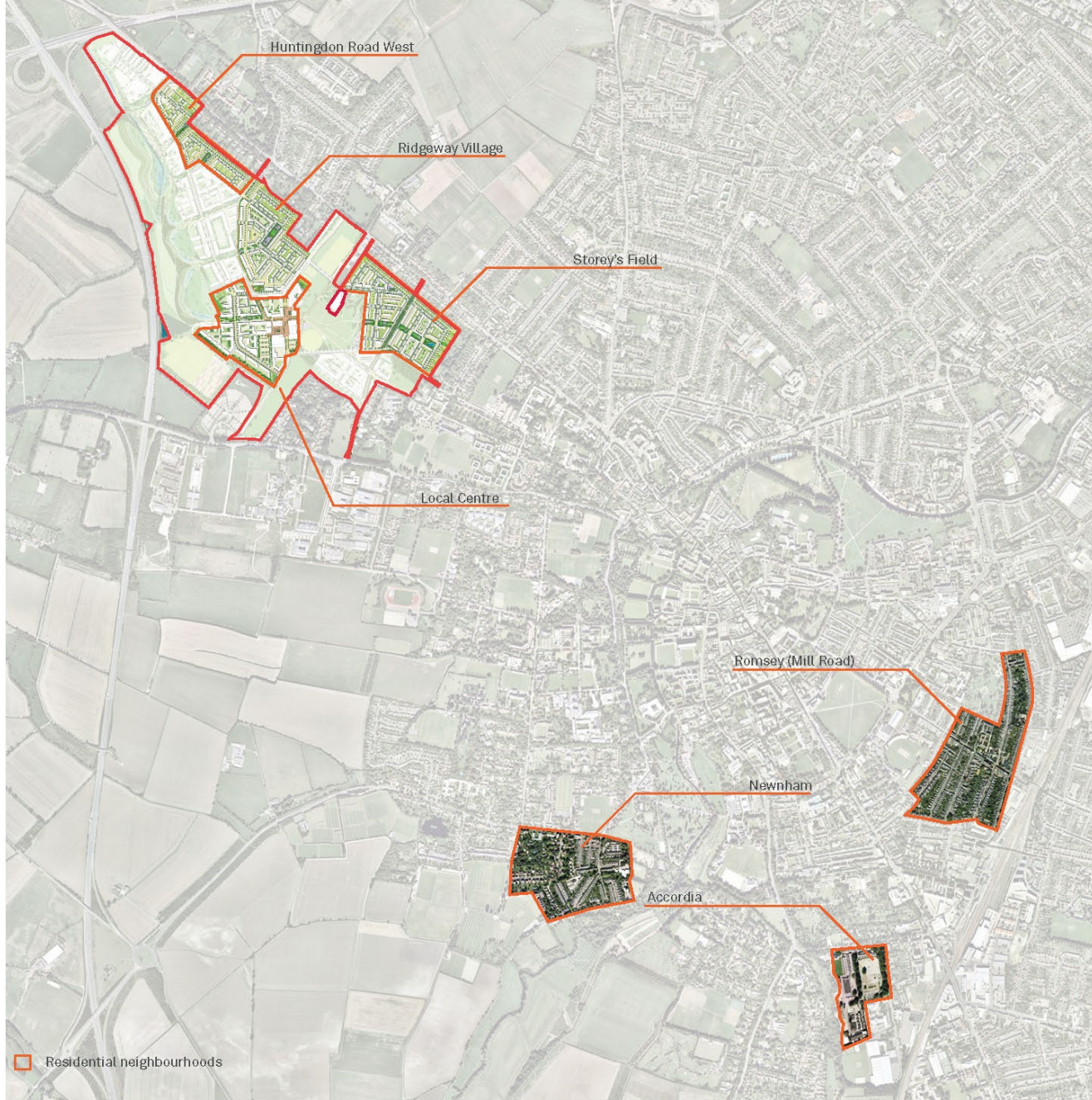
New landscapes and public open space



New landscapes and public open space



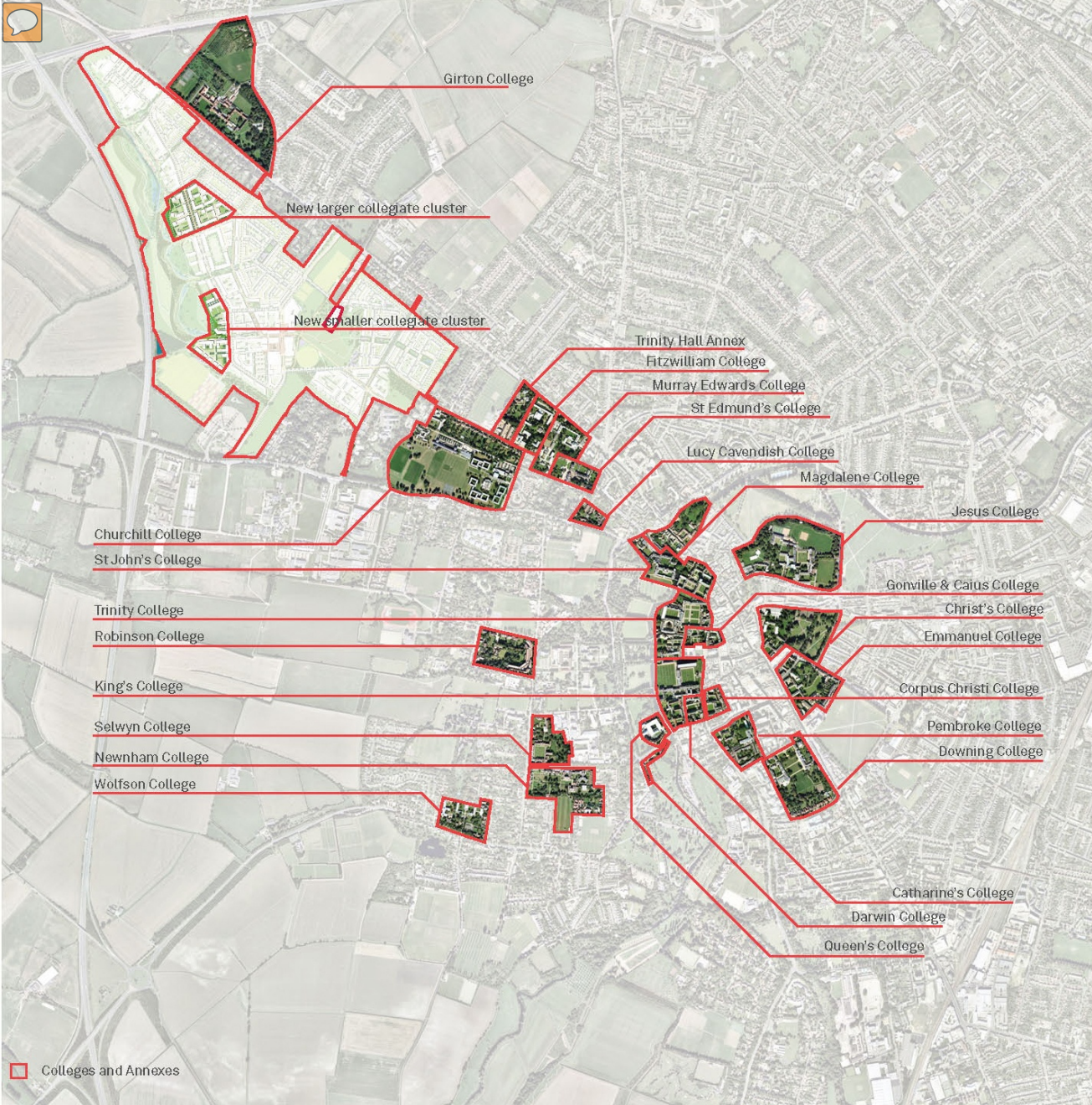
Local centre - shops, primary school, surgery, police, community centre, hotel



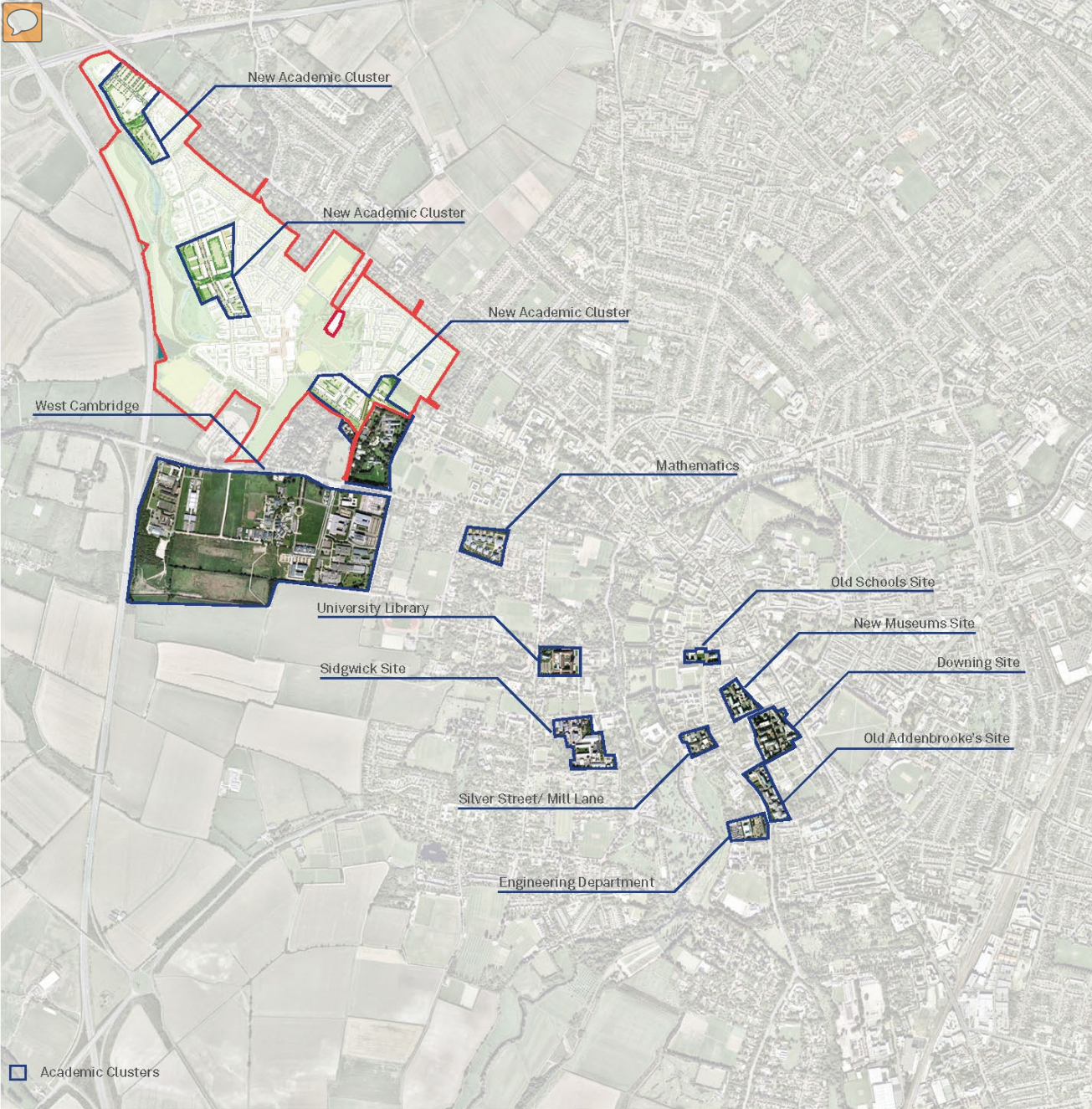
3 new residential neighbourhoods – 1500 units for sale + 1500 key worker



3 new residential neighbourhoods – 1500 units for sale + 1500 key worker



2 new collegiate clusters - 2000 post graduates



3 new academic clusters – 100,000sqm space or 20 years of academic R&D growth



Cambridge qualities and an urban character



Cambridge qualities and an urban character



Character - What kind of place?



CITY PARK





STREET LIFE



What kind of place? – Everyday Life



COLLEGE COURTS



What kind of place? – Academic & Collegiate Life



BACKS



27

What kind of place? – a sustainable way of life



NORTH WEST **cambridge**



Sustainability



Sustainability

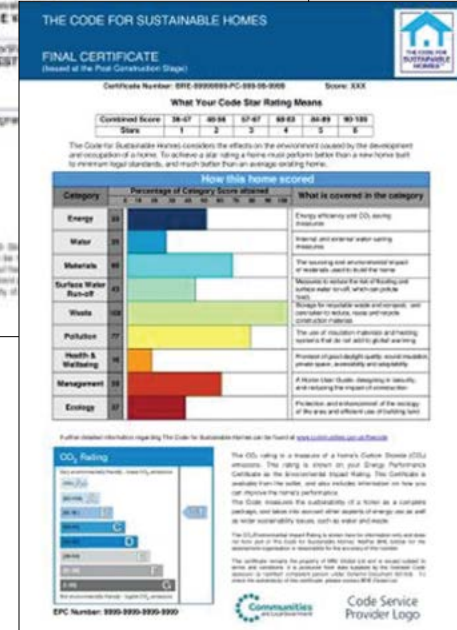
- Non-potable water recycling network
- Combined Heat & Power
- District Heating
- 20% renewable energy
- Extensive photo-voltaics
- < 40% journeys to work by car
(compared to national average of 71%)
- < 80 litres per person per day potable water consumption
(compared to Cambridge average of 150 l/p/d)

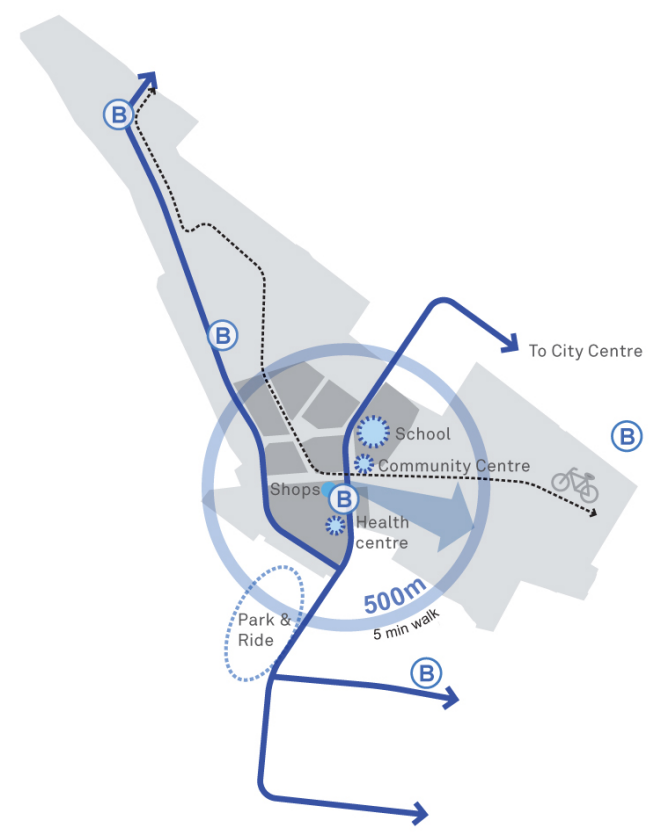
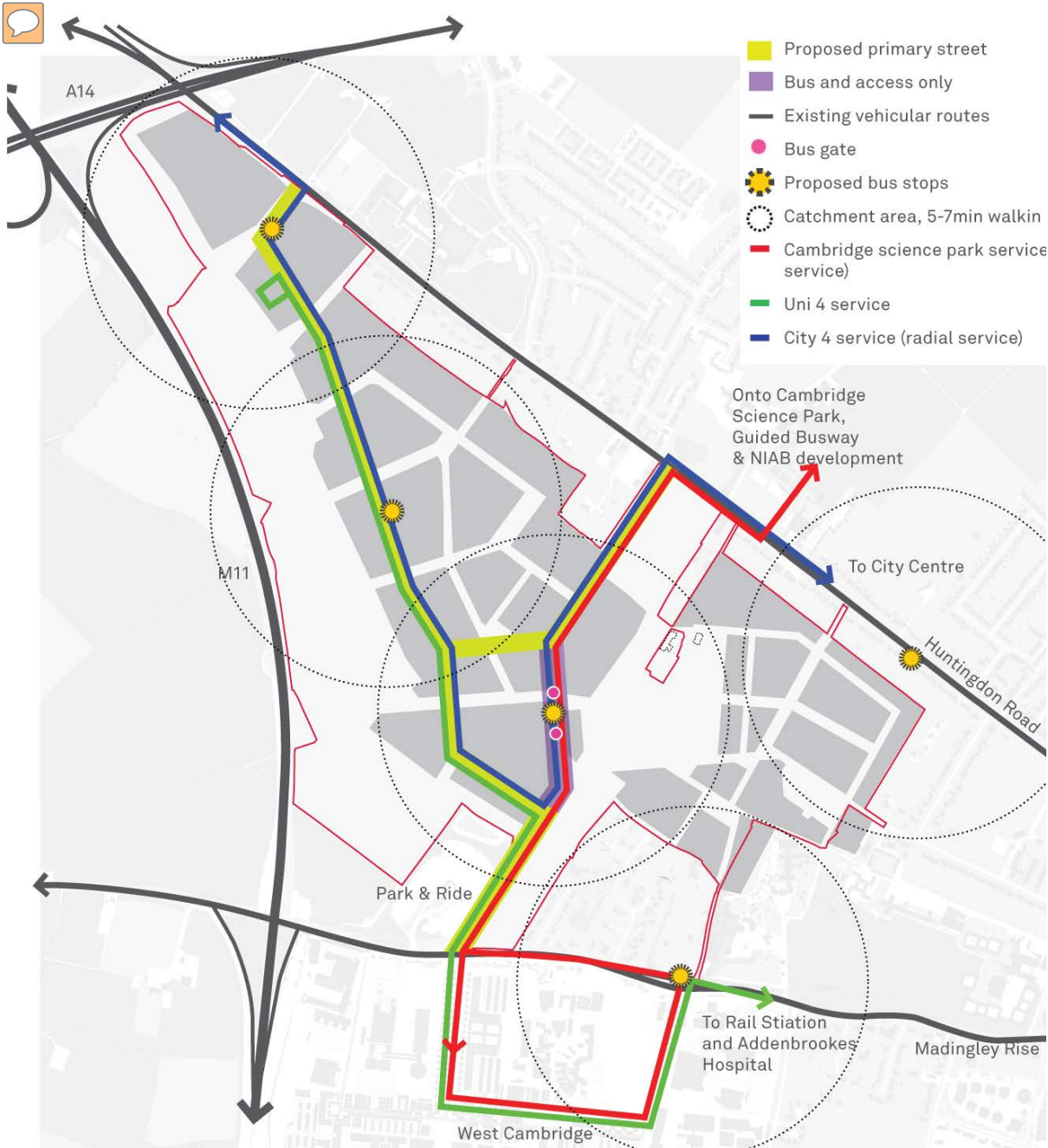
- Code for Sustainable Homes Level 5 (residential)
- BREEAM Excellent (non-residential)



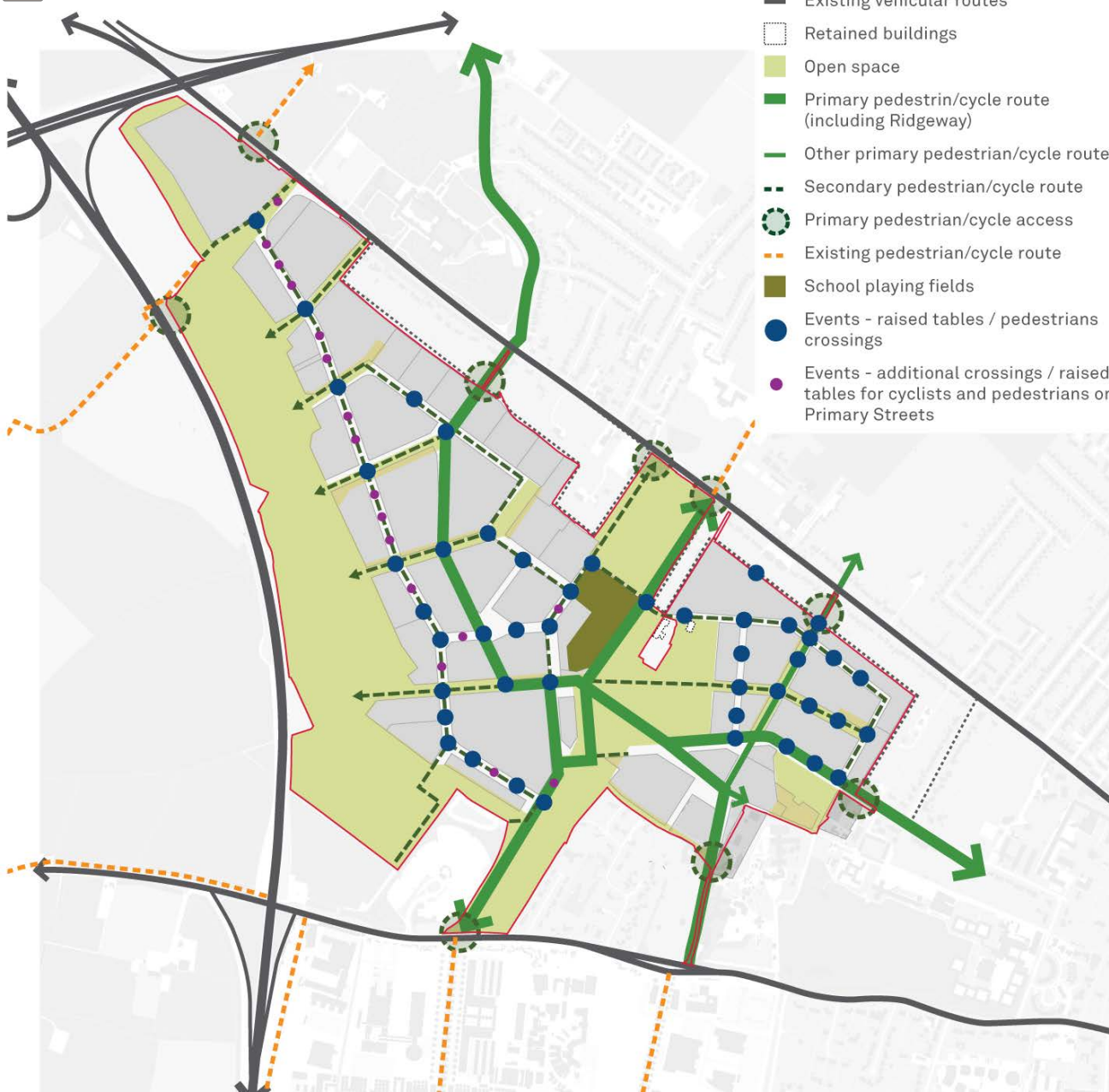
- Government scheme assessing sustainability of residential development
- Measures performance beyond Building Regulations requirements
- Features Levels 1 to 6
- 9 Assessment sections

- | | |
|-------------------------------|-------------------------|
| 1. Energy and CO ₂ | 6. Pollution |
| 2. Water | 7. Health and wellbeing |
| 3. Materials | 8. Management |
| 4. Surface Water run off | 9. Ecology |
| 5. Waste | |





Accessibility



- Existing vehicular routes
- Retained buildings
- Open space
- Primary pedestrian/cycle route (including Ridgeway)
- Other primary pedestrian/cycle route
- Secondary pedestrian/cycle route
- Primary pedestrian/cycle access
- Existing pedestrian/cycle route
- School playing fields
- Events - raised tables / pedestrians crossings
- Events - additional crossings / raised tables for cyclists and pedestrians on Primary Streets

Walking and Cycling Strategy



Connectivity - Approach from Madingley Road – View of Lot 9



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Public Space Strategy



Western Edge



Western Edge



Western Edge



Ecology - Biodiversity

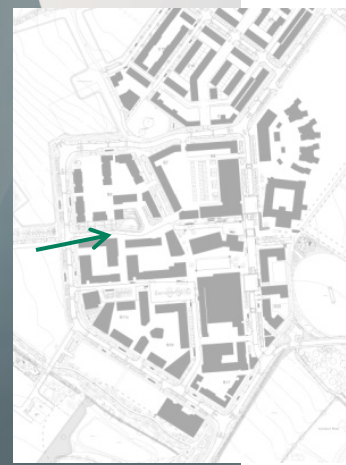


- Western Edge
- Green Corridors
- SuDS Streets
- Source control and courtyard SuDS
- Proposed site Control features such as ponds and linear wetlands

Surface Water Strategy



Key Spaces and townscape – Green Corridor



Key Spaces and townscape – Green Corridor



Key Spaces and townscape – Green Corridor



Key Spaces and townscape – Green Corridor



Western Edge



Western Edge



- Building connected to DH system
- Building not connected to DH system
- Primary DH pipework route
- 1 Pipework section number



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District Heating Strategy



Number of rooms	RECAP guide (litres)	Cambridge City Council guide (litres)	Proposed volume for North West Cambridge
1 room flat	240	200	240
2 room flat	340	320	340
3 room flat	440	440	440
4 room flat	540	560	560
5 room flat	640	680	680
House	775	720	775

(note – City council figures exclude green waste for flats).

Table 3.24 Underground Bins Storage Requirements



Figure 3.130 Underground Bin Waste Collection System



Different design of Underground Bin Waster Collection Systems



- 
- An aerial architectural rendering of a sustainable community development. The image shows a central cluster of buildings, including a large multi-story structure, surrounded by green spaces, sports pitches, and recreational areas. A river or canal flows through the left side of the development. The overall design emphasizes a mix of residential, commercial, and recreational uses.
- **Open spaces and recreational amenities**
 - **Sports pitches and pavilions**
 - **Supermarket and local shops**
 - **Community Centre**
 - **Health Centre**
 - **Police provision**
 - **Primary School + early years provision**
 - **Nursery**
 - **High quality public realm**
 - **Faith worker units**



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Phase 1 Proposals



Phase 1

400+ market homes

530 homes for qualifying University/College Key Workers

325 units of Graduate housing

Senior living / Extra Care (75 rooms)

Faith worker homes

Community facilities

- 1 Form of Entry **Primary School** (or 3FE UTS)
- **Community Centre and Nursery facility**
- **University-run social spaces**
- **Doctors' Surgery**
- **Police 'touchdown' facility**
- Sports pitches
- Open space
- Play areas

Foodstore (2,000 sq.m. net floorspace)

Up to 8 local shops

130 room hotel

Energy Centre (incorporating a gas fired combined heat and power (CHP) plant)



Phase 1 Proposals – Local Centre



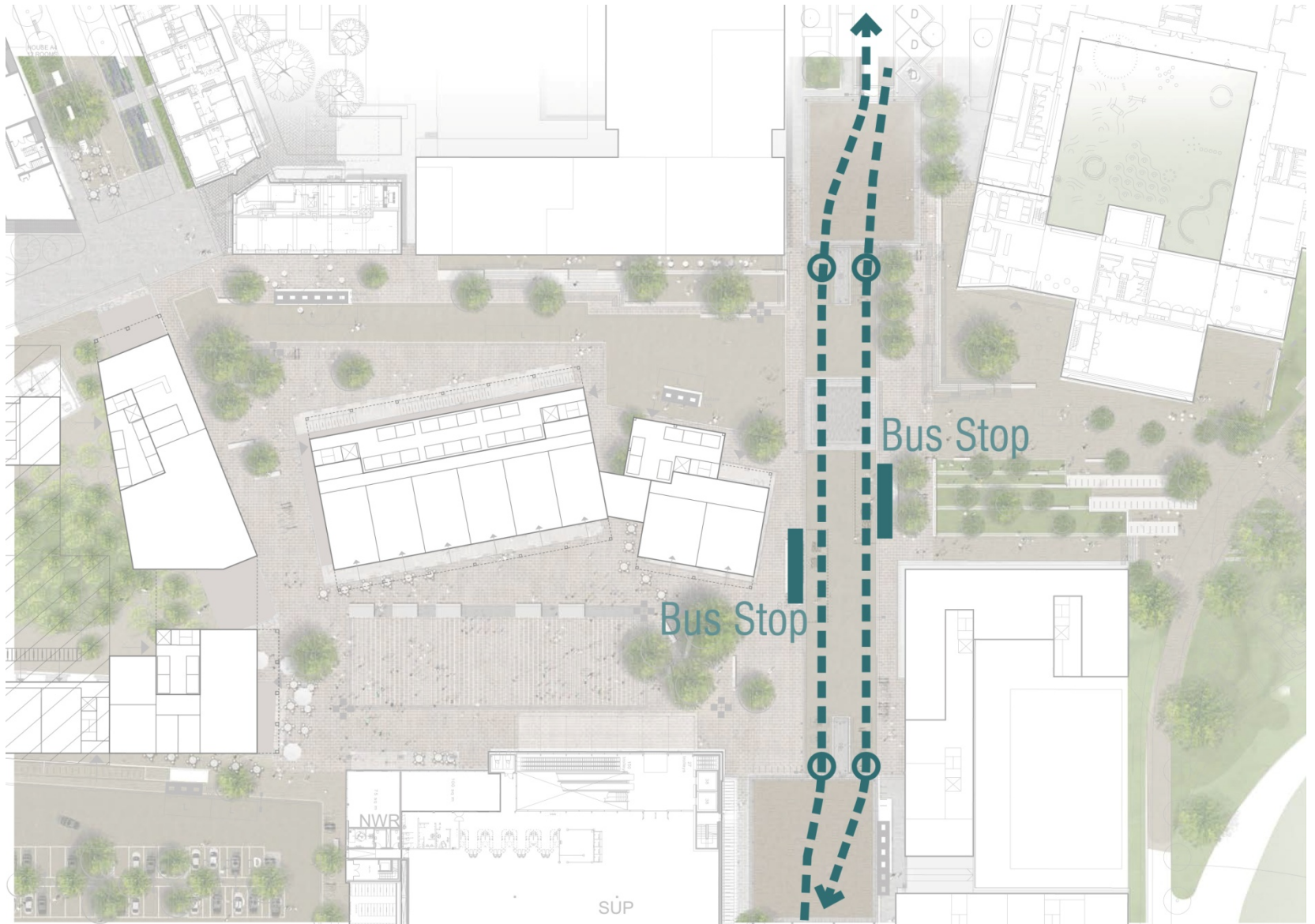
- 1 Wilkinson Eyre + Mole
- 2 Stanton Williams
- 3 Mecanoo
- 4 Cottrell Vermeulen + Sarah Wigglesworth + The AOC
- 5 RH Partnership
- 6 Marks Barfield
- 7 MUMA
- 8 Maccreeanor Lavington + Witherford Watson Mann
- 9 Alison Brooks
- A Aecom Landscape
- B Townshend Landscape Architects



Phase 1 Proposals – Land Use



Connectivity - Walking and Cycling



Connectivity – Public Transport



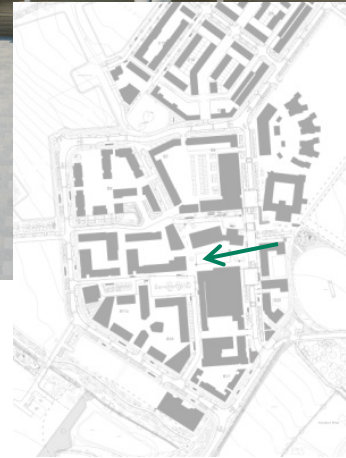
Local Centre – Land Use



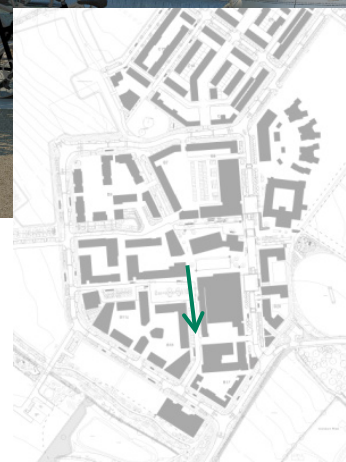
Local Centre - Key Spaces and townscape



Key Spaces and townscape – Ridgeway Place



Key Spaces and townscape – Market Square



Key Spaces and townscape – Residential lanes and courts



Key Spaces and townscape – Ridgeway Corner



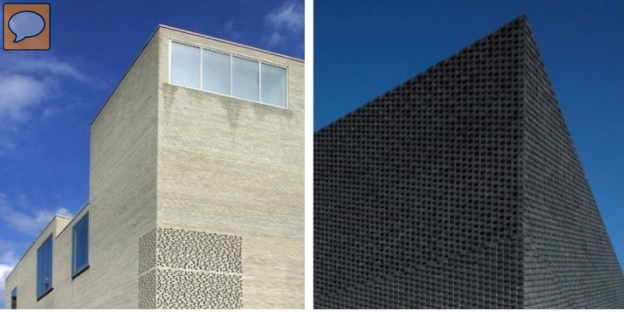
Key Spaces and townscape – Ridgeway



Key Spaces and townscape – Ridgeway



Character – Contemporary Cambridge



Brickwork - colours, texture and form

Natural materials in landscape setting



Character - Materials



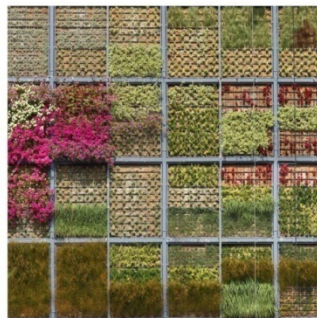
Responding to sun and wind



Character - Technology



Buildings in landscape



Character - Nature



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