

# RIDGE

NEW HENRY STREET  
DOMINUS REAL ESTATE

SUSTAINABILITY STATEMENT

05/12/2023





**NEW HENRY STREET  
DOMINUS REAL ESTATE**

05/12/2023

**Prepared for**

Dominus Real Estate  
14A Shouldham Street  
London  
W1H 5FJ

**Prepared by**

Ridge and Partners LLP  
Tower Wharf,  
Cheese Lane,  
Bristol  
BS2 0JJ  
Tel: 0117 244 2500

**Contact**

Sarah Burki  
Sustainability Consultant  
sarahburki@ridge.co.uk  
07789669690



# 1. INTRODUCTION

## 1.1. Overview

This report has been produced by Ridge & Partners LLP on behalf of Dominus Real Estate to outline the sustainability strategy for the proposed new development New Henry Street, Bristol.

This report aims to outline the proposed sustainability strategy for the scheme in accordance with requirements of Bristol City Council (BCC) policy and regulatory standards.

A separate energy statement has been produced and should be reviewed in conjunction with this sustainability statement.

This strategy document aims to demonstrate that the Bristol City Council sustainability objectives are met by the proposed strategy for the Site.

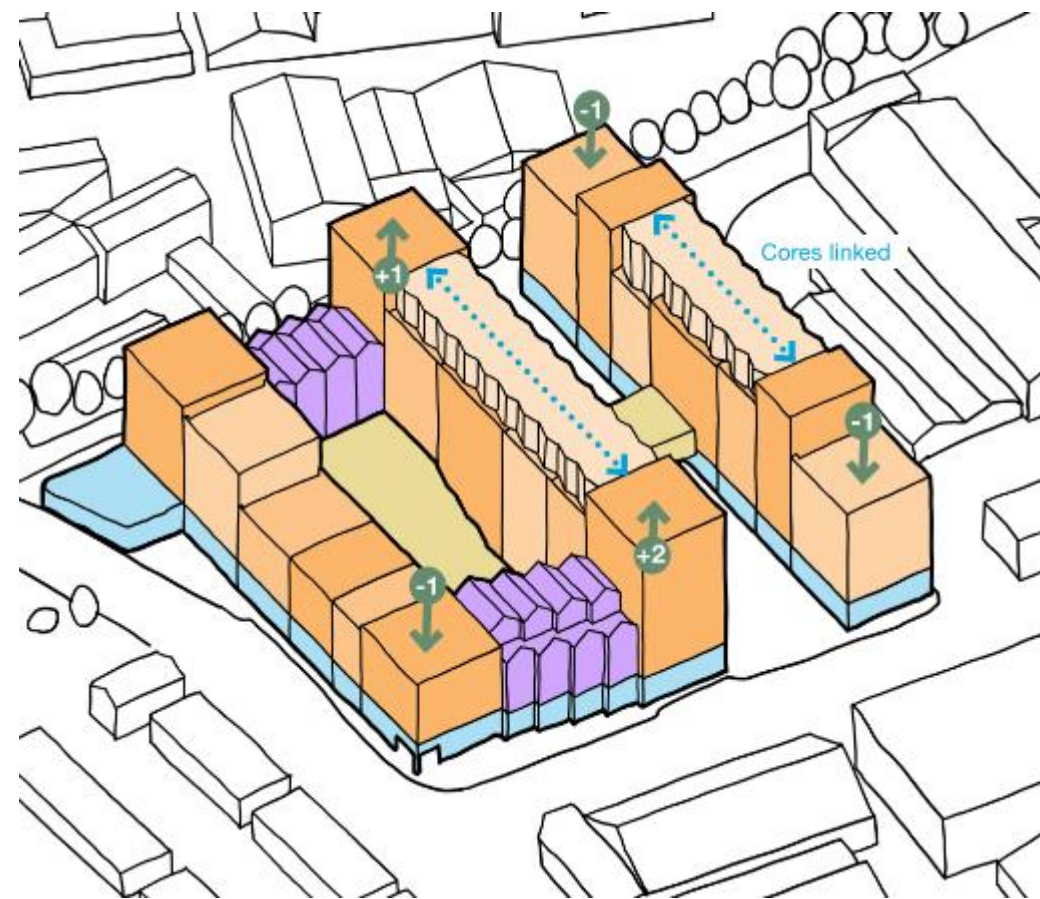


Figure 1: Proposed Massing Mode. Source: AHMM

## 1.2. The Project.

### Site description.

Address: Premier Business Park, Kingsland Road, Bristol, BS2 0QX

Site Area: 0.748 ha

The Site is located within the administrative boundary of Bristol City Council. The site currently accommodates two buildings in industrial use. The buildings span almost the full width of the curtilage. They are located in the north sector of the site with a large forecourt area in the south that contains vehicle parking for the units. Both buildings comprise a two-storey form alongside a large yardage that would have traditionally facilitated servicing by HGVs.

The southwest and southeast boundary (fronting Kingsland Road) is made up of a steel palisade fencing that is sited behind a large concrete apron. There are two gates within the fencing on Sussex Street that provide access to the site (shared pedestrian and vehicular).

The site is bounded to the north-east by Alfred Street. Here, The Redeemed Christian Church of God occupies a rudimentary single storey post war building with a small forecourt. Adjacent to this to the north is a disused railway line running northeast to north-west which could potentially form a vital link within Bristol's strategic cycle network in the future.

### Project description.

“Demolition of existing structures and redevelopment of the site for two conjoined buildings comprising light industrial use (Class E(g)(iii)); flexible retail/light industrial use (Class E(a) / Class E(g)(iii)); flexible commercial use (Class E(b-g)); flexible industrial use (Class E(g)(iii) / Class B8 / Sui Generis); student accommodation use with ancillary community space (Sui Generis); public realm works and landscaping; cycle parking; ancillary plant and servicing; and other associated works”.

Table 1: Proposed Floorspace.

USE	USE CLASS	GIA (M <sup>2</sup> )
Student Accommodation	Sui Generis	19,980
Maker Space	Class E(g)(iii)	1,016
Flexible Industrial Use	Class E(g)(iii) / B8 / Sui Generis	114
Flexible Commercial Space	Class E (b-g)	146
Supermarket / Maker Space	Class E(a) / E(g)(iii)	468
Ancillary Community Space	Sui Generis	175
Back of House	-	1,062
Total		22,961

## 2. POLICY CONTEXT

### 2.1. Overview

The sustainability strategy for the proposed New Henry Street development has been established in accordance with the requirements of national, regional, and local policies. For this submission, the energy statement has been completed separately.

### 2.2. Local Policy

Table 2 provides a summary of current local policy requirements.

Table 2: Key messages from current Bristol City Council

THEME	BCC POLICY DOCUMENT
Building Performance	<ul style="list-style-type: none"> <li>Development to minimise energy requirements achieve a <b>20% reduction in residual CO2 emissions via renewable and low carbon sources.</b> (Refer to energy statement for details)</li> <li>Achieve minimum <b>BREEAM Excellent</b></li> </ul>
Water, Drainage & Flood Risk	<ul style="list-style-type: none"> <li>Conserve water supplies and limit the risk and impact of flooding via use of green roofs, living walls and <b>Sustainable Urban Drainage Systems (SUDS)</b></li> <li>Priority given to developments at low risk of flooding</li> </ul>
Waste	<ul style="list-style-type: none"> <li>Developments should address waste and recycling during <b>demolition, construction, and operation.</b></li> </ul>
Materials	<ul style="list-style-type: none"> <li>Development should deliver high quality design with a focus on durable and sustainable materials, addressing type, life cycle and sourcing.</li> </ul>
Biodiversity	<ul style="list-style-type: none"> <li>Development should incorporate measures that enhance biodiversity value of development such as <b>green roofs and living walls.</b></li> <li>Local sites and open space are protected and/or enhanced.</li> </ul>
Transport	<ul style="list-style-type: none"> <li>A <b>travel plan or transport statement</b> is required.</li> <li>Proposed new developments will need to implement smarter choice measures which will aim at <b>minimising the need to travel by private car</b></li> </ul>
Health and Wellbeing	<ul style="list-style-type: none"> <li>Development should contribute to reducing ill health, improving health, and reducing health inequalities in the city.</li> <li>Non-residential developments over 10,000m2 are required to produce a <b>Health Impact Assessment.</b></li> <li>The following standards of noise supply for residential developments:                             <ul style="list-style-type: none"> <li>Daytime (07.00-23.00) <b>35dB LAeq</b> 16 in all rooms and <b>50dB</b> in outdoor living areas.</li> <li>Nighttime (23.00-07.00) <b>35dB LAeq</b> 8 hours and <b>LAmx</b> less than <b>45dB</b> in bedrooms</li> </ul> </li> </ul>
Pollution	<ul style="list-style-type: none"> <li>Avoidance of adverse impacts on environmental amenity/biodiversity and the quality of underground or surface water bodies</li> </ul>
Community	<ul style="list-style-type: none"> <li>Development should create or contribute to <b>safe, attractive, high quality, inclusive and legible public realm</b>, including reduction in crime or fear of crime.</li> </ul>

## 3. SUSTAINABILITY STRATEGY

### 3.1. Overview

This report has been produced by Ridge & Partners LLP on behalf of Dominus Real Estate to outline the sustainability strategy for the Proposed Development New Henry Street, Bristol.

The strategy first and foremost responds to the national and local policy which shape the baseline of performance. Recognising Bristol’s strong ambition for sustainable development, it was considered important to highlight how the development goes beyond compliance to implement best practice principles that delivery tangible sustainable benefits for occupants and the surrounding communities.

Since declaring a climate emergency in 2018, BCC has been resilient in their efforts for Bristol to be a carbon neutral and climate resilient city by 2030. In February 2020, the Bristol One City Environment Board published the One City Climate Strategy in which Buildings are viewed as one of the main elements to tackle achieving this vision.

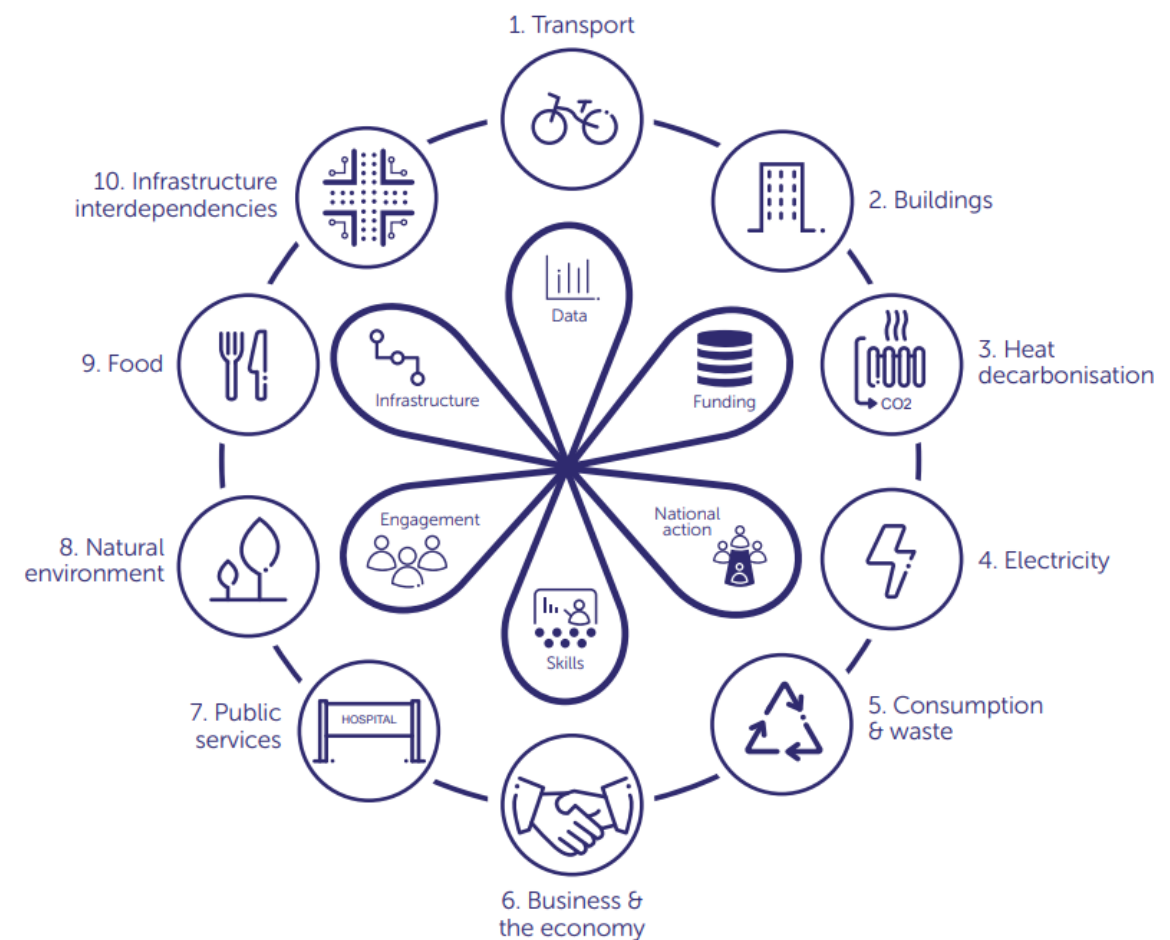


Figure 2: One City Climate Strategy themes. Source: Bristol One City.

In light of this, the following themes have been utilised to help illustrate the varied and holistic approach to sustainability that which this new development provides to Bristol City.

Table 3: New Henry Street sustainability strategy summary.

THEMES	NEW HENRY STREET PROPOSED DESIGN
Performance	<ul style="list-style-type: none"> <li>- Targeting BREEAM Excellent</li> <li>- Carrying out two assessments: fully fitted multi-residential and shell-only retail</li> </ul>
Energy and CO <sub>2</sub> emissions	<ul style="list-style-type: none"> <li>- A separate energy statement has been produced to review the energy and carbon of the Proposed Developments design which the Energy Hierarchy.</li> <li>- Fully electric servicing strategy of air source heat pumps delivering space heating and domestic hot water.</li> <li>- Student accommodation spaces will be naturally ventilated with openable windows, therefore reducing auxiliary load.</li> </ul>
Health & Wellbeing	<ul style="list-style-type: none"> <li>- Daylight and views to social and green spaces are prioritised.</li> <li>- The location of the development will encourage active methods of travel, encouraging a healthy lifestyle.</li> <li>- A lighting strategy will ensure the Proposed Development is designed to create a safe, warm and animated environment.</li> <li>- High specification glazing is required to reduce infiltrating noise from road traffics along Kingsland Rd, the nearby nightclub and surrounding existing businesses.</li> <li>- The Proposed Development will have a single point of access for students and 24/7 staffed reception to aid in safeguarding</li> </ul>
Transport & Mobility	<ul style="list-style-type: none"> <li>- A Transport Statement, Student Accommodation Travel Plan and a Premises Management Plan have been produced for the Proposed Development.</li> <li>- The Proposed Development will improve more sustainable modes of transport and movement of people by being a car free development.</li> <li>- The Site is approximately a 10-minute walk (800 metres) from Bristol Temple Meads, which has local and national rail services.</li> <li>- The nearest bus stop to the Proposed Development is within 100 metres and only 650 metres away from the Bristol Coach and Bus Station, a major bus interchange in the city centre.</li> <li>- The Proposed Development will have a total of 390No secure (364No for student accommodation and 26No for other uses), covered cycle spaces and addition e-scooter parking.</li> <li>- The Proposed Development is a car free development that may provide 4No on-street parking spaces only for blue badge holders.</li> </ul>
Flood risk & Water Management	<ul style="list-style-type: none"> <li>- The Proposed Development will install low water consumption sanitary fittings.</li> <li>- A mains water leak detection system will be installed, where feasible, to reduce the volume of potable water which may be lost due to leaks.</li> <li>- A creative and biodiverse water management system has been designed into the landscape to reduce the unregulated water demand.</li> <li>- A Flood Risk and Drainage Strategy has been produced for the Proposed Development.</li> <li>- The Proposed Development is in Flood Zone 1, therefore at low risk of flooding with 0.1% of flooding each year.</li> <li>- Drainage strategy has recommended the following features to mitigate any potential risk of surface flooding on site               <ul style="list-style-type: none"> <li>o Install biodiverse green and brown roofs</li> <li>o Geo-cellular attenuation tank (approximately 1,277 m<sup>3</sup>)</li> <li>o Permeable paving</li> <li>o Bio-retention tree pits</li> </ul> </li> </ul>

THEMES	NEW HENRY STREET PROPOSED DESIGN
Waste	<ul style="list-style-type: none"> <li>- A 'Site Waste Management Plan' (SWMP) will be produced by the main contractor for each phase of construction and will define measures to minimise the volume of waste sent to landfill arising from demolition and construction activities</li> </ul>
Material & Construction	<ul style="list-style-type: none"> <li>- The Proposed Development will be selected to minimise its environmental impact.</li> <li>- A Life Cycle Assessment was carried out at RIBA stage 2 assessing the options around substructure, superstructure and hard landscaping.</li> <li>- A sustainable procurement plan was used by the design team to guide the specification towards sustainable construction produce before Concept Design.</li> </ul>
Pollution	<ul style="list-style-type: none"> <li>- An Air Quality Assessment has been produced, stating that pollutant concentration will remain below the maximum levels for human health.</li> </ul>
Biodiversity & Ecology	<ul style="list-style-type: none"> <li>- The Proposed Development will provide a significant increase to the Site biodiversity and ecology.</li> <li>- There will be the introduction of a large variety and number of trees and the introduction of blue and green infrastructure to help manage the urban heat island effect.</li> <li>- there will be a 100% total net increase in habitat units.</li> </ul>



### 3.2. Performance

#### 3.2.1. BREEAM

The Building Research Establishment Environmental Assessment Method (BREEAM) is a performance-based sustainability assessment methodology and certification scheme for new and refurbished buildings. The performance of a scheme is quantified by the achievement of credits within the 10 key sustainability issues shown in the diagram.

The development is targeting a BREEAM rating of Excellent, in line with the Local Authority requirements, and will be assessed under the BREEAM Version 6 New Construction scheme. Due to the varying uses, 2 assessments will be carried out:

Table 4: BREEAM Assessment target Scores

BREEAM ASSESSMENT	TARGETED SCORE
Fully Fitted Multi-Residential (for the student accommodation)	74.96%
Shell-Only Retail (for the commercial/retail spaces)	76.22%

A summary of the targeted BREEAM credits for each element can be found in Appendix A.

BREEAM Communities is not deemed applicable for this project due to the scale and nature of the development. Please refer to Appendix B for details.



Figure 3: 10 Key Sustainability Themes. Source: BREEAM 2018

Developments should contribute to the mitigation and adaptation of climate change. Having a focus on sustainability not only benefits that planet but can have an economic and social benefit as well.

### 3.3. Energy and CO<sub>2</sub> emissions.

#### 3.3.1. Energy strategy.

The separate energy statement details the passive design and energy efficiency measures that have been considered and those that could be implemented at the Proposed Development. This is an important step towards embedding sustainability and ensuring new developments can minimise their impacts and meet the greenhouse gas targets set out by the UK Government.

The approach outlined in the energy statement follows the “Energy Hierarchy” methodology, which was used to develop the low carbon energy strategy. This is a staged approach – Be Lean, Be Clean, Be Green – 1. Reducing energy demand, 2. Meet the demand efficiently, 3. Assess low and zero carbon technologies which are suitable for implementation.

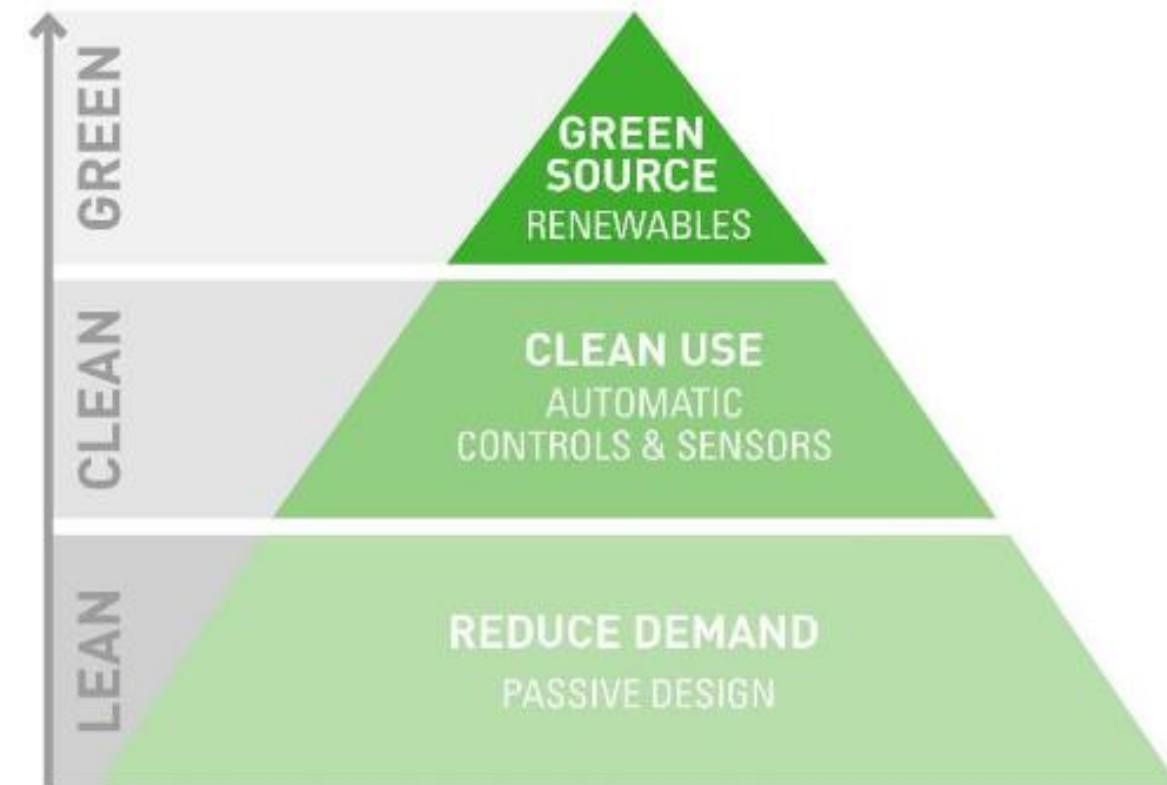


Figure 4: Energy Hierarchy. Source: Energy Strategy

The following measures and technologies have been identified as being suitable for New Henry Street.

Passive design – Be Lean

- Building U-values and air leakage will exceed minimum requirements of Part L 2021.
- Mixed mode ventilation is proposed.
- Optimised window size and orientation to maximise daylight.
- Solar shading to reduce excessive solar gains.

Meeting demand efficiently – Be Clean

- Mechanical ventilation with heat recovery to recycle up to 85% of heat from extracted air.
- Use of demand operated systems such as PIR for lighting, heating, and ventilation wherever possible.
- Variable speed drives and controls to be used in conjunction with the demand operated systems.
- Power management which will allow user to control the amount of electrical power consumed.
- LED lightings throughout the scheme.
- BMS system to optimise systems and minimise energy use.

Low zero carbon technology – Be Green

- Air source heat pumps for space heating and domestic hot water.
- Photovoltaic electricity generations to generate electricity for the development.

The Energy Strategy document confirms that the Proposed Development has a reduced energy consumption through the inclusion of “Be Lean” measures such as reduced U-Values, and “Be Green” measures, to ensure that the minimum Part L2A (2021) Target Emission Rate is met. Table 4 below demonstrates the BRUKL results, showing that the Proposed Development’s building emission rate is lower than the target emissions rate.

Table 5: Building CO2 emission rate and Building primary energy rate. Source: Energy Strategy

BUILDING	TARGET CO2 EMISSION RATE (TER), KGCO2/M2	BUILDING CO2 EMISSION RATE (BER), KGCO2/M2	TARGET PRIMARY ENERGY RATE (TPER), KWH/M2	BUILDING PRIMARY ENERGY RATE (BPER), KWH/M2
<b>Residential Accommodation</b>	3.89	3.23	41.44	35.29
<b>Does the building’s emission and primary energy rates exceed the targets</b>	BER =< TER		BPER =< TPER	

3.3.2. Thermal Comfort / Overheating risk assessment.

The Proposed Development will ensure that thermal comfort is prioritised for both the domestic student accommodation spaces and the non-domestic areas such as the amenity and retail spaces. The non-domestic space which are actively cooled will be designed in accordance with the criteria set out in CIBSE Guide A Environmental Design.

The Proposed Development will follow the standards as appropriate;

- CIBSE TM52: The limits of thermal comfort: avoiding overheating in European buildings for non-domestic spaces or
- CIBSE TM59: Design methodology for the assessment of overheating risk in homes for the student accommodation spaces

Noise impact assessment carried out by Savills confirms that due to existing noise levels, compliance against Part O - overheating cannot be achieved with the ventilation panels open. Measures will need to be taken at detailed design to address overheating with closed windows.

3.4. Health & Wellbeing

The overall design aspirations for the student accommodations will have a positive impact on the health and wellbeing of the residents. There will be a prioritisation of daylight and views in all the rooms and access to social learning and amenity spaces where students can engage with nature and green space.

The public zone will contribute to the existing community and provide new public amenity spaces, such as creative workspaces, outdoor markets, new local supermarket, etc. This will have a positive benefit on the local community by encouraging and providing opportunities to socialise, therefore increasing mental health.

As a highly sustainable urban location, the Proposed Development will promote active methods of travel, encouraging a healthy lifestyle and reducing load on existing vehicular infrastructure and associated air pollution, as discussed in 3.5.1. Further information can be found in the Design & Access Statement.

3.4.1. Lighting Quality

Internal and external lighting will be in line with best practice for visual performance and comfort. Internal lighting will be designed in accordance with the appropriate luminance levels and areas with computer screens will comply with the CIBSE Lighting Guide 7. External areas within the construction zone will comply with BS5489-1:2013 & BS12464-2:2014 and include the following:

- Average initial luminous efficacy of not less than 70 luminaire lumens per circuit Watt
- Automatic control to prevent operation during daylight hours
- Presence detection in areas of intermittent pedestrian traffic.

The lighting strategy for the Proposed Development is designed to create a safe, warm and animated environment on New Henry Street through architectural downlighting and uplit street furniture. The courtyard garden will have LED lights in the planting and glowing lanterns along the seating steps to encourage students outside in all seasons. Further details can be found in the Design & Access Statement.

3.4.2. Daylight

The Proposed Development maximises the opportunities for daylight and sun sunlight within the internal spaces, as the design of the building ensures optimal daylighting to all habitable rooms. For example, fewer than 10% of all bedrooms have a northwest facing aspect and these units benefit from dual aspect communal living space and direct access to the amenity courtyard.

Access to daylight is not only focused internally but also carefully designed so that it is maximised within the external amenity spaces. The figure below confirms how the courtyard length has been extended to increase sunlight exposure.



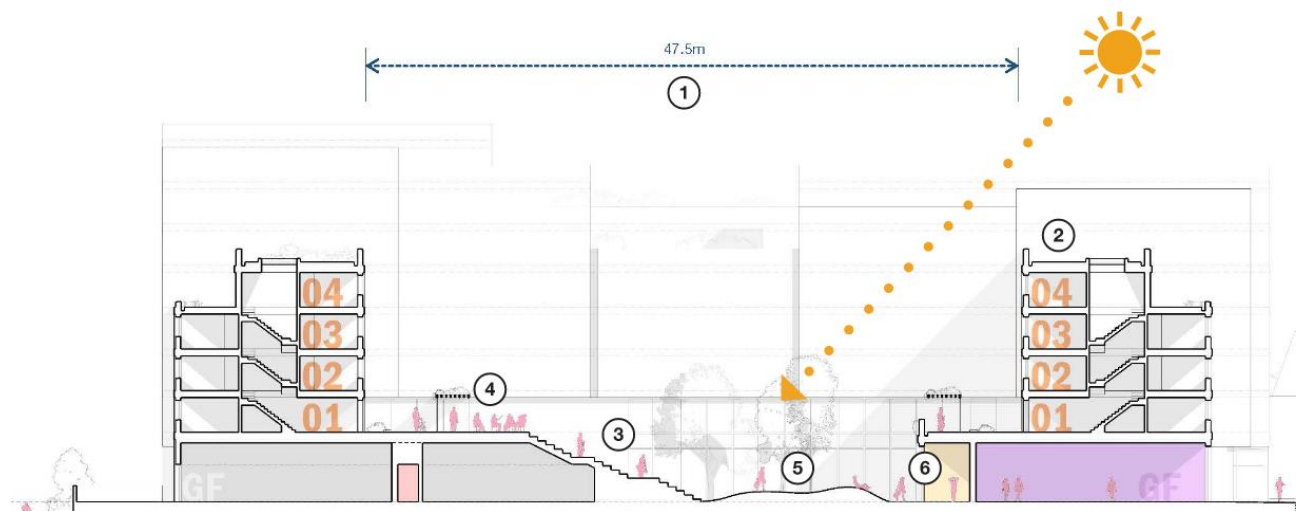


Figure 5: Daylight exposure to student courtyard garden. Source: AHMM.

### 3.4.3. Noise

An acoustic report will be undertaken to ensure disturbances to building occupants is minimised. This will ensure the reduction of noise pollution and good acoustic performance of the development.

To do this, it will require the halls to have airborne sound insulation values that are at least 3 dB higher and impact sound insulation values at least 2dB lower than the performance standards in the relevant building regulations. Ambient noise levels within the Proposed Development will be within the suggested range stated in section 7 of BS8233:2014 and where necessary, sound absorption will need to meet the building regulation standards, both of which will need to be verified by site testing. The Proposed Development has been designed to mitigate any transfer of noise pollution by:

- Placing shared living spaces and kitchens at the end of corridors or in corner locations;
- Residential accommodation being located from the first floor and up to reduce the effect of road noise;
- The building being constructed using a reinforced concrete frame, which mitigates noises and vibration transfer between spaces.

A noise impact assessment has been completed by Savills which confirms the following:

- The dominant noise source affecting the site was road traffic movements along Kingsland Road
- Due to the proximity of a nearby nightclub, high specification glazing is required for the proposed façade close to the club. These glazings will need to be sufficiently specified that noise levels would not exceed Noise Rating Curve NR20.
- This high spec glazing will also support to reduce noise associated with the operations of existing businesses.
- Due to existing noise levels, compliance against Part O -overheating cannot be achieved with the ventilation panels open. Measures will need to be taken at detailed design to address overheating with closed windows.

### 3.4.4. Safe & Healthy Surroundings

It is recognised that feeling safe and secure in your home is essential to occupant wellbeing and the creation of a sustainable community. The Proposed Development will provide safe access to safe movement and facilitate the activities that can have physical, mental and social benefits. As mentioned below in section 3.5.1, to provide a safe environment, there will be a secure cycle storage directly from the public footpath off site, direct footpaths to the building and an outside space with an external amenity area provided for building users.

The Proposed Development will have a single point of access for students, with a student reception that will be fully staffed 24 hours a day to aid in safeguarding. The student courtyard will be 940m<sup>2</sup>, which will have a landscaped garden area, communal steps/seating and designed to provide increased sunlight. Further details can be found in the Design & Access Statement.

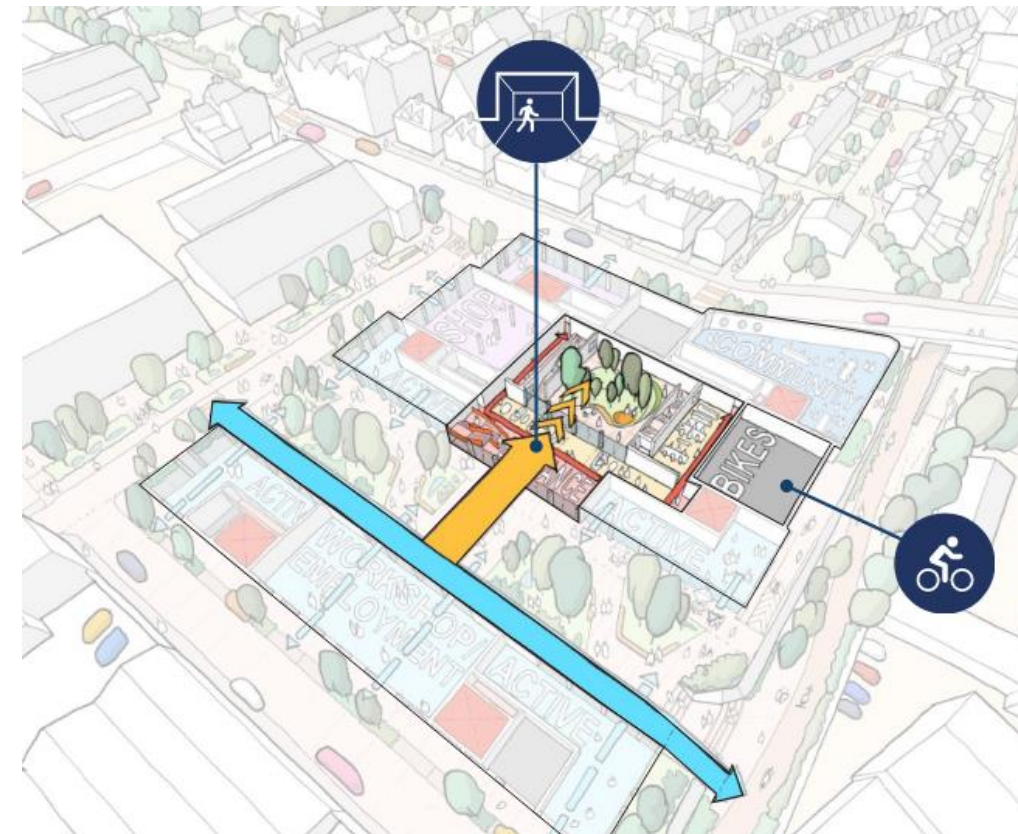


Figure 6: Single point of student access. Source: AHMM

### 3.4.5. Flexibility and adaptability.

To avoid unnecessary materials use, cost and disruption arising from the need for future adaptation works as a result of changing functional demands, building adaptability and future disassembly has been considered into the design of the Proposed Development.

The Proposed Development has built flexibility into the design that allows for changes of use later in the building's life. This promotes future adaptability of a building to accommodate a range of different uses that meet the ever-evolving needs of the city.

The student accommodation has been tested for different internal layouts, illustrating the potential to be adapted into a residential/hotel type arrangement. Some key structural and dimensional factors:

- Residential floor to floor height 3m
- Typical floor plate width 15m
- Shallow, well orientated floor plate creates good internal daylighting conditions
- Reinforced concrete frame – performs well from a fire and acoustic perspective
- 5.2 structural bay

A conversion is illustrated below. Further details can be found in the Design and Access Statement.

**05. Premium Shared Flat - A (PRS/Student)**

4 room 'bays' converted into shared 2 bedroom flat with large shared kitchen/living area and 2 non-suite bathrooms. Ideal for sharers to split rent 50/50 due to equality of provision.

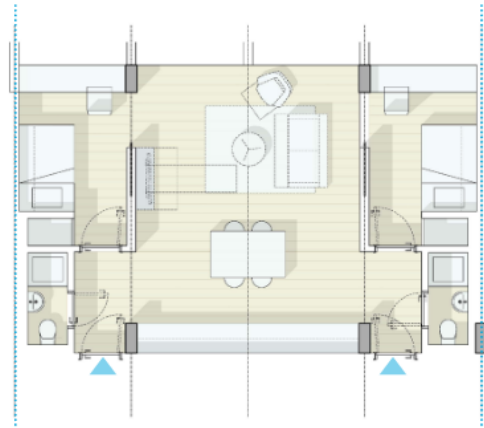


Figure 7: Student residential layout Option 5. Source: AHMM

For the employment and amenity spaces, a variety of occupational arrangements have been tested to illustrate how these highly flexible spaces could be reconfigured. Some key structural and dimensional factors are:

- Typical floor to ceiling 4.5m
- Glazing to core/wall depth approximately 7.5m
- Larger through unit depths approximately 15m
- Level thresholds provided from public realm for optimal access and delivery provision
- Reinforced concrete frame – performs well from a fire and acoustic perspective

A conversion is illustrated below. Further detail can be found in the Design and Access Statement.

**03. Creative Workspace**

*Creative workspaces help activate the street and benefit from natural lighting. Simple service distribution requires minimal fit-out cost helping to attract smaller start-up businesses.*

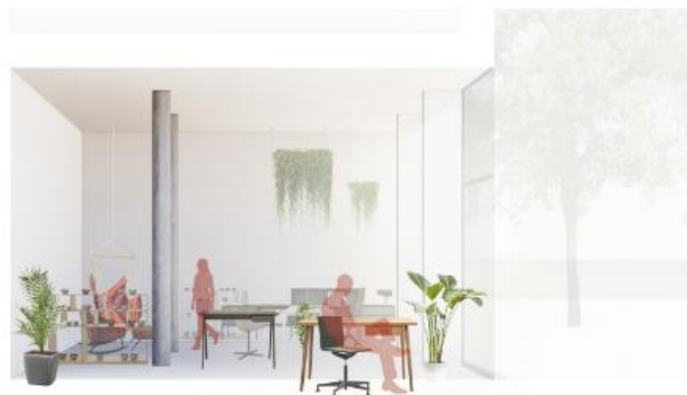


Figure 8: Occupational arrangement Option 3. Source: AHMM

**3.5. Transport & Mobility**

**3.5.1. Travel Statement**

The Proposed Development will increase or improve more sustainable modes of transport and movement of people. New Henry Street will be a pedestrian/cycle only street, which will not give rise to unacceptable traffic conditions. This site is in an excellent area for public transport, walking and cycling provision. These provisions are broken down further.

Additionally, the Proposed Development will be directly adjacent to a pedestrian network, a traffic-free walking and cycle path connecting to Sustrans National Cycle Network Route 3 and create a new connection to the Bristol to Bath Railway cycle route within a short distance.

A Transport Statement, Student Accommodation Travel Plan and a Premises management Plan have been produced by Highgate Transportation. The transport statement summarises the key sustainable transport measures related to public transportation, cyclist facilities and car parking, as outlined in the below sections.

The Student Accommodation Travel plan provides a long-term management strategy that encourages more sustainable travel. The inclusion of more cycle parking space, introduction of a car-free street and minimal parking will encourage sustainable methods of travelling and reducing the local air pollution. Overall, this will have a positive effect on health and wellbeing due to a decrease in vehicle exhaust and the encouragement of more active modes of transportation (walking and cycling).

To promote the above it is recommended that these measures and initiatives marketed through a Travel Information pack, which will promote car clubs, railway stations, bus stops/public transport routes, pedestrian and cycle routes, facilities within easy walking//cycling distance, and information on local bike and scooter hire schemes.

It is also recommended that Bristol City Council nominate a Travel Plan Co-ordinator (TPC) who will be responsible for delivering the measures listed within the Travel Plan and monitor and review these initiatives through a report that will be prepared biennially over a five-year period. This will include baseline travel data from an initial survey, continuous monitoring through further surveys and the use of cycle stores within the Proposed Development, and a review of how remedial action can be developed if targets are not achieved.

The Premises Management Plan has been created to ensure that measures are in place to manage the arrivals and departures of residents on busy movement days (which typically occur twice a year) and to prevent any adverse effects to the surrounding occupiers, the local highway network, or access to the adjacent St. Philips Household Reuse and Recycle Centre.

**3.5.2. Public transport**

The Proposed Development is located within Bristol city Centre and is accessible by various sustainable transport systems. The Site is approximately a 10-minute walk (800 metres) from Bristol Temple Meads, which has local and national rail services.

The nearest bus stop to the Proposed Development is within 100 metres and only 650 metres away from the Bristol Coach and Bus Station, a major bus interchange in the city centre.



### 3.5.3. Cyclist Facilities

The Proposed Development will have a secure cycle storage, which will be located directly off the cycle and foot path. This includes 364 secure, covered cycle parking spaces for students within the building and 26 secure and covered cycle parking spaces outside of the reception for staff visitors. These number of provisions will go beyond BCC and BREEAM requirements.

Transport assessment confirms that these cycle spaces will include 176 two-tier stands and 88 Sheffield stands, and an additional two Sheffield stands which will allow parking for larger cycles e.g. cargo bikes. The student cycle parking area will also include a cycle maintenance and cleaning area together with lockers and a changing area. A further 10 secure cycle parking spaces are proposed around the Site for visitors and employees for all land uses.

The application proposals will also provide an area for Voi e-scooter parking within the Site.

### 3.5.4. Car Parking

The development is generally to be car-free, given the highly sustainable location and land uses proposed. The application proposals include the provision of four car parking bays accessed from Alfred Street, which will be provided for blue badge holders.

Students will be actively discouraged from bringing a car into the administrative boundary through conditions stipulated in their tenancy agreement, however arrangements will be made for students who are blue badge holders. There will be unrestricted parking on both sides of sections of Sussex Street with on-street pay and display bays on both sides of Kingsland Road.

## 3.6. Water

The Proposed Development will be water efficient, incorporating measures to reduce potable water consumption through efficient fixtures, careful management and recycling strategies. The Proposed Development will incorporate water efficiency measures.

### 3.6.1. Water Consumption

The Proposed Development will install low water consumption sanitary fittings to reduce potable water consumption. This will involve reducing the flush volume of toilets and urinals, the flow rate of taps, showers and any other water consuming facilities.

It is assumed that a 12.5% improvement (25% for Excellent) in water consumption over the baseline will be achieved. This would broadly equate to:

- WC's – 6l flush or better (4.5l flush or better for Excellent Halls, 4l flush for Office)
- Wash-hand Basin taps – 5l/min or better (4.75l/m for office)
- Showers – 14l/min or better (10l/min or better for Excellent Halls, 8l/min for Office)
- Kitchenette taps – 5l/min (6l/min for Office)
- Domestic sized dishwashers (if present) – 13l/cycle
- Commercial sized washing machines – 10l/kg (No washing machine for the Office)

### 3.6.2. Water Monitoring

The main supply to the building will be fitted with a pulsed water meter and additional sub meters to each tenancy area and any other areas that have significant water usage.

### 3.6.3. Leak Protection & Prevention

A mains water leak detection system will be installed, where feasible, to reduce the volume of potable water which may be lost due to leaks. This will be supported with flow control devices to minimise undetected wastage and leaks from sanitary fittings and supply pipework.

### 3.6.4. Water Efficient Equipment

Systems have been identified that could mitigate or reduce the unregulated water demand of the building. A creative and biodiverse water management system has been designed into the landscape. New Henry Street will act as a central attenuation point, with permeable paving and rain gardens allow for water to be gathered and stored before being discharged into the wider system. Around the border of the Site, there are also proposed rain gardens and rainwater attenuating tree pits.

## 3.7. Materials

The design of the Proposed Development will minimise the impact of materials on the environment and building users. This scheme will embrace the ethos of a circular economy and paying attention to its carbon footprint by reusing and recycling materials, where possible. For the external landscape of the development, there will be a focus on reclaimed setts, metal edging retained from site clearance, timber from recycled wood from the Bristol Wood Recycling Project and Charcon eco-kerb comprised of 65% recycled materials. Further information can be found in the Design & Access Statement.

### 3.7.1. Life Cycle Assessment

A Life Cycle Assessment (LCA) has been undertaken for BREEAM which considers 4 substantially different superstructure elements and 6 substantially different substructure or hard landscaping elements. This has been verified by a suitably qualified third party.

For the superstructure elements, four main options were considered at the start of the design appraisal. Options 1-3 were assessed using brick as external cladding and option four was assessed using a hybrid cladding of brick and pre-cast concrete. The four options were:

1. Concrete flat slab with concrete columns – Preferred Option.
2. CLT – Discounted due to fire protection concerns.
3. Steel frame with ComFlor – Discounted as the structural zone required for a steel frame would be much larger than the other options.
4. Load bearing masonry with pre-cast planks – Discounted as the size of the Proposed Development, where 4 storeys is exceeded, vertical steel ties would need to be introduced, making this option economically unviable.

For the substructure, two foundation options were assessed. For both options, a concrete flat slab was used as the frame. The two options were:

1. Spread foundation – Preferred Option
2. Piled foundation – Discounted as it would not be economical due to the competent ground conditions.

For the hard landscaping elements, four main options were considered. Each hard landscaping element contained the known hard landscaping elements for New Henry Street. These options were:

1. Natural stone setts – Preferred Option.
2. Concrete block paving – not as aesthetically pleasing.
3. Brick pavers – not as aesthetically pleasing.
4. Aggregate – not as aesthetically pleasing.

Further information can be found in the LCA report.

### 3.7.2. Responsible Sourcing

The Applicant has produced a sustainable procurement plan at RIBA stage 1 to help guide the specification of materials towards sustainable construction products. This plan includes a requirement for assessing the potential to procure construction products locally as well as procedures in place to check and verify the effective implementation of the sustainable procurement plan. The plan assesses risks and opportunities of procurement against a broad range of social, environmental and economic issues following the process set out in BS ISO 20400:2017.

In line with BREEAM, the Proposed Development will ensure 100% of timber and timber-based products used on the project are procured from legal and sustainable source as stipulated in the UK Government’s Timber Procurement Policy. It will endeavour to reuse material, where possible, to reduce the need for virgin materials and source material from suppliers with appropriate responsible sourcing certification (e.g. BES6001, ISO 14001, FSC, CSA, MTCC, PEFC, SFI, etc.)

### 3.8. Waste

The Proposed Development will reduce the amount of waste sent to landfill during construction and throughout the lifetime of the building, by effective management and adherence to the waste management hierarchy.

A ‘Site Waste Management Plan’ (SWMP) will be produced by the main contractor for each phase of construction and will define measures to minimise the volume of waste sent to landfill arising from demolition and construction activities.

The Proposed Development will consist of 6 refuse and recycling bin stores. It is intended that the student accommodation will be provided with four large refuse and recycling bin stores: two from Kingsland Road and two accessed from Alfred Street, which will be collected on a weekly basis. Location of these refuse bins are illustrated in the figure below.

The employment spaces will be provided with two communal refuse and recycling bin stores, one accessed from Kingsland Road and one accessed from Alfred Street, and it is envisaged that they will arrange their own twice-weekly private collection as required. It is also expected that some of the commercial units will have their own back of house area internally for refuse/recycling storage.

Further information can be found in the Transport Statement and the Delivery and Service Vehicle Management Plan.



Figure 9: Location of the proposed bin stores.

### 3.9. Biodiversity & Ecology

The Proposed Development will be developed on previously developed land, avoiding a plot that has not been previously disturbed.

#### 3.9.1. Biodiversity and Nature Conservation

A data search and field survey were undertaken to classify the on-Site habitats and was extended to assess the suitability of the Site and immediately adjacent habitats to support legally protected and/or notable species. The outcomes of the full ecological assessment were outlined in the Ecology Report:

- The Proposed Development will not have a significant effect on the conservation status of the adjacent sites within 2km of the Site.
- The habitats present within the Site have negligible ecological value.
- Rain gardens, brown roofs, green biodiverse roofs, scented shrubs and urban trees will be created as part of the proposed landscape scheme.
- The overall on-site baseline habitat units are currently 0.00, while the on-site post-development (enhancement) habitat units are 1.4 units. This means that there will be a 100% total net increase in habitat units.



Part of the landscape will be turned into a garden that will be transforming throughout the year, ensuring a continuous rich biodiversity. Biodiversity will be further enhanced as green and brown roofs will be utilised across the scheme. The lower-level roofs will be green roofs, which will consist of wildflower rich greening and gravel mulches, which will be more aesthetically pleasing for residents overlooking. The higher levels will be brown roofs, which will consist of recycled crushed brick and provides a habitat for rare birds and insects.

### 3.10. Pollution

The design has been developed with the prevention and control of pollution to surrounding communities and environments in mind.

During the construction stage of the project, potential impacts will be managed by the contractor in line with Pollution Prevention Guidelines. The contractor will be required to sign up to the Considerate Constructors Scheme (CCS), which will also require them to minimise pollution risks to air, land, water and nuisance from vibration, light and noise pollution.

#### 3.10.1. Air Quality

The Proposed Development is located within Bristol’s Air Quality Management Area (AQMA), therefore an air quality assessment was completed to assess the potential local air quality effects.

Dust impacts for construction-related activities are listed as “High Risk” to ensure the mitigation measures for construction activities are in line with best practice.

As the domestic hot water and space heating loads will be met with electrically fuelled systems, there will be no associated on-site NOx emissions that would have a detrimental impact on local air quality. The exclusion of onsite car parking and only limited street parking will restrict the number of vehicles that drive within the vicinity. This will have a positive affect mitigating the exhaust emissions from vehicles.

Following the Air Quality Assessment, the existing and predicted opening-year ambient pollutant concentrations in the local area are below air quality objective values set to be protective of health. Therefore, the Site is considered to be suitable for development.

#### 3.10.2. Flood Risk

According to the flood risk map provided by the Environment Agency the Proposed Development is located in Flood Zone 1 where the probability of river or sea flooding is less than 0.1% each year. The flood risk assessment report by Meinhardt confirms that the Proposed Development has a low risk of flooding from the following sources

- Tidal & Fluvial
- Artificial Sources
- Groundwater
- Sewers
- Surface water

Although risk of surface water flooding is considered low due to surface flooding only taking place in the existing Dings railway path which is approximately 2m below the FFL, the following are recommended to further mitigate this risk:

- external ground levels of the Site to comprise of a gentle slope falling away from the buildings, this will allow any external surface water runoff to naturally flow away from the building rather than towards it. #
- the buildings itself/ themselves will have raised thresholds.
- the Site’s external levels remain slightly elevated compared to the surrounding roads to reduce risk of these surface water flow paths entering the Site.

#### 3.10.3. Drainage Strategy.

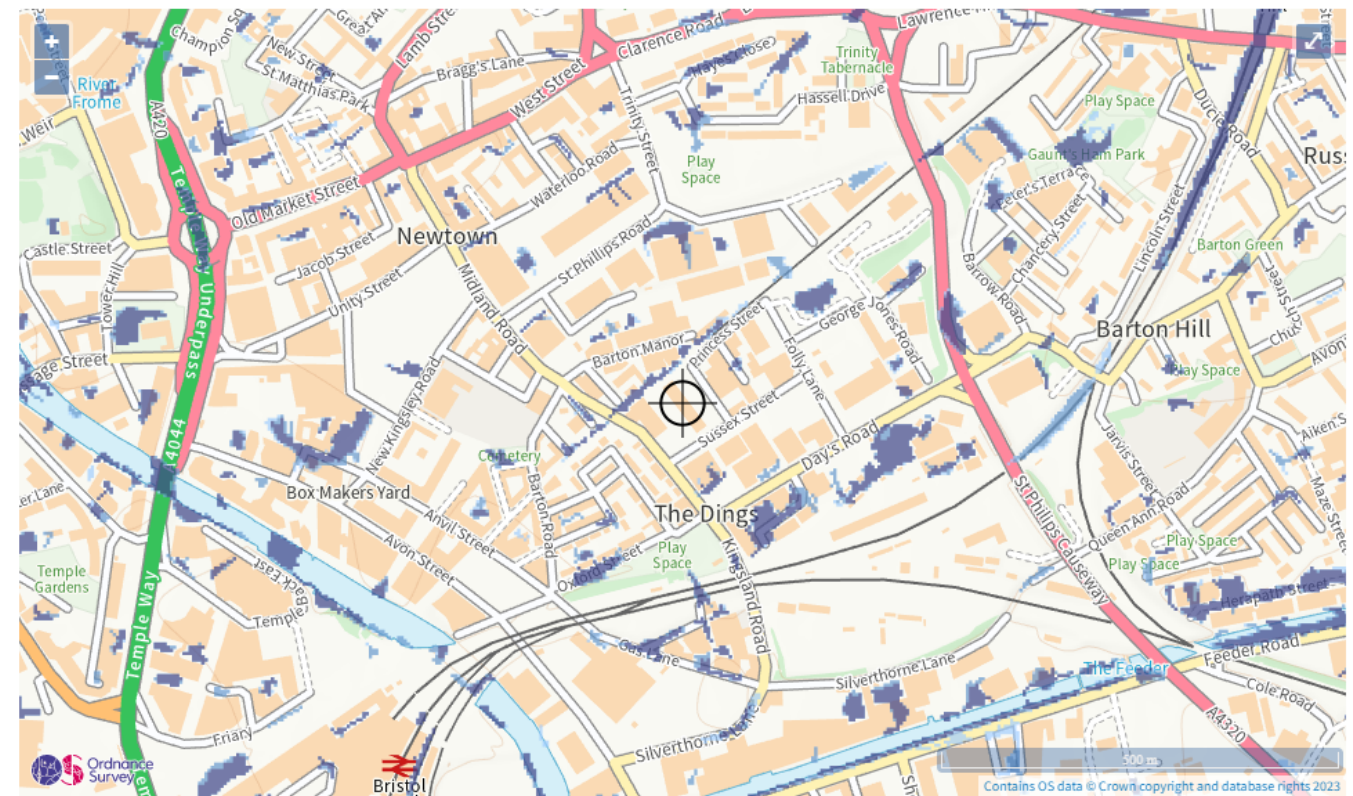
The sustainable surface water drainage strategy has been designed in accordance to the drainage hierarchy which states that surface water runoff from a Site shall discharge to one of the following in order of priority:

- An adequate soakaway or some other adequate infiltration system;
- A watercourse; and
- Sewer.

Due to the local geology, infiltration of surface water into the ground is not deemed feasible. There are no watercourses in the vicinity of the Site, therefore the site will discharge to a local public sewer.

The following are additional measures recommended to manage surface water drainage:

- Biodiverse green and brown roofs will be installed on roofs where suitable. The biodiverse green and brown roofs will add to the amenity of the development by contributing to the visual aesthetics of the development and will increase the biodiversity of the development by creating habitats for wildlife.
- A 1277m3 below ground geo-cellular attenuation tank will be incorporated in the Proposed Development. Surface water from the Site will be routed to this attenuation system, where the water will be retained before being routed to a pump chamber.
- Permeable paving is proposed to be installed between the central soft landscape elements within New Henry Street itself.
- Bio-retention tree pits will be provided on site. These areas will contribute to the reduction of flow rates from the site and also provide treatment to the surface water run-off by removing sediments and pollutants from the water.



Extent of flooding from surface water

- High
- Medium
- Low
- Very low
- ⊕ Location you selected

Figure 10: Extent of flooding from surface water: Source: GOV.UK long term flood risk map

## 4. CONCLUSION

The Proposed Development has been designed to consider and respond to the regulatory, national and local planning policy requirements by proposing the redevelopment of New Henry Street, Bristol into a high quality, sustainable student accommodation and commercial spaces that will add value to the local community.

Table 6: New Henry Street sustainability strategy summary.

THEMES	NEW HENRY STREET PROPOSED DESIGN
Performance	<ul style="list-style-type: none"> <li>- Targeting BREEAM Excellent</li> <li>- Carrying out two assessments: fully fitted multi-residential and shell-only retail</li> </ul>
Energy and CO <sub>2</sub> emissions	<ul style="list-style-type: none"> <li>- A separate energy statement has been produced to review the energy and carbon of the Proposed Developments design which the Energy Hierarchy.</li> <li>- Fully electric servicing strategy of air source heat pumps delivering space heating and domestic hot water.</li> <li>- Student accommodation spaces will be naturally ventilated with openable windows, therefore reducing auxiliary load.</li> </ul>
Health & Wellbeing	<ul style="list-style-type: none"> <li>- Daylight and views to social and green spaces are prioritised.</li> <li>- The location of the development will encourage active methods of travel, encouraging a healthy lifestyle.</li> <li>- A lighting strategy will ensure the Proposed Development is designed to create a safe, warm and animated environment.</li> <li>- High specification glazing is required to reduce infiltrating noise from road traffics along Kingsland Rd, the nearby nightclub and surrounding existing businesses.</li> <li>- The Proposed Development will have a single point of access for students and 24/7 staffed reception to aid in safeguarding</li> </ul>
Transport & Mobility	<ul style="list-style-type: none"> <li>- A Transport Statement, Student Accommodation Travel Plan and a Premises Management Plan have been produced for the Proposed Development.</li> <li>- The Proposed Development will improve more sustainable modes of transport and movement of people by being a car free development.</li> <li>- The Site is approximately a 10-minute walk (800 metres) from Bristol Temple Meads, which has local and national rail services.</li> <li>- The nearest bus stop to the Proposed Development is within 100 metres and only 650 metres away from the Bristol Coach and Bus Station, a major bus interchange in the city centre.</li> <li>- The Proposed Development will have a total of 390No secure (364No for student accommodation and 26No for other uses), covered cycle spaces and addition e-scooter parking.</li> <li>- The Proposed Development is a car free development that may provide 4No on-street parking spaces only for blue badge holders.</li> </ul>
Flood risk & Water Management	<ul style="list-style-type: none"> <li>- The Proposed Development will install low water consumption sanitary fittings.</li> <li>- A mains water leak detection system will be installed, where feasible, to reduce the volume of potable water which may be lost due to leaks.</li> <li>- A creative and biodiverse water management system has been designed into the landscape to reduce the unregulated water demand.</li> <li>- A Flood Risk and Drainage Strategy has been produced for the Proposed Development.</li> <li>- The Proposed Development is in Flood Zone 1, therefore at low risk of flooding with 0.1% of flooding each year.</li> </ul>

THEMES	NEW HENRY STREET PROPOSED DESIGN
	<ul style="list-style-type: none"> <li>- Drainage strategy has recommended the following features to mitigate any potential risk of surface flooding on site <ul style="list-style-type: none"> <li>o Install biodiverse green and brown roofs</li> <li>o Geo-cellular attenuation tank (approximately 1,277 m<sup>3</sup>)</li> <li>o Permeable paving</li> <li>o Bio-retention tree pits</li> </ul> </li> </ul>
Waste	<ul style="list-style-type: none"> <li>- A 'Site Waste Management Plan' (SWMP) will be produced by the main contractor for each phase of construction and will define measures to minimise the volume of waste sent to landfill arising from demolition and construction activities</li> </ul>
Material & Construction	<ul style="list-style-type: none"> <li>- The Proposed Development will be selected to minimise its environmental impact.</li> <li>- A Life Cycle Assessment was carried out at RIBA stage 2 assessing the options around substructure, superstructure and hard landscaping.</li> <li>- A sustainable procurement plan was used by the design team to guide the specification towards sustainable construction produce before Concept Design.</li> </ul>
Pollution	<ul style="list-style-type: none"> <li>- An Air Quality Assessment has been produced, stating that pollutant concentration will remain below the maximum levels for human health.</li> </ul>
Biodiversity & Ecology	<ul style="list-style-type: none"> <li>- The Proposed Development will provide a significant increase to the Site biodiversity and ecology.</li> <li>- There will be the introduction of a large variety and number of trees and the introduction of blue and green infrastructure to help manage the urban heat island effect.</li> <li>- there will be a 100% total net increase in habitat units.</li> </ul>



**5. APPENDIX A – BREEAM TARGETED CREDITS**

Results Summary – Fully fitted multi-residential for the student accommodation			
Sector	Total Available	Weighting	Excellent
Management	21	11.0%	11.00%
Health & Wellbeing	19	14.0%	8.84%
Energy	22	16.0%	8.72%
Transport	12	10.0%	5.83%
Water	9	7.0%	4.66%
Materials	14	15.0%	11.78%
Waste	10	6.0%	4.80%
Land Use & Ecology	13	13.0%	11.00%
Pollution	12	8.0%	5.33%
<b>Total Predicted Score</b>			<b>71.96%</b>
<b>Innovation</b>	<b>10</b>	<b>10.0%</b>	<b>3.00%</b>
<b>Total Score</b>			<b>74.96%</b>
<b>BREEAM Rating</b>			<b>EXCELLENT</b>

Table 1: Fully Fitted Multi-residential for the student accommodation (Target Score of 74.96%)

Results Summary – Shell-only retail for retail units			
Sector	Total Available	Weighting *Shell Only*	Excellent
Management	15	12.0%	12.00%
Health & Wellbeing	8	7.0%	5.25%
Energy	13	9.5%	5.11%
Transport	12	14.5%	7.25%
Water	3	2.0%	2.00%
Materials	14	22.0%	14.14%
Waste	10	8.0%	6.40%
Land Use & Ecology	13	19.0%	16.07%
Pollution	6	6.0%	5.00%
<b>Total Predicted Score</b>			<b>73.22%</b>
<b>Innovation</b>	<b>3.00%</b>	<b>10.0%</b>	<b>3.00%</b>
<b>Total Score</b>			<b>76.22%</b>
<b>BREEAM Rating</b>			<b>EXCELLENT</b>

Table 2: Shell-Only Retail assessment for retail units (Target Score of 76.22%)

## 7. APPENDIX B – BREEAM COMMUNITIES APPLICABILITY

The Bristol local plan policy states that “For major development and development for health or education uses, the Sustainability Statement should include a BREEAM and/or Code for Sustainable Homes assessment. Additionally, in the case of a super-major development, a BREEAM for Communities assessment will be required.”

The local plan policy definition of a ‘super-major development’ is –

“For the purposes of Policy BCS15, major development is defined as development of 10 or more dwellings or development exceeding 1,000m<sup>2</sup> of other floorspace, and super-major development is defined as development of 100 or more dwellings or development exceeding 10,000m<sup>2</sup> of other floorspace.”

Points 1 & 2 below set out the justification as to why BREEAM Communities is not a relevant scheme for this development.

1. BREEAM Communities is a certification scheme that was developed for use on ‘moderate or large mixed-use developments’ and is intended to be utilised during the early masterplanning stages.

The scheme in question is a 627-bed student accommodation development, with a number of small retail units and community space intending to compliment the accommodation above. The scale and nature of this scheme is not suitable in comparison to the BRE definition of a ‘moderate or large mixed-use development’. The scheme is targeting BREEAM Excellent under the New Construction equivalent scheme, which is appropriate to single developments such as this. The principles of BREEAM will be implemented via this assessment, therefore there would be no additional benefit to the scheme in carrying out a BREEAM Communities assessment at the same time.

2. The BRE include the below advise on how to determine whether BREEAM Communities is applicable to projects

“Given the variation in the description of ‘moderate or large developments’, BRE Global have prepared a list of questions to help BREEAM Communities assessors, developers, communities and local authorities determine the type and scale of developments that are suitable for a BREEAM Communities assessment at the design and planning stage. Answering ‘yes’ to the majority of these questions indicates that using this scheme could improve the sustainability of the development:”

BREEAM COMMUNITIES' QUESTIONS	NEW HENRY STREET RESPONSE
Will the development place significant extra burdens on public transport systems or highways requiring extra capacity or new transport infrastructure (cycle/pedestrian routes, roads, parking, etc.)?	<b>NO</b> - The scheme proposals are not anticipated to place significant extra burdens on public transport or highways (no parking is included, and the number of building users / visitors is not expected to require additional cycle or pedestrian routes in the local area. This is supported by the Transport Assessment completed for the scheme
Does the development include or make use of adjacent areas of public realm that occupants and visitors will use?	<b>NO</b> -The development will not involve providing additional strain on areas of public realm, and does not include areas of new public realm within the scheme
Will the development lead to the enhancement, diversification or addition of local employment, social mix or ecological value?	<b>NO</b> -The development will lead to a moderate addition in new local employment via the commercial units and staff associate with the student accommodation
Will the development include dwellings that trigger additional capacity or require new provision of medical centres, schools, retail centres, places of religious worship, or other similar facilities and services?	<b>NO</b> -The number of building users is not considered sufficient to trigger new provision of medical centres, schools, retail centres, places of workshop or other similar facilities. The nature of the scheme as a student residence

BREEAM COMMUNITIES' QUESTIONS	NEW HENRY STREET RESPONSE
	ensures that students will use the existing facilities provided by the university
Is the development of a scale that could create opportunities for community level utility provision including; energy, water and waste services or is there potential to link to other new or existing developments to make such service options viable?	<b>NO</b> -The development is not of a scale to make community level utility provision worthwhile, or to connect with our developments in the vicinity to justify community level utility provision
Is the development likely to have a significant impact on existing communities?	<b>NO</b> -The existing community in the local area is not expected to be significantly impacted by the new development users. The nature of building users in student accommodation ensures that it is likely users will utilise existing University facilities