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Client: S2 Estates
Project: Flint Street
Report: Sustainability Statement

QUALITY ASSURANCE

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1.0 INTRODUCTION

Greengage Environmental Ltd are commissioned on behalf of the client, S2 Estates, to undertake this Sustainability Statement for the Proposed Development at Flint Street, located within Reading Borough Council.

This report details the approach that the applicant and the design team have collectively taken towards achieving a high standard of sustainable development and environmental performance. This Statement outlines the features that have been incorporated into the design proposals and the measures that will be implemented during the construction and operation phases, which aim to reduce the environmental impact of the scheme and contribute positively to sustainable development.

The purpose of the Sustainability Statement is to provide an independent verification that the design of the Proposed Development is in accordance with the sustainability and energy objectives of relevant planning policy at all levels and is an example of good practice in sustainable design. This Statement reports the performance of the Proposed Development using national, regional and local level guidance on sustainability indicators from both government and industry.

The Statement includes:

- A brief description of the Proposed Development;
- A summary of the relevant international, national and local sustainable development and energy policy drivers; and
- An examination of the performance of the scheme in accordance with other key sustainability policies at all levels, including the policies contained within the Reading Borough Council Local Plan (2019)¹.

A review of the Proposed Development's sustainability against set planning objectives and best practice identifies the opportunities and constraints of both the application site and the proposals. By undertaking the sustainability appraisal at this stage in the design process, the potential to contribute positively to sustainable development is optimised. The Sustainability Statement therefore also provides a framework for the team to monitor the scheme's performance throughout its development.

2.0 THE PROPOSED DEVELOPMENT

The existing site is host to the former Thames Valley Police Station and extends to approximately 0.55 hectares in Reading Town Centre. The site currently comprises a 5-storey building with predominantly brick and glasswork façade. The site includes a small car park, fronting Castle Street for visitors of the former police station along with parking in the basement area.

It is understood that the proposals involve the development of the police station into a mixed-use, residential-led Build to Rent (BTR) scheme.

The Proposed Development encompasses: *'Full planning permission for the demolition of the existing building and the erection of a residential-led mixed-use development comprising Use Class C3 residential units, with Use Class E and Sui Generis on the ground floor and with some elements at lower ground floor, plus public realm, hard and soft landscaping, access and servicing arrangements, cycle parking, and other associated works.'*

Flint Street has been assessed using the BREEAM New Construction V6.1 methodology for a Shell Only retail unit. The non-residential elements of the Proposed Development are assumed to include approximately 1,380m² retail, and will be targeting a BREEAM rating of 'Excellent' (≥70%), demonstrating compliance with Reading Local Plan Policy CC2.

Figure 2.1 Visualisation of the Proposed Development (Source: Design and Access Statement - JTP)



3.0 PLANNING POLICY & LEGISLATIVE CONTEXT

3.1 KEY SUSTAINABILITY DRIVERS

The aim of sustainable development is to seek to simultaneously progress economic, social and environmental goals and policies in ways that develop and maintain a good quality of life for everyone and enable future generations to do the same.

Strategies for sustainable development – broad, long-term plans of action aimed at achieving the goals of sustainable development – have been developed by national governments, and a range of organisations throughout the world, in order to set out a blueprint for action. There are also a number of international and national policy drivers for energy efficiency and reduced carbon dioxide (CO₂) emissions, which have been introduced to address the implications of climate change.

The remainder of this statement sets out these policy drivers and how the development has responded to each of these under key topic areas that together cover the environmental, social and economic needs of the Proposed Development.

National Policy Drivers

Climate Change Act 2008 (2050 Target Amendment)²

On 26th November 2008, the UK Government published the Climate Change Act 2008, the world's first long-term legally binding framework to mitigate against climate change. The Act initially set legally binding targets for greenhouse gas emission reductions of 80% by 2050 (from 1990 levels). This was amended in 2019 to a revised target of a 100% reduction in carbon emissions by 2050, over the 1990 baseline emissions levels, known as the net-zero target. In addition, there are interim carbon budget levels, which provide stepping stones to achieve the overall target.

National Planning Policy Framework (2024)

The National Planning Policy Framework (NPPF) was revised in December 2024³, and further amended in February 2025, replacing the previous NPPF that was first adopted in March 2012 with several subsequent updates. The NPPF sets out the Government's planning policies for England and how they are expected to be applied. It sets out a framework that aims to achieve sustainable development throughout the planning system with three overarching objectives – economic, social and environmental.

At the heart of the NPPF is a 'presumption in favour of sustainable development', which requires local authorities as part of any plan-making or decision-making, to provide clear guidance on how the presumption should be applied locally.

LOCAL POLICY DRIVERS

Reading Borough Local Plan

The Reading Borough Local Plan was adopted in 2019. In relation to sustainable development and energy, the Local Plan sets out the following policies:

- Policy CC2 Sustainable Design and Construction
- Policy CC3 Adaptation to Climate Change
- Policy CC4 Decentralised Energy
- Policy CC5 Waste Minimisation and Storage
- Policy EN9 Provision of Open Space
- Policy EN12 Biodiversity and the Green Network
- Policy EN15 Air Quality
- Policy EN16 Pollution and Water Resources
- Policy EN18 Flooding and Sustainable Drainage Systems
- Policy TR1 Achieving the Transport Strategy
- Policy TR4 Cycle Routes and Facilities
- Policy TR5 Car and Cycle Parking and Electric Vehicle Charging

Local Plan Partial Update (Pre-submission draft November 2024)⁴

The Reading Local Plan Partial Update was submitted to the Secretary of State in May 2025 and Stage 2 hearings were concluded in February 2026. There has been no output yet and this is not currently adopted. Therefore, the existing 2019 Local Plan remains the active document for development management until the partial update is officially approved.

Reading Borough Sustainable Design and Construction Supplementary Planning Document

The Reading Borough Sustainable Design and Construction Supplementary Planning Document ('SPD')⁵ was adopted in 2019. It explains planning requirements with regard to energy, climate change, water management and waste reduction. It is intended to supplement the policies of the Local Plan, particularly Policies CC2, CC3, CC5, EN18 and H5. The SPD emphasises the importance of reducing energy consumption and mitigating climate change impacts through design, and the proposed energy strategy for the development will align with this, targeting the highest possible standards in energy performance and contributing to Reading's carbon neutrality target.

Reading Borough Council Carbon Plan 2020-25

Reading Borough Council has approved a new Carbon Plan⁶ for 2020-2025, aiming to significantly reduce carbon emissions and achieve net zero by 2030. The Council aims to generate its energy from renewable sources and seeks to retrofit existing buildings and constructing new homes to zero carbon standards. Additionally, efforts to reduce transport emissions include promoting walking, cycling, public transport, and electric vehicles.

4.0 ENERGY



The UK carbon emissions target of achieving net zero by 2050 requires a significant decrease in energy consumption across all sectors. Currently buildings account for 49% of all UK emissions, of which between 40-65% are estimated to be a result of operational energy demand.⁷

Relevant Policy: Local Plan Policies CC1-CC4

4.1 POLICY CONTEXT

Local Policy CC2 requires proposals for new development, including the construction of new buildings and the redevelopment and refurbishment of existing building stock, to be designed and use energy, water, minerals, materials and other natural resources appropriately, efficiently and with care, taking account of the effects of climate change. All major non-residential developments or conversions to residential are required to meet the most up-to-date BREEAM 'Excellent' standards, where possible.

Local Policy CC3 requires new buildings to be orientated to maximise the opportunities for both natural heating and ventilation and reducing exposure to wind and other elements. Proposals should demonstrate how they have been designed to maximise resistance and resilience to climate change, for example by including measures such as solar shading, thermal mass, heating and ventilation of the building and appropriately coloured materials in areas exposed to direct sunlight, green and brown roofs, green walls etc.

Local Policy CC4 requires any development of more than 20 dwellings and/ or non-residential development of over 1,000sqm to consider the inclusion of decentralised energy provision, within the site, unless it can be demonstrated that the scheme is not suitable, feasible or viable for this form of energy provision.

4.2 DESIGN DELIVERY

Building energy performance

A detailed assessment of the energy performance of the Proposed Development is presented in a standalone Energy Strategy produced by PSH Consulting Ltd, submitted as part of the planning application. The key energy and sustainability measures and results described in the Energy Strategy are summarised below:

Be Lean

The building design focuses on high energy efficiency through improved building elements (exceeding a notional building minimum values) with low U-values for facades, roofs, floors, and windows, alongside detailed junctions to reduce thermal bridging and air permeability. Air tightness target is set at 3 m³/(h·m²) @50Pa for both domestic and non-domestic areas. To limit heat loss and solar gain the design includes optimised glazing ratio, solar control glass and double glazing to all dwellings and non-domestic areas, supported by integrated external shading from

recessed windows and balconies to optimise thermal comfort throughout the year. Energy-efficient LED lighting with high efficacy and lighting control systems are implemented to reduce electricity use. Mechanical ventilation will include heat recovery and adaptive airflow based on occupancy providing constant fresh air whilst preheating incoming air with outgoing warm air, reducing the need for space heating by up to 90%.

Be Clean

As part of the 'Be Clean' stage of the energy assessment, the potential to connect to an existing or proposed decentralised energy network has been evaluated. However, there are no existing district heating networks adjacent to the site.

Be Green

The renewable and low carbon technologies feasibility study identified that the most appropriate technologies for the development, and for promoting a future transition to zero carbon, are air source heat pumps (ASHPs) and Photovoltaic (PV) systems. The ASHP will provide, via 5th generation ambient loop network, the space heating and hot water demand for the domestic areas. The analogous ambient loop system will also provide domestic hot water to the non-domestic areas while also power the VRF via Water Source Heat Pump (WSHP) to provide heating and cooling demand to the non-residential areas. Additionally, PV panels have been integrated into the design and located on the available roof areas. The total PV panels considered feasible at this stage is 177 with a peak power of approximately 62 kWp.

Summary

The results set out in the Energy Strategy show that for the whole building, the estimated regulated CO₂ savings are 12% at the Be Lean stage, 48% at the Be Green stage, and 60% cumulative savings measured against a Part L 2021 compliant baseline. By combining passive design measures, low carbon systems, onsite energy generation, and offset payments, the proposed development aims to achieve operational carbon neutrality in respect of regulated energy consumption over a 30-year period.

Overheating

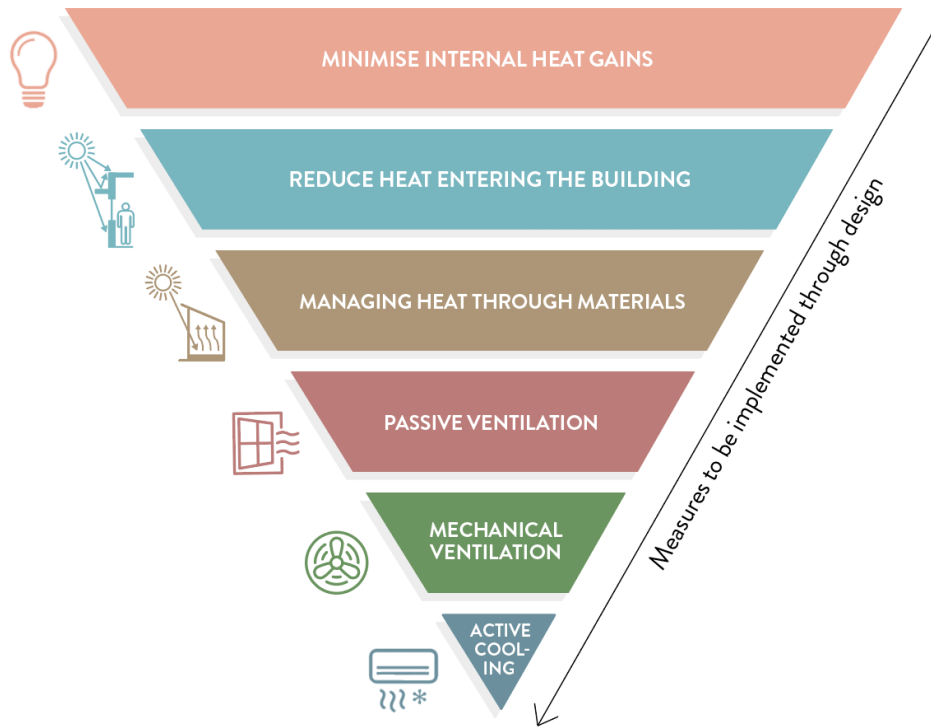
The risk of overheating has been considered in line with the cooling hierarchy, as shown in Figure 4.1. Passive design measures have been prioritised to mitigate overheating and reduce cooling demand.

The results demonstrate that the development complies with the requirements of CIBSE TM59 and Approved Document O in the scenario where noise does not impose constraints on the façade design. Through the adoption of reduced glazing g-values and increased MVHR ventilation rates, all rooms are shown to achieve compliance.

However, given that the acoustic assessment identifies elevated noise levels, the building has been specified with enhanced mechanical ventilation boost rates, including MVHR peak looping, and reduced g-values. This reflects the scenario in which external acoustic constraints preclude the use of openable windows or other passive ventilation strategies.

Further details are provided in the Overheating Study produced by PSH Consulting Ltd in support of this planning application.

Figure 4.1 The Cooling Hierarchy



5.0 TRANSPORT



Transport currently accounts for 31% of the UK's carbon emissions⁸. In order to meet the UK's ambitious target of an overall 100% cut in emissions by 2050, extensive decarbonisation of the transport sector is essential. Road transport accounts for c.90% of all transportation emissions⁹ and whilst a considerable proportion of road transport emissions will be addressed through technical developments in car engines and greater use of electric vehicles, a significant move to greener consumer behaviour is also

required.

Relevant Policy: Local Plan Policies TR1, TR4 and TR5.

5.1 POLICY CONTEXT

Local Policy TR1 specifies that planning permission will not be granted for major development proposals unless there is a commitment to implement measures to promote and improve sustainable transport facilities, such as through provision to encourage walking, cycling and the use of public transport; and through agreed travel plans, safe routes to local facilities and services, including schools and parks, and similar measures. All development proposals should make appropriate provision for works and contributions to ensure an adequate level of accessibility and safety by all modes of transport from all parts of a development, particularly by public transport, walking and cycling, in accordance with any agreed transport assessment submitted as part of the application.

Local Policy TR4 requires developments to make full use of opportunities to improve access for cyclists to, from and with the development and to integrate cycling through the provision of new facilities. Development of new facilities for cycling, such as cycle hire points and cycle parking, will be acceptable. Where opportunities exist, improvements to cycling routes, including the provision of connecting routes, and/or cycling facilities will be sought within developments or through planning contributions.

Local Policy TR5 requires development to provide car and cycle parking that is appropriate to the accessibility of locations within the Borough to sustainable transport facilities, particularly public transport. Development should make the following provision for electric vehicle charging points:

- All new houses with dedicated off-street parking should provide charging points;
- Within communal car parks for residential or non-residential developments of at least 10 spaces, 10% of spaces should provide an active charging point.

5.2 DESIGN DELIVERY

Transport Assessment & Travel Plan

A Travel Plan has been produced by Paul Basham Associates which implements the management tools deemed necessary to enable residents, employees and visitors of the Development to make more informed decisions about their travel and minimise the adverse impacts of their travel on the environment.

The assessment confirms that site is located within Reading Borough Council's 'Central Core' area and therefore benefits from a well-developed pedestrian and cycle infrastructure. Footpaths in the

vicinity are well-lit and characterised by multiple signal-controlled crossings equipped with tactile paving, road markings, bollards, barriers and dropped kerbs to ensure step-free access throughout. Although dedicated cycle lanes are not present in the immediate vicinity of the site and cycling does not currently represent a primary mode of travel, it is anticipated that the provision of on-site cycle parking and the active promotion of the wider cycle network will encourage cycling to become a more favourable travel choice over time. Public transport will also be actively promoted, with the development benefiting from its proximity to the railway station and a number of highly frequent bus services providing connections to key destinations.

The Personal Injury Accident (PIA) review concluded that there are no highway safety concerns within the site or its surrounding area. The reduction of vehicular access to a single point is expected to improve road safety conditions in the vicinity and remove any highway safety concerns associated with the previous access arrangement.

Trip generation modelling based on the TRICS database indicates that the proposed development would result in a significant reduction in vehicle trips compared to a less sustainably located scheme. As the development aspires to operate as predominantly car-free development, it is anticipated to have a beneficial impact on the operation and safety of the local road network and should not give rise to grounds for refusal on highway matters.

A Travel Plan Coordinator (TPC) will be appointed to implement and administer the Travel Plan and will support local and national campaigns and events to promote the health benefits of walking and cycling. The TPC role will aim to implement the following measures:

- Promote free health apps including (but not limited to) Better Points, NHS Better Health, Map My Walk, Strava and Footpath Route Planner to help encourage active travel;
- Produce biannual newsletters for the five years of the Travel Plan, including updates to sustainable travel information;
- Engage with residents and monitor the preferred travel mode, including new alternatives;
- Provide free personalised Travel Planning advice to residents; and
- Promote local area facilities and engage with residents' community groups, the schools' TPC, as well as local events and businesses.

Paul Basham Associates have also produced a Delivery and Servicing, and Waste Management Plan (DSWMP) to accompany the application, which assesses the proposal in traffic and transportation terms. The Delivery and Servicing Management Plan sets out the arrangements for managing deliveries and servicing activity associated with the proposed development to minimise conflict with other highway users and reduce impacts on the surrounding street network. The plan will be secured and kept up to date on an annual basis to reflect the changing requirements of the development and the emerging policies.

Site Location to other transport nodes and routes

There are regular bus services that operate in the vicinity of the site, with the nearest bus stops being located directly opposite the site on Castle Street, whilst the eastbound stop is located 40m to the east. The westbound stop serves key routes such as the 1 Jetblack, 2/2a Lime, 33 Royal Blue which offer regular weekday services typically twice and three times per hour, connecting to key destinations outside Reading town including Theale, Thatcham, Calcot and Newbury. The eastbound stop is solely served by the 26 Yellow service which runs four times per hour. Weekend

frequencies are unchanged during Saturday whilst are slightly reduced but remain reliable on a Sunday, running hourly or twice per hour depending on the route and day.

Additional services, located along St Mary's Butts and Bridge Street, link to Wokingham, Bracknell and Lower Earley. This comprehensive bus network ensures excellent access to central and outside of Reading town centre from the site.

Reading Railway Station is located approximately 800m north of the site (11 minutes' walk / 3-minute cycle), which offers access to Great Western Railway, South Western Railway, CrossCountry and Elizabeth Line. Typically, Reading Railway Station offers a wide range of destinations, including:

- Maidenhead (12-minutes);
- Oxford (23-minutes);
- London Paddington (23-minutes);
- Southampton (55-minutes);
- Bristol Temple Meads (1-hour 10-minutes); and
- Birmingham New Street (1-hour 30-minutes).

Further detail on rail services is provided within the Travel Plan by Paul Basham Associates which accompanies the application.

Cycle Access & Storage

North of the site, San Francisco Libre Walk features 5 cycle parking stands and more cycle parking facilities are available throughout the town centre. In addition, the development's basement level will be equipped with dedicated cycle storage, in line with the local planning policy TR4, for both the Build-to-Rent and non-residential units, accessible via step-free routes, lifts, and multiple stairwells which will connect the ground to the basement level. This design proposal will help encourage the use of sustainable transport options and promote active travel, making cycling a more accessible and attractive choice for commuters. This further supports the development site being BREEAM compliant.

Overall, it is evident that the location of the site aligns with Chapter 9 'Promoting sustainable transport' of the National Planning Policy Framework (NPPF) (December 2024), and the local plan policies as it allows for opportunities to promote walking and cycling to and from the site, which in turn supports the creation of a sustainable development. The pedestrian and cycle routes and infrastructure will be promoted to residents and visitors as part of the accompanying Travel Plan (TP).

Parking & EV Charging Points

In terms of parking, the development will provide a total of 12 car parking spaces, comprising eight blue badge spaces and four spaces associated with the police room. This limited provision reflects a policy-aligned approach for a highly sustainable, centrally located Build-to-Rent development, and has been agreed with Reading Borough Council during pre-application discussions.

The low level of parking provision actively supports a modal shift away from private car use, reinforcing the development's strong sustainability credentials. Given the site's location within Reading's 'Central Core', with excellent access to public transport, walking and cycling

infrastructure, future residents will be well-placed to adopt more sustainable travel behaviours without reliance on private vehicles.

All parking spaces will be equipped with electric vehicle charging points, ensuring that where car use is necessary, it is supported by lower-emission technology. This approach not only complies with national guidance but also exceeds BREEAM standards.

In addition, the proximity of existing public car parks, including the Broad Street Mall multi-storey (approximately 750 spaces) and the Civic B car park immediately adjacent to the site, provides flexibility for occasional or short-term parking needs without undermining the scheme's overarching sustainable transport strategy.

6.0 MATERIALS & WASTE



49% of UK carbon emissions stem from buildings, of which between 40-70% of whole life carbon emissions are a result of embodied carbon within the materials.⁵ Through implementing circular economy principles, efficient and responsible design can result in reduced material use, therein achieving significant carbon and waste reductions.

Relevant Policy: Local Plan Policy CC5.

6.1 POLICY CONTEXT

Local Policy CC5 specifies that development should demonstrate measures to minimise the generation of waste in the construction, use and life of buildings and promote more sustainable approaches to waste management, including the reuse and recycling of construction waste and the promotion of layouts and designs that provide adequate, well-designed space to facilitate waste storage, reuse, recycling and composting.

6.2 DESIGN DELIVERY

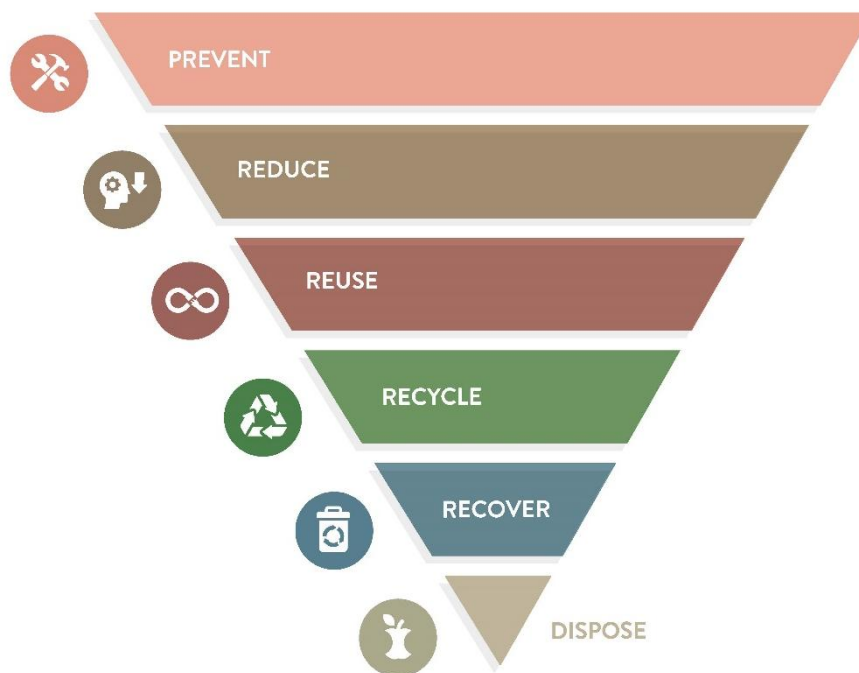
Life Cycle Assessment

A Stage 2 Life Cycle Assessment (LCA) has been undertaken for the Proposed Development in accordance with BREEAM New Construction V6.1 Mat 01 criteria to identify opportunities to reduce material use, embodied carbon and construction waste through design optimisation. The assessment considered alternative options for the superstructure, substructure and hard landscaping, enabling the design team to compare material efficiency and recycled content across key building elements.

Waste reduction measures incorporated into the evolving design include optimising reinforcement rates to minimise steel use, increasing recycled and secondary material content within concrete, insulation and aluminium systems, and exploring lower-impact landscaping materials such as recycled plastic paving systems, vegetation matting and timber decking. The assessment process has supported a more resource-efficient design approach by reducing reliance on virgin materials, improving specification efficiency and identifying opportunities to minimise construction waste and whole-life environmental impacts as the scheme progresses into the next design stage.

Construction Phase

Figure 6.1 Principles of the Waste Hierarchy to be implemented within the SWMP



Waste Management Plan

Waste Management Plan has been prepared in accordance with the requirements of Reading Local Plan policies. The Plan confirms the following arrangements for the proposed development:

- Dedicated waste storage provided at basement, with step-free access to facilitate collection;
- Separate refuse stores for residential and non-residential waste; and
- Waste collection carried out with a refuse vehicle matching Reading Borough Council's vehicle dimension via the basement area, which will provide enough space for the vehicle to turn and exit the basement area in a forward gear and undertake kerbside collection without obstructing the highway.

7.0 WATER



Climate change is resulting in an increased frequency and severity of extreme weather events, such as droughts and flooding. The efficient use of water, including implementing methods of harvesting and reuse, as well as reducing susceptibility to flooding, is therefore essential.

Relevant Policy: Local Plan Policies CC2, CC3, EN18.

7.1 POLICY CONTEXT

Local Policy CC2 sets out that all non-residential development or conversions to residential should incorporate water conservation measures so that predicted per capita consumption does not exceed the appropriate levels set out in the applicable BREEAM standard. Both residential and non-residential development should include recycling greywater and rainwater harvesting where systems are energy and cost-effective.

Local Policy CC3 sets out that all development shall minimise the impact of surface water runoff from the development in the design of the drainage system, and where possible, incorporate mitigation and resilience measures for any increases in river flooding levels as a result of climate change.

Local Policy EN18 requires development to consider flooding from all sources, including fluvial, surface water, groundwater and sewer flooding. Where development in areas at risk of flooding is necessary, it will not reduce the capacity of the flood plain to store floodwater, impede the flow of floodwater or in any way increase the risks to life and property arising from flooding. Wherever possible, development should be designed to reduce flood risk, both on-and off-site. All major developments must incorporate sustainable drainage systems (SuDS) as appropriate, and runoff rates should aim to reflect greenfield conditions and, in any case, must be no greater than the existing conditions of the site. Wherever possible, SuDS provision should maximise ecological benefits, link into the existing Green Network, incorporate tree planting and landscaping and avoid damage to existing significant trees, including through changes to the site hydrology.

7.2 DESIGN DELIVERY

Water Efficiency

The Proposed Development will implement efficient sanitary fixtures and fittings such as low-flow taps and dual-flush WCs. Leak detection systems and flow control devices will also be incorporated to monitor water use and prevent excessive waste, ensuring water is supplied only when needed. A greywater recycling system is also to be incorporated to be used for WC flushing.

Flood Risk & Sustainable Drainage

A Flood Risk Assessment and Drainage Strategy Report has been prepared by Meinhardt to support the application, which assesses the risk of flooding from all sources and the opportunities to include Sustainable Drainage Systems (SuDS) within the Proposed Development. Based on the Environment Agency (EA) and the online GOV.UK Flood Map for Planning, the site is located in Flood Zone 1, which is classified as land having a less than 0.1% annual probability of flooding from

rivers or the sea. Other potential sources of flooding such as surface water and artificial sources have been investigated. Given the site location and based on the Government Pluvial Flood Mapping, these risks have been deemed negligible to low.

In contrast, the assessment has identified that the site is subject to a moderate to high risk of groundwater flooding, which has been confirmed through desktop study analysis. It is therefore recommended that groundwater monitoring is undertaken during the winter months, from October to March, to inform the ongoing management of groundwater conditions at the site. However, the overall risk to the proposed development itself is considered low. This is principally due to the residential units being located at upper levels, and the likely direction of groundwater flow following the natural topography of the site toward the northern elevation.

Although the site is at low risk from all sources of flooding, falls should be designed to divert water away from the building and safely manage it within the site. Considering the spatial constraints and architectural layout, it is proposed that surface water attenuation is provided at roof level using a green roof system before discharging into the public sewer. To achieve a restricted discharge rate as close as possible to greenfield runoff rate, attenuation storage will be provided through the use of permeable paving and geo-cellular storage within podium (blue roofs) and below ground.

At this stage it is assumed that the total surface water discharge rate from the site will be restricted to 19.60 l/s for any storm event up to and including 1 in 100-year return period plus 40% climate change. The proposed rate will be confirmed once the blue roofs and rainwater harvesting/attenuation system are finalised.

The proposed development has therefore been designed to appropriately account for flooding on the site itself and its surrounding, and the assessment concludes that the development is acceptable in flood risk terms, subject to the implementation of the recommended monitoring arrangements, flood mitigation measures and surface water drainage strategy which it is proposed are secured by way of planning condition.

The above demonstrate compliance with the NPPF and Local Plan Policies CC2 and CC3 and EN18.

Construction

During the construction phase, the principal contractor will be required to monitor, report and set targets against water consumption. Targets will be identified by the principal contractor and informed by the Constructing Excellence Key Performance Indicators.

8.0 BIODIVERSITY & GREEN INFRASTRUCTURE



Biodiversity is the variability among living organisms within an ecosystem; a highly diverse ecosystem is an indicator of a healthy and thriving natural environment. The UK has seen a dramatic loss in biodiversity and ecosystem integrity especially through the latter half of the twentieth century, therefore, the protection and enhancement of biodiversity is a key requirement throughout the development process.

Relevant Policy: Local Plan Policies CC3 and EN12.

8.1 POLICY CONTEXT

Local Policy CC3 specifies that development should use trees and other planting, where appropriate as part of a landscape scheme, to provide shading of amenity areas, buildings and streets and to help connect habitat, designed with native plants that are carefully selected, managed and adaptable to meet the predicted changed climatic conditions.

Local Policy EN12 requires new development to demonstrate how the location and type of green space, landscaping and water features provided within a scheme have been arranged such that they maintain or link into the existing Green Network and contribute to its consolidation. Such features should be designed to maximise the opportunities for enhancing this network. On all sites, development should not result in a net loss of biodiversity and geodiversity, and should provide a net gain for biodiversity wherever possible. Development should protect and wherever possible, enhance features of biodiversity interest on and adjacent to the application site, incorporating and integrating them into development proposals wherever practicable. Development should also provide new tree planting, wildlife friendly landscaping and ecological enhancements (such as wildlife ponds, bird and bat boxes) wherever practicable.

8.2 DESIGN DELIVERY

Ecological Assessment

An Ecological Assessment was undertaken by Red Ecology for the Proposed Development at Flint Street to establish the site suitability for development, inform the design process for the proposal, record the ecological baseline, and identify key ecological features within and around the proposal site.

The assessment concluded that the Proposed Development complies with relevant planning policy, ecological legislation, and biodiversity requirements. The site currently contains limited habitats of ecological interest and offers minimal value to wildlife. While areas of ornamental planting and grassland will be removed, the proposed landscaping strategy introduces new ecological opportunities, including biodiverse green roofs and a podium-level communal courtyard. The majority of existing London Plane and Lime trees will be retained, with six new trees in total proposed to offset the removal of five existing tree species.

The site is currently used as a habitat corridor by common and widespread bat species; however, its value for foraging is considered negligible. Records indicate limited potential for hedgehogs, reptiles, and amphibians, including Great Crested Newts, and generally very low value for nesting and foraging birds. No suitable terrestrial habitat is present that would be adversely affected by

the development. The assessment also sets out recommendations for ecological enhancement, including the implementation of a sensitive lighting strategy in accordance with best practice guidance.

Full details can be found in the Ecological Assessment Report prepared by Red Ecology.

Biodiversity Net Gain Assessment

A Biodiversity Net Gain Assessment (BNGA) was prepared by Red Ecology which has been informed by a habitat survey undertaken according to UKHab methodology. The Biodiversity Gain Hierarchy has been applied, and existing habitats are to be retained wherever possible, with adverse effects avoided. This includes the retention of individual trees where practicable. Existing individual trees will be lost, which constitute the highest value habitats on site. The individual trees are features of medium distinctiveness and therefore require compensation through habitat of equal or higher distinctiveness to satisfy trading rules.

Existing ornamental shrubs and areas of modified grassland will be lost. These are features of low distinctiveness and low intrinsic ecological interest. New habitats are included as part of the landscape scheme, namely introduced shrubs, ground level planters and individual trees, alongside areas of developed land and artificial unvegetated, unsealed surface.

The Proposed Development will result in a net gain of +0.35 habitat units (+14.86%). The development proposals achieve the required minimum +10% BNG in accordance with current legislation. As such, the net gain will be delivered in full through the measures outlined in the BNGA and secured via the Biodiversity Gain Plan. In conclusion, the Proposed Development shall comply with its obligations under the Environment Act 2021 in respect of BNG.

Construction Phase

Prior to the construction phase, mitigation measures shall be implemented through a Construction Management Plan (CMP) to ensure appropriate measures are implemented as necessary, to avoid adverse impact on any flora and fauna within the construction zone.

9.0 POLLUTION



There are many forms of environmental pollution arising from building construction and operation including air, water, noise, light and dust pollution. A significant proportion of this is airborne, however some pollutants can also escape to soil and groundwater courses. The impact of noise, dust and light spill can cause disturbance and aggravation to others.

Relevant Policy: Local Plan Policies EN15 and EN16.

9.1 POLICY CONTEXT

Local Policy EN15 specifies that development should have regard to the need to improve air quality and reduce the effects of poor air quality. Development proposals that would negatively impact air quality will not be permitted unless adequate mitigation measures are in place. When assessing such proposals, several key factors must be considered: whether the development, either alone or in combination with other approved projects, would lead to a deterioration in air quality; whether the site is located within or accessed through an Air Quality Management Area; and whether any localised decline in air quality—provided it does not harm human health or the environment—can be justified by a broader overall improvement, such as a reduction in the need to travel.

Local Policy EN16 will permit development only where it does not harm the environment or sensitive receptors through land, noise, or light pollution. Proposals must ensure there is no deterioration in ground or surface water quality, and ideally, should enhance it, and must be supported by sufficient water resources, sewerage, and wastewater treatment infrastructure prior to occupation. Developments sensitive to noise or light pollution will only be allowed in areas free from high levels of such pollution, unless effective mitigation measures are in place to minimise impacts. Additionally, development on contaminated land will only be acceptable if it can be clearly demonstrated that any contamination and land gas can be safely managed or remediated to make the site suitable for its intended use, without posing risks to groundwater, human health, buildings, or the wider environment throughout demolition, construction, and future occupation.

9.2 DESIGN DELIVERY

Air

Mayer Brown Limited have prepared an Air Quality Assessment (AQA) which considers the suitability of the site for the proposed use, and assesses whether any significant air quality impacts are anticipated as a result of the construction or operational phases of the Proposed Development. A construction dust risk assessment has been completed for the Proposed Development in accordance with IAQM guidance. Within the assessment, site specific mitigation measures have been identified which ensure compliance with relevant standards, including the production of a Construction Environmental Management Plan (CEMP) that should be implemented to minimise the potential adverse construction dust impacts throughout all the relevant construction stages.

Following the successful implementation of the specific mitigation measures detailed in the AQA, the residual effects of construction dust and emissions from construction plant/ vehicles upon the local area and sensitive receptors will be temporary and considered to be 'not significant'. The Proposed Development leads to a net reduction in vehicle movements and is not expected to result in a detrimental impact on local air quality or increase pollution levels at existing receptors along the highway network. Following a review of air quality data, the Proposed Development is considered suitable for the proposed uses and air quality factors are not considered to be a constraint to planning consent for the development.

Noise

An Environmental Noise Survey Report & Noise Impact Assessment has been prepared by RBA Acoustic Ltd and submitted in support of this planning application. The acoustic baseline survey undertaken at and around the site, identified that the prevailing noise climate is dominated by the Inner Distribution Road (IDR), Castle Street, and San Francisco with recorded background noise levels (L_{Aeq}) ranging between 51 dB and 79 dB, across the monitoring period. The resultant levels, elevated during the daytime but reduced significantly overnight, have been used in the assessment of the glazing requirements to ensure suitable internal noise levels are achieved at the proposed development with reference to BS 8233:2014, WHO Guidelines, and Local Authority requirements.

The Approved Document O (ADO) Overheating & Noise assessment demonstrated that the majority of the site falls within risk category D for overheating under Building Regulations ADO, meaning that windows cannot be relied upon to be fully open for the purposes of natural ventilation without exceeding internal noise level criteria. In particular, South-West and South-East Façade resulted in the worst-affected elevations, with noise levels (L_{AFmax}) exceeding 70 dB.

The assessment concluded that the suitable internal and external noise environments of the proposed development are achievable subject to the implementation of the glazing, ventilation, and flanking specifications outlined and detailed in the accompanying report, recommending that these are secured by way of planning condition.

Additionally, noise levels at balcony and external amenity areas have also been assessed, with levels of approximately 68-73 dB $L_{Aeq,16hr}$ predicted at the lower level closest to the IDR. If a later stage it is considered desirable to mitigate the noise levels where these exceed the guideline, appropriate mitigation in the form of solid balustrades and acoustic absorption to external surfaces / external walls / balcony soffits are recommended.

Water

A SuDS Assessment has been prepared by Meinhardt in support of the Flint Street development application. The assessment evaluated the water quality impacts of the proposed development and identified that the pollution hazard level of surface water runoff from the site is classified as low. However, it is recommended that appropriate treatment is incorporated into the drainage system to ensure that the quality of water discharged remains acceptable, in accordance with CIRIA SuDS Manual guidelines.

The pollution control measures proposed for the site to provide a sufficient level of treatment comprise:

- Permeable public realm areas; and
- Green roofs

Pre-treatment will be provided via gullies and catchpit manholes to remove silt and prolong the life of the pollution control treatment media. A variety of SuDS features, including permeable paving, swales, filter trenches and detention basins will be incorporated into the drainage strategy to manage surface water runoff and further enhance water quality performance. Each proposed catchment has been assessed to confirm that the required pollution mitigation indices are achieved in accordance with the CIRIA SuDS Manual.

The assessment concludes that the proposed drainage strategy is acceptable in water quality terms and that the development will not negatively impact the quality of surface water discharged from the site, subject to the recommended measures being secured by way of planning condition.

Construction Phase

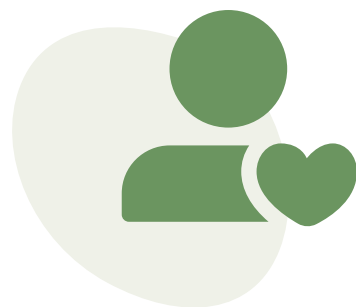
Pollution Prevention

Pollution prevention procedures, in line with those outlined within PPG6, will be followed throughout the course of the construction process to prevent any pollution incidents. Upon their appointment, the main contractor will complete a version of the PPG6 checklist outlining the precise methodology through which such incidences will be avoided.

Dust

The construction phase of the project has the potential to increase levels of airborne dust and particulate material. As such, the impacts of these works will be mitigated through the production and implementation a Construction Management Plan by the appointed contractor. This documentation will contain a copy of the PPG6 checklist referenced within the above section and will clearly define the methods through which air pollution from the Site will be actively reduced in order to not bear any impact on those working on Site or occupy surrounding buildings, such as abstaining from undertaking major dust producing tasks on gusty days and through using water to capture the particles.

10.0 HEALTH, WELLBEING & SOCIAL VALUE



Health and wellbeing focuses on the occupant's quality-of-life and enabling communities and individuals to live healthy and happy lives. This includes ensuring that a design maximises health and social benefits to the building user and wider community.

Relevant Policy: Local Plan Policy EN9.

10.1 POLICY CONTEXT

Local Policy EN9 requires all new development to make provision for appropriate open space based on the needs of the development. This can be achieved through on or off-site provision, contributions toward provision or improvement of existing leisure or recreational facilities. On sites of 50 dwellings or more, or for developments where the availability and quality of existing open space has been identified as deficient, new provision will be sought. Development must ensure satisfactory provision of children's play areas and neighbourhood parks. A secure maintenance arrangement shall be demonstrated to ensure that any open space is properly maintained throughout the life of the development.

10.2 DESIGN DELIVERY

Daylight and Sunlight

A Daylight and Sunlight Report has been prepared by DPR which assesses the potential daylight and sunlight effects of the Proposed Development on surrounding properties in accordance with BRE Guidelines. The assessment has considered the effects to the residential properties located in close proximity to the site, to the north, to the east and in particular the buildings located along Castle Street, to the south of the development, and the buildings to the west of the site. The results of the technical analysis demonstrate that 99% of the windows and rooms assessed would be fully compliant with the BRE criteria for the vertical sky component (VSC) and no-sky line (NSL) while 100% of the rooms assessed would be compliant for the annual probable sun hour (APSH) BRE criteria. Therefore, considering the results, it is concluded that the effects of the development are not considered noticeable to the residential properties.

An internal Daylight and Sunlight report has also been prepared by DPR to assess the daylight and sunlight provision to 524 habitable rooms across 205 dwellings within the Proposed Development. In terms of internal daylight, 75% of rooms meet the strict BRE guideline of 200 lux for living, kitchen and dining rooms, rising to 79% when applying the alternative target of 150 lux. The overall internal daylight performance is considered reasonably high and broadly consistent with compliance levels typically achieved in comparable schemes.

With regard to sunlight, 51% of all assessed rooms meet the BRE guideline of receiving at least 1.5 hours of sunlight on 21 March. Compliance raises to 84% when only rooms with a southerly aspect are assessed, reflecting the standard methodology applied in practice. This demonstrates an overall good level of sunlight access across the development where provision is most relevant.

In respect of sunlight on the ground, 80% of assessed amenity spaces meet the general guideline, with 50% receiving at least 2 hours of sunlight on 21 April. Under more favourable weather conditions, the overall sunlight on ground performance is considered high.

A cumulative assessment has also been undertaken to account for the potential impact of nearby development. Under this scenario, 73% of rooms meet the target values of 100 lux for bedrooms and 200 lux for living, kitchen and dining rooms, increasing to 77% when the alternative 150 lux target for living spaces is applied.

Overall, the assessment demonstrates a good standard of daylight and sunlight across the majority of assessed rooms and spaces, reflecting the constraints of an urban context and a thoughtful design response. In line with the BRE guidance and relevant planning policy, the results are considered reasonable and consistent with a well-balanced scheme.

Further details on the assessments are provided by DPR in the *Daylight and Sunlight Effects Report* and the *Internal Daylight & Sunlight Report*.

Public Realm & Outdoor Space

The design of Flint Street development achieves a successful public realm through several design interventions, including the introduction of extensive planting, active pedestrian routes, a defined gateway to the town centre, private residential amenity space and a communal courtyard designed to foster social interaction and community connection.

The landscape character areas, including Castle Street and Coachmakers Gardens feature rhythmical tree planting that softens the building façade and enriches the streetscape, maintaining a balance between the scale of the development and the finer grain of the conservation area. Generous green edges support the growth of a green canopy, providing opportunities for biodiversity and establishing an attractive and resilient landscape buffer.

Cusden Walk forms a clear and welcoming transition into the public realm, encouraging movement and activity along an accessible route. Tree planting and simple wayfinding features such as bunting aid legibility, whilst landscaping defines commercial frontages, softens the street environment and supports building access. Flint Street provides both a lively pedestrian route and gateway to the town centre, enhancing the street character through the provision of furniture and seating areas that promote social interaction and community gathering.

The Yard provides a tranquil private amenity space, sheltered from public view and characterised by mature trees, seating and generous green planting that together create a calm garden setting. The Coachmakers Courtyard, by contrast, is an active communal space designed to encourage recreation, social interaction and community connection, offering gathering spaces for families alongside play opportunities for all ages. The courtyard is anchored by a central marker tree and complemented by greenery, seating and recreational provision.

Figure 10.1 Public realm imagery of Coachmakers Courtyard (Source: Design and Access Statement - JTP)



Local Amenities

As reported in both the Travel Plan and the DAS, the development site occupies a highly accessible location, benefiting from good transport connections and proximity to a wide range of local services and amenities. The area offers future users of the site facilities such as supermarkets, restaurants, shops, public houses, and pharmacies, the Hexagon theatre and Broad Street Mall. The area is also well-served by public transport opportunities and Reading Station, a major transport hub, within walking distance. Within 800 metres, residents and visitors can access a number of key green spaces, including Victoria Park Recreation Ground, Colley Recreation Ground, and Forbury Garden Park which together provide a range of recreational facilities and landscaped areas.

Security

As part of the BREEAM Assessment to meet Credit Hea06 'Safety and Security', a Security Needs Assessment (SNA) will be prepared for the Proposed Development, which will provide a comprehensive identification of the potential security risks facing the scheme, identifying crime threats, non-crime security threats and terrorism threats.

Construction phase

Considerate Construction Practices

The Proposed Development is to commit to achieving Considerate Constructors Scheme certification meaning the site will be following best practice measures with regards to appearance, community engagement, environmental consideration, safety measures and workforce wellbeing throughout the construction phase.

11.0 SUMMARY

This Sustainability Statement has been written to demonstrate compliance with the various local and regional planning policies and supports the planning application for the Proposed Development at Flint Street, within the administrative boundary of Reading Borough Council.

The statement demonstrates how the development proposals are meeting key policy objectives, responding to local needs and requirements, and conforming to best practice sustainability criteria applicable to this development.

The Proposed Development satisfies policy objectives by optimising sustainability through the incorporation of best practice design, construction and operation measures. Some of the key features highlighted in this sustainability statement include:

- Commitment to building design in accordance with the principles of the energy hierarchy, using fabric efficiency measures and low carbon and renewable technologies. The proposed development achieves a 60% reduction in CO₂ over the Part L baseline, including a 12% reduction at the 'Be Lean' stage;
- A central location close to an excellent range of sustainable transport measures, facilities and services;
- Incorporation of sustainable transport measures, such as cycle storage spaces and facilities to ensure building users can make use of existing transport network, as well as being a car-free development for residents;
- Provision of twelve car parking spaces, all equipped with electric vehicle charging pods complying with national guidelines and exceeding BREEAM standards;
- Implementation of waste reduction measures in line with the waste hierarchy and responsible sourcing principles throughout the design, specification and construction process;
- Incorporation of SuDS measures to reduce surface water run-off to Greenfield run-off rates;
- Incorporation of water efficiency measures in design to reduce potable water consumption and avoid excessive waste;
- Implementation of a proposed landscaping strategy which introduces new ecological opportunities, including biodiverse green roofs and a podium-level communal courtyard;
- Commitment to positively enhancing the site biodiversity through the incorporation of ecological enhancement measures including biodiverse green roofs and a podium-level communal courtyard to provide an overall biodiversity net gain of 14.86%;
- Commitment to ensuring all forms of pollution are minimised in design and construction, in particular water quality, air quality and acoustics;
- Provision of public realms and green outdoor spaces to encourage recreation, social interaction and community connection, offering leisure, recreational facilities and children's play areas;
- Maximising the wellbeing for users of the Proposed Development through the undertaking of thermal and daylight modelling. All spaces contain comfort cooling and meet the TM59 and Part O criteria for overheating.

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- ⁵ Reading Borough Council (2019); Sustainable Design and Construction Supplementary Planning Document. From: <https://images.reading.gov.uk/2019/12/Sustainable-Design-and-Construction-SPD-Adopted-December-19.pdf>
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