

Sustainability Statement

10 Gun Street
Reading
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Issue and Amendment Record:

Revision	Comment/Amendment	Prepared	Reviewed	Date
Draft	Draft for comment	OB	-	06/03/23
1.0	First Issue	OB	PB	07/03/23

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Executive Summary

This Sustainability Statement has been prepared to support a planning application for the proposed development at 10 Gun Street, Reading. The project involves the major refurbishment of an existing listed office building, along with the construction of an extension to create a new music/comedy venue, with a small café, which will be linked to the Purple Turtle next door.

This report seeks to outline the approach taken to incorporate and maximise sustainability within the design to address key policies. Scott White and Hookins have been commissioned by PDR Limited to produce the Sustainability Statement. This report has been prepared and reviewed by experienced Sustainability Consultants who are also licensed BREEAM Assessors and BREEAM Accredited Professionals (APs).

PDR and the project team are committed to implementing sustainability within the design and construction, to meet the relevant aims and requirements of the National Planning Policy Framework and Reading Borough Local Plan.

This Sustainability Statement has been produced to address the questions detailed within Sustainable Design Checklist (Appendix 1 of the Reading Borough Council Plan), covering the following:

- Management
- Health and Wellbeing
- Energy
- Transport
- Water
- Land Use and Ecology
- Pollution
- Innovation

1.0 Introduction

This Sustainability Statement has been prepared by Scott White and Hookins, to support the planning application of the major refurbishment of an existing listed office building, along with the construction of an extension to create a new music/comedy venue, with a small café, which will be linked to the Purple Turtle next door.

1.1 Proposed Development

This Sustainability Statement supports a planning application for the change of use and adaptation of the adjacent former office building at 10 Gun Street so that it can be used in conjunction with 9 Gun Street and act as an expansion of the comedy club and bar venue. The front portion of 10 Gun Street will be operated as café/restaurant and the rear extension will house a bar, entertainment space and stage, whilst a detached, three-storey structure to the rear of the site will accommodate back of house space including a store and green room for performers. The proposed development will be approximately 664m²; 224m² of existing building and 440m² new build.

1.2 Methodology

This Sustainability Statement is based on desktop studies as well as information and feedback provided by the project team. As the project is still at an early stage of design, some assumptions have been made, where necessary. The Reading Borough Council Plan and BREEAM credit requirements have been reviewed to set a background against which the sustainability credentials of the proposed development can be reviewed.

Sustainability considerations outlined in this statement are developed to reflect the relevant policies and client aspirations. Opportunities to incorporate sustainable development features have been explored from an early design stage to provide flexibility to the design team, compensate for any design constraints, and maximise the development's ongoing sustainability performance.

1.3 Assumptions and Limitations

This report has been prepared for and at the request of PDR for the purpose of supporting the planning application process. It cannot be copied in whole or in part or relied upon by any other third party for any use without our written permission. Scott White and Hookins has exercised due and customary care in producing this report but has no control over independently verified information provided by others. No other warranty, expressed or implied, is made in relation to the conduct of the contents of this report. Therefore, Scott White and Hookins assume no liability for any loss resulting from errors, omissions or misrepresentations made by others.

2.0 Context Review

Climate change is undeniably the biggest challenge that the world has faced and demands urgent action to limit further devastating impacts. The scale of the issue requires action to mitigate; implementing measures to reduce carbon emissions, and adapt; adjusting the way we do things to reduce vulnerability to impacts of climate change that are already being felt or are expected.

Historically, the Earth's average temperature has fluctuating within a narrow range, however, since the Industrial Revolution, an exponential increase in carbon emissions has led to an increase in average global temperature and alarming changes in climate. The Kyoto Protocol was enacted in 1997, which committed nations worldwide to adopt policies and measures on climate change mitigation and reporting.

The Climate Change Act 2008 commits the UK to reducing greenhouse gas emissions to net zero by 2050, and subsequently carbon budgets have been set as guidance on the level of emissions that are still permissible on the journey to net zero. The Act defines net zero as offsetting the equivalent amount of greenhouse gases emitted, through tree planting or carbon capture and storage technologies.

In 2015, 196 countries signed the Paris Agreement, with a goal to limiting global warming to well below 2, preferably 1.5, degrees celsius compared to pre-industrial levels. This legally binding agreement is seen as a landmark event in bringing nations across the world together, with the common aim of combatting climate change.

In August 2021, the Intergovernmental Panel on Climate Change (IPCC) released the Sixth Assessment Report, which addresses the current understanding surrounding climate change. The report highlights, with alarming certainty, the reality and threat of climate change, stating: *'It is unequivocal that human influence has warmed the atmosphere, ocean, and land. Widespread and rapid changes in the atmosphere, ocean, cryosphere, and biosphere have occurred'*. The report states that climate change has led to more frequent and intense periods of hot extremes, heavy precipitation events, and droughts – thereby demonstrating that climate change impacts are wide ranging and not linear.

Sustainability in the context of the built environment seeks to address the balance between the demands of the the building and the requirements of the users, with that of the natural world. The built environment is responsible for around 40% of the global carbon emissions. It is therefore essential that serious consideration is given to how new developments plan to reduce their impact on the environment.

The key thematic issues of sustainable development are summarised by the 17 global Sustainable Development Goals, which were set by the United Nations and define the blueprint to achieve a better and more sustainable future for all. Issues include water, energy, climate, and transport.

3.0 Planning Policies

The policies detailed below have been reviewed to define the sustainability performance targets for the proposed development.

3.1 National Planning Policy Framework

The National Planning Policy Framework (NPPF) outlines the Government's planning policies for England and how these should be applied. The framework details that sustainable developments should consider economic, social, and environmental objectives, and outlines various aims to meet the challenges of climate change, flooding and coastal change. The NPPF does not stipulate specific sustainability targets. The framework was revised in August 2021 and puts an emphasis on the pursuit of the 17 Global Goals for Sustainable Development.

3.2 Reading Borough Local Plan

The Reading Borough Local Plan was adopted in 2019 and endeavours to ensure new developments and existing areas are sustainable. The Local Plan encourages developments to both adapt to and mitigate against the impacts of a changing climate. The plan sets out various policies related to sustainable developments:

- Policy CC2 Sustainable Design and Construction
- Policy CC3 Adaptation to Climate Change
- Policy CC4 Decentralised Energy
- Policy CC5 Waste Minimisation and Storage
- Policy EN18 Flooding and Sustainable Drainage Systems
- Policy CC1 Presumption in Favour of Sustainable Development
- Policy CC9 Securing Infrastructure
- Policy EN16 Pollution and Water Resources

The Local Plan also states that non-residential developments of 1,000m² or less are to achieve a BREEAM (Building Research Establishment Environmental Assessment Method) 'Very Good' rating. The BREEAM criteria has therefore also been considered when answering the below sustainability questions.

4.0 Sustainable Design and Construction Checklist

For ease of review, the following has been formatted in accordance with the Sustainable Design and Construction Checklist detailed in the Reading Borough Local Plan.

4.1 Management

1. Will guidance for the non-technical building user be provided so they can understand and operate the building efficiently and understand how the design reduced the overall environmental impact of the building and raise environmental awareness?

A Building User Guide will be provided to the end users, in accordance with BREEAM criteria, which will outline the building's environmental strategy, building services, how to use the services efficiently, training links etc. A handover meeting and walkaround will also be carried out to ensure that building users and the facilities management team are familiar with the building and how it should operate.

2. What consideration has been given to resource use, energy consumption and pollution in terms of the construction site impacts?

The appointed Principal Contractor will be required to set targets and monitor energy and water consumption on site. They will also be required to manage the site in accordance with PPG6 and operate the site in line with Consider Constructors Scheme, which considers 'Care for the Environment' on site.

The Principal Contractor will be required to have a spill kit on site and give training to all site members to explain the measures to take in the event of a spill.

3. Will site investigation and appropriate remedial action be undertaken?

A site investigation has been carried out and concluded that there is no contamination on site and therefore no remediation is required.

As the site falls within the St Mary's Butts/Castle Street Conservation area, there will be an archaeologist on site during excavation work to ensure that the proposals do not harm the significance of any designated or non-designated heritage assets.

4. Will the community and stakeholders be involved in the design process encouraging flexibly designed buildings which cater for shared use with the local community?

Neighbours to the rear are a large shopping centre (Oracle) and the adjacent building is the client (PDR Limited). Neighbours 11 and 12 are property developers and have some domestic dwellings on the higher levels - an acoustic consultant will therefore be appointed to minimise the noise impact of these works on the neighbours. There will also be a Party Wall Agreement in place to look to ensure that the works do not have a negative impact of the neighbours.

Given the proposed use of the development, this will naturally provide a useful function/event space for local businesses/community.

5. How has the building been designed to reduce the opportunity for and the fear of crime?

The front of property will remain as existing and the rear extensions will benefit from being an enclosed site, thereby reducing the risk of crime. Venue escape routes will lead onto lit public areas. The team will also consider other security measures once the design progress, including CCTV, secure windows and doors. It should be noted that there is not a requirement for Secured by Design on this scheme.

6. What consideration has been given to the maintenance of the building?

The building will be designed for long term resilience and durability in mind. Measures will be implemented to limit damage to heavily trafficked areas, such as hardwearing, washable flooring, and kick plates. The green roof will be easily accessible via a gate on an escape route corridor via the terrace to ensure that the roof can be easily maintained.

4.2 Health and Wellbeing

7. How has the development been designed to ensure users have sufficient daylight, an external view, adequate and appropriate lighting, ventilation, air quality and drinking water?

The café element of the proposal will benefit from natural daylight and an external view. A roof garden terrace is also included within the proposals to provide users with a pleasant landscaped external area. The venue aspect of the proposal will be fully enclosed, and due to the function of this part of the building, daylight/external view not desirable.

The team have already consulted an air conditioning and ventilation company who have proposed air conditioning, powered by heat pumps. Heat recovery ventilation is also proposed, thereby providing a steady supply of healthy, filtered air.

The team will specify low VOC and formaldehyde containing materials to promote good air quality.

An M&E Consultant will be appointed to ensure that lighting, heating, cooling, ventilation, and drinking water are specifically designed to meet best practice standards.

4.3 Energy

8. How has the building been designed to minimise CO2 emissions associated with their operational energy consumption?

An M&E Consultant will be appointed to provide input on how to minimise the primary energy consumption, heating and cooling demand, and carbon emissions of the development. The development will seek to make improvements compared to a standard, notional building. The team have confirmed that they are looking to specify heat pumps and therefore eliminate gas from the building.

9. How has the development been designed to optimise the use of the energy from the sun, natural daylighting and controlled natural ventilation?

An M&E Consultant will be appointed to provide further input on the ventilation strategy for this development. Given the proposed use of this development (being a comedy and music venue), daylighting is not favourable for the whole building. The café will benefit from natural light, as this is to be located at the front of the building. A green roof is included within the proposals and, adding to this, the Oracle shopping centre provides shade to the roof, so solar PVs are not currently included within the proposals.

10. How will the design of the building make efficient use of energy? (e.g. use of thermally massive materials, levels of insulation and use of green/brown roofs etc.).

High levels of insulation will be specified to reduce energy consumption where viable. The team are also planning to specify heat pumps. A green roof will be installed, which will not only benefit the local ecology, but provide additional thermal insulation of the building.

11. Have renewable energy sources or decentralised energy been considered for this development and if so, how would they be incorporated within the development?

The team are planning on specifying heat pumps for this building, however, due to the green roof and shade from the Oracle shopping centre, solar PVs are not considered appropriate for this development. An M&E Consultant will be appointed as the design develops further, to input on whether any other low zero carbon technologies or decentralised energy are appropriate for this scheme.

4.4 Transport

12. How has the design and layout incorporated measures to reduce the need to travel, especially by car, and promote alternative and sustainable modes of transport such as walking, cycling and the use of public transport?

There will be cycle storage in the within the extension to encourage staff to cycle to work. Given the central location of the site, the development will benefit from regular buses and is just over a mile away from Reading train station.

13. How have public transport networks been considered in terms of the location of the development and proximity to local amenities?

This is an existing site, but benefits from a regular bus service and is just over a mile away from Reading train station.

14. How have deliveries and the manoeuvring of delivery vehicles been considered?

All deliveries and access will be via the rear only – Gas Lane, as the front of the building is a bus lane only. There will be a storage area to the rear site to contain deliveries.

4.5 Water

15. How will the development incorporate the use of water saving devices to achieve a maximum consumption of 5.5 cubic m per year per person for office developments? (or the most appropriate benchmark for other types of development).

The proposals will include low flow, efficient water consuming components to limit the amount of potable water consumed. A water leak detection system will also be considered within the proposals to ensure that any leaks are detected as early as possible and unnecessary water consumption is reduced. Flow control devices will also be considered in the WC areas of the development to limit the flow of water when these areas are not occupied.

16. Will the development and access to and from it such as roads and paths be located away from areas of potential flooding?

A Flood Risk Assessment has been produced for this scheme (produced by Stantec, October 2022) and concludes that the site is located primarily in Flood Zone 1, meaning it has less than a 0.1% annual probability of flooding from rivers. The report states that the proposed development is safe and will not have a detrimental impact on others.

17. How will the development incorporate harvesting and re-use of rainwater?

The team are currently in discussions regarding the inclusion of rainwater recycling within the scheme to reduce the consumption of potable water.

18. Does this development meet the requirements of EN18?

A Flood Risk Assessment has been produced for this scheme (produced by Stantec, October 2022) and concludes that the site is located primarily in Flood Zone 1, meaning it has less than a 0.1% annual probability of flooding from rivers. The report states that the proposed development is safe and will not have a detrimental impact on others.

The proposed surface water drainage strategy is to remain unchanged; rainwater will be collected from the roofs and impermeable areas and discharge this to Holy Book, via the existing surface water drainage and culvert, or to the public sewerage system in Gun Street.

The development is on a brownfield site and will therefore not increase the impermeable surface area. A green roof is also included in the proposals which will help to reduce run off and also act to filter contaminants.

4.6 Materials

19. How will the selected materials help retain local character, ensure long life and ensure a low environmental impact, including consideration of embodied energy?

A Heritage Statement has been produced (by Axford Heritage Planning, October 2022) which considers the potential impact of the proposal on the heritage of the asset. The report concludes that heritage priorities have taken the forefront in the re-design of the scheme and overall, the scheme should be regarded as making a positive contribution to the historic environment. The report also notes that the proposals extension will have little impact on the overall character of the area and will actually retain and enhance the character of the conversation area.

The development is on a brownfield site which largely consists of the refurbishment of an existing building, thereby limiting the amount of raw materials needed for this type of scheme. The proposals make the most of an existing structure and aim to limit the use of virgin material, thereby reducing embodied energy for this scheme. The team will endeavour to use materials efficiently to reduce waste and embodied carbon/energy associated with the scheme.

20. What consideration has been given to reusing materials in-situ, responsibly sourcing materials and re-using existing structures?

The development is on a brownfield site which consists of the refurbishment of an existing building, thereby reusing the existing structure and limiting the amount of raw materials needed for this type of scheme. The team will endeavour to source new materials responsibly, where possible, such as materials with ISO14001, BES 6001 certification. The team will also look to source recycled and local materials, where possible.

4.7 Waste

21. Has an audit of the materials present on the site been conducted with an assessment of the extent to which materials could be re-used?

The team are encouraged to carry out a pre-demolition audit to determine any materials from the strip out, such as partitions, flooring, sanitaryware, that can be repurposed for this scheme. Asbestos surveys have already been carried out and has been removed.

22. How will the development make the maximum use of construction, demolition waste and recycled materials?

The Principal Contractor will be required to produce a Site Waste Management Plan, which will set waste production and diversion from landfill targets. The team will be responsible for tracking the actual amount of waste produced and diverted from landfill. The team will source recycled materials and specify materials that can easily be recycled, where possible.

23. How will provision be made for the storage and recycling of waste for all users of the site?

The Principal Contractor will be required to segregate construction waste on site to maximise the recovery and diversion from landfill. The operational site will have a dedicated, appropriately sized waste storage area, to facilitate waste segregation.

4.8 Land Use and Ecology

24. How have the wildlife habitats and natural features on and adjacent to the site been considered and how will they be retained, protected, and enhanced?

A Preliminary Bat Roost Assessment has been undertaken (by Future Nature WTC) to define bat presence/absence in the existing building at 10 Gun Street. The assessment found presence of bats in the building and yard, as well as opportunities for nesting birds in re yard. The report confirms that a bat licence will be required before the proposed works could proceed. Future Nature WTC have outlined recommendations to ensure the benefits to local wildlife and biodiversity are maximised for this site:

- Prior to works commencing, compensatory measures should be put in place to provide alternative roost locations within the vicinity of existing roosts. A minimum of five alternative roost features should be provided.
- Removal of known roosts should take place outside of summer months. Works to the basement should not be undertaken during winter.
- Removal of these features should be undertaken under the watching brief of a bat licenced ecologist.
- Additional roost features should be designed into the fabric of the extension e.g. bat bricks or tiles. A minimum of five additional roosts should be provided.
- Ensure that the lighting strategy does not impact any of the existing or new roost features

Further enhancement recommendations include carrying out works outside of active breeding season (March-September), a sedum roof, a planting scheme that contain species that attract night-flying invertebrates, and bird boxes.

25. What consideration has been given to not using previously undeveloped land?

The project involves the refurbishment of an existing building, as well as an extension to the south. This project seeks to make the most of what already exists on site.

26. What consideration has been given to the removal of contamination from the land?

A site investigation has been carried out and concluded that there is no contamination on site and therefore no remediation is needed.

As the site falls within the St Mary's Butts/Castle Street Conservation area, there will be an archaeologist on site during excavation work to ensure that the proposals do not harm the significance of any designated or non-designated heritage assets.

4.9 Pollution

27. What measures have been incorporated to ensure that noise and light pollution plus pollution transported through surface water runoff or infiltration will be minimised through the development?

A Noise Impact Assessment has been carried out (by Stantec, December 2022), which concludes that it is anticipated that the proposed outdoor roof terrace area will have a negligible impact at the nearest noise sensitive receptor when in use during the day and night. The report states that *'through a combination of appropriate design secured by planning obligations, additional planning restrictions, licensing restrictions and lease agreements, the breakout of noise through the separating wall is likely to be suitably controlled.'*

The green roof will help to remove pollutants before entering into the existing drainage system which the extension will be connected to.

An M&E Consultant will be appointed as the design develops further and will ensure that the external lighting is compliant with the relevant lighting guidelines.

28. What measures have been incorporated to ensure that light pollution will be minimised through the development?

There will be minimal external lighting as part of this development to roof terrace and rear escape route proposed. As the development is located in the town centre, the light levels will not increase as part of these proposals. An M&E Consultant will be appointed as the design develops further and will ensure that the external lighting is compliant with the relevant lighting guidelines.

29. What consideration has been given to reducing refrigerants and minimising nitrogen dioxide emissions?

An M&E Consultant will be appointed to provide input on the heating and cooling systems that will be specified. The consultant will be required to specify refrigerant that will have low Global Warming Potential and low CO₂ equivalent. The team will also consider the installation of a refrigerant leak detection system.

At this stage, the team are envisaging that heat pumps will be installed, instead of gas, therefore reducing nitrogen dioxide emissions.

30. How has the development been sited to minimise the impact of flooding?

A Flood Risk Assessment has been produced for this scheme (produced by Stantec, October 2022) and concludes that the site is located primarily in Flood Zone 1, meaning it has less than a 0.1% annual probability of flooding from rivers. The report states that the proposed development is safe and will not have a detrimental impact on others.

31. How has the design considered the use of sustainable drainage systems (SuDS) and how will they be incorporated within the development?

As detailed in the Flood Risk Assessment, the proposed development is located on an area of 100% impermeable surfacing and is in Flood Zone 1. The proposed surface water drainage strategy is to remain unchanged; rainwater will be collected from the roofs and impermeable areas and discharge this to Holy Brook, via the existing surface water drainage and culvert, or to the public sewerage system in Gun Street.

4.10 Innovation

32. What consideration has been given to innovative sustainability measures in terms of a procurement strategy, design feature, management process or technological?

The Principal Contractor will be required to purchase in accordance with their Sustainable Procurement Plan, encouraging the team to purchase locally and responsibly sourced materials.

As the design develops, the team will continue to review and implement sustainability measures to minimise the impact of the development on the environment.

5.0 Conclusion

This report has been prepared and reviewed by experienced Sustainability Consultants who are also licensed BREEAM Assessors and BREEAM Accredited Professionals (APs). The project consists of the refurbishment and extension works at 10 Gun Street, Reading.

A review of the Reading Borough Local Plan and BREEAM criteria have been carried out for this development and this set a background against which the sustainability performance of the proposed development can be reviewed.

PDR and the project team are committed to implementing sustainability within the design and construction, to meet the relevant aims and requirements of the National Planning Policy Framework and Reading Borough Local Plan. Some of the key measures to address and implement sustainability within the design in response to the relevant policies include:

- **Management:** The design and construction of the development will be reviewed against BREEAM best practice standards. The Principal Contractor will manage the site in accordance with the Considerate Constructors Scheme and will monitor energy, water, and transport associated with the construction works.
- **Health and Wellbeing:** Natural daylight will be maximised in the café area, and an M&E Consultant will be appointed to provide input on how the heating and ventilation strategy will comply with relevant guidelines and will provide a comfortable environment for building users.
- **Energy:** An M&E Consultant will be appointed to provide input on how energy and subsequent carbon emissions will be reduced for this development.
- **Transport:** The proposals include for cycle storage, and the location of the development benefits from a regular bus service and a local train station, thereby encouraging building users to use active or public transport.
- **Water:** Highly efficient water components, flow control devices and leak detection will be considered within the design. The site is in low flood risk zone and is expected to have no effect on surface water runoff.
- **Materials:** Materials will be thoughtfully selected to ensure that the local heritage and character are retained. A Sustainable Procurement Plan will be produced to guide the team towards making sustainable material decisions – procuring responsibly sourced and local materials, where possible.
- **Waste:** The Principal Contractor will be required to produce a Site Waste Management Plan and record the amount of waste produced and diverted from landfill. The team will consider completing a pre-demolition audit to highlight materials that can be reused within the proposed works. Suitable waste storage will be provided for segregation of operational waste.
- **Land Use and Ecology:** An ecologist has been engaged on the project from a very early stage and has provided recommendations for protection measures and enhancement opportunities. A green roof is included within the proposals to maximise the habitat offerings and biodiversity of the site.
- **Innovation:** The team will continue to review where sustainability can be further embedded within the design and construction of this development.

This report has outlines the measures that have been taken to positively address and comply with the sustainable design principles as set out Reading Borough Local Plan, demonstrating 10 Gun Street's ambitions to provide a sustainably conscious development.