



WHITECODE
CONSULTING

Sustainability Statement

Huggens College, Northfleet

Prepared for The President and Trustees of Huggen's' College

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1. Introduction

1.1 Purpose of this Document

This Sustainability Statement has been prepared by Whitecode Consulting to accompany an application for planning permission for the development at Huggens College. The planning application is submitted on behalf of The President and Trustees of Huggens' College.

This Sustainability Statement details how the Proposed Development, will meet the high sustainability aspirations of the Local Planning Authority – Gravesham Council and addresses the sustainability and energy requirements set out in the National, Regional and Local planning policies in relation to sustainable design and construction.

1.2 Site Description

The site description is as follows:

Demolition of existing buildings and erection of retirement living apartments (Use Class C3), together with the extension of the existing chapel and the provision of associated communal facilities and external amenity space, lodge keeper's and guest accommodation, back-of-house facilities, parking, bicycle/mobility scooter parking, and associated works including the creation of a secondary, emergency access from College Road.

This report covers the 96 dwellings and shared communal facilities for the residents as well as the guest suites and lodge keeper's accommodation.



Figure 1.1 Proposed Site Plan

2. Planning Policy and Targets

The energy and sustainability policies relevant to the Proposed Development are highlighted below.

2.1 National Building Regulations

The proposed development will be constructed to be compliant with Part L 2021 of the Building Regulations. The proposed development consists of 96 dwellings which, as domestic buildings, will be assessed under Part L1A 2021. The non-domestic areas of the development will be assessed under Part L2A. They mandate that the design of the building demonstrably causes lower carbon dioxide (CO₂) emissions than a notional equivalent of given specifications.

2.2 National Planning Policy Framework

National planning policy on sustainability is set out in the National Planning Policy Framework (NPPF). The NPPF was updated in August 2023 and re-emphasises the Government's commitment to sustainable development. It encourages planning authorities to take an approach based on integrating the three objectives of sustainable development:

- An economic objective – to help build a strong, responsive, and competitive economy, by ensuring that sufficient land of the right types is available in the right places and at the right time to support growth, innovation, and improved productivity; and by identifying and coordinating the provision of infrastructure
- A social objective – to support strong, vibrant, and healthy communities, by ensuring that a sufficient number and range of homes can be provided to meet the needs of present and future generations; and by fostering well-designed, beautiful, and safe places, with accessible services and open spaces that reflect current and future needs and support communities' health, social and cultural well-being; and
- An environmental objective – to protect and enhance our natural, built, and historic environment, including making effective use of land, improving biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.

2.3 Regional Policies

Kent Minerals and Waste Local Plan 2013-2030, adopted in 2020, ensures waste and minerals activity takes place in locations and in a way, which protects and enhances the environment and communities of Kent. The policies provide guidance on waste management for new developments.

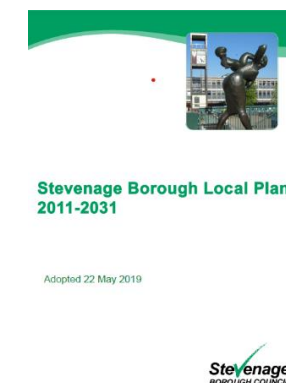
The planning policies relevant to this development are as follows:

- Policy CSW1: Sustainable Development
- Policy CSW3: Waste Reduction

2.4 Local Planning Policies

The Gravesham Local Plan Core Strategy, adopted in September 2014, sets out long-term energy and sustainability-related standards for the Borough. The planning policies of relevance to energy and sustainability in the Local Plan are as follows:

- Policy CS01: Sustainable Development
- Policy CS11: Transport
- Policy CS12: Green Infrastructure
- Policy CS18: Climate change
- Policy CS19: Development and Design Principles



3. Energy and CO₂ Emissions

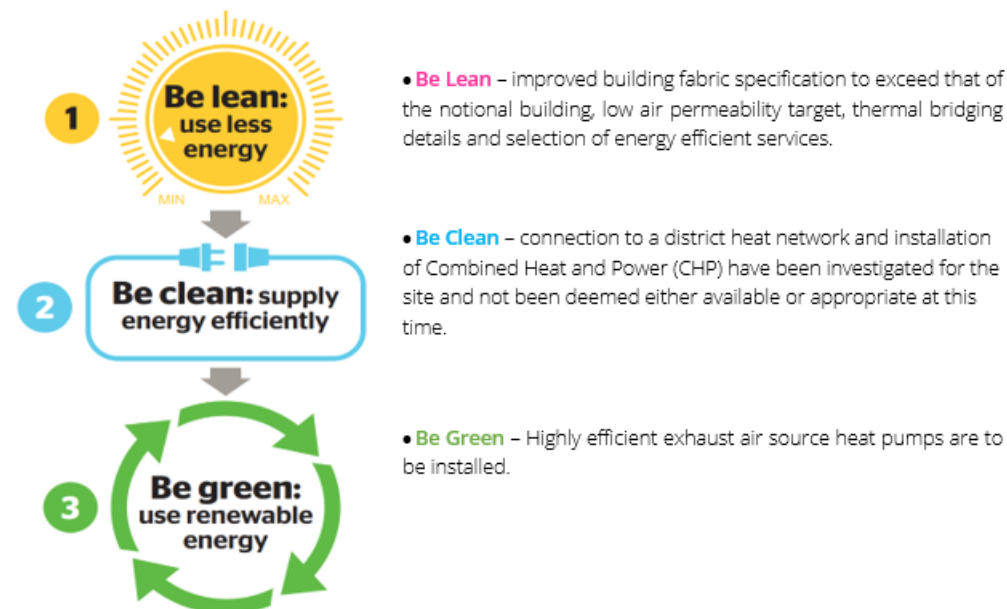
This section will cover the following policies:

- Gravesham Local Plan Policy CS18

Policy CS18 focuses on reducing carbon emissions by developing energy-efficient buildings and on-site low-carbon and renewable energy technologies.

3.1 Proposed Energy Strategy

An Energy Strategy has been prepared by Whitecode Consulting to accompany the planning application. The residential elements have been assessed against Part L1A 2021 of the Building Regulations using the Standard Assessment Procedure (SAP) 10.2 methodology. The non-residential elements have been assessed under Part L2A 2021 of the Building Regulations using DSM methodology and IES software. The strategy outlines the proposed energy strategy for the site following the energy hierarchy Be Lean – Be Clean – Be Green.



Energy efficiency is the first stage of the energy hierarchy. Energy demand should be reduced as far as possible before the heating strategy and installation of low-carbon and renewable technologies are considered. This is important in protecting consumers from high prices.

The building will be constructed to achieve an improved thermal performance compared with Building Regulations minimum standards. The table below shows the proposed u-values for this development:

Element:	Part L 2021 Limiting Values:	Domestic design	Non-domestic design
Floors	0.25 W/m ² K	0.10 W/m ² K	0.10 W/m ² K
External Walls	0.30 W/m ² K	0.15 W/m ² K	0.15 W/m ² K
Common Area Walls (unheated space)	0.30 W/m ² K	0.20 W/m ² K	N/A
Party Walls (between dwellings)	0.20 W/m ² K	0.00 W/m ² K	N/A
Roofs	0.20 W/m ² K	0.10 W/m ² K	0.10 W/m ² K
Front Doors	2.00 W/m ² K	1.20 W/m ² K	1.20 W/m ² K
Windows	2.00 W/m ² K	1.20 W/m ² K	1.20 W/m ² K
Window g-value	N/A	0.43	0.40
Air Permeability Rate	10m ³ /hm ² (@50Pa)	3 m ³ /hm ² (@50Pa)	3m ³ /hm ² (@50Pa)

The Energy Strategy indicates an **7%** reduction in CO₂ emissions sitewide at the Be Lean Stage.

The site has been investigated for connection to an existing or proposed heat network, in line with the Be Clean stage of the Energy Hierarchy.

The Energy Strategy concludes that there are no local heat networks in the area for connection and due to the lack of an available network nearby, connection to an existing district heating network was deemed unfeasible.

The development proposes the specification of Exhaust Air Heat Pumps (EAHP), to provide the heating and hot water for the residential dwellings and forms the 'Be Green' part of the energy hierarchy.

The report concludes that the proposed development will achieve a 67% improvement sitewide over Part L 2021 of the Building Regulations and exceeds the requirements of the Future Homes Standard which is currently in consultation and due for release in 2025.

	Carbon dioxide emissions (tonnes CO ₂ per annum)	
	Domestic	Non-domestic
Baseline: Part L 2021 of the Building Regulations compliant development	67.3	3.5
After energy demand reduction (be lean)	62.2	3.4
After heat network/CHP (be clean)	62.2	3.4
After renewable energy (be green)	20.1	3.3
% carbon reduction	70%	7%
% carbon reduction site wide	67%	

Site-wide carbon savings

4. Transport

This section will cover the following policies:

- Gravesham Local Plan Policy CS11

Local Plan Policy CS11 calls for a reduction in the use of cars and an increase in the use of suitable transport means such as public transport, cycling and walking. They also call for developments to consider improvements to the pedestrian and cycling environment and promote the use of more sustainable modes of transport. Transport Assessments and Travel Plans are required to be submitted with planning applications.

A *Transport Statement* was prepared by SLR Consulting to support the planning application. It reviews the existing transport and movement conditions and site access arrangements. The assessment also reviews the anticipated transport impacts of the development.

4.1 Public Transport

The Site benefits from good bus connections with 2 services running approximately every 15 to 20 minutes to Dartford and Bluewater.

The nearest bus stops to the site are located on High Street. The eastbound bus stop is 120m from the development and the westbound is 50m, which is considered well within reasonable walking distance.

Northfleet rail station is approximately 170m to the south of the Site and provides services to London Charing Cross, Rainham, Gravesend and Luton. Ebbsfleet station is 2km from the Site providing services to St Pancras, Faversham, Dover and Margate

4.2 Pedestrian Access

The environment for pedestrians in the immediate vicinity of the Site is of a good standard, with wide, level footways. Pedestrian crossing facilities afford future building users a safe environment for access to public transport nodes and local amenities.

New pedestrian access is also proposed onto Stonebridge Road which will make sustainable travel more convenient and also separate pedestrian/cycle movement from the site access.

4.3 Cycling

A total of five covered and secure cycle parking stores are proposed with each providing 5 Sheffield stands for ten cycles and space for a mobility scooter with charging infrastructure. This equates to 50 cycle and 5 mobility scooter parking spaces, exceeding Kent Design Guide 'Movement & Connectivity Parking Standards' recommendations.

4.4 Car Parking

A total of 55 car parking spaces are proposed, including 2 spaces for the Chaplain and Warden/Caretaker and 5 spaces for visitors. Electric vehicle charging will be provided in accordance with Part S of the Building Regulations.

4.5 Servicing

The proposed site layout will enable Refuse Collection Vehicles (RCV) to gain access to the site, turn and exit in forward gear. This is an improvement on current arrangements which require RCVs to reverse into the site.

4.5 Travel Plan

An *Outline Travel Plan* has been prepared for the development to encourage building users to consider a more sustainable way of travelling. The primary objectives of the Travel Plan will be to:

- Introduce a package of physical and management measures that will assist and encourage travel by modes other than the private car;
- Reduce the demand for car parking;
- Reduce the number of residents and visitors travelling alone by car;
- Increase travel awareness and promote sustainable travel behaviour, thus supporting the reduction of traffic congestion and pollution;
- Reduce carbon footprint;
- Promote potential health and fitness benefits through the encouragement of walking and cycling;
- Ensure that all residents and visitors are made aware of alternatives to the car;
- Opportunity to promote Corporate Social Responsibility within the community through an interest in sustainable environmental improvement; and
- Improve attractiveness to employees through the provision of a greater range of staff facilities and benefits

The Transport Statement concludes that the proposed development will not result in a detrimental impact on the local highway network, either in terms of highway operation or highway safety. The scheme is wholly in accordance with national and local planning policy and has been determined as acceptable in highways and transportation terms.

5. Materials

This section will cover the following policies:

- Gravesham Local Plan Policy CS19

Policy CS19 requires new developments to consider sustainable construction standards and techniques, be adaptable to reflect changing lifestyles and be resilient to the effects of climate change.

5.1 Green Guide Ratings

Materials for the main building elements (roof, external walls, windows, upper floor slab and floor finishes) will be specified to have a lower environmental impact over their life cycle, according to the BRE's Green Guide to Specification document.

5.2 Responsible Sourcing

Materials for key building elements are encouraged to be responsibly sourced with 100% of timber and timber-based products to be legally harvested and traded timber. Other specified materials will be encouraged to have responsible sourcing certification to schemes such as BES6001 and ISO14001.

5.3 Designing for Durability and Resilience

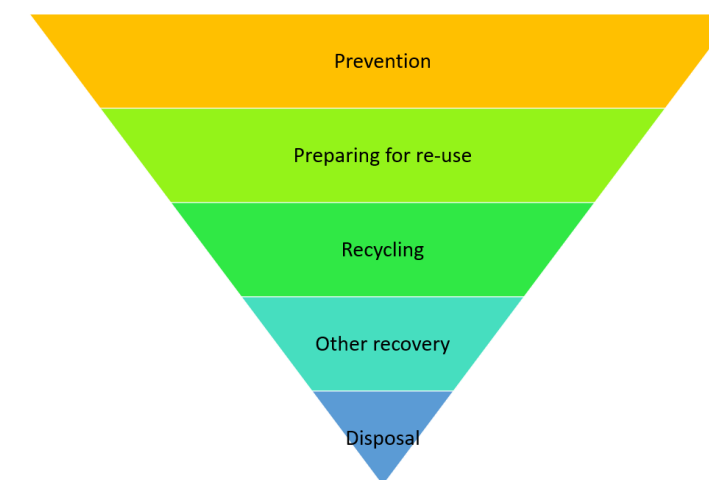
The design of the building will incorporate suitable durability and protection measures to prevent damage to vulnerable parts of the internal and external building and landscaping elements. Measures such as bollards in delivery/drop-off areas, specification of hard-wearing wall and floor finishes in communal areas and kick plates on doors will be considered to minimise the frequency of replacement and maximise materials optimisation.

6. Waste

This section will cover the following policies:

- Kent Minerals and Waste Local Plan 2013-30 Policies CSW1 and CSW7
- Gravesham Local Plan Policy CS19

Kent Minerals and Waste Local Plan policy CSW1 seeks to encourage new developments to consider construction and demolition methods that minimise waste generation and re-use/recycle materials and buildings, as far as practicable on site by following the Waste Hierarchy:



Policy CSW3 and Gravesham Local Plan policy CS19 require new developments to provide sufficient space that allows for the effective sorting, recycling and composting of operational waste.

6.1 Construction Site Waste Management

A pre-demolition audit has been carried out, to maximise the recovery of material for subsequent high-grade or value applications. Following this, a Site Waste Management Plan (SWMP) will be implemented to include details on waste minimisation strategies that will be incorporated into the design and procurement stages. It will also detail how waste will be managed during construction with predictions made for various waste streams.

The waste hierarchy strategy will be employed on-site to minimise the volume of waste produced and divert waste from landfill as far as possible.

Waste segregation strategies will be developed and implemented, with general, COSHH, gypsum/plasterboard and liquid waste to be segregated as a minimum.

6.2 Reuse and Recycling

Prefabrication and off-site cutting of materials will be utilised wherever possible to avoid waste being produced on-site. Contractors will be required to arrange take-back agreements for packaging and encouraged to implement on-site initiatives to reuse materials such as timber. Suitable demolition waste will be crushed on site and used for the piling mat. Suitable excavation waste will also be reused for backfill.

6.3 Operational Waste

The proposed development will provide dedicated waste stores. The stores will have sufficient space and flexibility for the segregation of different waste streams as required. Bins will also be clearly labelled to assist with segregation, storage and collection of the recyclable; accessible to building occupants for the deposit of materials and collections by waste management contractors and; of a capacity suitable to the building type, size and predicted volumes of waste.

7. Water

This section will cover the following policies:

- Gravesham Local Plan Policy CS18 and CS19

Due to the effects of climate change, we are likely to see a change in UK summer temperatures and rainfall intensity leading to droughts and flooding. Local Plan policies CS18 and CS19 seek to encourage new developments to consider the long-term impact of climate change and water as a precious resource and incorporate measures to mitigate any potential impacts. All residential developments should meet the water efficiency target of 105 litres per person, per day.

Developments must also manage and reduce flooding from all sources and implement Sustainable Drainage Systems (SuDS).

7.1 Flood Risk Management

The Site is located in Flood Zone 1, indicating a low risk of fluvial and tidal flooding. A *Flood Risk Assessment* was produced by Andrew Firebrace Partnership to accompany the Planning Application and investigates the impact of flooding at the development from other sources in more detail.

The report concludes that the risk of flooding from seas, rivers, surface water, sewers, groundwater and reservoirs is considered to be low.

7.2 Surface Water Runoff

A *Drainage Strategy*, also by Andrew Firebrace Partnership has been prepared to accompany the Planning Application and confirms that drainage systems will be designed to accommodate runoff volume from a 1 in 100-year storm plus 20% climate change rainfall event, to minimise overland flow routes and reduce the amount of runoff from the site.

The Drainage Strategy has investigated SuDS techniques suitable for the development and concludes that four geo-cellular soakaway tanks, an infiltration basin, rain gardens, filter drains and permeable surfacing sub-base storage are the most feasible and have been proposed as part of the development's surface water management system.

Additionally, surface water runoff from roads, which is at risk of being polluted, will be treated prior to discharge to remove potential pollutants.

During dry periods of the year the infiltration basin will be useable as open space for residents with facility to include flora and fauna to promote wildlife and biodiversity.

7.3 Water Consumption

The water calculation in the table below shows how < 105 litres per head per day can be achieved. Residents will be metered on their water usage to encourage behavioural changes towards water use and make savings.

Fitting:	Flow Rate/Capacity:	Water Use (L/person/day):
WC	6/3 litres dual flush	8.88
Wash Hand Basin	5 litres/min	9.48
Bath	170 litres to overflow	18.70
Shower	8 litres/min	34.96
Kitchen Tap	5 litres/min	12.56
Washing Machine	8.17 litres/kg	17.16
Dishwasher	1.25 litres/place setting	4.50
Calculated Use		115
Normalisation Factor		0.91
Total Consumption		104.6

Proposed residential water flow rates/capacities

8. Pollution

This section will cover the following policies:

- Gravesham Local Plan Policy CS19

Policy CS19 requires developments to ensure that no adverse environmental impacts from pollution, including noise, air, odour and light pollution, and land contamination, arise during the construction and operation of the proposed development.

Additionally, new development must not pose an unacceptable risk or harm to the water environment, including the quality and/or quantity of ground waters, and surface waters.

8.1 Noise

A *Noise Assessment* has been prepared by Lustre Consulting to establish background sound levels around the site and determine the required acoustic performances for the facades.

Background noise levels were recorded at five locations around the existing site. Traffic noise from Stonebridge Road was identified as the main noise source affecting the site with occasional aircraft noise and birdsong also noted. The recorded noise levels indicated that some of the windows facing Stonebridge Road would have to remain closed and alternative means of ventilation provided via MVHR and dedicated ventilation grilles to ensure satisfactory acoustic conditions in habitable rooms can be maintained, and that residents can shut their windows if desired.

The report concludes that, with this specification, internal noise levels in line with Local and National guidance limits can be achieved.

8.2 Air Quality

During Construction

In line with best practice, the site will be carefully managed to avoid causing negative effects on local air and water quality. The appointed Principal Contractor will be required to implement best practice pollution prevention policies

and procedures on-site in accordance with Working at construction and demolition sites: PPG6, Pollution Prevention Guidelines.

In Operation

The proposed development will be served by EAHPs for heating and hot water. EAHP's do not produce emissions as they are powered by electricity. Additionally, with the inclusion of ample secure cycle parking, new pedestrian access and implementation of a Travel Plan, residents will be encouraged to use more sustainable modes of transport and rely less on car travel.

9. Conservation, Ecology and Biodiversity

This section will cover the following policies:

- Gravesham Local Plan Policy CS12

Gravesham's Local Plan policy CS12 seeks to support the conservation and enhancement of the natural and local environment. New developments are encouraged to protect and enhance existing environmental assets and create new ones where possible.

9.1 Pre-development Ecological Value

A *Preliminary Ecological Appraisal* was prepared by Kent Sussex Ecology to accompany the Planning Application. The report identified that the site does not contain any protected, priority or otherwise notable habitats.

The existing site comprises the following habitats:

- Buildings
- Amenity grassland
- Vegetable garden and long grassland
- Semi-mature trees
- Paving

The closest priority habitat to the site is an area of lowland deciduous woodland 50m to the north and the west. The site is not part of, nor adjacent to, any statutorily designated site for nature conservation, however, the 'Swanscombe Peninsula' Site of Special Scientific Interest (SSSI) is located 44m to the west/north-west. The 'Thames Estuary and Marshes' Special Protection Area (SPA) and Ramsar site is located approximately 6km to the east of the site.

The report confirms the site's ecological interest predominately consists of bat roosting habitat within the buildings and it was recommended that further bat surveys be carried out.

A Bat Emergence Survey was conducted in October 2023 and identified the presence of a small Common Pipistrelle maternity roost in one of the buildings on-site. The report provides advice on mitigation measures to be implemented prior to site clearance and demolition to ensure compliance with EU and UK legislation regarding protected species.

It is concluded that no ecologically significant adverse impacts with respect to important habitats are anticipated as a result of the development during construction or in operation.

9.2 Ecological Enhancement

The development presents an opportunity to enhance the biodiversity within the site through a variety of measures.

New enhancement recommendations shall include:

- New tree planting
- Raingardens
- Native hedge
- Log features for wildlife habitat

With the inclusion of the above proposed ecological enhancements, the Proposed development is expected to achieve a biodiversity net gain.

10. Summary

Below is a short summary for each section discussed in this report, showing how the application site meets the requirements set out in the National and Regional Planning Policies with regard to sustainability design and construction.

Energy

The *Energy Strategy Overview* indicates that the development can achieve a 67% improvement over Part L 2021 of the Building Regulations through the implementation of passive measures and ASHPs to provide heating and hot water.

Transport

The Site benefits from good bus connections running every 15 to 20 minutes to Dartford and Bluewater.

A total of five covered and secure cycle parking stores are proposed with each providing 5 Sheffield stands for ten cycles and space for a mobility scooter with charging infrastructure. This equates to 50 cycle and 5 mobility scooter parking spaces, exceeding Kent Design Guide 'Movement & Connectivity Parking Standards' recommendations.

A total of 55 car parking spaces are proposed, including 2 spaces for the Chaplain and Warden/Caretaker and 5 spaces for visitors. Electrical vehicle charging will be provided in accordance with Part S of Building Regulations.

Implementation of a Travel Plan for the development will encourage occupants to use these alternative more sustainable forms of transport, which are healthier alternatives and better for the local environment.

Materials

Materials for key building elements are encouraged to be responsibly sourced with 100% of timber and timber-based products to be legally harvested and traded timber.

The design of the building will incorporate suitable durability and protection measures to prevent damage to vulnerable parts of the internal and external building and landscaping elements. This will minimise the frequency of replacement and maximising materials optimisation.

Waste

A SWMP will be produced prior to the commencement of any work on site. The SWMP will detail how waste minimisation strategies will be incorporated into the design. The waste hierarchy is employed on-site to minimise the volume of waste produced.

Additionally, sufficient storage space will be provided to enable the segregation of recyclable materials as well as general waste in line with the Gravesham Local Plan guidelines.

Water, Flood Risk and Drainage

The *Flood Risk Assessment* confirms that the site is not at risk of flooding from tidal, fluvial, surface water, sewers, groundwater or reservoirs.

Surface water run-off will be attenuated on-site in attenuation tanks to regulate the discharge of high volumes of rainwater.

The proposed surface water drainage strategy will be designed for a 1 in 100-year event plus an allowance for 20% Climate Change.

Residential water consumption will be restricted to < 105 litres per head per day in line with Local Plan policies and residents will be metered on their water usage to encourage a change in the behaviour of how occupants use their water.

Fitting:	Flow Rate/Capacity:	Water Use (L/person/day):
WC	6/3 litres dual flush	8.88
Wash Hand Basin	5 litres/min	9.48
Bath	170 litres to overflow	18.70
Shower	8 litres/min	34.96
Kitchen Tap	5 litres/min	12.56
Washing Machine	8.17 litres/kg	17.16
Dishwasher	1.25 litres/place setting	4.50
	Calculated Use	115
	Normalisation Factor	0.91
	Total Consumption	104.6

Pollution

The reduction in operational CO₂ emissions and promotion of more sustainable means of transport will contribute positively to the local air quality.

The *Noise Assessment* identified traffic noise from Stonebridge Road as the main noise source affecting the site. MVHR and dedicated ventilation grilles are proposed in dwellings facing this road to ensure satisfactory acoustic conditions in habitable rooms can be maintained.

Conservation, Ecology and Biodiversity

The *Preliminary Ecological Appraisal* has identified the existing site as being of very low ecological value. Enhancement proposals, such as tree planting and raingardens will ensure that the new development achieves a biodiversity net gain.

11. Conclusion

This Sustainability Report has been developed to accompany the planning application for the proposed development of Huggens College.

The development is aiming to achieve a 67% improvement over Part L 2021 Building Regulations. Through this objective, the Applicant is ensuring that they maximise the opportunities to enhance the environmental performance of the development and ultimately exceed Building Regulations and Gravesham Borough Council's Local Plan requirements.



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