Ingleton Wood

Billericay
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Old Police Station
66 Station Road
Job No. 501350

BREEAM UK New Construction 2018 – Residential Institution – Residential Care Home

BREEAM Rating – 'Excellent'

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Checked by: Robert Diamond
BREEAM AP: Robert Diamond
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Document Control

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Final	Pre-Planning	14.08.2020	GR	RD

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1.0 INTRODUCTION

1.1 WHAT IS BREEAM?

BREEAM (Building Research Establishment's Environmental Assessment Method) is the world's leading and most widely used environmental assessment method for buildings, with over 115,000 buildings certified and nearly 700,000 registered. It sets the standard for best practice in sustainable design and has become the de facto measure used to describe a building's environmental performance. Credits are awarded in ten categories according to performance. These credits are then added together to produce a single overall score on a scale of Pass, Good, Very Good, Excellent and Outstanding. The operation of BREEAM is overseen by an independent Sustainability Board, representing a wide cross-section of construction industry stakeholders.

Aims of BREEAM:

To mitigate the impacts of buildings on the environment.
To enable buildings to be recognised according to their environmental benefit.
To provide a credible, environmental label for building.
To stimulate demand for sustainable buildings.

Objectives of BREEAM:

To provide market recognition to low environmental impact buildings.
To ensure best environmental practice is incorporated in buildings.
To set criteria and standards surpassing those required by regulations and challenge the market to provide innovative solutions that minimise the environmental impact of buildings.
To raise the awareness of owners, occupants, designers and operators of the benefits of buildings with a reduced impact on the environment.
To allow organisations to demonstrate progress towards corporate environmental objectives

1.2 BREEAM CREDIBILITY

Technical Credibility

BREEAM is tried and tested, both in terms of its robust technical standards and its commercial delivery, and expert advice (based on scientific evidence) continues to inform almost every issue in BREEAM.

In the UK there are over 115,000 buildings certified and over 700,000 homes and buildings currently registered for assessment. BREEAM can be used to assess any building type anywhere in the world.

Robust Technical Standards

BREEAM has always used objective criteria to recognise good environmental performance:
Issues for assessment are agreed to be significant, and offer worthwhile reductions in environmental impact.
Issues must be assessable at the relevant stage in the building's life.
Performance levels are based on scientific evidence wherever possible.
Performance levels must exceed demands of law and regulations and encourage innovation.
Improvements encouraged by BREEAM are achievable and cost effective.

Where specific targets cannot be set using hard science or research, sensible practical measures are recommended to minimise environmental impact or enhance the environment of the building and its users.

Commercial Credibility

Assessments are undertaken by organisations and individuals trained and licensed by BRE Global (Assessors). This ensures:

Competition in the market for assessment services
Engagement with the whole of the industry
Assessors work to the same quality standards (monitored by BRE)

BRE Global has gained UKAS (United Kingdom Accreditation Service) accreditation for all its BREEAM schemes. This means that its management of BREEAM is monitored and overseen by UKAS.

2.0 SCORING AND RATING

This section of the report explains how an assessed building's certified BREEAM rating is calculated.

There are a number of elements that determine the BREEAM rating; these are as follows:

BREEAM rating benchmarks.
BREEAM environmental weightings.
Minimum BREEAM standards.

2.1 RATING BENCHMARKS

The rating benchmarks for the 2018 version of BREEAM are outlined in table 1 below:

Table 1 BREEAM 2018 rating benchmarks

BREEAM Rating	% score
UNCLASSIFIED	<30
PASS	≥30
GOOD	≥45
V GOOD	≥55
EXCELLENT	≥70
OUTSTANDING*	≥85

* Please note: there are additional criteria for achieving a BREEAM Outstanding rating.

2.2 ENVIRONMENTAL SECTION WEIGHTINGS

Table 2 below outlines the environmental weightings for the nine BREEAM sections.

Table 2 BREEAM 2018 environmental weightings.

BREEAM Section	Fully fitted out (%)	Weighting (%)	Shell and core only (%)
Management	12	12.5	11
Health & Wellbeing	15	10	10.5
Energy	15	14.5	15
Transport	9	11.5	10
Water	7	4	7.5
Materials	13.5	17.5	14.5

BREEAM Section	Fully fitted out (%)	Weighting (%)	Shell and core only (%)
Waste	8.5	11	9.5
Land Use & Ecology	10	13	11
Pollution	10	6	11
Total	100	100	100
Innovation	10	10	10

2.3 MINIMUM STANDARDS

To achieve a BREEAM rating, the minimum percentage score must be achieved (as outlined in table 1) and the minimum standards (i.e. number of credits achieved) applicable to that rating level (below) complied with.

Table 3 Minimum BREEAM standards

BREEAM issue	Minimum standards by BREEAM rating level				
	PASS	GOOD	VERY GOOD	EXCELLENT	OUTSTANDING
Man 03: Responsible construction practices				One credit (Considerate Construction)	Two credits (Considerate Construction)
Man 04: Commissioning and handover	None	None	None	Criterion 9 (Building User Guide)	Criterion 9 (Building User Guide)
Man 5: Aftercare	None	None	None	Parts 2 and 3 only: one credit (Seasonal commissioning)	Parts 2 and 3 only: one credit (Seasonal commissioning)
Ene 01: Reduction of energy use and carbon emissions	None	None	None	Parts 1, 2, 3 and 4 (full assessments): Six credits, varies for other assessment types	Parts 1, 2, 3 and 4 (full assessments): Ten credits, varies for other assessment types
Ene 02: Energy monitoring	None	None	Parts 2, 3 and 4: One credit (first sub-metering credit)	Parts 2, 3 and 4: One credit (first sub-metering credit)	Parts 2, 3 and 4: One credit (first sub-metering credit)

BREEAM issue	Minimum standards by BREEAM rating level				
	PASS	GOOD	VERY GOOD	EXCELLENT	OUTSTANDING
Wat 01: Water consumption	None	One credit (where appli-cable)	One credit (where appli-cable)	One credit (where appli-cable)	Two credits (where appli-cable)
Wat 02: Water monitoring	None	Part 2: Criterion 1 only	Part 2: Criterion 1 only	Part 2: Criterion 1 only	Part 2: Criterion 1 only
Mat 03: Responsible sourcing materials	Criterion 1 only	Criterion 1 only	Criterion 1 only	Criterion 1 only	Criterion 1 only
Wst 01: Construction waste management	None	None	None	None	One credit
Wst 03: Operational waste	None	None	None	One credit	One credit

3.0 PRE-ASSESSMENT EVALUATION

BUILDING PROFILE

Name	Old Police Station – 66 Station Road Care Home
Building Type	Residential Institution
Building Sub-group	Residential Care Home
Floor Area	1,200m^2
Assessment Type	BREEAM 2018 New Construction

The spreadsheets within the appendices are based on the results of the BREEAM Pre-Assessment Workshop carried out by the Design Team on 1st August 2019.

The meeting workshop was carried out by the following: -

Geoff Reed	Environmental Assessor	Ingleton Wood
Robert Diamond	BREEAM AP	Ingleton Wood
Peter Rutter	Architect	PRC
Nick Browne	Project Manager	Meedhurst Project Management
Stuart Growcott	MEP	Harness

The overall score is indicative of what could be achieved, providing all the information promised is provided, and is fully in accordance with the BREEAM requirements.

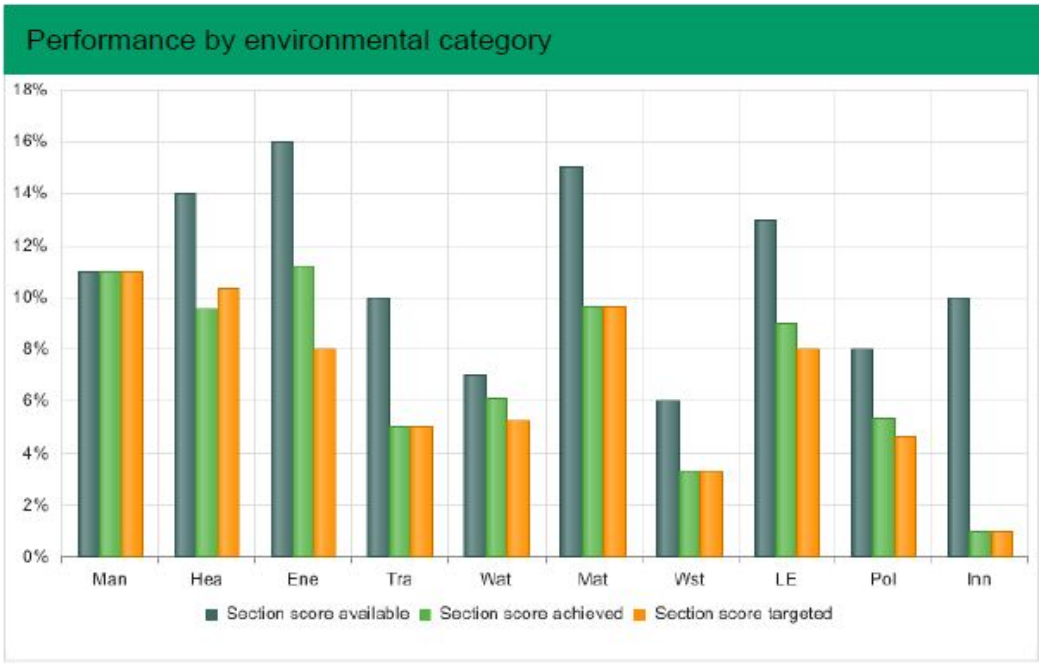
Certain credits are not targeted, simply by nature of the building and offer no benefit or are not cost effective to the Design Team. Within the Action Criteria the colour coding symbolises the credits not targeted in brown due to the nature of the project, and purple if they are not achievable.

From the pre-assessment meeting and overview of the drawings and building location the following was ascertained: -

4.0 SCORING BREAKDOWN

The BREEAM pre-assessment ratings have been calculated using the BREEAM 2018 pre-assessment calculator v4.2 and Technical Manual SD5078:2.0 -2018. The rating obtained in this pre-assessment are for guidance only. It is an initial estimation of the BREEAM score that would be achieved should all the assumptions stated in this document be implemented in line with the requirements set out in the full BREEAM 2018 Technical Manual.

The assessed credits assumed, and the percentage contribution score are shown in the table below. Minimum standards have been set for various credits that must be achieved if certain rating levels are to be achieved. Significant minimum standards need to be met to achieve an 'Excellent' rating and these will be identified throughout the report.



Building Performance by Environment Section

	No. credits available	Indicative no. credits Achieved	% credits achieved	Section Weighting	Indicative Section Score
Management	21	21	100%	11.00%	11.00%
Health & Wellbeing	19	13	68.42%	14.00%	9.57%
Energy	20	14	70.00%	16.00%	11.20%
Transport	12	8	66.67%	10.0%	6.67%
Water	8	7	87.50%	7.00%	6.12%
Materials	14	9	64.29%	15.0%	9.64%
Waste	9	5	55.560%	6.00%	3.33%
Land Use & Ecology	13	9	69.23%	13.00%	9.00%
Pollution	12	8	66.67%	8.00%	5.33%
Innovation	10	1	10.00%	N/A	1%
				Total Score	**71.22%**
				Rating	**Excellent**

5.0 ROAD MAP TO EXCELLENT

The Design team will re-assess the BREEAM issues in order to confirm the credits taken and the possibility of gaining further credits that are available but not taken at this stage. All the BREEAM mandatory requirements for an 'Excellent' rating must be achievable, and the following credits have been highlighted as road map to further boost the current pre- assessment rating.

Category	Maximum Credits Available	Current Predicted Credits	Potential Future Credits (Difficult Wins)	Potential Future Credits (Very Difficult Wins)
Management	21	21	0	0
Health & Wellbeing	19	13	0	0
Energy	20	14	0	+2
Transport	12	6	0	+2
Water	8	7	0	0
Materials	14	9	+2	0
Waste	9	5	0	0
Land Use and Ecology	13	10	0	0
Pollution	12	10	0	0
Innovation (additional)	10	3	0	0
Final Score		**71.22%**	**73.35%**	**75.62%**
BREEAM Rating		**Excellent**	**Excellent**	**Excellent**

5.1 POTENTIAL FUTURE CREDITS – DIFFICULT WINS

- **Materials**: Appoint a specialist to look into the Life Cycle Cost analysis and determine the EPD (Environmental Product Declaration) certificates and ISO certificates for the superstructure. (+2 Credits)

- **Waste:** Appoint a specialist to carry out a Climate Change Report to look at the resilience of the structure, building services and renewable technologies. (+1 credit).

5.2 POTENTIAL FUTURE CREDITS - VERY DIFFICULT WINS

- **TRA 2**: Increase the points predicted for TRA 2 by installing an electric system to show the bus times and numbers for taxis (encouraging the staff and visitors to arrive via public transport, and also adding in additional bus routes. (+2 credit)

- **Energy**: Appoint a specialist to Carry out a free cooling and passive design calcs and methodology report. (+2 credit)

6.0 RESULTS

The following information was allowed for by RIBA Stages 1,2 and 4. Production of this information to be supplied to the BREEAM Assessor to achieve the ‘‘Excellent’’ rating.

The pre-assessment has been undertaken, to achieve the minimum requirements of an **‘‘Excellent’’** rating, and the design team have achieved the minimum standards to an ‘Very Good’ standard and achieves a score of 7**1.21%.**

As can be seen the buffer over the threshold for ‘‘Excellent’’ (70%) is not very healthy but the rating will be achievable. Some consideration should be given to the above target of future credits.

There are a number of credits that cannot be targeted due to the nature or location of the building. Where possible the team have targeted all credits to achieve a healthy BREEAM score regardless of cost.

The table within the appendix gives the action criteria roles and responsibilities, and the predicted credits for the project.

It also gives the breakdown of the individual credits to achieve an ‘‘Excellent’’ rating. The pre-assessment should be read in conjunction with the BREEAM ‘UK New Construction 2018’ Manual for a fuller understanding of the actual requirements and commitments.

MAN 1 – Project Brief and Design

4 out of 4 credits

Assessment Criteria

Credits are awarded for a stakeholder consultant covering a project delivery and relevant third parties. Credits are also awarded for sustainability champion appointed to facilitate the setting, monitoring and achievement of BREEAM performance target(s) for the Project.

Pre-Assessment Evaluation

4 credits have been targeted, and it is a requirement that these credits are targeted and carried out an early stage, RIBA stage 1-2. A BREEAM AP has been appointed on the job at RIBA stage. The consultation with Stakeholders has been carried out, and Consultation with a Third Party is going ahead to achieve this credit, e.g. consultation with English Heritage or Conservation to achieve the credit has not taken place and therefore 4 credits are achieved.

MAN 2 – Life Cycle Cost and Service Life Planning

4 out of 4 credits

Assessment Criteria

Credits are awarded for recognising and encouraging the use of life cycle costings and service life planning and the sharing of data to raise awareness and understanding.

Pre-Assessment Evaluation

This report is required to be commissioned at RIBA stage 2. The report will cover the whole life value from investment and promote economic sustainability. The report will include an elemental life cycle cost analysis and component level LCC over multiple cash flow scenarios. For this project, the works will be required, and therefore the credits are targeted as it does represent value for money.
In addition, the capital cost for the project will be calculated to achieve the credit for a cost per m^2.

MAN 3 – Responsible Construction Practices

6 out of 6 credits + Exemplary Performance (credit achieved)

Assessment Criteria

Credits are awarded for the principal contractor demonstrates sound environmental management practices and consideration for neighbours across their activities on-site. Credits are also awarded for site related energy, water and transport impacts, which are monitored and reported to ensure ongoing compliance during the construction, handover and close out stages and to improve awareness and understanding for future projects.

Pre-Assessment Evaluation

The team will include within their prelims the responsible construction practices to be undertaken. The contractor appointed is to be EMS Certified, will responsibly source all timber used for hoarding, will monitor site impacts and will comply with considerable constructor's scheme. It is assumed the contractor can achieve the exemplary credit and score of 40 or above for CCS, to achieve the exemplary credit.

MAN 4 – Commissioning and Handover

4 out of 4 credits

Assessment Criteria

Credits are awarded for the schedule of commissioning including optimal timescales and appropriate testing and commissioning of all building services systems and building fabric in line with best practice. Credits are

awarded for the inspection, testing, identifying and rectifying defects via an appropriate method. Credits can also be awarded for providing a non-technical building user guide and user/operator training times appropriately around handover and proposed occupation.

Pre-Assessment Evaluation
A Building User Guide will be produced by the Contractor. All commissioning certificates and testing documents will be provided as well as the handover training documents. A Training Schedule will be provided for the end users by the team. A thermographic survey has been costed for this project at this stage and therefore this credit is achievable.

MAN 5 – Aftercare
3 out of 3 credits + Innovation/Exemplary (credit achieved)
Assessment Criteria
Credits are awarded for the provision of the necessary infrastructure and resources to provide aftercare support to the building occupier(s). Credits are also awarded for seasonal commissioning activities which are completed over a minimum of a 12-month period, once the building becomes substantially occupied. Credits can also be awarded for the client or building occupier committed to carrying out a post occupancy evaluation (POE) exercise one year after initial building occupation and to disseminate the findings in terms of the building's post occupancy performance.

Pre-Assessment Evaluation
The team and Contractor will be carrying out aftercare to the Client 12 months and 3 years after completion. All seasonal commissioning will be carried out at 3, 6, 9 and 12 months to establish the efficient use of the specialist systems. A POE Survey and Report has not been allowed for. The Exemplary Credit is achievable as there is a commitment in place at this stage to commit funds to the POE in advance.

HEA 1 – Visual Comfort
5 out of 5 credits + Innovation/Exemplary (credits (+2) not achieved)
Assessment Criteria
Credits are awarded for the potential to disable glare if that has been designed out of all relevant building areas. Credits are awarded for good practice daylighting levels that have been met and for floor space in relevant building areas that has an adequate view out to reduce eye strain and provide a link to the outside. Credits can also be awarded for internal and external lighting systems that are designed to avoid flicker and provide appropriate illuminance (lux) levels or for internal lighting that is zoned to allow for occupant control.

Pre-Assessment Evaluation
The team have confirmed that there are blinds to be installed to all windows. Daylighting calculations and reports will be required and therefore have been carried out having reviewed the plans and the room depths we do as a team feel the uniformity ratio will comply with meeting the daylight factor. Therefore, these credits are achievable.
The review of the drawings confirms that the view out can be achieved. All internal and external lighting will comply with CIBSE standards and this credit is achieved.

HEA 2 – Indoor Air Quality
0 out of 5 + 2 Innovation/Exemplary (credits not achieved)
Assessment Criteria
Credits are awarded for minimising sources or air pollution through careful design specification and planning. Also, credits can be achieved through the specification of low VOC products, and a further credit awarded for subsequent testing. Further, a credit can also be awarded for a building ventilation strategy that is designed to be flexible and adaptable to potential future building occupant needs and climatic scenarios.

Pre-Assessment Evaluation
An Air Quality Plan could be carried out at design stage. A ventilation strategy meeting BREEAM requirements designed will not be carried out, and therefore this credit is not targeted.
The specification of VOC levels will be undertaken; however, subsequent testing will not be carried out due to cost. The testing for the formaldehyde levels to be compliant, will not be carried out.
Ventilation calculations will not be produced to achieve the credit.

HEA 4 – Thermal Comfort
3 out of 3 credits
Assessment Criteria
Credits are awarded for a thermal model carried out to appropriate standards. Credits are awarded for project climate change scenario(s) considered as part of the thermal model. Credits can also be awarded for the thermal modelling analysis that has informed the temperature control strategy for the building and its users.

Pre-Assessment Evaluation
The Thermal Model Analysis Report and Calculation will be carried out and used to assess the overheating of the building. The report should include, and take into account, adaptability to climate change and so the credits are awarded. The heating will be zoned.

HEA 5 – Acoustic Performance
3 out of 4 credits
Assessment Criteria
Credits are awarded for where the building meets appropriate acoustic performance standards and testing requirements in terms of: sound insulation, indoor ambient noise level and reverberation times.

Pre-Assessment Evaluation
An Acoustician will be appointed to carry out testing and reports to meet the required BREEAM criteria for indoor ambient noise level and reverberation times. Therefore, these credits will be achieved. However, only 1 of the 2 credits for Sound Insulation is anticipated at this early stage.

HEA 6 – Safety and Security
1 out of 1 credits + Innovation / Exemplary (Credit not targeted)
Assessment Criteria
Credits are also awarded for security needs that are understood and taken into account in the design and specification.

Pre-Assessment Evaluation
The Architect will consult with an ALO/CPDA on the security measures of the building at RIBA stage 2 and therefore this credit is achievable.

HEA 7 – Safe & Healthy Surroundings
1 out of 2 credits
Assessment Criteria
Credits are awarded for the provision of effective measures which support safe access to and from the building. The second credit is to provide an outdoor space with a seating area that enhances the wellbeing of the users.

Pre-Assessment Evaluation
The design does not incorporate safe external areas for cyclists and pedestrians and therefore does not comply with the NCN, consequently this credit is achievable due to lack of transport (delivery vehicles excluded) access to the building. The second credit is achievable as outdoor space is provided as a part of the scheme.

ENE 1 – Reduction of Energy Use and Carbon Emissions
9 out of 13 credits + 0 Innovation/Exemplary (credits not achieved)
Assessment Criteria
Credits are awarded for recognising improvements in the energy performance of the building above national building regulations in relation to heating and cooling energy demand, primary energy consumption and carbon dioxide emissions. Credits are also awarded for encouraging steps taken to reduce energy demand through building design and systems specification.

Pre-Assessment Evaluation
The SBEM will need to be provided to demonstrate these credits; at this stage, the design SBEM has been provided, it is assumed that 5 credits are achieved. This will be reviewed upon final design intent. The Energy Consultant will meet with the client and design team to look at operational energy demand, additional energy modelling to generate predicted operational energy consumption and a risk assessment to highlight any significant design, technical and process risks. This will achieve an additional 4 credits.

ENE 2 – Energy Monitoring
1 out of 1 credits
Assessment Criteria
Credits are awarded for energy metering systems that are installed to enable energy consumption to be assigned to end uses.

Pre-Assessment Evaluation
Sub metering will be provided for heating, hot water, cooling small power and lighting. The meters will be fitted with pulsed outputs or connected to the BMS. Tenancy areas will be sub metered per floor and area.

ENE 3 – External Lighting
1 out of 1 credits
Assessment Criteria
Credits are awarded for the specification of energy efficient light fittings for external areas of the development and controls to prevent use during daylight hours or when not needed.

Pre-Assessment Evaluation
The external lighting will have a daylight sensor, have a timeclock fitted as an override and will meet CIBSE Guidelines LUX levels

ENE 4 – Low Carbon Design
1 out of 3 credits
Assessment Criteria
Credits are awarded for the analysis of the proposed building design/development is undertaken to identify opportunities for and encourage the adoption of passive design solutions, including free cooling. Credits are also awarded for a feasibility study that has been carried out to establish the most appropriate on-site/near-site low or zero carbon (LZC) energy source(s) for the building/development and is specified.

Pre-Assessment Evaluation
The report is required to be produced at RIBA Stage 2 to demonstrate the most appropriate LZC technology and this report is required as there are renewables.
A report will not be provided to show how passive design measures are being considered. Consequently, no credits are awarded.

ENE 6 –Energy Efficient Transport Systems
3 out of 3 credits
Assessment Criteria
Credits are awarded for the recognition for development in installing an energy efficient lift.

Pre-Assessment Evaluation
The team are to provide a lift analysis of 2 types of lifts, looking at the counterbalancing ratio. The team are required to install an energy efficient lift by use of LED display lighting and downlighting, shut off mode and variable speed motor.

TRA 1 –Transport Assessment & Travel Plan
2 out of 2 credits
Assessment Criteria
Credits are awarded for the recognition for development in proximity to good public transport networks, thereby helping to reduce transport-related pollution and congestion. To reward awareness of existing local transport and identity improvements to make it more sustainable.

Credits are awarded for attempts to promote sustainable reductions in transport burdens by undertaking a site-specific travel assessment/statement and developing a travel plan based on the needs of the particular site.

Pre-Assessment Evaluation
The bus stop is within 650m distance away from site, and a frequent number of buses utilise this stop to provide a good accessibility index.
A travel consultant has been appointed to provide a compliant travel plan reviewing the existing cycle facilities, pedestrian and parking with new proposals to meet the BREEAM requirements, as part of planning. Therefore, the credit is achievable.

TRA 2 – Sustainable Transport Measures
4 out of 10 credits
Assessment Criteria
Credits are awarded for the recognition of developments in close proximity of and accessible to, local amenities which are likely to be frequently required and used by building occupants.

Pre-Assessment Evaluation

- 1 credit for Accessibility index being greater than 3 – No
- 1 credit for putting in new bus stop - No
- 1 credit for putting in new dedicated public service board – No
- 1 credit for putting in 10% of car parking capacity with electric charging points – Yes
- 1 credit for car parking sharing scheme – Yes
- 1 credits for NCN (National cycling network) checklist compliance – No
- 1 credit for ensuring 3 compliant proximity to amenities are within 500m (e.g. Cash point, food outlet, post box, GP Surgery etc.) - Yes
- 2 credits for cycle facilities and storage – Yes
- 1 credit for adding an additional item e.g. Community hub - Yes

WAT 1 – Water Consumption
4 out of 5 credits + 1 Innovation/Exemplary (credit not achieved)
Assessment Criteria
Credits are awarded for reducing the demand for potable water through the provision of efficient sanity fitting, rainwater collection and water recycling systems.

Pre-Assessment Evaluation
These credits have been assumed based on the facts there are WC facilities with dual flush toilets with flow restrictors to the taps. A baseline improvement of 50% is achievable. There are no water recycling systems proposed.

WAT 2 – Water Monitoring
1 out of 1 credits
Assessment Criteria
Credits are awarded for the specification of a water meter/s on the mains water supply to encourage water consumption management and monitoring to reduce the impacts of inefficiencies and leakage.

Pre-Assessment Evaluation
A pulsed water meter will be installed on the incoming mains and within the site boundary feeding this building.

WAT 3 – Water Leak Detection

2 out of 2 credits

Assessment Criteria

Credits are awarded for the recognition of leak detection systems capable of detecting a major water leak on the mains water supply. Credits can also be awarded for flow control devices that regulate the supply of water to each WC area/facility to reduce water wastage.

Pre-Assessment Evaluation

The team have confirmed that a leak detection system will be fitted and installed due to good practise.
There will be solenoid valves installed on the main system to shut off the water in WC areas. There is a BMS.

MAT 1 – Life Cycle Impacts

5 out of 7 credits + 3 Innovation/Exemplary credits (credits is not achieved)

Assessment Criteria

Credits are awarded for reductions in the building environmental life cycle impacts through assessment of the main building elements.

Pre-Assessment Evaluation

The Contractor will be providing documentation for the materials to demonstrate low embodied carbon over the life of the building to enable the competition of the Calculator, EPD Certificates are required. The Client and Design team will appoint a specialist to carry out the Materials Calculation tools and life cycle analysis for the structure and hardstanding and internal finishes.

MAT 2 – Environmental impacts from Construction Products

1 out of 1 credits

Assessment Criteria

Credits are awarded for encouraging availability of robust and comparable data on the impact of construction products through the provision of EPD.

Pre-Assessment Evaluation

Based on the materials spoken about in the Design meeting, the team are going to source all the materials from the EPD software. The Client and Design team will appoint a specialist to carry out the Materials Calculation tools and life cycle analysis for the hardstanding.

MAT 3 – Responsible sourcing of materials

3 out of 4 credits + 1 Innovation/Exemplary (credit not achieved)

Assessment Criteria

Credits are awarded for the materials that are sourced in accordance with a sustainable procurement plan. Credits are also awarded for key building materials that are reasonably sourced to reduce environmental and socio-economic impacts.

Pre-Assessment Evaluation

The contractor will provide a sustainable procurement plan, for use of sustainable and environmentally friendly materials.
The Team have decided to target the responsible sourcing credits of materials for all the timber and all the chain of custody certificates for all building elements, are required. The Contractor to provide chain of custody certificates to meet 25%.

MAT 5 – Designing for Durability and Resilience
1 out of 1 credits
Assessment Criteria
Credits are awarded for the building which incorporates measures to reduce impacts associated with damage and wear-and-tear. Credits are also awarded for relevant building elements that incorporate appropriate design and specification measures to limit material degradation due to environmental factors.

Pre-Assessment Evaluation
The team have confirmed that all internal and external durability measures will be incorporated into the Design. These can be such things as – Hard wearing and easy clean floor finishes, protective external bollards, raised kerbs, kick plates, door stops or corner protectors.

MAT 6 – Material Efficiency
0 out of 1 credits
Assessment Criteria
Credits are awarded for the opportunities and measures that have been identified and taken to optimise the use of materials.

Pre-Assessment Evaluation
The Architect will not produce a report showing the materials and elements used to demonstrate compliance.

WST 1 – Construction Waste Management
3 out of 4 credits + 1 Innovation/Exemplary (credit not achieved)
Assessment Criteria
Credits are awarded for the development of a construction resource management plan and reducing construction waste related to on-site construction and off-site manufacture/fabrication. Credits are also awarded for diverting non-hazardous construction (on-site and dedicated off-site manufacture/fabrication) demolition and excavation waste (where applicable) generated by the project from landfill.

Pre-Assessment Evaluation
Site Waste Management Plan showing figures and measures of waste directed away from land fill. The plan must contain how to deal with hazardous and non-hazardous waste and recycled. The Contractor is to target less than 7.8m^3 per 100m^2 of floor area of recycling. The waste diverted from landfill will be 90%.

WST 2 – Recycled Aggregates
0 out of 1 credits + 1 Innovation/Exemplary (credit not achieved)
Assessment Criteria
Credits are awarded for the percentage levels of recycled or secondary aggregate specified against set targets.

Pre-Assessment Evaluation
Due to the site location, it is not deemed possible for the contractors to obtain recycled aggregates within the required distance, or to use 80% of recycled aggregates from any demolition works.

WST 3 – Operational Waste
1 out of 1 credits

Assessment Criteria
Credits are awarded for the provision of sustainable space and facilities to allow for segregation and storage of operational recyclable waste volumes generated by the assessed building/unit, its occupant(s) and activities.

Pre-Assessment Evaluation
A Bin Storage location will be provided with recycling bins labelled appropriately for use.

WST 5 – Adaption to Climate Change
0 out of 1 credits + exemplary/ Innovation (credit not achieved)
Assessment Criteria
Credits are awarded for the encouragement, consideration and implementation of measures to mitigate the impact of more extreme weather conditions arising from climate change over the life span of the building.

Pre-Assessment Evaluation
This report is required at RIBA stage 2, and a cost is associated with putting together the report based on climate change impacts which the team have not factored in.

WST 6 – Functional Adaptability
1 out of 2 credits
Assessment Criteria
Credits are awarded for the encouragement, consideration and implementation of measures to accommodate future changes to the use of the building and its systems over its life span.

Pre-Assessment Evaluation
The Building has been designed fit for purpose for the Clients brief, however drawings and report will be provided to demonstrate that the building could be used for other requirements. However, the second credit is not achievable due to the brief not being implemented into the design.

LE 1 – Site Selection
1 out of 2 credits
Assessment Criteria
Credits are awarded for the recognition of the reuse of previously developed and contaminated land where appropriate remediation has taken place.

Pre-Assessment Evaluation
The land is currently situated on the existing grounds and can achieve this credit. The land is not deemed to be contaminated.

LE 2 – Identifying and Understanding the Risks and Opportunities for the Site
2 out of 2 credits + 1 Exemplary/Innovation (credit not achieved)
Assessment Criteria
Credits are awarded for the recognition of the uses of sites of "low ecological value", and the protection of existing features prior to and during site operations.

Pre-Assessment Evaluation
The land is of low ecological value and thus no protection of any ecological features is required.

LE 3 – Managing Negative Impacts on Ecology
2 out of 3 credits
Assessment Criteria
Credits are awarded for the recognition of steps taken to avoid impacts on existing site ecology.

Pre-Assessment Evaluation
The proposals that have been reviewed to show that the Ecological features will at least meet Species level i.e. No negative change.

LE 4 – Change and Enhancement of Ecological Value
2 out of 4 credits + exemplary and innovation (credit not achieved)
Assessment Criteria
Credits are awarded for the recognition of steps taken to enhance site ecology through the advice of a suitably qualified ecologist.

Pre-Assessment Evaluation
An Ecologist is going to be appointed and carry out survey and report and recommendations will be provided to ensure the site has no negative changes and at least meets 0 species.

LE 5 – Long Term Impact on Biodiversity
2 out of 2 credits
Assessment Criteria
Credits are awarded for the production of a long-term landscape and habitat management plan to encourage measures that improve a sites long term biodiversity.

Pre-Assessment Evaluation
The Ecologist is to provide a habitat and management plan to demonstrate long term impact of biodiversity, therefore 2 credits are targeted.

POL 1 – Impacts of Refrigerants
0 out of 3 credits
Assessment Criteria
Credits are awarded for the avoidance of reduction of the impact of refrigerants through specification and leak prevention/detection.

Pre-Assessment Evaluation
The project does incorporate refrigerants. Heat pumps providing cooling in lounge areas and certain communal areas. The Bedrooms are naturally ventilated. Due to Refrigerants being proposed and the heat pump being electric these credits are not achievable.

POL 2 – Local Air Quality
1 out of 2 credits
Assessment Criteria
Credits are awarded for the reduction in emissions of nitrous-oxides (NO_x) arising from the building's space and water heating systems.

Pre-Assessment Evaluation
The proposals for this scheme will meet the minimum NO_x levels to achieve the credits, based on the CHP system.

POL 3 – Surface Water Runoff & Flood Risk Management
5 out of 5 credits
Assessment Criteria
Credits are awarded for the development of sites with a low probability of flooding where the design minimises the impact of flooding through careful master planning. Credits are also awarded for surface water run-off which is managed to be no worse that the pre-development scenario and watercourse pollution prevention systems are in place.

Pre-Assessment Evaluation
An FRA is required, due to the location it is assumed that the zone will be 1 – Low probability of flooding. Calculations will be produced to demonstrate that the surface water run off volume and will not be greater than that of the existing and SUDS will be provided to minimise water course pollution. This has been calculated and costed in and thus is achievable and all the credits achieved.

POL 4 – Reduction of Night Time Light Pollution
1 out of 1 credit
Assessment Criteria
Credits are awarded for external light pollution that is eliminated through effective design or the removal of the need for unnecessary external lighting.

Pre-Assessment Evaluation
A time clock and daylight sensor is required to control the external lighting and reduce lux levels to minimise light pollution.

POL 5 – Reduction of Noise Pollution
1 out of 1 credits + exemplary and innovation (credit not achieved)

Assessment Criteria
Credits are awarded for the measures to reduce the likelihood of disturbance arising as a result of noise from fixed instillations on the development.

Pre-Assessment Evaluation
An Acoustician is going to be appointed to carry out the required design and testing, it also seems likely the plant noise will be less than the background noise at the nearest sensitive receiver.

Approved Innovation
Not Applicable

7.0 RECOMMENDATIONS

Further to our Pre-Assessment review with the design team a preliminary score of **74.88%** is achieved. This equates to a ''Excellent'' rating and all the minimum requirements have been achieved.

This is based upon the assumption that a Drainage Calculation report for surface water run-off is undertaken, by a civil engineer. The SBEM calculations will also be required to demonstrate that the requirements of meeting carbon emissions reduction. An Ecologist appointment is confirmed, and the report is required.

In addition, the following elements must be included for:

- Contractor to adopt the Considerate Constructor Scheme
- Simple to use Building User Guide to be produced
- Seasonal Commissioning Testing & Programme
- Ecologist Report
- Low flush WCs/low flow taps
- Contractor to adopt best practice policies and monitor water/electricity/CO_2 consumption, and source legal timber
- Site Waste Management Plan
- Drainage design and calculations and FRA
- Thermal Model Calculations and Reports
- Daylighting Calcs and Report
- Indoor Air Quality Plan

APPENDIX A
BREEAM Assessor &
Action Criteria
Form/Tracker
'Excellent' Rating

BREEAM UK New Construction 2018								
Old Police Station, 66 Station Road								
Issue No	**Issue Title**	**Issue Requirements**	**Action**	**Information Required By**	**Credits Available**	**Credits Targeted**	**Credit Status**	**Risk Level**
Management								**L/M/H**
MAN 1	Project Brief and Design	Project Delivery Planning	Client/Contractor/Planning Advisor	Design Stage	1	1	1	L
		Stakeholder Consultation	Client/Contractor/Planning Advisor	Design Stage	1	1	1	L
		Sustainability champion (Concept Stage RIBA Stages 1-2)	BREEAM AP	Design Stage	1	1	1	L
		Sustainability champion (Developed Design (RIBA Stages 3-6)	BREEAM AP	Construction Stage	1	1	1	L
		Prequesite: Has the client and contractor agreed performance targets	Client/Contractor	Design Stage	-	-	Yes	N/A
MAN 2	Life Cycle Cost and Service Life Planning	Elemental LCC	Client appointment/QS	Design Stage	1	1	1	L
		Component Level LCC Options appraisal	Client appointment/QS	Design Stage	1	1	1	L
		Capital Cost Reporting	Client/Contractor	Design Stage	1	1	1	L
MAN 3	Construction Site Impacts	Prequisite: Are all timber and timber-based products used during the construction process of the project 'legally harvested and traded timber'?	Contractor	On appointment	-	-	Yes	N/A
		Environmental Management System operated by Contractor	Contractor	On appointment	1	1	1	L
		Construction Stage Sustainability Champion	Contractor	On Site	1	1	1	L
		Responsible construction management	Contractor	On appointment	1	1	1	L
		Monitoring of construction site impacts:	Contractor	On Site	1	1	1	L
		Utility Consumption/Transport of construction materials and waste	Contractor	On Site	1	1	1	L
		Exemplary level criteria - Responsible construction management	Contractor	On Site	1	1	1	L

Issue No	Issue Title	Issue Requirements	Action	Information Required By	Credits Available	Credits Targeted	Credit Status	Risk Level
MAN 4	Commissioning & handover	Commissioning testing Schedule & Responsibilities	Contractor	On Site	1	1	1	L
		Commissioning - design and preparation	M&E	Design Stage	1	1	1	L
		Testing and inspecting building fabric (Thermographic Survey)	Contractor	On Completion	1	1	1	L
		Prequisit: Handover - has a technical and a non-technical building user guide been developed prior to handover?	Contractor	On Completion	-	-	Yes	N/A
		Handover - has a technical and a non-technical training schedule been prepared around handover?	Contractor	On Completion	1	1	1	L
MAN 5	Project Brief and Design	Is this a speculative development?	-	-	N/A	N/A	N/A	N/A
		Aftercare support	Contractor	On Completion	1	1	1	L
		Commissioning - implementation	Contractor	On Site	1	1	1	L
		Post occupancy evaluation	Client	On Completion	-	-	Yes	N/A
		The client or building occupier commits funds to pay for the POE in advance.	Client	On Completion	1	1	1	L

Issue No	Issue Title	Issue Requirements	Action	Information Required By	Credits Available	Credits Targeted	Credit Status	Risk Level
Health and Wellbeing								
HEA 1	Visual Comfort	Control of glare from sunlight	Architect	Design Stage	1	1	1	L
		Daylighting (building type dependent)	Sustainability Specialist	Design Stage	2	2	2	L
		View Out	Architect	Design Stage	1	1	1	L
		Internal and external lighting levels, zoning and controls	Electrical Engineer	Design Stage	1	1	1	L
HEA 2	Indoor Air Quality	Pre requisite: Indoor air quality (IAQ) plan	Sustainability Specialist	Design Stage	-	-	YES	N/A
		Ventilation	Credit Not Targeted	Credit Not Targeted	1	0	0	N/A
		Emissions from building products	Credit Not Targeted	Credit Not Targeted	1	0	0	N/A
		Post-construction indoor air quality measurement	Credit Not Targeted	Credit Not Targeted	2	0	0	N/A
HEA 4	Thermal Comfort	Thermal modelling	M&E	Design Stage	1	1	1	L
		Design for future thermal comfort	M&E	Design Stage	1	1	1	L
		Thermal zoning and controls	M&E	Design Stage	1	1	1	L
HEA 5	Acoustic Performance	Acoustic Environmental Requirements to meet the required Db Levels	Acoustician	Design Stage	2	1	1	L
			Acoustician	Design Stage	1	1	1	L
			Acoustician	Design Stage	1	1	1	L

Issue No	Issue Title	Issue Requirements	Action	Information Required By	Credits Available	Credits Targeted	Credit Status	Risk Level
HEA 6	Security	Security of site and building	Architect/Contractor	Design Stage	1	1	1	L
		Exemplary level criteria	CREDIT NOT ACHIEVEABLE	CREDIT NOT ACHIEVEABLE	1	0	0	N/A
HEA 7	Safe and Healthy Surroundings	Safe Access	CREDIT NOT ACHIEVEABLE	CREDIT NOT ACHIEVEABLE	1	0	0	N/A
		Outside Space	Client/Architect	Design Stage	1	1	1	L

Issue No	Issue Title	Issue Requirements	Action	Information Required By	Credits Available	Credits Targeted	Credit Status	Risk Level
Energy								
ENE 1	Reduction of energy use and carbon emissions	SBEM Calculations	M&E	Design Stage	13	5	5	L
		Design workshop focusing on operational energy performance	M&E	Design Stage	4	4	4	L
ENE 2	Energy Monitoring	Sub-Metering	M&E	On Site	1	1	1	L
ENE 3	External Lighting	External lighting to BREEAM standards	M&E	Design Stage	1	1	1	L
ENE 4	Low Carbon Design	Passive design measures	CREDIT NOT ACHIEVEABLE	CREDIT NOT ACHIEVEABLE	1	0	0	N/A
		Free cooling system incorporated in line with Passive Design analysis	CREDIT NOT ACHIEVEABLE	CREDIT NOT ACHIEVEABLE	1	0	0	N/A
		LZC Feasibility Study	Sustainability Specialist	Design Stage	1	1	1	L
ENE6	Energy Efficient Transportation	Lift analysis & Counterbalancing ratio	Lift consultant	Design Stagge	1	1	1	L
		Energy efficient features, such as LED lighting, shut off mode & variable speed motor	Lift consultant	Design Stagge	1	1	1	L

Issue No	Issue Title	Issue Requirements	Action	Information Required By	Credits Available	Credits Targeted	Credit Status	Risk Level
Transport								
TRA 1	Transport assessment and travel plan	Travel Plan	Client	Design Stage	2	2	2	M
TRA 2	Sustainable Transport Measures	To maximise the potential for local public, private and active transport through provision of sustainable transport measures appropriate to the site:						
		Is AI> or = to 8 - Prediocted score of greater than 3	CREDIT NOT ACHIEVEABLE	CREDIT NOT ACHIEVEABLE	1	0	0	N/A
		Local/Dedicated Bus/Train Service	Credit Not Targeted	Credit Not Targeted	1	0	0	N/A
		Public Transport Information System	Credit Not Targeted	Credit Not Targeted	1	0	0	N/A
		Electric Parking Points (To 10% of Users)	Credit Not Targeted	Credit Not Targeted	1	0	0	N/A
		Car Sharing Scheme	Client	Design Stage	1	1	1	M
		Local Cycle Network	CREDIT NOT ACHIEVEABLE	CREDIT NOT ACHIEVEABLE	1	0	0	N/A
		Compliant Cycle Storage	Contractor	Design Stage	1	1	1	M
		Cycle Facilities (Providing Cycle Storage is in place)	Client	Design Stage	1	1	1	M
		Existing Amenities in Place	CREDIT NOT ACHIEVEABLE	CREDIT NOT ACHIEVEABLE	1	0	0	N/A
		Enhanced Amenities in Place e.g. Community Hub	Client	Design Stage	1	1	1	M
Water								
WAT 1	Water Consumption	To reduce the consumption of potable water for sanitary use in new buildings through the use of water efficient components and water recycling systems.	Contractor	Design Stage	5	4	4	M
WAT 2	Water Monitoring	Pulsed water meter to identify all WAT01 componenets	Contractor	Design Stage	1	1	1	L
WAT 3	Water Leak Detection	Water leak detection system/Flow Control Devices	Contractor	Design Stage	1	1	1	M
			Contractor	Design Stage	1	1	1	M

Issue No	Issue Title	Issue Requirements	Action	Information Required By	Credits Available	Credits Targeted	Credit Status	Risk Level
Materials								
MAT 1	Life Cycle Impacts	Green Guide specified materials	QS/Client Appointment	Design Stage	7	4	4	M
		Exemplary level criteria	CREDIT NOT ACHIEVEABLE	CREDIT NOT ACHIEVEABLE	3	0	0	N/A
MAT 2	Environmental impacts from construction products	To encourage availability of robust and comparable data on the impacts of construction products through the provision of EPD.	QS/Client Appointment	Design Stage	1	0	1	M
MAT 3	Responsible Sourcing	Prerequisite: All timber and timber based products are 'Legally harvested and traded timber'	Contractor	Design Stage	-	-	Yes	N/A
		Has the enabling sustainable procurement credit been achieved?	Contractor	Design Stage	4	2	2	L
MAT 5	Designing for durability and resilience	Protecting vulnerable parts of the building from damage and exposed parts of the building from material degradation	Architect/M&E	Design Stage	1	1	1	M
MAT 6	Material efficiency	Material efficiencies to be identified and implemented	CREDIT NOT ACHIEVEABLE	CREDIT NOT ACHIEVEABLE	1	0	0	N/A
Waste								
WST 1	Construction Waste Management	Construction Waste Plan and Refurbishment Audit	Contractor	On Site	4	3	3	M
WST 2	Recycled Aggregates	Recycled/secondary aggregates to BREEAM	CREDIT NOT ACHIEVEABLE	CREDIT NOT ACHIEVEABLE	1	0	0	N/A
WST 3	Operational Waste	Recycling space + bins	Architect	Design Stage	1	1	1	L
WST 5	Adaption to climate change	Climate change adaptation strategy appraisal for structural and fabric resilience	Credit Not Targeted	Credit Not Targeted	1	0	0	N/A
WST 6	Design for disassembly and adaptability	To avoid unnecessary materials use, cost and disruption arising from the need for future adaptation works as a result of changing functional demands and to maximise the ability to reclaim and reuse materials at final demolition in line with the principles of a circular economy.	M&E/Architect	Design Stage	2	1	1	L

Issue No	Issue Title	Issue Requirements	Action	Information Required By	Credits Available	Credits Targeted	Credit Status	Risk Level
Land Use and Ecology								
LE 1	Site Selection	Development on previous developed site	Ecologist	Design Stage	1	1	1	L
		Contaminated land report and mediation works	CREDIT NOT ACHIEVEABLE	CREDIT NOT ACHIEVEABLE	1	0	0	N/A
LE 2	Identifying and understanding the risks and opportunities for the site	Ecologist report from SQE	Ecologist	Design Stage	2	2	2	L
LE 3	Managing negative impacts on ecology	Ecologist report from SQE	Ecologist	Design Stage	3	2	2	L
LE 4	Change and enhancement of ecological value	Ecologist report from SQE	Ecologist	Design Stage	4	2	2	L
LE 5	Long Term Impact on Biodiversity	Ecologist report from SQE	Ecologist	Design Stage	2	2	2	L

Issue No	Issue Title	Issue Requirements	Action	Information Required By	Credits Available	Credits Targeted	Credit Status	Risk Level
Pollution								
POL 1	Impact of refrigerants	To reduce the level of greenhouse gas emissions arising from the leakage of refrigerants from building systems: BREEAM compliant automatic refrigerant leak detection system installed and able to manage the remaining refrigerant charge?	M&E	Design Stage	3	0	0	n/a
POL 2	Local Air Quaity	To contribute to a reduction in local air pollution through the use of low emission combustion appliances in the building.	M&E	Design Stage	2	1	1	L
POL 3	Flood risk management and reducing surface water run-off	Site specific Flood Risk Assessment	Client appointment/ civil	Design Stage	2	2	2	L
		Surface water run off rate and volume calculations	Contractor	Design Stage	2	2	2	L
		Minimising watercourse pollution	Contractor	Design Stage	1	1	1	L
POL 4	Reduction of Night Time Light Pollution	Design + specification in accordance with BREEAM	Contractor	Design Stage	1	1	1	L
POL 5	Noise attenuation	To reduce the likelihood of noise arising from fixed installations on the new development affecting nearby noise-sensitive buildings.	Acoustician	Design Stage	1	1	1	L
				Potential Score	**Targeted**	**71.21%**	**Rating**	**Excellent**

Key	
	Credited targeted
	Credit Closed Out
	Credit not Achieveable
	Credit not targeted

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