16-20 Red Lion St

BREEAM New Construction Report Stage 1

Ground to 5th Façade extension

5th & 6th floor extension

BRE Ref: TBC

For: ''BNP Paribas as Trustees of Mayfair Capital Commercial Property Trust''

January 2017, RevE

NOTICE

This document and its contents have been prepared and are intended solely for *'BNP Paribas as Trustees of Mayfair Capital Commercial Property Trust'* information and use in relation to the 16-20 Red Lion Street development, WC1R.

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Document History

Job Number: v107		**Doc Ref: v107 16-20 Red Lion St BREEAM Stage 1 Report RevE 20170111**		
Revision	Purpose description	Originated	Authorised	Date
A	Stage 1	RM	AC	22/08/2016
B	Change to New Construction for Extension	RM	AC	22/09/16
C	Update to strategy	RM	AC	28/09/16
D	Planning Update	RM	AC	11/11/16
E	Ene01 Update	RM	AC	11/01/17

Client Sign-off

Client	**Mayfair Capital**
Project	16-20 Red Lion St
Document Title	16-20 Red Lion St BREEAM Stage 1 Report
Job No	V107
Revision	E
Doc Reference	v107 16-20 Red Lion St BREEAM Stage 1 Report RevE 20170111

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1. Executive Summary

This report illustrates the BREEAM 2014 New Construction rating that the current design proposals for the 5th-6th floor extension at 16-20 Red Lion Street can achieve under the scheme.

Following discussions held with Craig Scott of GDMP, Sasha Greig of ORMS and review of the pre-application report by ORMS Architects (*160516_20 Red Lion Street_Pre App_Rev A_May2016*), the following scores / ratings were established:

Planning Sustainability Objectives:

Camden's policy DP22 requires major developments to achieve an "Excellent" ratings as well as achieving the following percentages:

- Energy Section – 60%
- Water Section – 60%
- Materials Section – 40%

It is expected that the extension at Red Lion St will meet the above specific targets which relate to the BREEAM assessment. Further liaison with the design team will be required to ensure these are fully incorporated in the design.

BREEAM:

It has been established that the office currently has the potential to achieve a rating of Excellent with a range of options illustrated to enhance this further if required. The offices have been assessed against the Shell and Core BREEAM NC 2014 criteria, as suitable to a CatA level development.

The score currently achievable is **74.02%,** a rating of **EXCELLENT**.

EPC:

An Excellent rating requires 5 credits to be achieved (equivalent to an EPR of at least 0.375).

10 credits have been targeted at this stage based on preliminary energy modelling exercise.

2. Introduction

Verte have been requested by GDM Engineers to carry out a sustainability assessment of the redevelopment of 16-20 Red Lion Street, WC1R, for Mayfair Capital.

The report provides a status of the development's performance with regards to BREEAM RFO 2014. The content focuses on:

1. BREEAM Performance

Based on current design proposals, the development is expected to result in the complete replacement of core and local services, new CatA finishes and core areas with a retained structure and façade, to provide an estimated 4,891m^2 GIA of high quality core and CatA space, and a new extension to provide an increase of 807m^2. The extended areas are expected to follow the same design strategy with the rest of the building

The following scope is currently assumed:

- New roof extension and extension of floorplates
- New Services to all office areas incorporating low-carbon heating and cooling
- Main VRF heating/cooling system
- New Lift and WC Provision
- All Dali controlled LED lighting
- Office floors finished to CatA standard with raised access floors and exposed ceilings

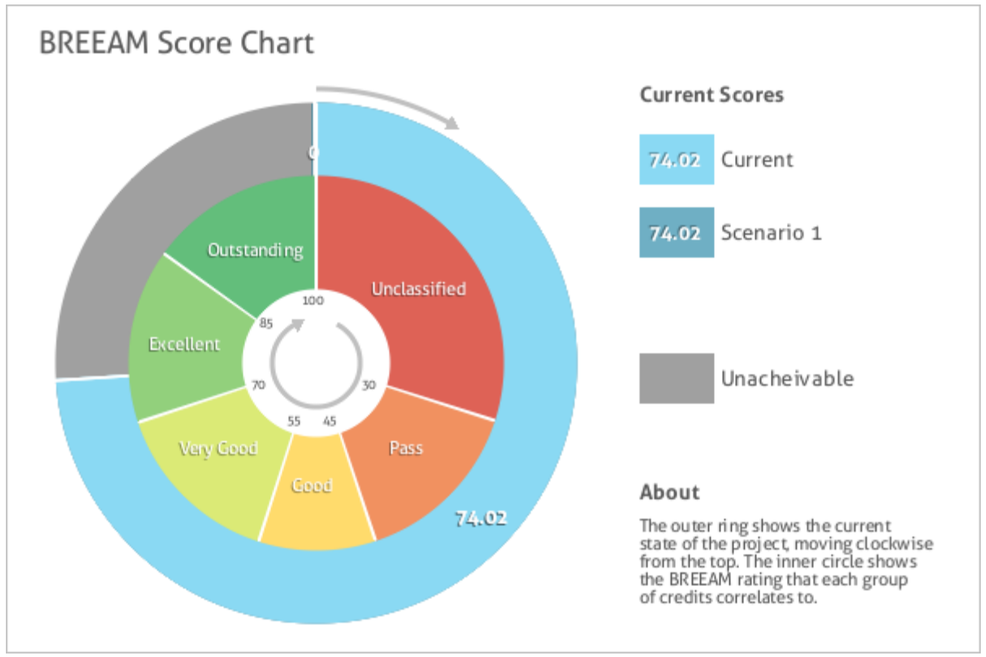
The following sections, detail the proposed development's performance against the BREEAM Criteria.

3. BREEAM Status Summary

This section is intended as a summary of the BREEAM assessment status for 16-20 Red Lion Street, WC1R. The development proposals have been assessed, particularly the comments during meeting.

a. Scoring scenarios – Commercial

It has been established that the development currently has the potential to achieve a rating of Excellent with a score of 74.02%.



b. Immediate Actions

BREEAM Criteria include time critical elements which cannot be awarded if they are not dealt with in the prescribed time-frame as well as consultant appointments as detailed below.

Time critical issues:

- Man01 Stakeholder & 3rd Party consultations required to be undertaken at Stage 2.
- Man01 Appoint BREEAM AP at Stage 1.
- Man02 Lifecycle Costing to be undertaken at Stage 2.
- Hea06 Security needs assessment by Stage 2.
- Ene04 Low carbon design analysis.
- Mat06 Material Efficiency at all stages (1-4)
- Wst05 Functional Adaptability Strategy by Stage 2.
- Wst06 Climate Change Adaptation Strategy by Stage 2.
- LE04-LE5 Appoint Ecologist at Stage 2

Consultant appointments to consider:

- Life Cycle Costing specialist
- Security Consultant (Architectural Liaison Officer)
- Indoor air quality
- Acoustician
- Energy specialist
- Transport Consultant
- Ecologist
- Flood risk and SUDS

4. Appendices

Pre-Assessment Scoring

		Available	Current	Predicted	Responsibility	Comments
Management						
Man 01	Project brief and design	4	3	3	Woodswift /ORMS	ENHANCED SCORE CREDIT: Information which will be required from Project Manager: 1st Credit Stakeholder Consultation: -Project Program -Project Brief Outlining Sustainability Targets -Project Execution Plan -Responsibility Matrix (refer to items Cr3, a-k) -Meeting minutes as necessary 3rd and 4th credits: -BREEAM AP Appointment letter
Man 02	Life cycle cost and service life planning	4	1	1	Woodswift (QS)	4th Credit: Capital cost (£k/m2), to be reported by QS.
Man 03	Responsible construction practices	6	6	6	Woodswift (QS)	To be included in contract prelims.
Man 04	Commissioning and handover	4	4	4	Woodswift (QS) /GDMP	To be included in contract prelims and M&E Specification documentation. 1st Credit: CIBSE Compliant Commissioning and Commissioning Monitor, which can be a team member, 2nd Credit: Specialist Commissioning Manager to be appointed at design stage. 3rd Credit: Thermographic Survey (Prelims) 4rth Credit: Building User Guide and Training Schedule (Prelims)
	Management Totals:	**18**	**14**	**14**		
	Management score totals:	**11**	**8.56**	**8.556**		
Health & Wellbeing						
Hea 01	Visual Comfort	3	1	1	ORMS /GDMP	1st Credit Daylighting Levels: daylighting calcs required to assess potential. 2nd Credit View Out: Challenging due to floorplate depth. 3rd Credit Internal lighting levels to meet Code for lighting and fully DALI controlled.
Hea 02	Indoor Air Quality	2	0	0	ORMS /GDMP	1st Credit Ventilation: intakes/extracts less than 10m apart 2nd Credit Potential for Natural Ventilation: NOT TARGETED
Hea 04	Thermal comfort	2	2	2	GDMP	1st Credit Thermal Modelling: Thermal modelling has been carried out using software in accordance with CIBSE AM111 Building Energy and Environmental Modelling, by Energy Modeling Engineer. 2nd Credit Adaptability: The thermal modelling demonstrates that the relevant requirements are achieved for a projected climate change environment.
Hea 05	Acoustic Performance	1	1	1	Acoustician	1st Credit Indoor Ambient Noise: Appoint acoustician to provide design review and provide recommendations to achieve indoor ambient noise levels that comply with the design ranges given in Section 7 of BS 8233:2014.
Hea 06	Safety and Security	2	2	2	Security Consultant	Project Manager to instruct security consultant.
	Health & Wellbeing Totals:	**10**	**6**	**6**		
	Health & Wellbeing score totals:	**10.5**	**6.3**	**6.3**		
Energy						
Ene 01	Reduction of energy use and carbon emissions	12	10	10	GDMP	An Excellent rating requires 5 credits to be achieved (equivalent to an EPR of at least 0.375). It is recommended that a draft EPC calculation is carried out as soon as possible in order that the challenges and opportunities for energy performance are established. Energy Modelling Engineer to coordinate. 6 credits assumed at present as minimum requirement for Excellent.
Ene 02	Energy Monitoring	2	2	2	GDMP	1st Credit Sub-metering of major energy consuming systems: Services engineer to ensure all major energy uses are monitored in line with TM54. 2nd Credit Sub-metering of high energy load and tenancy areas: Services Engineer to ensure all energy uses are monitored for each floor.
Ene 03	External Lighting	1	1	1	GDMP	1st Credit External Lighting: Services engineer to ensure all external lighting to meet efficacy and control requirements. Awarded by default if no external lighting being installed.
Ene 04	Low carbon design	3	0	0	GDMP	1st & 2nd Credit Passive Design & Free Cooling: N/A 3rd Credit Low or zero carbon technologies: N/A
Ene 06	Energy Efficient Transportation Systems	3	3	3	GDMP	1st Credit Energy Consumption: Services engineer to provide transport demand and energy analysis report. 2nd and 3rd Credits Energy efficient features: Services engineer to specify energy efficient measures as per criteria: -Variable speed/voltage/frequency controls -LED car lighting (or efficacy of >55llcw) -Stand-by mode
	Energy Totals:	**21**	**12**	**12**		
	Energy score totals:	**15**	**11.43**	**11.429**		
Transport						
Tra 01	Public Transport Accessibility	3	3	3	Verte	Central location enables the development to achieve maximum points under this issue.

Tra 02	Proximity to amenities	1	1	1	Verte	Central location enables the development to achieve maximum points under this issue.
Tra 03	Cyclist facilities	2	2	2	ORMS	1st & 2nd Credit Cyclist Facilities: Architect has highlighted locations for cyclist facilities to be installed. These numbers service the entire building. Requirements for this metropolitan location are: -24 parking spaces -3 showers & changing -24 lockers
Tra 04	Maximum Car Parking Capacity	2	2	2	ORMS	No car parking is being provided and maximum credits can be awarded by default.
Tra 05	Travel Plan	1	1	1	Transport Consultant	1st Credit Travel Plan: A travel plan should be developed as part of the feasibility and design stages. Project Manager to coordinate.
	Transport Totals:	**9**	**9**	**9**		
	Transport score totals:	**10**	**10**	**10**		
Water						
Wat 01	Water Consumption	5	4	4	ORMS	All credits Water Consumption: The architect is to ensure that the water appliances meet the following water efficiency criteria: -WCs: 4.5/3lt flush -WHB: 3lt @ 3bar -Showers: 7l/min @ 3bar This will secure a 51% improvement in the water consumption benchmark.
Wat 02	Water Monitoring	1	1	1	GDMP	Services Engineer to ensure BMS connected water meter specified.
Wat 03	Leak Detection	2	2	2	GDMP	1st Credit Major Water Leak Detection: M&E to include. 2nd Credit Flow Control Devices: Services Engineer to ensure PIR linked solenoid valves are specified for each WC cluster in the core areas.
Wat 04	Water Efficient Equipment	1	1	1	ORMS	As there is no other major consuming plant, this credit can be awarded by default.
	Water Totals:	**9**	**9**	**9**		
	Water score totals:	**7.5**	**7.5**	**7.5**		
Materials						
Mat 01	Life Cycle Impacts	5	3	3	ORMS	The current suggested specification, as advised by ORMS, generally meets some Green Guide Rating standards. Following our initial calculation, 3 credits may be achievable. To be confirmed as the design develops.
Mat 02	Hard Landscaping and Boundary Protection	1	1	1	ORMS	No external landscaping so credit can be awarded by default.
Mat 03	Responsible Sourcing of Materials	4	2	2	ORMS/ DMAGW	1st Credit Sustainable Procurement Plan: Requirement to be included in Prelims. 2-4th Credits Responsible Sourcing of Materials: Once credit assumed for sourcing of concrete and steel to BES6001. Structural Engineer to provide certification requirement in specification and volume of relevant material.
Mat 04	Insulation	1	1	1	ORMS /GDMP	Credit requirements for sourcing of green guide rated products will be included within the M&E and NBS specification. In addition, majority of insulation products should have an Environmental Performance Declaration (EPD) certificate. Services: mineral wool (duct), phenolic foam and Armaflex Building Fabric: Expected PIR, and Kingspan products for foundations and roof
Mat 05	Designing for durability and resilience	1	1	1	ORMS	The project Architect is to ensure that the building incorporates suitable durability and protection measures or designed features/solutions to prevent damage to vulnerable parts of the internal and external building and landscaping elements. In addition, the relevant building elements incorporate appropriate design and specification measures to limit material degradation due to environmental factors. A statement and supporting evidence (drawings and specification) will be required.
Mat 06	Material efficiency	1	0	0	ORMS	Too late in design.
	Materials Totals:	**13**	**8**	**8**		
	Materials score totals:	**14.5**	**8.92**	**8.923**		
Waste						
Wst 01	Construction Waste Management	4	2	2	ORMS/ Woodswift (QS)	1-3rd Resource efficiency (1 credit): A requirement for a resource management plan will be included within the demolition Prelims documentation. It is assumed at this stage that construction waste shall be ≤11.1 tonnes per 100sqm. 4th Credit Diversion of Waste from Landfill: A requirement for 90% diversion rate will be included within the demolition Prelims documentation.
Wst 02	Recycled Aggregates	1	0	0	DMAGW	The Structural Engineer will assess the potential of the development to meet the credit criteria for specifying recycled aggregate: Bound Structural frame - 15% Bitumen or hydraulically bound base, binder, and surface courses for paved areas and roads - 30% Building foundations - 20% Concrete road surfaces - 15% Unbound Pipe bedding- 100% Granular fill and capping (see Relevant definitions section) - 100%
Wst 03	Operational Waste	1	1	1	ORMS	The project Architect is to ensure adequate space is provided for collection of recyclable waste material: At least 2sqm per 1000sqm of net floor area for buildings < 5000sqm
Wst 04	Speculative Floor and Ceiling Finishes	1	1	1	ORMS	The Architect has confirmed no finishes being considered.
Wst 05	Adaptation to climate change	1	1	1	ORMS	Architect and Structural Engineer to conduct a climate change adaptation strategy appraisal for structural and fabric resilience by the end of Concept Design (RIBA Stage 2 or equivalent), in

					/ DMAGW	accordance with the following approach: Not Targeted
Wst 06	Functional adaptability	1	1	1	ORMS/GDMP	A building-specific functional adaptation strategy study has been undertaken by the client and design team by Concept Design (RIBA Stage 2 or equivalent), which includes recommendations for measures to be incorporated to facilitate future adaptation. A credit Guidance Note will be issued by the assessor.
	Waste Totals:	**9**	**6**	**6**		
	Waste score totals:	**9.5**	**6.33**	**6.333**		
Land Use & Ecology						
LE 01	Site Selection	2	1	1	ORMS	Re-use of site ensures one credit is awarded. No contaminated land investigation.
LE 02	Ecological Value of Site and Protection of Ecological Features	2	2	2	Ecologist	An Ecologist will be appointed to develop a site survey in support of BREEAM issues and advise on biodiversity. Both credits are considered achievable.
LE 03	Minimising impact on existing site ecology	2	2	2	Ecologist	An Ecologist will be appointed to develop a site survey in support of BREEAM issues and advise on biodiversity. Both credits are considered achievable.
LE 04	Enhancing site ecology	2	2	2	Ecologist	An Ecologist will be appointed to develop a site survey in support of BREEAM issues and advise on biodiversity. A proposal exists for inclusion of a green roof and the specification of this will ensure 2 credits can be awarded. One credit are considered achievable.
LE 05	Long Term Impact on Biodiversity	2	2	2	Ecologist	An Ecologist will be appointed to develop a site survey in support of BREEAM issues and advise on biodiversity. Both credits are considered achievable.
	Land Use & Ecology Totals:	**10**	**9**	**9**		
	Land Use & Ecology score totals:	**11**	**9.9**	**9.9**		
Pollution						
Pol 01	Impact of Refrigerants	3	0	0	GDMP	It is proposed that a full VRF system is installed. Assumed no credits achievable. 1st Credit Impact f Refrigerant: It is highly unlikely Very challenging for a standard VRF system. 2nd Credit Leak Detection: Can be very expensive for standard VRF system.
Pol 02	NOx emissions	3	0	0	GDMP	It is proposed that a full VRF system is installed to provide heating and cooling. NOx emissions from this type of system are too high to meet credit criteria (grid electricity).
Pol 03	Surface Water Run Off	5	4	4	DMAGW	1-2nd Credit Flood Risk: Location in low risk zone. An FRA statement is required by the Structural Engineer. 3-4th Credit Surface water run-off: As the hard standing area for the development will not be changing both these credits are achievable by default, due to no increase in run-off post development. 5th Credit Minimising watercourse pollution: This credit requires SUDS treatment to discharge from the site which exceeds 5mm rainfall. This issue is considered unachievable at present.
Pol 04	Reduction of Night Time Light Pollution	1	1	1	GDMP	1st Credit Reduction of Night-time Light Pollution: Services engineer to ensure all external lighting to meet ILE guidance and control requirements. Awarded by default if no external lighting being installed.
Pol 05	Noise Attenuation	1	1	1	Acoustician	Reduction of noise pollution: Appoint acoustician to provide background noise assessment and recommendations to attenuate accordingly.
	Pollution Totals:	**13**	**6**	**6**	**0**	
	Pollution score totals:	**11**	**5.08**	**5.077**	**0**	
	OVERALL SCORE TOTALS:	**116**	**74.02**	**74.02**	**0**	