



ENERGYREPORT
building certification | compliance | testing

BREEAM UK NC 2014

Pre-Assessment Strategy

Commercial – Industrial (Fully Fitted)

**Mipa Paints Facility, Fulflood Road,
Leigh Park, Portsmouth, PO9 5AX**

On behalf of:

Mipa Paints Ltd

November 2018

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Assessed & Compiled by:	Tiffany Lewins Sustainability Consultant		23/11/2018
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Contents

1. Introduction	3
Figure 1: Proposed Development	4
2. Early Action Requirements	4
Table 1: Early Action Requirements	5
3. BREEAM Enhancements Required	6
Table 2: BREEAM Enhancements Required	6
4. BREEAM Pre-Assessment Strategy	8
4.1 Visual of Enhanced Score from BREEAM Pre-Assessment Tool	25
5. Conclusion	25

1. Introduction

Kingfisher Ecology Ltd, in association with Energy Report Ltd, has been commissioned by Mipa Paints Ltd to provide this BREEAM Pre-assessment Strategy Report for the proposed warehouse with associated office space at Fulflood Road, Leigh Park, Portsmouth, PO9 5AX.

The BREEAM Pre-assessment Strategy has been conducted by Tiffany Lewins, a qualified and licenced BREEAM Assessor. **A score of 45.4% has been identified, with a potential enhanced score of 65.7%.** The requirement for a Very Good rating is 55% (recommended 58% targeted).

The current proposal for the development consists of a two-storey warehouse with associated offices and training facilities, approximately 2990 sqm GIA, and associated parking (see Figure 1 below). This pre-assessment has been conducted under the BREEAM UK New Construction 2014 scheme, Commercial – Industrial (fully-fitted).

Current stage of development is RIBA Stage 3. For pre-assessment purposes, the build will be Fully Fitted. The development will be designed and constructed to achieve BREEAM 'Very Good' as per planning conditions for Havant Borough Council, planning application APP/15/01233. The purpose of this report is to outline the strategy proposed to achieve the target score of 'Very Good' (58%).

The BREEAM UK New Construction 2014 scheme is a rated methodology used to measure the sustainability of a development based on ten categories:

- | | |
|----------------------------------|---------------------------|
| • Management | • Efficiency of Materials |
| • Health & Wellbeing | • Waste Management |
| • Energy Consumption & Emissions | • Land Use & Ecology |
| • Transport | • Pollution |
| • Water Consumption | • Innovation |

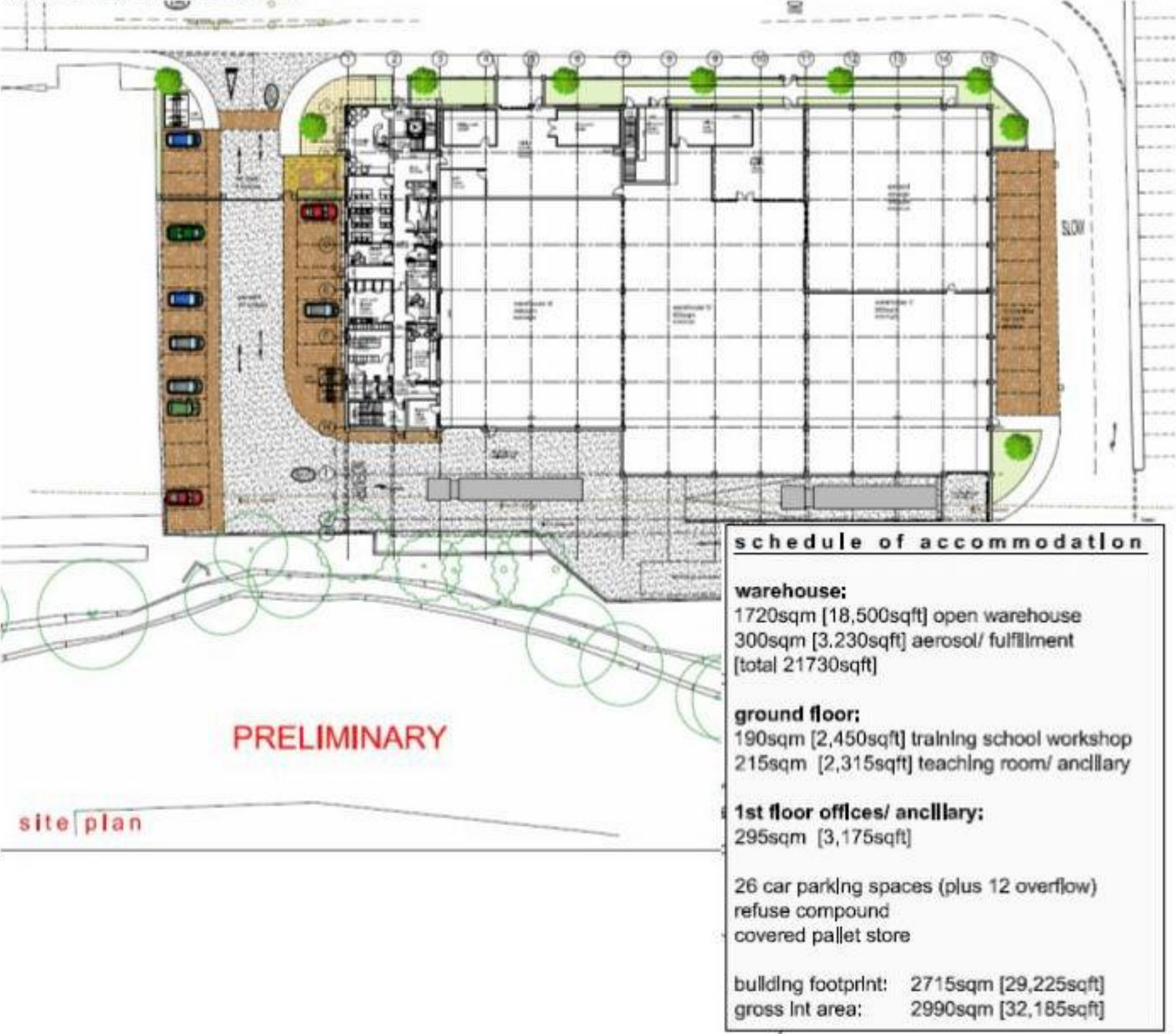
BREEAM sets mandatory targets for the various levels of certification. In order to achieve BREEAM 'Very Good,' the property must:

- Use proper sub-metering, including to all tenanted areas
- Achieve a minimum 12.5% improvement over baseline building water consumption.
- Specify a water meter on the mains water supply to the building
- Use only legally harvested and traded timber and timber-based products
- Have a change in ecological value that is no less than -9 species
- Achieve a final assessment score of at least 55%.

The following pre-assessment has been calculated based on information provided by Energy Report Ltd at a meeting on 21 November 2018, as well as recommendations by the BREEAM Assessor on what credits should be achievable with the appointment of appropriate external consultants or through compliant specifications. As the development has already advanced to Detailed Design, some credits are rendered unavailable. See Section 2 below for further information on Early Action Requirements.

Pursuant to the above, this report should be considered only as proof of a potential route to BREEAM 'Very Good' compliance, not as the definitive criteria agreed or achieved for this development.

Figure 1: Proposed Development



2. Early Action Requirements

Part of the BREEAM UK New Construction 2014 scheme involves early consideration of BREEAM methodology and the appointment of specialist consultants at appropriate times in order to maximise the value of the development’s sustainable features.

For this reason, the BREEAM scheme includes credits that can only be achieved within specific timing parameters as detailed in the following table.

The current stage of the proposal at the Mipa Paint Facility is RIBA Stage 3. Therefore all credits requiring action prior to RIBA Stage 3 that have not already been undertaken as part of the design have been marked as unattainable for the development.

Table 1: Early Action Requirements

BREEAM Issue	Credit Involved	Initiated By	Completed By	Alternative Available?	Expert Required	Assessor's Notes
MAN01: Project Brief & Design	Stakeholder Consultation (Project Delivery)		RIBA Stage 2 (Concept Design)	N		Project delivery stakeholders meet to identify and define roles, responsibilities and contributions for each key phase of delivery
MAN01: Project Brief & Design	Stakeholder Consultation (Third Party)	RIBA Stage 2 (Concept Design)	RIBA Stage 4 (Technical Design)	N		Third party stakeholders consulted before completion of RIBA2. Feedback sent before completion of RIBA4.
MAN01: Project Brief & Design	Sustainability Champion	RIBA Stage 1 (Preparation & Brief)	RIBA Stage 2 (Concept Design)	N	BREEAM AP	AP appointed during RIBA1, BREEAM targets set by RIBA2.
MAN02: Life Cycle Cost & Service Life Planning	Elemental Life Cycle Cost	RIBA Stage 2 (Concept Design)	RIBA Stage 2 (Concept Design)	N		Elemental LCC based on basic structure and envelope, fabric and servicing strategy.
MAN02: Life Cycle Cost & Service Life Planning	Component Level LCC Plan	RIBA Stage 4 (Technical Design)	RIBA Stage 4 (Technical Design)	N		Component level LCC including Envelope, Services, Finishes, External Spaces
MAN04: Commissioning & Handover	Commissioning Building Services		RIBA Stage 4 (Technical Design)	N	Specialist Commissioning Manager	Buildings with complex services and systems require appointment of specialist commissioning manager during design stage
HEA04: Thermal Comfort	Thermal Modelling & Adaptability	RIBA Stage 4 (Detailed Design)	RIBA Stage 4 (Detailed Design)	N		Full dynamic thermal analysis simulation completed with projected climate change scenario.
HEA06: Safety & Security	Security of Site & Building	RIBA Stage 2 (Concept Design)	RIBA Stage 2 (Concept Design)	Y	Security Specialist	Evidence based Security Needs Assessment and recommendations by RIBA2. If later, confirm implementation of security measure have not been restricted.
ENE04: Low Carbon Design	Passive Design Analysis & Free Cooling	RIBA Stage 2 (Concept Design)	RIBA Stage 2 (Concept Design)	N		Identify opportunities for passive design solutions
ENE04: Low Carbon Design	Low Zero Carbon Feasibility Study	RIBA Stage 2 (Concept Design)	RIBA Stage 2 (Concept Design)	Y	Energy Specialist (LZC Solutions in Commercial Sector)	Credit can be awarded after RIBA2 so long as all LZC energy sources are not discounted due to lateness of consideration.
TRA05: Travel Plan	All credits		RIBA Stage 4 (Technical Design)	Y		Travel plan and travel assessment or statement. Existing compliant plan is acceptable.
MAT06: Material Efficiency	All credits	RIBA Stage 1 (Preparation & Brief)	RIBA Stage 5 (Construction)	N		Opportunities to optimise materials revisited at every RIBA stage from 1-5.
WST05: Adaptation to Climate Change	Structural & Fabric Resilience		RIBA Stage 2 (Concept Design)	N		Risk assessment regarding climate change impact on building to be completed by RIBA2.
WST06: Functional Adaptability	All credits	RIBA Stage 2 (Concept Design)	RIBA Stage 4 (Technical Design)	N		Functional adaptation strategy study by RIBA 2, Functional adaptation measures adopted in design by RIBA4.
LE04: Enhancing Site Ecology	Ecologist's Report & Recommendations	RIBA Stage 1 (Preparation & Brief)	RIBA Stage 2 (Concept Design)	N	Ecologist	SQE to advise during RIBA1 and visit site/complete report by RIBA2.

The above requirements for early consideration and completion of BREEAM issues are based on BREEAM UK New Construction 2014 Technical Manual V5.0. They represent criteria where early deadlines are specified in the manual. The list is not exhaustive of all issues that should be considered early (i.e. daylighting, reduction of noise pollution, etc) in order to maximise potential BREEAM score.

3. BREEAM Enhancements Required

A score of 45.4% has been identified, with a potential enhanced score of 65.7%. From the table of possible BREEAM Enhancements below, a minimum total of 12.6% must be selected to achieve a score of 58% Very Good.

Table 2: BREEAM Enhancements Required

	Summary of Credits to Enhance Score to Very Good	Weighting	Est cost (where info available)*
		%	£
1	Architectural		
1.01	Ene01 – Energy Performance In consultation with M&E determine whether ups spec of u-values could result in achievement of credits	1.95% (up to)	
1.02	Wat01 – Water Consumption Install low flow water fixtures to achieve water savings of 55% compared to baseline	0.78%	Potentially no cost, just time
1.03	Mat01 – Life Cycle Impacts Use Green Guide to choose materials with A or A+ ratings where possible, Specify products with compliant EPDs	1.35%	Potentially no cost, just time
1.04	Mat02 – Hard Landscaping & Boundary Protection Use Green Guide to choose materials with A or A+ ratings	1.35%	Potentially no cost, just time
1.05	Inn02 – Life Cycle Impacts As Mat01 – achieve 1 point additional to maximum	1.00%	Potentially no cost, just time
2	Mechanical & Electrical		
2.01	Hea02.2 – Ventilation Provide fresh air into building in accordance with relevant standard; Design ventilation to minimize buildup of air pollutants; HVAC systems incorporate suitable filtration; CO2 sensors in required areas; Adequate cross flow of air in naturally ventilated buildings	0.88%	
2.02	Ene01 – Energy Performance In consultation with Architects determine whether ups spec of u-values could result in achievement of credits	(As 1.01)	
2.03	Ene06 – Energy Efficient Transport Systems Conduct transport demand analysis inclusive of calculation of energy consumption of at least two types of lift systems; Install most energy efficient lift that contains all energy efficient features	1.95% (up to)	Potentially no cost, just time
2.04	Wat02 – Water Meters Plant/areas consuming 10% or more of total water demand fitted with pulsed output sub-meters	0.78%	
3	Structural Engineer		
3.01	Pol03 – Minimising Watercourse Pollution Provide calculations for up to 5mm rainfall; Install appropriate pollution prevention measures (i.e. oil separators etc) to PPG3 and SuDS Manual; Drainage Plan and Maintenance Agreements	0.83%	
4	Contractor		
4.01	Man03.3 – Considerate Construction Principal Contractor registers site with CCS and achieves score of 35-39, with 7 in each section	0.57%	Potentially no cost
4.02	Wst01.1 – Construction Resource Efficiency Limit construction waste to less than 7.5m ³ /100m ²	1.06%	Potentially no cost, just time

5	Client		
5.01	LE01.2 – Contaminated Land If site required remediation, provide remediation reports	1.00%	No additional costs
6	Other Consultants		
6.01	Man02.2 – Component level LCC Plan Appoint an LCC consultant to carry out life cycle costing and produce compliant report prior to end of RIBA4	0.57%	£5000 (estimate)
6.02	Man03.2 – BREEAM AP (Site) Appoint a BREEAM AP to monitor compliance with targets during construction and handover	0.57%	£7-10k (estimate)
6.03	Man04.2 – Commissioning Building Services Appoint a specialist commissioning manager to undertake design reviews and advise, provide input into construction programming and installation and manage commissioning, performance testing and handover (coincides with Man05.2 Seasonal Commissioning)	0.57%	
6.04	Man04.3 – Testing & Inspecting Building Fabric Appoint level II thermographer to complete thermographic survey and airtightness testing	0.57%	£6000 (estimate)
6.05	Man05.3 – Post Occupancy Evaluation Appoint an independent third-party to conduct compliant POE exercises 1 year post-occupancy	0.57%	£5000 (estimate)
6.06	Hea02.1 – Indoor Air Quality Plan Appoint consultant to produce compliant Indoor Air Quality Plan during design stage	0.88%	
6.07	Tra05 – Travel Plan Appoint consultant to produce compliant site-specific travel plan during design stage	1.00%	
6.08	LE02-03 - Ecology Appoint Ecologist to conduct BREEAM compliant Preliminary Ecological Appraisal (with considerations for site clearance if site cleared prior to purchase) (coincides with LE05 Long Term Impact on Biodiversity)	3.00% (up to 6.00% potentially)	£500-1k (estimate)
6.09	Inn01 – Post Occupancy Evaluation Appoint consultant to conduct compliant report detailing occupant satisfaction, building consumption, targets for reducing consumption, lessons learned and analysis of data at quarterly intervals for 3 years post-occupancy	1.00%	£5000 (estimate)
7	Totals	22.23%	£28.5-£32k*
	*costs are only speculative and based on previous appointment estimates		
7.01	Baseline	45.40%	
7.02	Credit Uplift Required (for 58% Very Good)	12.60%	

4. BREEAM Pre-Assessment Strategy

BREEAM UK NC 2014 - Commercial - Industrial (fully fitted)

Project: Mipa Paints Facility, Havant

Registration: BREEAM-0077-0032

Kingfisher Ecology Ltd

Ecological, Arboricultural and Sustainable Solutions



Required Score:	58.00%
Targeted Score:	45.40%
Enhanced Score:	65.70%

Key:		Mandatory Credit
		Credit Targeted
		Credit Recommended
		Credit Unavailable
		Credit Not Targeted

BREEAM Issue	Available Credits	Targeted Credits	Enhanced Credits	Criteria & Evidence Necessary for Compliance	Assessor Notes	Responsible Party
Management	21	5.71%	9.14%			
Man 01.1 Stakeholder Consultation (Project Delivery)	1	1	1	1. Documentation to show client, building occupier, design team and principal contractor have met prior to RIBA2 to identify roles, responsibilities and contributions for each key phase of project delivery. 2. Documentation to show how project delivery stakeholder contributions and outcomes of consultation process have influenced/changed Initial Project Brief, including if appropriate the Project Execution Plan, Communication Strategy & Concept Design (Meeting minutes, Project Programme, Responsibilities Schedule etc)	Please forward available documentation at earliest convenience to confirm compliance	Mipa
Man01.2 Stakeholder Consultation (Third Party)	1	0	0	1. Documentation to show all relevant third party stakeholders have been consulted by design team prior to RIBA2 to discuss functionality, facilities, management, maintenance, community impacts, etc. 2. Documentation showing how contributions and outcomes have influenced or changed Initial Project Brief and Concept Design 3. Proof that prior to completion of RIBA4 consultation feedback given to and received by all parties (Meeting minutes, Initial Project Brief, Emails, Consultation Feedback, etc)	Unlikely to have appropriate evidence if not considered from initial project brief	Mipa
Man01.3 Sustainability Champion (Design)	1	0	0	BREEAM AP must have been appointed by RIBA 1		
Man01.4 Sustainability Champion (Monitoring)	1	0	0	BREEAM AP must have been appointed by RIBA 1		
Man02.1 Elemental Life Cycle Cost (LCC)	2	0	0	Elemental LCC analysis must be completed prior to end of RIBA 2		

Man 02.2 Component level LCC Plan	1	0	1	1. Component level LCC plan has been developed by end of RIBA4 in line with PD 156865:2008 and includes: Envelope, Services, Finishes and External Spaces to be installed by developer 2. Demonstrate how the component level LCC plan has influenced building and systems design/spec to minimise life cycle costs and maximise critical value. (Component LCC Analysis Report, Concept/Elemental Design)	Can recommend consultants who have produced compliant reports in the past	PDP Mipa (LCC Consultant)
Man02.3 Capital Cost Reporting	1	1	1	Report capital cost for building in £k/m ² via BREEAM Assessor (Predicted capital cost including contingencies, Commitment letter)	Feasibility costs from 2016 show est cost £793.36/m ² . Please update	Mipa QS
Man 03.0 Pre-requisite	N/A	N/A	N/A	All timber and timber based products must be 'legally harvested and traded timber' (Included in Prelims, Timber Sourcing Policy, Letter of confirmation, Chain of Custody evidence, FSC/PEFC Certificates etc)	Required to achieve ANY BREEAM Rating - Can provide clauses for Prelims	Contractor
Man03.1 Environmental Management	1	1	0	1. Principal contractor operates an EMS to ISO 14001/EMAS or BS 8555:2003 2. Principal contractor implements best practice pollution prevention policies and procedures in accordance with PPG6 (EMS, Phase 4 Audit, Letter of confirmation, documented pollution prevention policy, toolbox talks)	If contractor is already appointed, please provide EMS to confirm compliance. Can provide clauses for Prelims if not appointed yet	Contractor
Man 03.2 Sustainability Champion (Construction)	1	0	1	1. BREEAM AP or BRE Site Sustainability Manager appointed during RIBA5/6 to ensure ongoing compliance with targets 2. BREEAM targets are requirement of principal contractor's contract 3. Targets achieved in final PCS Assessment (Appointment letters, Contracts, Meeting minutes, AP's formal reports)	Can recommend BREEAM APs	Mipa (BREEAM AP)
Man03.3 Considerate Construction	2	1	2	Principal Contractor registers site with CCS and a. achieves score 25-34, 5 in each section (1 credit) b. achieves score 35-39, 7 in each section (2 credits) c. achieves score 40+, 7 in each section (Exemplary credit) (Included in Prelims, CCS registration, Letter of commitment, CCS Final report)	Recommend including target of 2 credits within Prelims. 1 credit should be easily achieved	Contractor
Man03.4 Monitoring of Construction Site Impacts	2	2	2	Responsibility assigned to individual to monitor, record and report energy use, water consumption (1 credit) and transport data (1 credit) from cradle to gate resulting from all on-site construction processes throughout build programme (Included in Prelims, Appointment letter, letter of commitment, Formal reports, Meeting minutes, SMARTWaste)	Transport data is from factory gate to distributor to site gate Waste transport is from site gate to waste facility gate	Contractor

Man04.1 Commissioning and Testing Schedule and Responsibilities	1	1	1	1. A schedule of commissioning and testing that identifies and includes a suitable timescale for commissioning and recommissioning of all complex and non-complex building services and control systems and testing and inspecting building fabric 2. Schedule identifies all appropriate standards (Building Regs, CIBSE etc) or where a BMS is specified follows specific procedures 3. Team member(s) appointed to monitor and programme pre-commissioning, commissioning, testing and recommissioning on behalf of client 4. Principal contractor accounts for commissioning and testing programme, responsibilities and criteria within their budget and main programme of works (MEP Spec, Prelims, Appointment letter, BMS, Commissioning plan, Programme of works etc)	Can provide clauses for Prelims	MEP Contractor
Man04.2 Commissioning Building Services	1	0	1	1. First credit is achieved 2. For buildings with complex building services and systems, a specialist cx manager is appointed during design stage with responsibility for: a. Undertaking design reviews and giving advice on suitability for ease of cx b. Providing cx management input to construction programming and during installation stages c. Management of cx, performance testing, and handover/post-handover stages. 3. For simple building services, this role can be carried out by an appropriate team member provided they are not involved in the general installation works for the building services system (Prelims, Appointment letter, Meeting minutes, Formal reports, Letter of commitment etc)	A/C on site - complex building services	Mipa (Specialist Commissioning Manager) Contractor
Man04.3 Testing and Inspecting Building Fabric	1	0	1	1. First credit is achieved. 2. Integrity of building fabric is quality assured through completion of post-construction thermographic survey and airtightness test and inspection undertaken by a professional with a valid Level 2 certificate in thermography and member of ATTMA with UKAS accreditation respectively 3. Any defects identified are rectified prior to building handover and closeout. (Prelims, Appointment letter, Letter of commitment, Thermographic Survey, Airtightness Testing Reports, etc)	Will need to confirm that consultants meet BREEAM requirements prior to appointment	Contractor Mipa (Level II Thermographer)
Man04.4 Handover	1	1	1	1. A compliant BUG is developed prior to handover and distributed to building occupiers and premises managers 2. A training schedule is prepared for occupiers/FM timed around handover and proposed occupation which includes: a. The building's design intent b. Available aftercare provision and contacts, including any scheduled seasonal cx and POE c. Intro to and demo of installed systems and key features, particularly BMS, controls and interfaces d. Intro to BUG and other relevant building documentation (design data, tech guides, O&M manual, cx records, log books etc) e. Maintenance requirements, including contracts and regimes in place (Letter of commitment, Building User Guide, Training Schedule, O&M manuals)	Consult with Assessor for details required within BUG	Mipa Contractor MEP

Man05.1 Aftercare Support	1	1	1	1. There will be operational infrastructure and resources in place to provide aftercare support to building occupiers including: a. A meeting programmed to occur between the aftercare team/individual and the building occupier/management (prior to initial occupation, or as soon as possible thereafter) to: i. Introduce the aftercare team or individual to the aftercare support available, including the Building User Guide (where existing) and training schedule/content. ii. Present key information about the building including the design intent and how to use the building to ensure it operates as efficiently and effectively as possible. b. On-site facilities management training, to include a walkabout of the building and introduction to and familiarisation with the building systems, their controls and how to operate them in accordance with the design intent and operational demands. c. Initial aftercare support provision for at least the first month of building occupation, e.g. on-site attendance on a weekly basis to support building users and management (this could be more or less frequent depending on the complexity of the building and building operations). d. Longer term aftercare support provision for occupants for at least the first 12 months from occupation, e.g. a helpline, nominated individual or other appropriate system to support building users/management. 2. There is (or will be) operational infrastructure and resources in place to coordinate the collection and monitoring of energy and water consumption data for a minimum of 12 months, once the building is occupied. This is done to facilitate analysis of discrepancies between actual and predicted performance, with a view to adjusting systems and/or user behaviours accordingly. (Letter of commitment, Appointment Letter)	Require Letter of Commitment (LoC)	Mipa
Man05.2 Seasonal Commissioning	1	1	1	1. The following seasonal commissioning activities will be completed over a minimum 12-month period, once the building becomes substantially occupied: a. Complex systems - Specialist Commissioning Manager: i. Testing of all building services under full load conditions, i.e. heating equipment in mid-winter, cooling/ventilation equipment in mid-summer, and under part load conditions (spring/autumn). ii. Where applicable, testing should also be carried out during periods of extreme (high or low) occupancy. iii. Interviews with building occupants (where they are affected by the complex services) to identify problems or concerns regarding the effectiveness of the systems. iv. Re-commissioning of systems (following any work needed to serve revised loads), and incorporating any revisions in operating procedures into the operations and maintenance (O&M) manuals. b. Simple systems (naturally ventilated) - external consultant/aftercare team/facilities manager: i. Review thermal comfort, ventilation, and lighting, at 3, 6 and 9 month intervals after initial occupation, either by measurement or occupant feedback. ii. Take all reasonable steps to re-commission systems following the review to take account of deficiencies identified and incorporate any relevant revisions in operating procedures into the O&M manuals. (Letter of commitment, Appointment Letter)	Require LoC	Mipa MEP

Man05.3 Post Occupancy Evaluation (POE)*	1	0	1	1. The client or building occupier makes a commitment to carry out a post occupancy evaluation (POE) exercise one year after initial building occupation. This is done to gain in-use performance feedback from building users to inform operational processes, including re-commissioning activities, and maintain or improve productivity, health, safety and comfort. The POE needs to cover: a. A review of the design intent and construction process (review of design, procurement, construction and handover processes). b. Feedback from a wide range of building users including Facilities Management on the design and environmental conditions of the building covering: i. Internal environmental conditions (light, noise, temperature, air quality) ii. Control, operation and maintenance iii. Facilities and amenities iv. Access and layout v. Other relevant issues vi. Sustainability performance (energy/water consumption, performance of any sustainable features or technologies e.g. materials, renewable energy, rainwater harvesting etc.). 2. The client or building occupier makes a commitment to carry out the appropriate dissemination of information on the building's post occupancy performance. This is done to share good practice and lessons learned and inform changes in user behaviour, building operational processes and procedures, and system controls. (Letter of commitment, Appointment Letter)	Independent third-party must conduct POE * There is an exemplary credit available, see Innovation section	Mipa
Health & Wellbeing	16	9.70%	11.47%			
Hea01.1 Glare Control	1	1	1	1. The potential for disabling glare has been designed out of all relevant building areas using a glare control strategy, either through building form and layout or building design measures 2. The glare control strategy avoids increasing lighting energy consumption by ensuring that it is designed to maximise daylight levels under all conditions while avoiding disabling glare in the workplace, that it does not inhibit daylight from entering the space under cloudy conditions, and the use or location of shading does not conflict with the operation of lighting control systems	Compliant blinds should be installed in all regularly occupied spaces where glare could be a problem	PDP
Hea01.2 Daylighting	2	0	0	All occupied areas achieve 2% daylight factor in 80% of area AND a uniformity ratio of at least 0.3 or a minimum point daylight factor of at least 0.3 times daylight factor OR at least 80% of the room has a view of the sky from 0.7m high and room depth criteria is satisfied OR All occupied areas achieve average daylight illuminance of at least 300 lux for 2000 hours per year or more and minimum daylight illuminance of worst lit point is at least 90 lux for 2000 hours per year or more (Design drawings, daylighting calculations)	If a daylighting study has been done, please provide to assessor to review compliance	PDP Mipa (Daylighting Consultant)
Hea01.3 View Out	1	0	0	1. 95% of floor area is within 7m of a wall which has a window or permanent opening that provides an adequate view out 2. Windows must be at least 20% of surrounding wall area. (Design drawings and calculations)	Internal offices and workstations beyond 7m of glazing, not compliant	PDP

Hea01.4 Internal and External Lighting Levels, Zoning and Control	1	1	1	1. All fluorescent and compact fluorescent lamps are fitted with high frequency ballasts. 2. Internal lighting provides illuminance levels in accordance with the SLL Code for Lighting 2012 and any other relevant industry standard. 3. For areas where computer screens are regularly used, the lighting design complies with CIBSE Lighting Guide 72 sections 2.4, 2.20, and 6.10 to 6.20. This gives recommendations highlighting: a. Limits to the luminance of the luminaires to avoid screen reflections. (Manufacturers' data for the luminaires should be sought to confirm this.) b. For uplighting, the recommendations refer to the luminance of the lit ceiling rather than the luminaire; a design team calculation is usually required to demonstrate this. c. Recommendations for direct lighting, ceiling illuminance, and average wall illuminance. 4. All external lighting located within the construction zone is specified in accordance with BS 5480-1:2013 Lighting of roads and public amenity areas and BSEN 12464-2:2014 Light and Lighting - Lighting of workplaces - Part 2: Outdoor work places 5. Internal lighting is zoned to allow for occupant control (see Relevant definitions) in accordance with the criteria below for relevant areas present within the building: a. In office areas, zones of no more than four workplaces b. Workstations adjacent to windows/atria and other building areas separately zoned and controlled c. Seminar and lecture rooms: zoned for presentation and audience areas d. Teaching space or demonstration area e. Whiteboard or display screen f. Dining, restaurant, café areas: separate zoning of servery and seating/dining areas 6. Areas for teaching, seminar or lecture purposes have lighting controls in accordance with CIBSE Lighting Guide 5 (MEP Spec, Letter of confirmation)	Require spec and drawings to confirm	MEP
Hea02.1 Indoor Air Quality Plan (IAQP)	1	0	1	An indoor air quality plan has been produced, with the objective of facilitating a process that leads to design, specification and installation decisions and actions that minimise indoor air pollution during occupation of the building. The indoor air quality plan must consider the following: a. Removal of contaminant sources b. Dilution and control of contaminant sources c. Procedures for pre-occupancy flush out d. Third party testing and analysis e. Maintaining indoor air quality in-use (IAQP, Letter of Commitment)	Can recommended consultants who have produced compliant IAQP in past	Mipa

Hea02.2 Ventilation	1	0	1	1. Provide fresh air into the building in accordance with relevant standard 2. Design ventilation pathways to minimise the build-up of air pollutants in the building as follows: a. Air conditioned/Mixed mode - Air intakes and exhausts are over 10m apart and intakes are over 20m from sources of external pollution b. Naturally ventilated - Openable windows/ventilators are over 10m from sources of external pollution 3. Where present, HVAC systems must incorporate suitable filtration to minimise external air pollution as defined in BS EN 13779:2007 Annex A3 4. Areas subject to large and unpredictable or variable occupancy have CO2 sensors specified that are linked to the mechanical ventilation system and provide demand-controlled ventilation to the space (Design drawings, site plans, Building servicing strategy etc)	Check locations of intakes/exhausts against criteria to determine whether compliance can be met	MEP
Hea02.3 Volatile Organic Compound (VOC) Emission Levels (products)	1	1	1	1. All decorative paints and varnishes specified meet EU Directive 2004/42/CE for VOC content limit and is fungal/algal resistant in wet areas 2. At least 5 of the following 7 product categories meet required VOC levels within products: a. Wood panels b. Timber structures c. Wood flooring d. Resilient textile and laminated floor coverings e. Suspended ceiling tiles f. Flooring adhesives g. Wall coverings (Finishes schedule, VOC certificates)	Assessor will provide template schedule for completion	PDP
Hea02.4 VOC Emission Levels (post-construction)	1	1	1	1. The formaldehyde concentration level is measured post construction (but pre-occupancy) and is found to be less than or equal to 100µg/m³ averaged over 30 minutes (WHO guidelines for indoor air quality: Selected pollutants, 20102). 2. The total volatile organic compound (TVOC) concentration level is measured post construction (but pre-occupancy) and found to be less than 300µg/m³ over 8 hours, in line with the Building Regulation requirements. 3. Where levels are found to exceed the limits, the project team confirms the measures that will be taken, in accordance with the IAQP, to reduce the levels to within these limits 4. The testing and measurement of the above pollutants are in accordance with the following standards where relevant: a. BS ISO 16000-4: 2011 Diffusive sampling of formaldehyde in air³ b. BS ISO 16000-6: 2011 VOCs in air by active sampling⁴ c. BS EN ISO 16017-2: 2003 VOCs - Indoor, ambient and workplace air by diffusive sampling⁵ d. BS ISO 16000-3: 20116 Formaldehyde and other carbonyls in air by active sampling. 5. The measured concentration levels of formaldehyde (µg/m³) and TVOC (µg/m³) are reported (Appointment letter, Letter of Commitment)	Can recommend consultants	Mipa

Hea02.5 Adaptability	1	0	0	1. The building ventilation strategy is designed to be flexible and adaptable to potential building occupant needs and climatic scenarios a. Room depths are designed to CIBSE AM10 (section 2.4) and openable window area in each occupied space is equivalent to 5% of gross internal floor area of that room/floor plate OR b. Natural ventilation strategy provides adequate cross flow of air to maintain thermal comfort conditions and ventilation rates demonstrated using design tools recommended by CIBSE AM10 2. NVS is capable of providing at least 2 levels of user control on the supply of fresh air to occupied space (Design drawings and calculations)	Review criteria to determine whether compliance can be met	MEP PDP
Hea04.1 Thermal Modelling	1	1	1	1. Thermal modelling carried out to CIBSE AM11 2. Simulation at detailed design stage provides full dynamic thermal analysis. 3. Modelling demonstrates that: a. Air conditioned: summer and winter operative temp ranges to CIBSE Guide A Environmental Design, Table 1.5 b. Naturally ventilated: winter operative temp ranges to CIBSE Guide A, Table 1.5 and designed to limit risk of overheating to CIBSE TM5 2: The limits of thermal comfort: avoiding overheating in European buildings 4. Air conditioned: PMV and PPD indices are reported to BREEAM Assessor (Thermal Dynamic Analysis, Thermal Comfort Study)	Conduct thermal modelling analysis asap	MEP Mipa
Hea04.2 Adaptability for Climate Change	1	1	1	1. First credit achieved. 2. Thermal modelling demonstrates as above for projected climate change environment 3. Where thermal comfort criteria not met, building designed to be easily adapted in future using passive design solutions 4. Air conditioned: PMV and PPD indices reported to BREEAM Assessor (Thermal Dynamic Analysis, TRY weather data files)	Include scenario for climate change within thermal modelling analysis	MEP Mipa
Hea04.3 Thermal Zoning & Controls	1	1	1	1. First credit achieved. 2. Thermal modelling analysis informs temperature control strategy for building and users 3. Strategy for proposed heating/cooling systems demonstrates that it has addressed the following: a. Zones within the building and how the building services could efficiently and appropriately heat or cool these areas. For example consider the different requirements for the central core of a building compared with the external perimeter adjacent to the windows. b. The degree of occupant control required for these zones c. How the proposed systems will interact with each other (where there is more than one system) and how this may affect the thermal comfort of the building occupants. d. The need or otherwise for an accessible building user actuated manual override for any automatic systems. (Thermal Dynamic Analysis, Controls Schematics, Letter of Commitment)	Occupant control based on discussions with end user	MEP

Hea05 Internal Indoor Ambient Noise Levels	2	2	2	1. Appoint a suitably qualified acoustician to carry out compliant assessment of sound insulation and indoor ambient noise levels (Acoustician's Report, Design Drawings)	Forward acoustician report asap if completed, otherwise liaise with assessor to ensure all criteria considered appropriately	Mipa Acoustician
Hea06.1 Safe Access	1	1	1	1. Dedicated cycle/foot paths provide direct access from site entrance to cycle storage and off-site cycle/pedestrian paths 2. Drop-off areas/pedestrian crossings provided 3. Footpaths sign posted to local amenities and transport nodes 4. Lighting of access roads, pedestrian routes and cycle lanes compliant with BS 5489-1:2013 (Design/Site Plans, Site Inspection Report)	Provide marked up drawings and MEP spec	PDP MEP
Hea06.2 Security of Site and Building	1	1	1	1. Suitably Qualified Security Specialist conducts evidence based Security Needs Assessment by RIBA Stage 2. 2. Recommendations or solutions developed by RIBA Stage 2 to ensure issues identified in SNA are addressed in design 3. Recommendations proposed by SQSS are implemented (Design/Site Plans, Appointment Letter, SNA Report)	Register site with Secured by Design - credit still accessible	Mipa Security Specialist
Energy	23	3.26%	5.21%			
Ene01 Energy Performance*	12	0	3	1. SBEM calculations including the following information: a. Building floor area (m ²) b. Notional building heating/cooling demand (MJ/m ²) c. Actual building heating/cooling demand (MJ/m ²) d. Notional building primary energy consumption (kWh/m ²) e. Actual building primary energy demand (kWh/m ²) f. Target Emission Rate (kgCO ₂ /m ²) g. Building Emission Rate (kgCO ₂ /m ²) 2. Calculate an Energy Performance Ratio for New Construction and compare with benchmark (SBEM Outputs, ENE01 Calculator Tool) Require BRUKL outputs to determine credits achieved	Current BRUKL outputs confirm 0 credits achieved, even with PV spec. Potential to achieve some credits if u values are improved	MEP
Ene02.1 Sub-metering of Major Energy Consuming Systems	1	1	1	1. Energy metering systems installed to enable at least 90% of annual consumption of each fuel to be assigned to end-use categories 2. Systems in buildings with floor area ≥1000m ² are metered using appropriate energy monitoring and management system 3. End energy consuming uses are identifiable to building users (Design drawings, Delivery Notes, Manufacturer's Specs, Metering Strategy, Site Inspection Report)	Sub-meters to all major consumers. Small power and lighting can be combined per floor plate	MEP
Ene02.2 Sub-metering of High Energy Load and Tenancy Areas	1	1	1	1. An accessible energy monitoring and management system or separate accessible sub-meters with pulsed/open protocol communications output are provided 2. This covers significant majority of energy supply to tenanted areas or function areas (Design drawings, Delivery Notes, Manufacturer's Specs, Metering Strategy, Site Inspection Report)	Sub-meters to separate function areas	MEP

Ene03 External Lighting	1	1	1	1. Average initial luminous efficacy of external light fittings is not less than 60 luminaire lumens per circuit Watt 2. External light fittings automatically controlled for prevention of daylight operation and presence detection (MEP Spec, Design drawings, Manufacturer's Specs, Calculations, Delivery Notes, Site Inspection Report)	Require spec to confirm	MEP
Ene04.1 Passive Design Analysis	1	0	0	Must be completed by RIBA 2		
Ene04.2 Free Cooling	1	0	0	Must be completed by RIBA 2		
Ene04.3 Low Zero Carbon Feasibility Study	1	0	0	1. LZC Feasibility study carried out by an energy specialist to establish appropriate local LZC energy sources for building 2. Local LZC technology specified in line with recommendations and results in meaningful reduction in regulated CO ₂ emissions (LZC Feasibility Study, Design Drawings)	Potential to target this if adequate PV is installed	Mipa Energy Specialist
Ene06.1 Energy Consumption of Lifts	1	0	1	1. Where lifts, escalators and/or moving walks (transportation types) are specified: a. An analysis of the transportation demand and usage patterns for the building has been carried out to determine the optimum number and size of lifts, escalators and/or moving walks. b. The energy consumption has been calculated in accordance with BS EN ISO 25745 Energy performance of lifts, escalators and moving walks, Part 2 : Energy calculation and classification for lifts (elevators) and/or Part 3: Energy calculation and classification for escalators and moving walks, for one of the following: i. At least two types of system (for each transportation type required); OR ii. An arrangement of systems (e.g. for lifts, hydraulic, traction, machine room-less lift (MRL)); OR iii. A system strategy which is 'fit for purpose'. c. The use of regenerative drives should be considered d. The transportation system with the lowest energy consumption is specified. (Transport Demand Analysis, Energy Consumption Calculations)	Lift companies may be able to provide calculations	Mipa MEP
Ene06.2 Energy Efficient Features of Lifts	2	0	2	1. Above credit is achieved 2. For each lift, the following three energy efficient features are specified: a. The lifts operate in a standby condition during off-peak periods. b. The lift car lighting and display lighting provides an average lamp efficacy, (across all fittings in the car) of > 55 lamp lumens/circuit Watt. c. The lift uses a drive controller capable of variable speed, variable-voltage, and variable-frequency (VVVF) control of the drive motor. 4. Where the use of regenerative drives is demonstrated to save energy, they are specified. (Manufacturer Spec)		Mipa MEP

Ene08 Energy Efficient Equipment	2	2	2	1. Identify the building's unregulated energy consuming loads and estimate their contribution to the total annual unregulated energy consumption of the building, assuming a typical/standard specification. 2. Identify the systems and/or processes that use a significant proportion of the total annual unregulated energy consumption of the development and its operation. 3. Demonstrate a meaningful reduction in the total annual unregulated energy consumption of the building.	Small power, plug in equipment to be Energy Star rated	Mipa
Transport	9	5.00%	6.00%			
Tra01 Accessibility Index	3	2	2	1. Public Transport Accessibility Index is calculated using following information: a. Distance (m) from main building entrance to each compliant transport node b. Transport types serving the compliant node c. Average number of services per hour per node 2. Assessor calculates score from AI (TRA01 Calculator Tool, Maps, Bus/Rail Schedules)	Assessor has run preliminary study with AI of 6.40 for 2 credits achieved	TL
Tra02 Proximity to Amenities	1	1	1	1. Building is located within 500m of 3 of the following amenities (at least two core): a. Food outlet (C) b. Access to cash (C) c. Access to outdoor open space d. Access to rec/leisure facility for fitness (C) e. Publicly available postal facility f. Community facility g. Pharmacy h. Child care facility or school (Maps, Site Inspection Report)	Location within close proximity of fitness facility and community facility, require food outlet or access to cash within 500m - tbc	TL
Tra03.1 Cycle Storage	1	1	1	1. At least xx cycle storage spaces that are publicly accessible and meet following: a. Secured within spaces in racks b. Covered overhead c. Set in or fixed to permanent structure d. Distance between to allow for access e. Adequate lighting as defined in HEA01 (Design Drawings, Manufacturer's Specs, Site Inspection Report)	Require estimated staff figures to determine number of cycle storage spaces required	PDP Mipa
Tra03.2 Cyclist Facilities	1	1	1	1. Above credit is achieved 2. At least 2 compliant facilities are provided: a. Showers (1 for every 10 spaces, must cater to both genders) b. Changing facilities (Appropriately sized with adequate benches/hooks) c. Lockers (1 per cycle storage space either in or adjacent to changing rooms/showers) d. Drying space (specifically for cyclists, with adequate heating/ventilation) (Design drawings, Site Inspection Report)	Require estimated staff figures to determine number of cycle storage spaces required	PDP Mipa
Tra04 Car Parking Capacity	2	0	0	AI of 6.40 requires max parking capacity of 1 space per 4 building users for 1 credit or 1 space per 5 building users for 2 credits	Require estimated staff figures to determine figures but presume not achieved based on site layout	PDP Mipa

Tra05 Travel Plan	1	0	1	1. Travel plan is developed at feasibility and design stages 2. A site specific travel assessment/statement has been undertaken 3. Copy handed over to future occupier (Travel Plan, Transport Assessment, Letter of Confirmation, Meeting Minutes)	Travel plan letter of confirmation for site provided (cr 2), will require full travel plan for site	Mipa
Water	9	5.44%	7.00%			
Wat01 Water Consumption 1 credit is mandatory	5	4	5	1. Assessment of water consumption using BREEAM Wat01 Calculator Tool 2. Compare water consumption (L/person/day) to baseline building 3. Assessment must include following components: WCs, Urinals, Taps (hand wash, kitchen, waste disposal), Showers, Baths, Dishwashers, Washing machines 4. Greywater/rainwater can off-set non potable water consumption (Design drawings, Delivery Notes, Manufacturer's Specs, Site Inspection Report, Wat01 Calculator Tool)	Achieve 50% improvement over baseline for 4 credits, 55% for 5 credits Install waterless urinals, flow restrictors on showers, low flow taps and toilets	Mipa PDP Contractor
Wat02 Water Meters Criteria 1 is mandatory	1	0	1	1. A water meter is specified on the mains water supply to the building 2. Water consuming plant/building areas consuming 10% or more of total demand are fitted with accessible sub-meters or have water monitoring equipment 3. Meters have pulsed/open protocol communication output (Design drawings, Delivery notes, Manufacturer specs, Site Inspection Report)	Install sub-meters with pulsed outputs to required areas to achieve credit	MEP
Wat03.1 Leak Detection System	1	1	1	1. A leak detection system capable of detecting major water leaks on mains water supply within the building and between the building and utilities water meter is installed (Design drawings, Site plans, Delivery Notes, Manufacturer Specs, Site Inspection Report)	Provide drawings and manufacturer spec	MEP
Wat03.2 Flow Control Devices	1	1	1	1. Flow control devices that regulate supply of water to each WC area/facility according to demand are installed (Design drawings, Manufacturer Specs, Delivery Notes, Site Inspection Report)	Provide drawings showing locations of solenoid valves	MEP
Wat04 Water Efficient Equipment	1	1	1	1. Identify all unregulated water demands that can be mitigated or reduced 2. Systems/processes identified to reduce unregulated water demand and demonstrate meaningful reduction in total water demand OR 3. No irrigation system is specified (Site plans, Letter of confirmation, Landscaping Management Plan, Manufacturer's specs, Planting and Irrigation Strategy, Site Inspection Report)	Provide landscaping drawings and planting schedule, letter of confirmation that no irrigation system will be installed	Mipa PDP/ Landscaper
Materials	10	6.75%	9.45%			
Mat01 Life Cycle Impacts*	2	1	2	1. Green Guide Ratings and EPDs for following building elements: External walls, Roof 2. Assessment based on Mat01 Calculator Tool 3. Life cycle greenhouse gas emissions reported based on a 60 year building life (Design drawings and calculations/spec, EPDs, EPCs, Mat01 Calculator Tool, Green Guide Specs, Delivery Notes)	Check Green Guide for Specification and choose A+/A rated materials where possible. Will provide schedule for completion *See Innovation	PDP Contractor

Mat02 Hard Landscaping & Boundary Protection	1	0	1	1. At least 80% of all external hard landscaping and 80% of all boundary protection achieves an A or A+ Green Guide Rating (Design drawings, Site plans, Green Guide Rating and element numbers, Letter of Confirmation, Site Inspection Report)	Use Green Guide to choose materials with A or A+ ratings	PDP
Mat03.0 Pre-requisite	NA	NA	NA	All timber and timber based products must be 'legally harvested and traded timber' (Timber Sourcing Policy, Letter of confirmation, Chain of Custody evidence, FSC/PEFC Certificates)	Required for ANY BREEAM rating	PDP Contractor
Mat03.1 Sustainable Procurement Plan	1	1	1	The principal contractor sources materials in accordance with a documented sustainable procurement plan (Letter of Confirmation, Copy of SPP)	Please provide if contractor appointed already, otherwise include requirement within Prelims	Contractor
Mat03.2 Responsible Sourcing of Materials	3	1	1	All applicable building materials are responsibly sourced (Design drawings and calculations, Delivery Notes, Mat03 Calculator Tool, Responsible Sourcing Certificates)	BES 6001, ISO 14001, FSC/PEFC, Reclaimed etc Potential to achieve more credits	PDP Contractor
Mat04 Insulation Embodied Impact	1	1	1	Any insulation specified for use within external walls, ground floor, roof and building services must have an insulation index of at least 2.5 (Design drawings/specs, EPDs, EPCs, Green Guide Ratings and element numbers, Mat04 Calculator Tool, Delivery Notes)	Use Green Guide to choose compliant insulation. Will provide schedule for completion	PDP MEP Contractor
Mat05 Protecting from Damage and Degradation	1	1	1	1. Building incorporates suitable durability and protection measures or designed features/ solutions to prevent damage to vulnerable parts of internal and external building and landscaping elements 2. Relevant elements incorporate appropriate design and spec measures to limit material degradation due to environmental factors (Design drawings, Manufacturer's specs, Durability/Resilient Report, Delivery Notes)	Require drawings showing durability measures. Will provide schedule for completion re environmental degradation	PDP Structural Engineer
Mat06 Material Efficiency	1	0	0	Must be completed at all RIBA stages		
Waste	8	4.25%	5.31%			
Wst01.1 Construction Resource Efficiency	3	1	2	1. Resource Management Plan developed covering non-hazardous waste for construction, manufacture, demolition and excavation 2. Pre-demolition audit completed 3. Construction waste generated meets BREEAM criteria for credits (RMP, Pre-demo Audit, SMARTWaste, WRAP, UKCG, EA Waste Return Forms)	Require RMP, no demolition, construction waste limited to ≤13.3m3/100m2 for 1 credit, ≤7.5m3/100m2 for 2 credits	Contractor
Wst01.2 Diversion of Resources from landfill	1	1	1	1. Non-hazardous construction and demolition/ excavation waste is diverted from landfill 2. Waste materials will be sorted in separate key waste groups on site or through licenced contractor for recover (RMP, SMARTWaste, WRAP, UKCG, EA Waste Return Forms, Appointment Letter)	At least 70% non-demo waste by volume diverted from landfill	Contractor

Wst02 Recycled Aggregates	1	0	0	1. Total amount of recycled or secondary aggregated specified $\geq 25\%$ of total high grade aggregate specified for project 2. % recycled or secondary aggregate specified in each application present meetings minimum % levels specified by BREEAM 3. Recycled or secondary aggregate are construction, demolition and excavation waste obtained on or off site or is obtained from a non-construction post-consumer industrial product source (Calculations, Building Spec/Contract, Delivery Notes, Documentation confirming source/ amount of recycled/secondary aggregate)	Credit not targeted as can be difficult to meet application requirements for pipe bedding and granular filling (100% each). Can discuss.	Contractor Structural Engineer
Wst03 Operational Waste	1	1	1	1. Dedicated space provided for segregation and storage of operational recyclable waste 2. Static waste compactors/balers and composting facilities provided where applicable 3. Dedicated space must be clearly labelled and accessible to occupants/operators and collection management contractors (Design drawings and calculations, Building spec/contract sections, Site Inspection Report, Meeting Minutes)	Provide marked up drawings showing space equal to at least 2m ² per 1000m ² NFA with min 10m ² or justification for space provided	PDP Mipa
Wst04 Speculative Floor & Ceiling Finishes	NA	NA	NA	Not applicable to building type		
Wst05 Adaptation to Climate Change - Structural and Fabric Resilience	1	0	0	Must be completed by RIBA 2		
Wst06 Functional Adaptability	1	1	1	1. A building-specific functional adaptation strategy study has been undertaken by the client and design team by RIBA 2, which includes recommendations for measures to be incorporated to facilitate future adaptation. 2. Functional adaptation measures have been adopted in the design by RIBA 4 in accordance with the functional adaptation strategy recommendations, where practical and cost effective. Omissions have been justified in writing to the assessor. (Functional Adaptability Study, Design Drawings)	Was to have been completed prior to RIBA 2, please forward study if completed	PDP
Land & Ecology	10	2.00%	6.00%			
LE01.1 Previously Occupied Land	1	0	0	At least 75% of the proposed development's footprint is on an area of land which has been previously occupied by buildings or fixed surface infrastructure (Site Plan Drawings pre and post development with calculations)	Previously undeveloped land, credit not achievable	PDP
LE01.2 Contaminated Land	1	0	1	1. A contaminated land specialist's site investigation, risk assessment and appraisal deems the land to be contaminated 2. Client or principal contractor confirms remediation will be carried out as recommended by contaminated land specialist (Remediation Strategy & Implementation Plan, Letter of Confirmation)	Contaminated land report stated further testing required re asbestos and ground water - anything further? Send remediation reports if conducted to determine whether compliant	Mipa

LE02.1 Ecological Value of Site	1	0	1	Land within assessment zone is defined as 'low ecological value' by a Suitably Qualified Ecologist or BREEAM checklist (Ecologist Report, Site Plans, BREEAM LE02 Checklist)	Appoint ecologist to conduct BREEAM compliant PEA - can recommend consultants	Mipa (Ecologist)
LE02.2 Protection of Ecological Features	1	0	1	1. All existing features of ecological value within and surrounding construction zone are adequately protected from damage during clearance, site prep and construction 2. Ecological protection constructed according to recommendations by SQE prior to preliminary site construction or prep works (Ecologists Report, Site Plans, Letter of Confirmation, Site Inspection Report)	Arb report details requirements for protection of trees. Appoint ecologist to conduct BREEAM compliant PEA to ensure any remaining features are covered	Mipa (Ecologist) Contractor
LE03 Change in Ecological Value 1 credit is Mandatory	2	0	1	1. Confirm broad habitat types and areas (m ²) in existing pre-developed state and proposed state 2. Confirm species count within each habitat via SQE or BREEAM Table S6 3. 2 credits for positive change, 1 credit for change of 0 to -9 (Ecologist Reports, LE03/04 Calculator Tool, Site Plans, Site Inspection Report, Planting Schedule)	Appoint ecologist to conduct BREEAM compliant PEA with species count. Provide proposed landscape plans for calculations	Mipa (Ecologist) PDP/ Landscaper
LE04.1 Ecologist's Report and Recommendations	1	0	0	1. SQE appointed by end of RIBA Stage 1 2. SQE provides report with recommendations for enhancement of site ecology by RIBA Stage 2 based on a site survey 3. All recommendations will be implemented (Ecologist's Report, Appointment Letter, Letter of confirmation)	May be able to request late consideration depending on ecologist's findings	Mipa (Ecologist)
LE04.2 Increase in Ecological Value	1	0	0	1. Above credit is achieved 2. Recommendations of SQE have been implemented in final design and build 3. SQE confirms this will result in an increase in ecological value of the site (at least +6 species) (Ecologist's Report, Biodiversity Management Plan, LE03 Calculator Tool, Site Inspection Report)	As above and depending upon proposed landscape plan	Mipa (Ecologist) PDP/ Landscaper
LE05 Long Term Impact on Biodiversity	2	2	2	1. SQE appointed prior to commencement of activities on site and confirms all EU and UK protected species legislation has been complied with during design and construction 2. Landscape and habitat management plan produced and handed over to occupier 3. Appropriate additional measures are adopted (Ecologist's Report, Biodiversity Management Plan, Letter of Appointment, Programme of Works, Meeting Minutes, Training Schedule, Letters of Confirmation)	Appoint ecologist to conduct BREEAM compliant PEA inclusive of legislation req's, appoint ecologist to produce LHMP and conduct toolbox talks etc as necessary	Mipa (Ecologist) Contractor
Pollution	12	3.33%	4.16%			
Pol01.0 Pre-requisite	NA	NA	NA	All systems with electric compressors must comply with BS EN 378:2008 (parts 2 and 3) and the Institute of Refrigeration Ammonia Refrigeration Systems Code of Practice (Design Drawings, Manufacturer's Specs, Delivery Notes)	Provide evidence showing that all systems comply	MEP
Pol01.1 Impact of Refrigerant	2	0	0	1. Systems using refrigerants have Direct Effect Life Cycle CO ₂ equivalent emissions of ≤100 kgCO ₂ e/kW cooling/heating capacity (2 credits) 2. Systems using refrigerants have a DELCO ₂ e of ≤1000 kgCO ₂ e/kW cooling/heating capacity (Pol01 Calculator Tool, Delivery Notes, manufacturer's Specs, Design Drawings) Require further information from MEP to determine whether any credits are achievable	Review to determine whether any credits are possible	MEP

Pol01.2 Leak Detection	1	1	1	1. Systems using refrigerants have a permanent automated refrigerant leak detection system or an in-built automated diagnostic procedure for detecting leakage installed 2. System is capable of continuously monitoring for leaks 3. System is capable of automatically isolating and containing the remaining refrigerants charge in response to leak detection (Delivery notes, Manufacturer's Specs, Design Drawings)	Can provide spec of compliant systems from other projects	MEP
Pol02 NOx Emissions	3	0	0	1. Plant installed to meet delivered heating and hot water demand has a NOx emission level meeting following criteria: a. ≤100 mg/kWh (1 credit) b. ≤70 mg/kWh (2 credits) c. ≤40 mg/kWh (3 credits) (Manufacturer's specs, Delivery Notes, Calculations) Require further information from MEP to determine whether any credits are achievable	Review to determine whether any credits are possible	MEP
Pol03.1 Flood Resilience	2	1	1	1. Site is in Low Flood Risk Zone (2 credits) 2. Site is Medium/High Flood Risk Zone (1 credit) (Flood Risk Assessment, Flood Zone Maps)	Site is in high flood risk zone. FRA from 2004 covers entire industrial centre inclusive of project site. Will confirm with BRE whether they require update from 2004	Mipa
Pol03.2 Surface Water Run-Off	2	0	0	1. Consultant appointed to confirm following: a. Peak rate of run-off is no greater than pre-development site at 1 and 100 year events b. Maintenance agreements of SuDS in place c. Calculations allow for climate change 2. Flooding will not occur with local drainage system failure 3. Drainage ensures post development run-off volume is no greater than pre-development 4. SuDS installed to prevent additional predicted run-off from leaving site (Drainage Reports, Pre and Post Development Site Plans, Design Drawings, Maintenance Agreements)	Credits likely to be unachievable due to previous impermeable area, however calculations can be done to confirm if high level of SuDS are being installed	Structural Engineer
Pol03.3 Minimising Watercourse Pollution	1	0	1	1. No discharge from site for rainfall up to 5mm 2. SuDS pollution prevention treatment provided in areas with low risk source of watercourse pollution 3. Separators installed in surface water drainage systems in areas with high risk of contamination 4. Containment fitted to site drainage system to prevent escape of chemicals to watercourses 5. All systems meet PPG 3 and SuDS Manual 6. Drainage Plan made available to occupiers 7. Maintenance agreements of all SuDS in place 8. External storage and delivery areas designed to best practice planning guidance (Design Drawings, Drainage Reports, Maintenance Agreements, Delivery Notes, Manufacturer's Specs)	Provide calculations to confirm cr 1 Install appropriate compliant pollution prevention measures	Structural Engineer

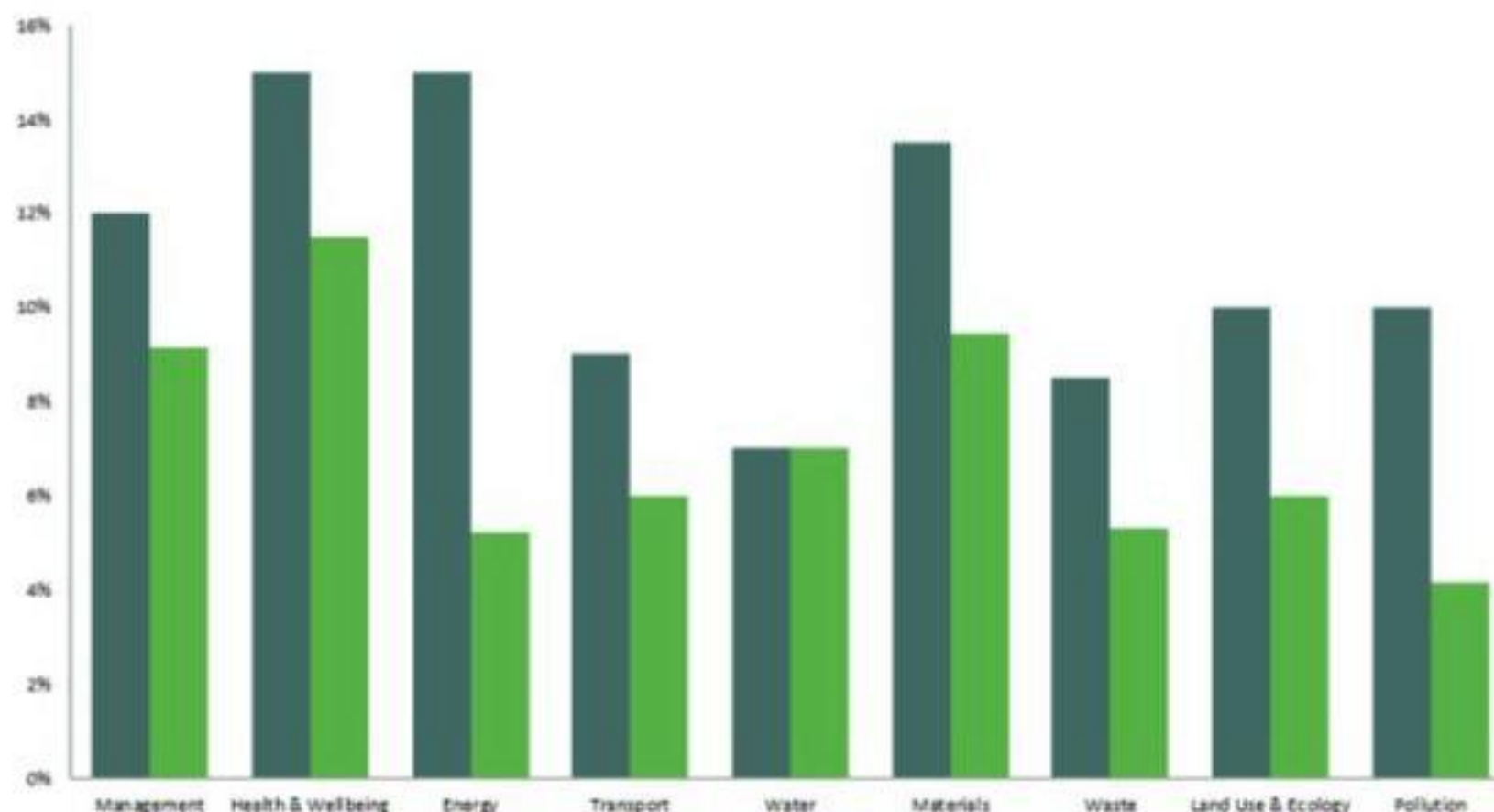
Pol04 Reduction of Light Pollution	1	1	1	1. No external lighting is required OR 2. External lighting complies with Table 2 of ILP Guidance notes for reduction of obtrusive lights, 2011 3. External lighting can be automatically switched off between 23:00 and 07:00 4. Safety/security lighting complies with lower levels recommended from 23:00 to 07:00 (Design Drawings, Manufacturer's Specs)	Provide evidence accordingly	MEP
Reduction of Noise Pollution	1	1	1	1. No noise-sensitive areas within 800m radius of the assessed site OR 2. Noise Impact Assessment by Acoustician in compliance with BS 7445 to determine: a. Existing background noise levels at nearest noise-sensitive area to proposed development b. Rating noise level resulting from new noise source 3. Noise level from proposed site is difference of no more than +5dB during day and +3dB at night 4. Attenuation measures installed where noise levels don't meet above (Appointment letter, Acoustician's Report and Calculations, Design Drawings, Site Map)	Site surrounded by residential noise-sensitive areas Provide NIA report to confirm compliance or appoint acoustician to conduct if not completed already	Mipa MEP (Acoustician)
Innovation	10	0.00%	2.00%			
Inn01 (Man05.3 - Post Occupancy Evaluation)	1	0	1	There is (or will be) operational infrastructure and resources in place to coordinate the following activities at quarterly intervals for the first 3 years of building occupation: a. Collection of occupation satisfaction, energy consumption and water consumption data b. Analysis of the data to check the building is performing as expected and make any necessary adjustments to systems controls or to inform building user behaviours c. Setting targets of reducing water and energy consumption and monitor progress toward these d. Feedback any 'lessons learned' to the design team and developer for use in future projects e. Provision of the actual annual building energy, water consumption and occupant satisfaction data to the BRE (Letter of Commitment, Appointment Letter, On-going data logs)	Can recommend consultants	Mipa
Inn02 (Mat01 - Life Cycle Impacts)	1	0	1	Where assessing fewer than four applicable building elements (Industrial Buildings assess external walls and roof only), the building achieves at least one point in addition to the total points required to achieve maximum credits under the standard BREEAM criteria (Mat01 Calculator Tool, Materials Schedule, EPDs)	Requires 5 points on Mat01 Calculator Tool	PDP Contractor
Totals	129	45.4%	65.7%			

4.1 Visual of Enhanced Score from BREEAM Pre-Assessment Tool

BREEAM UK New Construction 2014 Pre-Assessment Estimator: Indicative Rating & Building Performance

BREEAM UK

Building Performance by Environment Section



Note: The rating obtained by using this Pre Assessment Estimator is for guidance only. Predicted ratings may differ from those obtained through a formal assessment, which must be carried out by a licenced BREEAM Assessor.

5. Conclusion

In conclusion, the formal pre-assessment undertaken by Kingfisher Ecology Ltd in association with Energy Report Limited has shown that there is an acceptable route to BREEAM 'Very Good' Certification for the commercial industrial development Mipa Paints Facility.

The possible score of 65.7% allows for a substantial margin beyond the required 55% target for BREEAM 'Very Good.' All minimum requirements for a BREEAM 'Very Good' score have been achieved. A targeted score of at least 58% is recommended should any of the targeted credits fall short during construction stage.

It is noted that the development has the potential to achieve up to 100% of water credits should appropriate low flow water consuming components be installed. Over 70% of the Management, Health & Wellbeing and Materials credits are achievable, as well as over 60% of Transport, Waste and Land Use & Ecology credits. Energy and Pollution credits show the lowest achievable scores, however both categories have potential to improve the credits achievable once further information is available on systems to be installed as well as potential to improve current u-values of proposed materials.

Therefore, it is considered that the development will be able to attain a final rating of between 55% and 60% (Very Good) at Post-Construction.