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Benoy

Victoria Square, Woking

Job No: 3540

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Z99
Performance criteria
Revision E03

Section Revision History

No.	Purpose	
E00	FOR CO-ORDINATION	23rd Oct 2017
E01	Tender Package Issue	15th Jan 2018
E02	DRAFT TENDER - CfSH UPDATE	2nd Nov 2018
E03	DRAFT TENDER - CfSH & BREEAM - HOTEL UPDATE	12th Nov 2018

Clauses amended in Revision E03

No.	Clause	
151	OTHER REQUIREMENTS AND GUIDANCE	Revised
152	OTHER REQUIREMENTS AND GUIDANCE	Revised
153	OTHER REQUIREMENTS AND GUIDANCE	Revised
273C	NOISE ATTENUATION	Added
306A	SECURITY DESIGN	Added
500A	ECOLOGY	Added
522B	LIFE CYCLE COST & SERVICE OF MATERIALS	Added
522C	LIFE CYCLE IMPACT OF MATERIALS	Added
524C	RESPONSIBLE SOURCING OF MATERIALS	Added
525A	INSULATION - RESPONSIBLE SOURCING AND THERMAL IMPACTS	Added
527A	EQUIPMENT & FITTINGS STANDARDS FOR INDOOR WATER CONSUMPTION - HOTEL	Added
528A	COMMERCIAL: HOTEL- WASTE MANAGEMENT	Added

Z99 Performance criteria

TO BE READ WITH PRELIMINARIES/ GENERAL CONDITIONS

GENERAL**30 ADDENDUM DOCUMENTS**

- Refer to: Preliminaries section A11.

40 EQUIVALENT PRODUCTS

- Inadvertent omission: Wherever products are specified by proprietary name the phrase 'or equivalent' is to be deemed included.

42 EQUIVALENT PRODUCTS DEFINITION

- Where the specification permits substitution of a product of different manufacture to that specified and such substitution is desired, before ordering the product notify the Design and Build Contractor and, when requested, submit for verification documentary evidence that the alternative product is equivalent in respect of material, safety, reliability, function, compatibility with adjacent construction, availability of compatible accessories and, where relevant, appearance.
- Any proposal for use of an alternative product must also include proposals for substitution of compatible accessory products and variation of details as necessary, with evidence of equivalent durability, function and appearance of the construction as a whole. If such substitution is sanctioned, and before ordering products, provide revised drawings, specification and manufacturer's guarantees as required by Design and Build Contractor.
- Submit certified English translations of any foreign language documents.

43 APPROVALS OR ACCEPTANCE IN WRITING

Where the specification calls for approvals or acceptance in writing of products, the approval period will be based on a 10 working day approval period, if no response is forthcoming within this period, the Contractor will be entitled to proceed.

45 FACADE CONSULTANT'S SPECIFICATION

The Facade Consultant's specifications for the Building Envelope will take precedence over the Benoy Specification in instances where there is conflict. Refer to the following performance specification documents for the D&B External Envelope:

11001-FMD-02-ZZ-SP-A-001
11001-FMD-02-ZZ-SP-A-002
11001-FMD-02-ZZ-SP-A-003
11001-FMD-02-ZZ-SP-A-004
11001-FMD-02-ZZ-SP-A-005
11001-FMD-02-ZZ-SP-A-006
11001-FMD-02-ZZ-SP-A-007
11001-FMD-02-ZZ-SP-A-008
11001-FMD-02-ZZ-SP-A-009
11001-FMD-02-ZZ-SP-A-010

50 QUALITY OF PRODUCTS

- Generally: The products shall be new unless otherwise specified or agree in writing with the Contract Administrator. (Proposals for recycled products may be considered).
- Supply of each product: Where a choice of supply or manufacturer is permitted for any particular set of products then the whole quantity required to complete the works must be from the same source, of the same type, and from the same manufacturing run, unless otherwise agreed.
- Whole quantity of each product required to complete the Works: The Contractor/ Subcontractor shall ensure that the whole quantity of each product to be used in the works is of a consistent in kind, size, quality and overall appearance.
- The Contractor is required to supply, on request by the Contract Administrator, written evidence of the sources of supply of the materials, components, etc. Where required, submit samples of products in their proposed colours for approval of their appearance by the Contract Administrator.
- Obtain confirmation from the manufacturers of specified products that those products and their recommendations for use are current at the time of installation.
- Where the materials, products and components are not fully detailed, specified or covered by current standards, then they are to be of a standard appropriate to the works and suitable for the purposes stated in or reasonably inferred from the specification and contract.
- Tolerances: Where critical, measure a sufficient quantity to determine compliance.
- Deterioration: In order to prevent deterioration, order in suitable quantities to the program of the Works, store as recommended by the manufacturer and use in appropriate sequence.

60 PROHIBITED MATERIALS

- The Contractor is required to use all reasonable skill, care and effort to ensure the following requirements are met in carrying out the works that are the subject of this contract.
- Failure to comply with these requirements will result in the rejection of all or part of the Works affected by non- compliance.
- Nothing shall be specified or used in the construction of the project, which is generally known at the time of specification or use, to be deleterious to health and safety or durability of the project in part or whole.
- These requirements are pertinent to all uses of all materials, components, products, assemblies or other items incorporated within the works, whether or not they are in accordance with the recommendations as defined in the relevant current British Standards or Code of Practice.
- Where the developer of the project has established Corporate policies such as Environmental Responsibility, Socially Responsible Construction, and Construction Procurement Guidelines, then the Contractor shall familiarise themselves with these policies and comply with them.

120 EVIDENCE OF PERFORMANCE

- Certification: Provide independently certified evidence that all incorporated components comply with specified performance requirements.

131 TECHNICAL SUBMISSIONS

- Technical information and certification demonstrating compliance with specification of proposed incorporated products and finishes, including samples.
- Certification, reports and calculations demonstrating compliance with specification.
- Proposals for connections to and support from the existing background.
- Schedule of builder's work, special provisions and special attendance by others.
- Examples of standard documentation from which project quality plan will be prepared.
- Preliminary fabrication and installation method statements.
- Proposals for replacing damaged or failed products.
- Areas of non-compliance with specification.
- Reinstating existing items: Verify items for reuse.

135 DESIGN AND PRODUCTION INFORMATION

- The Contractor is required to provide a full and detailed description of the proposals for completing the design intent expressed in this specification. The submissions by the Contractor shall include:
- Sufficient typical details, and descriptions of the proposed fixings, for the major elements of the work together with the method to be used to cope with the structural tolerances, movement and expansion joints.
- A comprehensive description of the proposed installation methods.
- A method statement of how the components are manufactured together with an assessment of the various and inherent building movements and how they will interact with the design proposals.
- A statement of the management structure and site supervisory staff of the Contractors involved in the design proposals work. The Contractor must ensure that the employees and supervisors used on the work are of the highest quality for the work undertaken and are retained on site for the entire Contract/ Sub contract/ Works/ Contract/ Trade Contract.

140 WORKMANSHIP

- Unless stated otherwise all workmanship, covered by published Standards, Codes of Practice, Regulations, Health and Safety requirements, whether referred to in this specification or not, shall be compliant with the said requirements.
- All workmanship shall be in accordance with the requirements of this specification and the contract, and be carried out with due care and to the established good trade standards, all to the reasonable acceptance of the Contract Administrator.
- Operatives must be appropriately skilled and experience for the quality and quantity of work they are to carry out. Where they will have been trained to carry out the work and received consequent certification and/ or qualifications, they will be required to show evidence of such. Where the workmanship is not covered by published or current standards then it is to be of a standard appropriate to the works and suitable for the purposes stated in or reasonably inferred from the specification and contract.
- Operatives must be accredited by manufacturers to carry out works to validate system warranties.

142 QUALITY OF EXECUTION

- Generally: Fix, apply, install or lay products securely, accurately, plumb, neatly and in alignment.
- Colour batching: Do not use different colour batches where they can be seen together.
- Dimensions: Check on-site dimensions.
- Finished work: Not defective, e.g. not damaged, disfigured, dirty, faulty, or out of tolerance.
- Location and fixing of products: Adjust joints open to view so they are even and regular.

145 DEFECTS IN WORKMANSHIP

- Where workmanship is found not to be in accord with the Contract or specification requirements for performance, appearance, accuracy or fit then it shall not be corrected without written consent.
- Proposals for such corrective measures shall be submitted to the Contract Administrator for approval.
- It should be borne in mind that approval may not be granted in which case removal and replacement of the non-compliant work will be required.
- All costs associated with correction or replacement of inadequate workmanship will be borne by the associated Contractor, this includes opening up, inspection, testing, making good, and effects on adjacent work by others.

147 COVERING UP WORK

- No work shall be covered up or put beyond inspection without informing the Contract Administrator about the intention.
- The Contractor shall give adequate and suitable notice, dependant upon the type of work concerned, of the intention to cover up the work or put it beyond inspection.
- The notice shall allow an adequate opportunity to properly examine and measure the work to be put beyond view.

150 OTHER REQUIREMENTS AND GUIDANCE

- The Contractor is required to take account of all guidance and procedures recommended by Trade Associations, the Building Research Establishment and other advisory bodies that are relevant to the Works that form the subject of this specification.
- Where proprietary materials, components and systems are utilised they shall be used strictly in accordance with the manufacturer's printed instructions and copies of all such information, in English or translated into English, shall be given to the Contract Administrator.

151 OTHER REQUIREMENTS AND GUIDANCE BREEAM 2014 NEW CONSTRUCTION NON DOMESTIC BUILDINGS - HOTEL

- The Contractor is required to take account of all assessment method criteria set out in BREEAM 2014 New Construction Non Domestic Buildings - Hotel for relevant materials, components and building systems.
- Where proprietary materials, components and building systems are assessed against all applicable criteria and benchmarks set out in BREEAM 2014 New Construction Non Domestic Buildings - Hotel; all relevant items must meet required standards to achieve an overall rating 'Very Good' BREEAM New Construction rating.

152 OTHER REQUIREMENTS AND GUIDANCE BREEAM 2014 NEW CONSTRUCTION NON DOMESTIC BUILDINGS - RETAIL

- The Contractor is required to take account of all assessment method criteria set out in BREEAM 2014 New Construction Non Domestic Buildings - Retail for relevant materials, components and building systems.
- Where proprietary materials, components and building systems are assessed against all applicable criteria and benchmarks set out in BREEAM 2014 New Construction Non Domestic Buildings - Retail; all relevant items must meet required standards to achieve an overall rating 'Very Good' BREEAM New Construction rating.

153 OTHER REQUIREMENTS AND GUIDANCE CODE FOR SUSTAINABLE HOMES, NOVEMBER 2010

- The Contractor is required to take account of all assessment method criteria set out in Code for Sustainable Homes, November 2010, for relevant materials, components and building systems.
- Where proprietary materials, components and building systems are assessed against all applicable criteria and benchmarks set out in Code for Sustainable Homes, November 2010; all relevant items must meet required standards to achieve an overall rating 'Level 4' Target Rating for Code for Sustainable Homes, November 2010.

160 MANUFACTURER'S RECOMMENDATIONS/ INSTRUCTIONS

- General: Comply with manufacturer's printed recommendations and instructions current on the date of the Invitation to tender.
- Changes to recommendations or instructions: Submit details.
- Ancillary products and accessories: Use those supplied or recommended by main product manufacturer.
- Agrément certified products: Comply with limitations, recommendations and requirements of relevant valid certificates.

ELEMENT DESIGN PERFORMANCE

205 STRUCTURE AND MOVEMENT

- All fixings to the structure and other elements of the building are to be submitted by the Contractor to the Structural Engineer for comment and approval.
- The Contractor is responsible for contacting the Structural Engineer and obtaining details of the structure and its anticipated movement that will affect the works. The works including its fixings are to be designed to accommodate without distortion or other defect, all reasonably anticipated stresses and inherent movements. The design is to allow for all movements and/ or dimensional changes that may occur in the building structure or in the materials, components and assemblies to be installed, due to thermal or chemical changes, creep, shrinkage, deflection and vibration.
- The Contractor shall ensure that the whole of the works are suitable for the full range of environmental conditions to be encountered on the site, including the degree and extent of exposure and orientation to the prevailing weather conditions of the installed works.
- The suitability is to be for the design life of the building or as identified for the relevant consultants to the Works to discuss the conditions to be expected.

210 INTEGRITY - STANDARD METHOD ENVELOPE - SEE ALSO BNY-SA-99-XX-A-H51

- Locations: External cladding elements.
- Requirement: As defined in worksections.
- Wind loads: Calculate to BS 6399-2, Standard Method:
 - Basic wind speed (Vb): 20.4m/s.
 - Altitude factor (Sa): 1.092.
 - Direction factor (Sd): 1.
 - Seasonal factor (Ss): 1.
 - Probability factor (Sp): 1.
 - Terrain and building factor (Sb): 1.750.
 - Size effect factor (Ca): 1.
 - External pressure coefficients (Cpe): TBA.
 - Internal pressure coefficients (Cpi): TBA.
- Snow load: Determine from BS 6399-3.
- Permanent imposed loads: TBA.
- Temporary imposed loads: 500N applied horizontally through a 100mm square for cleaning purposes.

- 211 DEFLECTION OF METAL CLADDING/ COVERING
- Roof covering: Maximum permitted deflection under distributed loads as a multiple of span and due to:
 - Dead load: $L/500$.
 - Dead and imposed loads: $L/200$.
 - Dead and wind loads: $L/90$.
 - Wall cladding: Maximum permitted deflection under distributed loads as a multiple of span and due to:
 - Dead and wind loads: $L/120$.
- 215 INTEGRITY ENVELOPE/ CLADDING
- Location: Roof.
 - Requirement: Determine sizes and spacings of glazing bars, thickness of glazing/ infilling, types and locations of fixings and other structural requirements in accordance with relevant parts of BS 5516-1 and -2 to ensure that patent glazing will resist wind loads, dead loads and design live loads, and accommodate deflections and thermal movements without damage.
Wind loads: Calculate to BS 6399-2.
Snow load: Determine from BS 6399-3.
Permanent imposed loads: TBA.
Temporary imposed loads: TBA.
- 217 SPECIFIC DESIGN LOADS - BARRIERS IN AND AROUND BUILDINGS
- Design safety factor: In accordance with BS 6180.
 - Fixing design and installation: In accordance with BS 6180, clause 6.5.
- 220 FIRE RESISTANCE TO BS 476-20 COMPARTMENT WALLS AND FLOORS
- Locations: Between adjoining Tenancies/ owners.
 - Method of test: BS 476-20
 - Standard:
 - Load bearing elements to BS 476-21,
Concrete floor, Brick block wall, Concrete columns, Steel columns
Period: 120/120/120.
 - Non load bearing elements to BS 476-22,
Suspended ceilings as section K40, Raised access floors K41, L20 Fire Resisting Doors.
Period: 60 min. integrity, 60 min. insulation tested on internal face.
 - Component elements to BS 476-23,
Fire stopping, Cavity fire stopping.
Period: 120/120.
 - Test reports or assessments: Include details of performance related to the particular elements of construction.
- 225 FIRE REACTION - LININGS AND SURFACE CLADDING
- Location: Internal walls and floors on escape routes
Suspended ceilings,
Raised access floors.
 - Method of test: To BS 476-6.
Standard: To BS 476-7.
 - Internal linings: Class 0.
 - External linings and cladding: Class 1 - unless noted otherwise.

230 SLIP RESISTANCE FLOORS

- Location: All areas.
- Method of assessment: To relevant parts of BS 7976-1 and BS 7976-2.
- Slip potential:
Slip resistance value (SRV) (minimum)/ Pendulum test value (PVT) (minimum) to BS 7932 or BS EN 14231 (natural stone only):
 - When wet 40 SRV.
 - When dry 50 SRV.
- Surface roughness (Rz) (minimum) to BS 1134:
20 microns.
- Submit certification.

235 ANTISTATIC PERFORMANCE - BMS SUITE/ COMPUTER SUITES/ ELECTRICAL SWITCH ROOM

- Electrical resistance of flooring - upper limit:
 - Average value (maximum): 2 megohms.
 - Single point (maximum): 5 megohms.
- Electrical resistance of flooring - lower limit:
 - Average value (minimum): 50,000 ohms.
 - Single point (minimum): 20,000 ohms.

241 AIR PERMEABILITY EXTERNAL FACING WALLS AND ENVELOPE

- Design Air Permeability:
3m³/(h.m²) @50 Pa.
- Air tightness: Maintain.
- Method: Pressue test in accordance with ATTMA (Air Tightness Testing and Measurement Association)

242 ENVIRONMENTAL CONDITIONS - FOR INTERNAL BUILDING ELEMENTS AND COMPONENTS/ INTERNAL TIMBER COMPONENTS AND FINISHES

- General requirements prior to starting work specified for sections: K10, K11, K13, K20, K21, K30, K32, K40, K41, M50, M51, M52, M60, N10
 - Building weathertight, wet trades completed and affected areas dried out.
- General: Before, during and after installation, maintain temperature and humidity levels similar to those that will prevail after building is occupied.

244 ENERGY PERFORMANCE

- Energy Performance Certificate: Submit.
- Method of calculation:
Method compliant with the National Calculation method (NCM) in accordance with ADL submission.
Target CO2 Index: Less than
0.55 EPRNC to gain 7 BREEAM credit.

244B ENERGY PERFORMANCE CfSH November 2010 Category 1: Energy and Carbon Dioxide Emissions - Energy Labelled White Goods

- Standards to: - Code for Sustainable Homes, November 2010 - Category 1: Energy and Carbon Dioxide Emissions - Ene 5 - Energy Labelled White Goods. Please note this a minimum Mandatory Standard which must be met.
- Aim to promote the provision or purchase of energy efficient white goods, thus reducing the CO2 emissions from appliance use in the dwelling.
- Requirement 1: where the following appliances are provided and have an A+ rating under the EU Energy Efficiency Labelling Scheme: Fridges and freezers or fridge-freezers
- Requirement 2: where the following appliances are provided and have an A rating under the EU Energy Efficiency Labelling Scheme:
Washing machines and dishwashers
AND EITHER
Washer-dryers or tumble dryers have a B rating
OR
Where washer-dryers or tumble dryers are not provided, information on the EU Energy Labelling Scheme is provided to each dwelling where this is the case.
Note: Where washer dryers are provided it is not necessary to provide a washing machine to obtain this credit.
- Requirement 3: where no white goods are provided but information on the EU Energy Efficiency Labelling Scheme of efficient white goods is provided to each dwelling where this is the case.
*In order to obtain this credit, any white goods available to purchase from the supplier must be compliant with the CSH criteria.
- Assessment Criteria - information required in accordance to CfSH: Technical Guide November 2010.

244C ENERGY PERFORMANCE CfSH November 2010 Category 1: Energy and Carbon Dioxide Emissions - Cycle Storage

- Standards to: - Code for Sustainable Homes, November 2010 - Category 1: Energy and Carbon Dioxide Emissions - Ene 8 - Cycle Storage. Please note this a minimum Mandatory Standard which must be met.
- Aim to promote the wider use of bicycles as transport by providing adequate and secure cycle storage facilities, thus reducing the need for short car journeys and the associated CO2 emissions.
- Requirement 1: Where individual or communal cycle storage is provided that is adequately sized, secure and convenient.
Note: The requirements for secure cycle storage are met where compliance with clause 35 of Secured by Design (SBD) New Homes 2010 is achieved.
- Requirement 1: Where sufficient space and services have been provided which allow the occupants to set up a home office in a suitable quiet room.
The space dedicated for use as a home office must have adequate ventilation and achieve an average daylight factor of 1.5%.
- Assessment Criteria - information required in accordance to CfSH: Technical Guide November 2010.

245 HEAT CONSERVATION

- Average thermal transmittance (U-value) for the following elements of:
 - Wall: See Hoare Lea Mechanical, Electrical and Public Health Employer's Requirements document Appendix O Part L Strategy for Residential, Hotel and Retail and FMDC performance specification.
 - Floor: See Hoare Lea Mechanical, Electrical and Public Health Employer's Requirements document Appendix O Part L Strategy for Residential, Hotel and Retail.
 - Roof: See Hoare Lea Mechanical, Electrical and Public Health Employer's Requirements document Appendix O Part L Strategy for Residential, Hotel and Retail.
 - Glazed elements: See Hoare Lea Mechanical, Electrical and Public Health Employer's Requirements document Appendix O Part L Strategy for Residential, Hotel and Retail and FMDC performance specification.
 - Pedestrian doors: TBA.
 - Vehicle access or similar large doors: N/A.
 - High usage entrance doors: TBA.
 - Roof ventilators (including any smoke vents): TBA.
- Method of calculation: As M&E Engineers requirements.
 - Target value: As M&E Engineers requirements.
- Service strategy: As M&E Engineers requirements.

252 AVOIDANCE OF INTERSTITIAL CONDENSATION

- Requirement: As defined in worksections.
- Determine interstitial condensation risk of cladding/ covering system using the method described in BS 5250 Appendix D. If necessary, provide a vapour control layer to ensure that damage and nuisance from interstitial condensation does not occur.
- Basic design data:

	Winter	Summer
- Temperature	-5°C	18°C
- Relative humidity	90%	65%
- Vapour pressure	0.36 kPa	1.34 kPa
- Indoor psychrometric conditions (notional): As follows:
 - Temperature: 20°C .
 - Relative humidity: 55% .
 - Vapour pressure: 1.17 kPa .
- Calculated amount of winter interstitial condensate (maximum): 0.35 kg/m² .
- Winter interstitial condensate:
 - Calculated amount (maximum): 0.35 kg/m².
 - Calculated annual net retention: Nil.

253 AVOIDANCE OF SURFACE CONDENSATION

- Requirement: Determine surface condensation risk of cladding/ covering system using the method described in BS EN ISO 13788. If necessary, revise thermal insulation to provide satisfactory temperature factor (fmin). ensure that damage and nuisance from surface condensation does not occur.

270A AIRBORNE SOUND INSULATION WALLS AND FLOORS

- Location: External facade cladding, adjoining Party walls.
- Sound transmittance: Minimum weighted sound reduction index (Rw) within 100 to 3150 Hz frequency range to BS 5821-3:
See Acoustic Engineers requirements.
Refer to Acoustic Consultant's Specification & Report which takes precedence over this clause in the event of any conflict.

271A SOUND TRANSMITTANCE - FREQUENCY SPECIFIC - THROUGH CLADDING/
COVERING SYSTEMS

- Minimum sound reduction indices (R) to BS EN ISO 140-3:
 - Location: Through External wall/ roof
 - One third octave band
 - centre frequency (Hz) R(dB)
 - See Acoustic Engineers requirements
 - Refer to Acoustic Consultant's Specification & Report which takes precedence over this clause in the event of any conflict.

272A INTERNAL SOUND ABSORPTION OF CLADDING/ COVERING SYSTEM

- Minimum sound absorption coefficients (alpha S) to BS EN ISO 354:
 - One third octave band
 - centre frequency (Hz) alpha S
 - See Acoustic Engineers requirements
 - Refer to Acoustic Consultant's Specification & Report which takes precedence over this clause in the event of any conflict.

273A NOISE ATTENUATION BREEAM

- Noise attenuation between acoustically sensitive rooms and other occupied spaces, or environmentally sensitive areas complies with section 7.6.3.1 of BS 8233:
Dw+LAeq,T>75.
- Precompletion testing by Suitably Qualified Acoustician as clause 771A.
- Noise attenuation measures: See Acoustic Engineers requirements.

- 273B NOISE ATTENUATION CfSH November 2010 Category 7: Health & Well-being
- Standards to: - Code for Sustainable Homes, November 2010 - Category 7: Health & Well-being - Hea 2 - Sound Insulation.
 - Aim to promote the provision of improved sound insulation to reduce the likelihood of noise complaints from neighbours..
 - Credit 1 - Requirement 1: One credit where:
 - airborne sound insulation values are at least 3dB higher
 - impact sound insulation values are at least 3dB lowerThree credits where;
 - airborne sound insulation values are at least 5dB higher
 - impact sound insulation values are at least 5dB lowerFour credits where;
 - airborne sound insulation values are at least 8dB higher
 - impact sound insulation values are at least 8dB lowerthan the performance standards set out in the Building regulations approved for England and Wales, Approved Document E (2003 Edition, with amendments 2004)
- In all cases this can be demonstrated through EITHER
A programme of pre-completion testing based on the Normal programme of testing described in Approved Document E, for every group or sub-group of houses or flats
OR
Use of constructions for all relevant building elements that have been assessed and approved by Robust Details Limited (RDL) and all relevant dwellings are registered with RDL.
- Where pre-completion testing will be carried out:
A letter from the developer confirming the intent to:
 - Meet the relevant sound insulation performance levels
 - Use a Compliant Test Body to complete testingWhere Robust Details will be used;
 - Confirmation that the Robust Details chosen will achieve the required performance standards for sound insulation (as applicable)
 - Confirmation that the relevant plots are registered with RDL (the Purchase Statement)- Assessment Criteria - information required in accordance to CfSH: Technical Guide November 2010.

273C NOISE ATTENUATION BREEAM 2014 NEW CONSTRUCTION NON DOMESTIC BUILDINGS - HOTEL - Category 12: Pollution

- Standards to: - BREEAM 2014 NEW CONSTRUCTION NON DOMESTIC BUILDINGS - HOTEL - Category 12: Pollution - Pol 5 - Noise Attenuation
- Aim to reduce the likelihood of noise arising from fixed installations on the new development affecting nearby noise-sensitive buildings.
- Credit 1 Reduction of noise pollution -
 - Requirement 1: Where there are, or will be, no noise-sensitive areas or buildings within 800m radius of the assessed development.
 - Requirement 2: OR alternatively, where the building does have noise-sensitive areas or buildings within 800m radius of the development, one credit can be awarded as follows:
 - a. Where a noise impact assessment in compliance with BS 7445 has been carried out and the following noise levels measured/determined:
 - i. Existing background noise levels at the nearest or most exposed noise-sensitive development to the proposed development or at a location where background conditions can be argued to be similar.
 - ii. The rating noise level resulting from the new noise source (see CN4).
 - Requirement 3: The noise impact assessment must be carried out by a suitably qualified acoustic consultant holding a recognised acoustic qualification and membership of an appropriate professional body (see Relevant definitions in the Additional information section).
 - Requirement 4: The noise level from the proposed site/building, as measured in the locality of the nearest or most exposed noise-sensitive development, is a difference no greater than +5dB during the day (07:00 to 23:00) and +3dB at night (23:00 to 07:00) compared to the background noise level.
 - Requirement 5: Where the noise source(s) from the proposed site/building is greater than the levels described in criterion 4, measures have been installed to attenuate the noise at its source to a level where it will comply with criterion 4.
- Evidence - Requirement 1 & 2: One or more of the appropriate evidence types listed in The BREEAM evidential requirements section can be used to demonstrate compliance with these criteria.
- Evidence - Requirement 3,4 & 5: One or more of the appropriate evidence types listed in The BREEAM evidential requirements section can be used to demonstrate compliance with these criteria.
- Assessment Criteria - information required in accordance to BREEAM 2014 New Construction Non Domestic Buildings Technical Manual SD5076:5.0 - 2014.

277 VIBRATION FLOOR AND GENERAL STRUCTURE

- Human response to vibration in accordance with BS 6472-1, maximum exposure limits: See Acoustic Engineers requirements.

290 SECURITY DESIGN EXTERNAL GROUND LEVEL AND ACCESSIBLE AREAS

- Standard: Loss Prevention Standards LPS 1175.
- Locations: External doors and access points.

300 ENVIRONMENT

- Building location: Urban.
- Building type: Shopping mall, hotel, carpark and casino.
- Severity of building exposure:
 - In accordance with BS 6150, Table 2:
 - Moderate C3.

- 305 ENVIRONMENT CfSH November 2010 - Category 7: Health & Well-being
- Standards to: - Code for Sustainable Homes, November 2010 - Category 7: Health & Well-being - Hea 3 - Private Space.
 - Aim to improve quality of life by promoting the provision of an inclusive outdoor space which is at least partially private.
 - Credit 1 - Requirement 1: Where outdoor space (private or semi-private) has been provided that is:
 - Of a minimum size that allows all occupants to use the space
 - Provided with inclusive access and usability (Checklist IDP).
 - Accessible only to occupants of designated dwellings.
 Detailed documentary evidence confirming:
 - The number of bedrooms served by the outdoor space
 - That the outdoor space meets the minimum size requirements
 AND
 Completed Checklist IDP.
 Where a shared outdoor space is provided, detailed documentary evidence demonstrating:
 - The private space is accessible only to occupants of designated dwellings
 OR (Where detailed documentary evidence is not available at this stage)
 A letter of instruction to a contractor/supplier or a formal letter from the developer to the assessor giving a specific undertaking.
 - Assessment Criteria - information required in accordance to CfSH: Technical Guide November 2010.
- 306 SECURITY DESIGN CfSH November 2010 - Category 8: Management
- Standards to: - Code for Sustainable Homes, November 2010 - Category 8: Management - Man 4 - Management.
 - Aim to promote the design of developments where people feel safe and secure- where crime and disorder, or the fear of crime, does not undermine quality of life or community cohesion..
 - Credit 1 - Requirement 1: Where an Architectural Liaison Officer (ALO) or Crime Prevention Design Advisor (CPDA) from the local police force is consulted at the design stage and their recommendations are incorporated into the design of the dwelling (an actual Secured by Design Certificate is not required)..
 - AND
 Section 2 – Physical Security from 'Secured by Design – New Homes' is complied with (Secured by Design certification is not required).Detailed documentary evidence, showing:
 - That an ALO/CPDA has been consulted with to ensure that the requirements from 'Section 2 - Physical Security of Secured by Design – New Homes' are met
 - A commitment to follow the advice provided by the ALO/CPDA.
 - Assessment Criteria - information required in accordance to CfSH: Technical Guide November 2010.

306A SECURITY DESIGN BREEAM 2014 NEW CONSTRUCTION NON DOMESTIC BUILDINGS - HOTEL - Category 5: Health and Wellbeing

- Standards to: - BREEAM 2014 New Construction Non Domestic Buildings - Hotel - Category 5: Health and Wellbeing - Hea 06 - Safety and Security
- Aim to recognise and encourage effective measures that promote safe and secure use and access to and from the building..

Credit 1 Safe access - Requirement 1: Where external site areas form part of the assessed development the following apply: Dedicated cycle paths provide direct access from the site entrance(s) to any cycle storage provided, without the need to deviate from the cycle path and, if relevant, connect to off-site cycle paths (or other appropriate safe route) where these run adjacent to the development's site boundary.

Requirement 2: Footpaths on-site provide direct access from the site entrance(s) to the building entrance(s) and connect to public footpaths off-site (where existing), providing practical and convenient access to local transport nodes and other off-site amenities (where existing).

Requirement 3: Where provided, drop-off areas are designed off/adjoining to the access road and provide direct access to pedestrian footpaths, therefore avoiding the need for the pedestrian to cross vehicle access routes.

Requirement 4: Dedicated pedestrian crossings are provided where pedestrian routes cross vehicle access routes, and appropriate traffic calming measures are in place to slow traffic down at these crossing points.

Requirement 5: For large developments with a high number of public users or visitors, pedestrian footpaths must be signposted to other local amenities and public transport nodes off-site (where existing).

Evidence for all 5no. requirements - One or more of the appropriate evidence types listed in The BREEAM evidential requirements section can be used to demonstrate compliance with these criteria.

- Assessment Criteria - information required in accordance to BREEAM 2014 New Construction Non Domestic Buildings Technical Manual SD5076:5.0 - 2014.

310 DURABILITY AND SERVICE LIFE

- Standard: To BS 7543: 1992, Table 2 unless other wise noted in work sections:
 - Subject to reasonable wear and tear:
 - Category :
 - 1 Replaceable building elements/ Shorter life, e.g. Floor finishes.
 - 2 Maintainable/ will last with maintenance, e.g. external cladding, doors, windows, stairs
 - 3 Life long, Foundations and main structural elements.

315 ABRASION PERFORMANCE

- Resistance abrasion value: In accordance with BS 5385-5, Table 5 Resistance value required:
 - Intensive use <23.
 - Work sections: M40, M41, Q25.
- Test standard to BS EN 1341 Annex C: Measurement of abrasion resistance.
 - Submit test results.

SUSTAINABILITY

- 500 ECOLOGY CfSH November 2010 Category 9: Ecology - Building Footprint
- Standards to: - Code for Sustainable Homes, November 2010 - Category 9: Ecology - Building Footprint Eco 5 - Building Footprint.
 - Aim to promote the most efficient use of a building's footprint by ensuring that land and material use is optimised across the development.
Credit 1 - Requirement 1: One credit where the following requirements are met;
For houses, where the net internal floor area: net internal ground floor area ratio is greater than or equal to 2.5:1
OR
For blocks of flats, where the net internal floor area: net internal ground floor area ratio is greater than or equal to 3:1
OR
For a combination of houses and flats, the ratio of total net internal floor area: total net internal ground floor area of all houses and flats (i.e. the site-wide footprint to floor area ratio) is greater than the area weighted average of the two target ratios above (see Calculation Procedures).
Two credits where the following requirements are met;
For houses, where the net internal floor area: net internal ground floor area ratio is greater than or equal to 3:1
OR
For blocks of flats, where the net internal floor area: net internal ground floor area ratio is greater than or equal to 4:1
OR
For a combination of houses and flats, the ratio of total net internal floor area: total net internal ground floor area of all houses and flats (i.e. the site-wide footprint to floor area ratio) is greater than the area weighted average of the two target ratios above (see Calculation Procedures).
Calculation of the building footprint ratio, stating the Net Internal Floor Area (NIFA) and the Net Internal Ground Floor Area (NIGFA).
 - Assessment Criteria - information required in accordance to CfSH: Technical Guide November 2010.

500A ECOLOGY BREEAM 2014 NEW CONSTRUCTION NON DOMESTIC BUILDINGS - HOTEL - Category 11: Land Use & Ecology

- Standards to: - BREEAM 2014 New Construction Non Domestic Buildings - Hotel - Category 11: Land Use & Ecology - LE 01 - Site Selection
- Aim to encourage the use of previously occupied and/or contaminated land and avoid land which has not been previously disturbed.

Credit 1 Previously occupied land - Requirement 1: At least 75% of the proposed development's footprint is on an area of land which has previously been occupied (see definition in the Additional information section).

Credit 2 Contaminated land - Requirement 2: A contaminated land professional's site investigation, risk assessment and appraisal has deemed land within the site to be affected by contamination. The site investigation, risk assessment and appraisal have identified:

- a. The degree of contamination
- b. The contaminant sources/types
- c. The options for remediating sources of contamination which present an unacceptable risk.

Requirement 3: The client or principal contractor confirms that remediation of the site will be carried out in accordance with the remediation strategy and its implementation plan as recommended by the contaminated land professional.

- Evidence - Requirement 1 - One or more of the appropriate evidence types listed in The BREEAM evidential requirements section can be used to demonstrate compliance with these criteria.
- Evidence - Requirement 2 - One or more of the appropriate evidence types listed in The BREEAM evidential requirements section can be used to demonstrate compliance with these criteria.
- Evidence - Requirement 3 - A copy of the remediation strategy and implementation plan
- Assessment Criteria - information required in accordance to BREEAM 2014 New Construction Non Domestic Buildings Technical Manual SD5076:5.0 - 2014.

512 TIMBER PROCUREMENT

- Virgin Timber (including timber for wood based products): 100 % Legally sourced. Obtained from sustainable independently certified managed source.
- Statutory law: In accordance with the laws governing forest management in the producer country or countries.

Comply with International agreements such as Convention on International Trade in Endangered Species of wild fauna and flora (CITES).

- Comply with UK Government's definition of 'Legally sourced timber' as outlined in 'CPET 5th Edition report on UK Government Timber Procurement Policy2:

- Certification schemes: As listed in Category A, B and FLEGT Licensed timber or equivalent on CPET website:

www.cpet.org.uk

- Certificates: Submit.

Independent certified schemes: - Forest Stewardship Council (FSC)

- Programme for the Endorsement of Forest Certification (PEFC) and affiliated schemes

- Sustainable Forestry Initiative (SFI).

- Recycled timber: Timber products must be 100% certified timber to comply.
- Certificates: Submit full scheme details and Chain of Custody certification.
- Documentation: Submit Timber volumes and areas, and percentages of timber for timber products.

Provide either:

- Documentary evidence (which has been or can be independently verified) regarding the provenance of all timber supplied.
- Evidence that suppliers have adopted and are implementing a formal environmental purchasing policy for timber and wood based products, e.g. Forests Forever Environmental Purchasing Policy.

521 INSULATION PRODUCTS

- Materials: Free from CFCs, HCFs or HCF in manufacture and composition.
- Global Warming Potential: Less than 5 in manufacturer or composition.
- Documentation/ Certification: Submit.
- Certificates: Submit full scheme details.

522 LIFE CYCLE IMPACT OF MATERIALS

- For each Product or System:
Submit Product data:
 - Green Specification rating as registered with The Green Guide
www.thegreenguide.org.uk
 - or
 - Independently accredited Certified Environmental Profile Certificate (EPC).
 - Independently accredited Certified Environmental Profile Declaration (EPD).
- Volume percentages: Define each of the constituent part, the building element it is part of and quantities by mass or percentages.

522A LIFE CYCLE IMPACT OF MATERIALS CfSH November 2010 Category 3: Materials - Environmental Impact of Materials

- Standards to: - Code for Sustainable Homes, November 2010 - Category 3: Materials - Environmental Impact of Materials Mat 1 - Environmental Impact of Materials.
- Aim to specify materials with lower environmental impacts over their life-cycle.
- Credit 1 - Requirement 1: MANDATORY REQUIREMENT
Where at least three of the following five key elements of the building envelope achieve a rating of A+ to D from the 2008 version of The Green Guide:
 - Roof
 - External Walls
 - Internal Walls (including separating walls)
 - Upper and Ground Floors (including separating floors)
 - Windows
 References from the Design Team stating the design or specification documentation then used by the assessor to complete the tool.
AND
Completed Code Mat 1 Calculator Tool by the assessor, showing building elements at the design stage with the relevant Green Guide element numbers.
- Credit 2 - Requirement 1: Up to 15 credits where the Code Mat 1 Calculator Tool is used to assess the number of credits awarded for the five key elements;
 - Roof
 - External Walls
 - Internal Walls (including separating walls)
 - Upper and Ground Floors (including separating floors)
 - Windows
 References from the Design Team stating the design or specification documentation then used by the assessor to complete the tool.
AND
Completed Code Mat 1 Calculator Tool by the assessor, showing building elements at the design stage with the relevant Green Guide element numbers.
- Assessment Criteria - information required in accordance to CfSH: Technical Guide November 2010.

522B LIFE CYCLE COST & SERVICE OF MATERIALS BREEAM 2014 NEW CONSTRUCTION NON DOMESTIC BUILDINGS - HOTEL - Category 4: Management

- Standards to: - BREEAM 2014 New Construction Non Domestic Buildings - Hotel - Category 4: Management - Man 02 - Life cycle cost and service life planning.
- Aim to deliver whole life value by encouraging the use of life cycle costing to improve design, specification, through-life maintenance and operation , and through the dissemination of capital cost reporting promote economic sustainability.

Credit 1 Elemental life cycle cost (LCC) - Requirement 1: An outline, entire asset elemental life cycle cost (LCC) plan has been carried out at Process Stage 2 (equivalent to Concept Design - RIBA Stage 2) in line with 'Standardised method of life cycle costing for construction procurement' PD 156865:2008.

Requirement 2: The elemental LCC plan:

Provides an indication of future replacement costs over a period of analysis as required by the client (e.g. 20, 30, 50 or 60 years);

Includes service life, maintenance and operation cost estimates.

Requirement 3: Demonstrate, using appropriate examples provided by the design team, how the elemental LCC plan has been used to influence building and systems design/specification to minimise life cycle costs and maximise critical value.

Credit 2 Component level LCC option appraisal - Requirement 4: A component level LCC option appraisal has been developed by the end of Process Stage 4 (equivalent to Technical Design – RIBA Stage 4) in line with PD 156865:2008 and includes the following component types (where present):

- Envelope, e.g. cladding, windows, and/or roofing
- Services, e.g. heat source cooling source, and/or controls
- Finishes, e.g. walls, floors and/or ceilings
- External spaces, e.g. alternative hard landscaping, boundary protection.

Requirement 5: Demonstrate, using appropriate examples provided by the design team, how the component level LCC cycle appraisal has been used to influence building and systems design/specification to minimise life cycle costs and maximise critical value.

- Evidence - for Requirements 1 to 3 - Elemental life cycle cost plan - One or more of the appropriate evidence types listed in The BREEAM evidential requirements section can be used to demonstrate compliance with these criteria.
- Evidence - for Requirements 4 & 5 - Component level life cycle cost plan. One or more of the appropriate evidence types listed in The BREEAM evidential requirements section can be used to demonstrate compliance with these criteria.
- Assessment Criteria - information required in accordance to BREEAM 2014 New Construction Non Domestic Buildings Technical Manual SD5076:5.0 - 2014.

522C LIFE CYCLE IMPACT OF MATERIALS BREEAM 2014 NEW CONSTRUCTION NON DOMESTIC BUILDINGS - HOTEL - Category 9: Materials

- Standards to: - BREEAM 2014 New Construction Non Domestic Buildings - Hotel - Category 9: Materials - Mat 01 - Life Cycle Impacts
- Aim to recognise and encourage the use of construction materials with a low environmental impact (including embodied carbon) over the full life cycle of the building.
Credit 1 Life cycle impacts - Requirement 1: BREEAM awards credits on the basis of the building's quantified environmental life cycle impact through assessment of the main building elements, as set out in Table - 38:
Requirement 2: Credits are awarded on the basis of the total number of points achieved, as set out in Table - 39 below, and calculated using the BREEAM Mat 01 calculator. This point's score is based on the Green Guide rating(s) achieved for the specifications that make up the main building elements (as in Table - 38).
Note: Where an independently verified third party Environmental Product Declaration (EPD), covering part of or the whole life cycle, is available for a material or product that forms part of an assessed building element, this can be used to increase the contribution of that element to the building's Mat 01 performance. (Refer to Calculation procedure where a specific Environmental Product Declaration (EPD) is available for a material in the Methodology section for more details.)
Requirement 3: Life cycle greenhouse gas emissions (kgCO₂ eq.) for each element are also required to be reported based on a 60-year building life. Where specific data is not available for a product or element, generic data should be used. Generic data can be obtained from the online Green Guide for each element and must be entered in to the BREEAM Mat 01 calculator.
Evidence - For Requirements 1 to 3 - One or more of the appropriate evidence types listed in The BREEAM evidential requirements section can be used to demonstrate compliance with these criteria.
A copy of the output from the BREEAM Mat 01 calculator tool, including the Green Guide rating and element number for each specification assessed.
The online Green Guide Calculator output (where relevant).
Documentary evidence detailing how the calculator tool has been completed.
- Assessment Criteria - information required in accordance to BREEAM 2014 New Construction Non Domestic Buildings Technical Manual SD5076:5.0 - 2014.

524 RESPONSIBLE SOURCING CERTIFICATION SCHEME

- Certificates: Submit certification which describes full Key Process and Key Supply chain process.
" Independently certified schemes: Preference will be given to schemes as listed in BREEAM New Construction 2014, Mat 03 Responsible Sourcing of materials and BREEAM GN18 Responsible Sourcing Certification Schemes and BREEAM Scheme Applicability:
 - Schemes such as
 - BES 6001 Framework Standard for Responsible Sourcing (all ratings).
 - " Timber: As clause 512.
 - " Metals: CARES Sustainable Constructional Steel (SCS) Scheme
 - Eco-reinforcement
 - " Other materials: As listed in BREEAM GN18 Responsible Sourcing Certification schemes, Table 2 Compliant EMS scope by material category.
 - " Documentation: Submit material volumes and areas, and percentages of products.
 - Provide either:
 - Documentary evidence (which has been or can be independently verified).
 - Evidence that suppliers have adopted and are implementing a formal environmental purchasing policy for materials.
 - ISO 14001
 - Recognised EMAS as clause 530.

524A RESPONSIBLE SOURCING OF MATERIALS CfSH November 2010 Category 3: Materials - Environmental Impact of Materials

- Standards to: - Code for Sustainable Homes, November 2010 - Category 3: Materials - Environmental Impact of Materials Mat 2 - Responsible Sourcing of Materials - Basic Building Elements.
- Aim to promote the specification of responsibly sourced materials for the basic building elements.
- Credit 1 - Requirement 1: Up to 6 credits where 80% of the assessed materials in the following building elements are responsibly sourced:
 - a.Frame
 - b.Ground floor
 - c.Upper floors (including separating floors)
 - d.Roof
 - e.External walls
 - f.Internal walls (including separating walls)
 - g.Foundation/substructure (excluding sub-base materials)
 - h.Staircase (includes the trend, rises and stringers)

Detailed documentary evidence stating the location and specification of materials specified in each element.

AND, where materials are re-used;

Documentation* stating specific materials to be re-used.

*Supplier information or a letter from the developer is acceptable

AND, where materials are recycled;

-Documentation stating specific recycled materials.

-A letter of intent to use suppliers who can provide an EMS certificate (or equivalent) for the recycling process.

AND, where certified materials will be used;

A letter of intent from the developer or other detailed documentary evidence confirming the product shall be sourced from suppliers capable of providing certification to the level required for the particular tier claimed.

OR

A copy of the relevant certificate(s) as appropriate;

-A copy of the timber scheme certificate (including CoC)

-BES6001 certificate (or compliant sector standard certificate)

-EMAS certificate

-ISO14001 certificate.

-For small companies, (see Relevant Definitions) confirmation that the company EMS is structured in compliance with BS 8555 2003 (or equivalent) and the EMS has completed phase audits one to four as outlined in BS 8555. This can be found in company documentation demonstrating the process and typical outputs from phase four audits such as an EMS manual/ paperwork and guidance to staff. Where independent certification exists to demonstrate these phases, it can be used as evidence

-Green Dragon Environmental Standard 2006 (Safon Amgylcheddol Y Ddraig Werdd) completed up to and including Level 4. Confirmation is taken from a Green Dragon Standard certificate stating the company's achievement of Level 4. As company's achieving Level 4 will normally be required to undertake annual audits, this certification should be dated within 1 year at the point of the last purchase made from the company. For smaller companies with low environmental impacts, a renewal date of within 2 years is acceptable.

AND

Completed Code Mat 2 Calculator Tool by the assessor, showing building elements at the design stage.
- Assessment Criteria - information required in accordance to CfSH: Technical Guide November 2010

524B RESPONSIBLE SOURCING OF MATERIALS CfSH November 2010 Category 3: Materials
- Environmental Impact of Materials

- Standards to: - Code for Sustainable Homes, November 2010 - Category 3: Materials - Environmental Impact of Materials Mat 3 - Responsible Sourcing of Materials - Finishing Elements.
- Aim to promote the specification of responsibly sourced materials for the finishing elements.

Credit 1 - Requirement 1: Up to 3 credits where 80% of the assessed materials in the following Finishing Elements are responsibly sourced:

-Stair*

- Windows

-External & internal door

-Skirting

-Panelling

-Furniture

-Fascias

-Any other significant use

* including handrails, balustrades, banisters, other guarding/rails, excluding staircase.

Detailed documentary evidence stating the materials specified in each element.

AND (Where materials are re-used)

Documentation* stating specific materials to be re-used.

*Supplier information or a letter from the developer is acceptable

AND (Where materials are recycled)

Documentation stating specific recycled materials.

A letter of intent to use suppliers who can provide an EMS certificate (or equivalent) for the recycling process.

AND (Where certified materials will be used)

A letter of intent from the developer or other detailed documentary evidence confirming the product shall be sourced from suppliers capable of providing certification to the level required for the particular tier claimed.

OR

A copy of the relevant certificate(s) as appropriate;

A copy of the timber scheme certificate (including CoC)

BES6001 certificate (or compliant sector standard certificate)

EMAS certificate

ISO14001 certificate.

For small companies, (see Relevant Definitions) confirmation that the company EMS is structured in compliance with BS 8555 2003 (or equivalent) and the EMS has completed phase audits one to four as outlined in BS 8555. This can be found in company documentation demonstrating the process and typical outputs from phase four audits such as an EMS manual/ paperwork and guidance to staff. Where independent certification exists to demonstrate these phases, it can be used as evidence Green Dragon Environmental Standard 2006 (Safon Amgylcheddol Y Ddraig Werdd) completed up to and including Level 4. Confirmation is taken from a Green Dragon Standard certificate stating the company's achievement of Level 4. As company's achieving Level 4 will normally be required to undertake annual audits, this certification should be dated within 1 year at the point of the last purchase made from the company. For smaller companies with low environmental impacts, a renewal date of within 2 years is acceptable

AND

Completed Code Mat 3 Calculator Tool by assessor, showing building elements at the design stage.

- Assessment Criteria - information required in accordance to CfSH: Technical Guide November 2010

524C RESPONSIBLE SOURCING OF MATERIALS BREEAM 2014 NEW CONSTRUCTION
NON DOMESTIC BUILDINGS - HOTEL - Category 9: Materials

- Standards to: - BREEAM 2014 New Construction Non Domestic Buildings - Hotel - Category 9: Materials - Mat 03 - Responsible Sourcing of Materials.
- Aim to recognise and encourage the specification and procurement of responsibly sourced materials for key building elements.

Credit 0 Pre-requisite - Requirement 1: All timber and timber based products used on the project is 'Legally harvested and traded timber' (see Relevant definitions).

Note:

a. It is a minimum requirement for achieving a BREEAM rating (for any rating level) that compliance with criterion 1 is confirmed.

b. For other materials there are no pre-requisite requirements at this stage.

Credit 1 Sustainable Procurement Plan - Requirement 2: The principal contractor sources materials for the project in accordance with a documented sustainable procurement plan (see the Relevant definitions in the Additional information section).

Credit 2 Responsible sourcing of materials (RSM) - Requirement 3: The available RSM credits (refer to Table - 43) can be awarded where the applicable building materials (refer to Mat 03 Responsible sourcing of materials) are responsibly sourced in accordance with the BREEAM methodology, as defined in steps 1 to 2 in the Methodology section.

- Evidence - Requirement 1 - See The BREEAM evidential requirements section for a list of general evidence types that can be used to demonstrate compliance with the relevant criteria for this issue.
- Evidence - Requirement 2 - See 'The BREEAM evidential requirements' section for a list of general evidence types that can be used to demonstrate compliance with the relevant criteria for this issue.
- Evidence - Requirement 3 - See 'The BREEAM evidential requirements' section for a list of general evidence types that can be used to demonstrate compliance with the relevant criteria for this issue. Completed copy of the Mat 03 calculator tool. Documentary evidence detailing how the calculator tool has been completed.
- Assessment Criteria - information required in accordance to BREEAM 2014 New Construction Non Domestic Buildings Technical Manual SD5076:5.0 - 2014.

525 INSULATION - RESPONSIBLE SOURCING AND THERMAL IMPACTS

- Submit documentation: All product Data for all insulation used.
- Embodied Impact: As defined in clause 522 Life Cycle Impacts.
- Responsible Sourcing: As defined in clause 524 and 512 Manufacturers' Environmental Policy. Certified Product: As clause 524 and 530.
- Composite insulation materials: Product data for composite or applicable Certified Green Guide Rating.
- Company Environmental Management System: As defined in clause 530 Manufacturers' Environmental Policy.
- Insulation thickness/ Thermal conductivity: Submit U value (W.m.K), thickness and area or Certified Green Guide Insulation Index.

525A INSULATION - RESPONSIBLE SOURCING AND THERMAL IMPACTS BREEAM 2014 NEW CONSTRUCTION NON DOMESTIC BUILDINGS - HOTEL - Category 9: Materials

- Standards to: - BREEAM 2014 New Construction Non Domestic Buildings - Hotel - Category 9: Materials - Mat 04 - Insulation.
- Aim to recognise and encourage the use of thermal insulation which has a low embodied environmental impact relative to its thermal properties.
Credit 1 Embodied impact - Requirement 1: Any new insulation specified for use within the following building elements must be assessed:
 - a. External walls
 - b. Ground floor
 - c. Roof
 - d. Building servicesRequirement 2: The Insulation index for the building fabric and services insulation is the same as or greater than 2.5. See Mat 04 Insulation section for a description of calculating the Insulation index.
- Evidence - Requirement 1 & 2 - One or more of the appropriate evidence types listed in The BREEAM evidential requirements section can be used to demonstrate compliance with these criteria.
A completed copy of the Mat 04 calculator tool
- Assessment Criteria - information required in accordance to BREEAM 2014 New Construction Non Domestic Buildings Technical Manual SD5076:5.0 - 2014.

526 MATERIAL STANDARDS WITH LOW VOC

- Standards to: - BS EN 13986:2004: Wood Panels, particle boards, fibreboard including MDF, OSB, Cement-bonded particleboard, Plywood, solid wood panel and acoustic boards.
 - BS EN 14080:2005: Timber structures- Glued laminated timber.
 - BS EN 14342:2005: Wood flooring. - BS EN 14041:2004: Essential characteristic for vinyl/ linoleum, cork and rubber, carpet, laminated wood flooring.
 - BS EN 13964:2004: Suspended ceiling tiles.
 - BS EN 13999-1:2007: Flooring adhesives.
 - BS EN 233:1999: Wall coverings. - BS EN 234:1989: Wall coverings.
 - BS EN 259:2001: Wall coverings. - BS EN 266:1992: Wall coverings.
 - BS EN 3046:1981: Adhesives for hanging flexible wall-coverings.
 - BS EN 13300:2001: Decorative paints and varnishes.
- Emissions levels in accordance with: BREEAM New Construction 2014 Hea 02 Indoor Air Quality
Table 18: VOC criteria by product type.
- Testing: As clause 638 VOCs Testing.

527 EQUIPMENT & FITTINGS STANDARDS FOR INDOOR WATER CONSUMPTION -
RESIDENTIAL CfSH November 2010 Category 2: Water

- Standards to: - Code for Sustainable Homes, November 2010 - Category 2: Water - Wat 1 Indoor Water Use. Please note this a minimum Mandatory Standard which must be met.
- Aim to reduce the consumption of potable water in the home from all sources, including borehole well water, through the use of water efficient fittings, appliances and water recycling systems
- Maximum Indoor Water Consumption in Litres per Person per Day - less than or equal to 105 l/p/day - Level 4 Mandatory Level
- Assessment Criteria - information required in accordance to CfSH: Technical Guide November 2010. The assessment is measured in litres per person per day using the CSH Water Efficiency Calculator for New Dwellings.
- Category 2: Water - Wat 1 Indoor Water Use is a cumulative assessment which is a total consumption allowance for all sanitary fittings & kitchen appliances using potable water in each Residential dwelling. Any changes to individual items must be reviewed against all other items in each dwelling, applicable to the CfSH Category 2: Water rating. This will include all equipment & sanitary fixings in chapters N11: Domestic Kitchen Fittings, Furnishings and Equipment & N13: Sanitary Appliances and Fittings Specifications.

527A EQUIPMENT & FITTINGS STANDARDS FOR INDOOR WATER CONSUMPTION -
HOTEL BREEAM 2014 NEW CONSTRUCTION NON DOMESTIC BUILDINGS - HOTEL -
Category 8: Water

- Standards to: - BREEAM 2014 New Construction Non Domestic Buildings - Hotel -
Category 8: Water - Wat 01 - Water Consumption.
- Aim to reduce the consumption of potable water for sanitary use in new buildings from all sources through the use of water efficient components and water recycling systems.
Credit 1 Water consumption - Requirement 1: An assessment of the efficiency of the building's domestic water-consuming components is undertaken using the BREEAM Wat 01 calculator.
Requirement 2: The water consumption (L/person/day) for the assessed building is compared against a baseline performance and BREEAM credits awarded based upon Table - 35.
Requirement 3: The efficiency of the following 'domestic scale' water-consuming components must be included in the assessment (where specified):
-WCs
-Urinals
-Taps (wash hand basins and where specified kitchen taps and waste disposal unit)
-Showers
-Baths
-Dishwashers (domestic and commercial sized)
-Washing machines (domestic and commercial or industrial sized).
The BREEAM Wat 01 calculator defines the building types and activity areas for which the above components must be assessed.
Requirement 4: Where a greywater and/or rainwater system is specified, its yield (L/person/day) is used to off-set non potable water demand from components that would otherwise be supplied using potable water.
Requirement 5: Any greywater systems must be specified and installed in compliance with BS 8525-1:2010 Greywater Systems - Part 1 Code of Practice. Any rainwater systems must be specified and installed in compliance with BS 8515:2009+A1:2013 Rainwater Harvesting Systems - Code of practice.
Requirement 6: Healthcare and prison buildings: Refer to the relevant compliance note for additional criteria regarding the specification of particular water-consuming component controls.
- Evidence - Requirement 1: One or more of the appropriate evidence types listed in The BREEAM evidential requirements section can be used to demonstrate compliance with these criteria.
-A completed copy of the BREEAM Wat 01 calculator
-Documentary evidence supporting the data used to complete the calculator tool.
- Evidence - Requirement 2,3,4,5 & 6: One or more of the appropriate evidence types listed in The BREEAM evidential requirements section can be used to demonstrate compliance with these criteria.
- Assessment Criteria - information required in accordance to BREEAM 2014 New Construction Non Domestic Buildings Technical Manual SD5076:5.0 - 2014.

528 RESIDENTIAL WASTE MANAGEMENT CfSH November 2010 Category 5: Waste

- Standards to: - Code for Sustainable Homes, November 2010 - Category 5: Waste - Was 1 - Storage of Non-Recyclable Waste and Recyclable Household Waste.

- Aim to provide adequate internal and external storage space for non-recyclable waste and recyclable household waste.

- Credit 1 - Requirement 1: MANDATORY REQUIREMENT

Storage of household waste

An adequate external space should be allocated for waste storage and sized to accommodate containers according to the largest of the following two volumes:

-The minimum volume recommended by British Standard 5906 (British Standards Institution, 2005) based on a maximum collection frequency of once per week. This volume is 100 litres for a single bedroom dwelling, with a further 70 litres for each additional bedroom

-The total volume of the external waste containers provided by the Local Authority.

Storage space must provide inclusive access and usability Checklist IDP). Containers must not be stacked.

Provide proformas: Cat 5.1 - Supplementary Information Sheet for Was 1 and Checklist IDP

- Credit 2 - Requirement 2: Local Authority Collection Scheme

Four credits where there is a Local Authority Collection Scheme (with a collection frequency of at least fortnightly) and at least one of the following criteria is met;

-where recyclable household waste is sorted after collection and at least a single 30 litre bin is provided in an adequate internal space

-Where recyclable materials are sorted before collection and at least three separate bins are provided with a total capacity of 30 litres. Every bin must have a minimum capacity of 7 litres and be located in an adequate internal space

-an automated waste collection system which collects at least 3 different types of recyclable waste

Detailed documentary evidence stating:

the location of internal and external storage

the number, types and sizes of internal and external storage.

AND

A letter, leaflet, website or other published information from the Local Authority/waste scheme provider* describing;

the types of waste collected

the frequency of collection

if there will be pre or post collection sorting

*In the case of an automated collection system, the waste scheme operator will only need to confirm the types of waste collected and if there will be pre or post collection sorting.

- Assessment Criteria - information required in accordance to CfSH: Technical Guide November 2010

528A COMMERCIAL: HOTEL- WASTE MANAGEMENT BREEAM 2014 NEW
CONSTRUCTION NON DOMESTIC BUILDINGS - HOTEL - Category 10: Waste

- Standards to: - BREEAM 2014 New Construction Non Domestic Buildings - Hotel - Category 10: Waste - Wst 03 - Operational Waste.
- Aim to recognise and encourage the provision of dedicated storage facilities for a building's operational-related recyclable waste streams, so that this waste is diverted from landfill or incineration.

Credit 1: Operational waste

-Requirement 1: Dedicated space(s) is provided for the segregation and storage of operational recyclable waste volumes generated by the assessed building/unit, its occupant(s) and activities. This space must be:

- Clearly labelled, to assist with segregation, storage and collection of the recyclable waste streams
- Accessible to building occupants or facilities operators for the deposit of materials and collections by waste management contractors
- Of a capacity appropriate to the building type, size, number of units (if relevant) and predicted volumes of waste that will arise from daily/weekly operational activities and occupancy rates.

-Requirement 2: Where the consistent generation in volume of the appropriate operational waste streams is likely to exist, e.g. large amounts of packaging or compostable waste generated by the building's use and operation, the following facilities are provided:

- Static waste compactor(s) or baler(s); situated in a service area or dedicated waste management space.
- Vessel(s) for composting suitable organic waste resulting from the building's daily operation and use; OR adequate space(s) for storing segregated food waste and compostable organic material prior to collection and delivery to an alternative composting facility.
- Where organic waste is to be stored/composted on-site, a water outlet is provided adjacent to or within the facility for cleaning and hygiene purposes.

-Requirement 3: Additionally for healthcare buildings only: The specified/installed operational waste facilities are compliant with the relevant NHS guidelines for that part of the UK (See Compliance Note).

-Requirement 4: Additionally for multi-residential buildings with self-contained dwellings/bedsits only:

Each dwelling/bedsit has a provision of three internal storage containers, as follows:

- A minimum total capacity of 30 litres
- No individual container smaller than 7 litres
- All containers in a dedicated non obstructive position
- The storage containers for recycling are provided in addition to non-recyclable waste storage.

-Requirement 5: Additionally for multi-residential buildings with individual bedrooms and communal facilities only: The above storage requirements (criterion 4) for self-contained dwellings/bedsits are met for every six bedrooms.

-Requirement 6: The recyclable storage is located in a dedicated non-obstructive position in either:

- Communal kitchens; OR
- Where there are no communal kitchens present, in a communal space such as communal lounges or utility areas.

-Requirement 7: Home composting facilities and a home composting information leaflet is provided within the kitchen area or communal space for each self-contained dwelling, bedsit or communal kitchen.

- Evidence - Requirement 1,2,3,4,5,6 & 7: One or more of the appropriate evidence types listed in The BREEAM evidential requirements section can be used to demonstrate compliance with these criteria.
- Assessment Criteria - information required in accordance to BREEAM 2014 New

Construction Non Domestic Buildings Technical Manual SD5076:5.0 - 2014.

530 MANUFACTURER'S ENVIRONMENT POLICY

- Company Environmental Management System: Submit ISO 14001 or BES 6001 or other independently accredited EMS certification.
- Document: Certified EMS for the Key Process
Certified EMS for the Key Process and Supply Chain
Recycled Material with Certified EMS for Key Process.

HEALTH AND SAFETY

555 MANUAL LIFTING

- One man lift:
Maximum weight of individual unit or component: 20kg.

565 PROHIBITED MATERIALS

- Do not use:
 - Materials not in conformity with any applicable British or European Standards or Codes of Practice.
 - Materials deleterious to health and safety.
 - Materials deleterious to the durability of buildings/ and or structures and/ or structures and/ or finishes, and/ or plant and machinery in the particular circumstances in which they are used.
- Prohibited materials: As listed in preliminaries.

TESTING

610 COMPARISON (TYPE) TESTING

- Verification of performance:
 - Submit: Agreement certification.

612 COMPLIANCE AND TESTING

- The Contractor shall allow for all testing as identified in the various work sections within the following specification.
- All costs for testing and retesting must be borne by the Contractor and included in the tender prices.
- The tests, unless stated or agreed otherwise, are to be carried out by an independently certified testing agency suitable to the required tests.
- The tests are to be carried out in accordance with the requirements of the Contract Administrator and Consultant and where appropriate the Building Control Officer, Fire Officer or other identified approving/ witnessing organisation.
- The Contractor is required to submit to the Contract Administrator team a program for the tests, as well as the names and addresses of the testing services to be used.
- The Contractor is required to carry out the tests during and on completion of the Works to verify the integrity of the fixings, systems, components and assemblies.
- Retesting shall also be allowed for, of failed elements of the works both before and after completion of the works.
- All testing data and results are to be logged and reported in writing to the Contract Administrator and Consultant team.
- The Contractor is required to supply documentary evidence, which must be current and recent, of compliance with the requirements of this specification and any certification associated with the product, material or component.
- In the absence of such documentation the Contractor is required, at his own cost, to carry out such tests as are necessary to demonstrate compliance with this specification.
- The resultant information must be such as to achieve the agreement of the Contract Administrator and Consultant team.

- 620 PROJECT TESTING (SITE)
- Timing of testing: At an agreed stage during preliminary installation on site arrange for testing of a section of the elements and or systems in accordance with relevant work sections of this specification.
 - Continuation of installation of general areas of elements and or systems: Not until site test results and reports showing compliance with this specification have been submitted.
- 630 TESTING AUTHORITY
- Requirement: Project testing must be carried out by UKAS/ Contractor and is to be witnessed and certified by: CA.
- 638 VOC'S TESTING
- Material relevant test standard:
 - Wood-based panels formaldehyde release to BS EN 717-1:2004.
 - Adhesives Volatile Organic Compounds (VOCs) emissions to BS EN 13999-2:2007.
 - Adhesives Volatile aldehyde emissions to BS EN 13999-3:2007.
 - Adhesives Volatile diisocyanates emissions to BS EN 13999-4:2007.
 - Wallcoverings to BS EN 12149:1998.
 - Paints and varnishes Volatile Organic Compounds (VOCs) to BS EN ISO 11890-2:2006.
- 640 PERFORMANCE COMPLIANCE
- Verification: Before commencing fabrication, submit evidence based on laboratory testing or computer modelling.
 - Verifying authority: UKAS accredited laboratory or equal approved independent testing facility .
- 730 SLIP RESISTANCE TEST IN SITU
- Timing of test: Completion of floor surfaces.
 - Test:
 - Slip resistance value (SRV) (minimum)/ Pendulum test value (PVT) (minimum) to BS 7932 or BS EN 14231 (natural stone only).
 - Surface roughness (Rz) (minimum) to BS 1134.
 - Report: Submit. Include:
 - Name of testing authority.
 - Date of tests.
 - Location of test.
 - Temperatures of test surfaces.
 - The slider material used on the pendulum tester.
 - Slip resistance values in wet and dry conditions.
 - Surface roughness values.
- 740 AIR PERMEABILITY TEST EXTERNAL FACING WALLS AND ENVELOPE
- Method: Pressure test to CIBSE TM 23.
 - Requirement: Air leakage not to exceed 5 m³/hour/m² at an internal to external pressure difference of 50 Pascals.
 - Compliance: Submit test results.
 - Copy: To be lodged in Approved Document Part L2 submissions.

771A ACOUSTIC PERFORMANCE TEST WALLS AND FLOORS AND DOORS

- Method of measurement: In accordance with BS EN ISO 140-4 and 7.
 - Rating: In accordance with BS EN ISO 717-1 and 2.
- Testing company: Suitably qualified Acoustician or UKAS accredited or European equivalent.
 - Report in accordance with BS 4142:1997.
- Airborne sound insulation:
 - Source room: Refer to Acoustic Consultant's Specification & Report which takes precedence over this clause in the event of any conflict.
 - Measurement room: Refer to Acoustic Consultant's Specification & Report which takes precedence over this clause in the event of any conflict.
 - Required combined sound insulation value of Walls and floors and doors: Refer to Acoustic Consultant's Specification & Report which takes precedence over this clause in the event of any conflict.
- Impact sound insulation:
 - Source room: Refer to Acoustic Consultant's Specification & Report which takes precedence over this clause in the event of any conflict.
 - Measurement room: Refer to Acoustic Consultant's Specification & Report which takes precedence over this clause in the event of any conflict.
 - Required combined overall sound insulation value of surrounding [Walls and floors]: Refer to Acoustic Consultant's Specification & Report which takes precedence over this clause in the event of any conflict.
- Test certificates: Submit as soon as available.

780 FURTHER TESTS

- The CA reserves the right to carry out any form of further testing required to establish that the requirements of this specification are being met.
- In the event of failure to meet specified requirements the Trade Contractor will bear the costs of any such tests.
- Tests: Resubmit.

COMPLETION**910 CLEANING**

- Surfaces: Clean, defect free and dust free.

912 COMPLETION REQUIREMENTS

- Thorough clean the works inside and out, removing all splashes, deposits, rubbish and surplus materials resulting from the works.
- Any cleaning materials or methods used are to be in accordance with the recommendations of the product being cleaned.
- Remove protection in accordance with the contract programme or as agreed otherwise with the Contract Administrator.

915 PROTECTION

- Protect from onward trade.

920 INSPECTION

- Notice for inspection (minimum): 5 working days.

930 DOCUMENTATION

- Documentation format: PDF on CD as well as hard copies.
- Operation and maintenance instructions and log books: Submit.
 - Numbers of copies: 4.
- Record information: Submit drawings, details, schedules and technical documentation and tests certificates relevant to the operation of the building.
 - Relevant information: As defined in Preliminaries section A37.
 - Numbers of copies: 4.
- Warranties: Submit.
 - Self certificates: Submit.

END OF SECTION Z99