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Eden Boys' and Eden Girls' Leadership Academies, Manchester

Sustainability BREEAM 2014 New Construction – Post-Completion Stage

To Whom It May Concern

Please read in conjunction with "SAL - Eden Boys and Girls Leadership Academies, Manchester - BREEAM 2014".

Wates have been able to identify that the minimum score likely to be obtained by the project (see 'Baseline' in attached calculation), were it to be submitted for formal certification, would be 60.54%. This equates to a BREEAM Rating of 'Very Good' (minimum score of 55%), with a 5.54% margin for change.

Were all 'Potential Credits' - those highlighted in blue in the below tables were obtained - then a score of 67.25% could be achieved for the project. As the baseline score includes a margin for change of over 5% above the minimum 'Very Good' requirement, it is considered that the project would comfortably achieve a BREEAM 'Very Good' rating under formal certification, based on the current design and the minimum standards imposed by the EFSA framework.

Please refer to below detailed description:

1. Wates confirm that prior to the completion of RIBA Stage 2, appropriate stakeholders were consulted. We confirm that the outcomes of the consultation process influenced and changed the Initial Project Brief, the Project Execution Plan, Communication Strategy, and the Concept Design.

The criteria for this credit have been met.

2. Wates confirm that a Sustainability Champion was appointed to facilitate the setting and achievement of BREEAM performance target(s) for the project. We confirm that the design stage Sustainability Champion had been appointed to perform this role during the feasibility stage.

The criteria for this credit have been met.

3. Wates confirm that a Sustainability Champion had been appointed to monitor progress against the agreed BREEAM performance target(s) throughout the design process. We confirm that the Sustainability Champion attended key design team meetings.

The criteria for this credit have been met.

4. Report the capital cost for the building in pounds per square metre (£k/m2), via the BREEAM Assessment Scoring and Reporting tool, Assessment Issue Scoring tab, Management section - this credit requires the cost per m2 to be submitted to the BRE, which would be carried out under formal assessment.

The criteria for this credit have been met.

5. Wates confirm that all timber was 'legally harvested and traded.'

The criteria for this credit have been met.

6. We confirm that Wates operate an ISO14001 certified EMS and that Wates implemented a PPG 6 compliant pollution prevention policy on this site

The criteria for this credit have been met.

7. Wates confirm that a Sustainability Champion was appointed to monitor progress against the agreed BREEAM performance target(s) throughout the Construction, Handover and Close Out stages.

The criteria for this credit have been met.

8. Wates confirm that we achieved a score of 35 under the CCS scheme, with no section below a score of 7.

The criteria for this credit have been met.

9. Wates confirm that we set targets, that we have monitored and reported on ref energy and water consumption.

The criteria for this credit have been met.

10. Wates confirm that we monitored transport of materials from the factory gate to the building site; as well as transport of construction waste from the construction gate to waste disposal processing/recovery centre gate.

The criteria for this credit have been met.

11. Wates confirm that the following items were in place during the commissioning process:
- *A Commissioning / Testing Schedule identifying timescales for commissioning and re-commissioning*
 - *Commissioning was carried out in accordance with current Building Regulations and in line with applicable CIBSE and BSRIA guidelines*
 - *An appropriate member of the design team was appointed to monitor pre-commissioning, commissioning and any required re-commissioning*
 - *Wates were accountable for the commissioning programme*

The criteria for this credit have been met.

12. Wates confirm that a specialist commissioning manager was appointed during the design stage with responsibility for:
- a. *Undertaking design reviews and giving advice on suitability for ease of commissioning;*
 - b. *Providing commissioning management input to construction programming and during installation stages;*
 - c. *Management of commissioning, performance testing and handover/post-handover stages. The specialist may be an employee of the M&E Sub-Contractor who specialises or is experienced in systems commissioning, but that is not otherwise involved in the design or installation works OR an independent consultant.*

The criteria for this credit have been met.

13. Wates confirm that the project was subject to both air-tightness testing and a continuity of thermal insulation inspection via thermographic testing, with any defects rectified pre-handover.

The criteria for this credit have been met.

14. Wates confirm that the following demonstrates compliance:
1) *A BUG was developed prior to handover*
2) *A training schedule was prepared for building occupiers/premises managers, timed appropriately around handover and proposed occupation plans*

The criteria for this credit have been met.

15. Wates confirm that an aftercare support was provided to the building occupier.

The criteria for this credit have been met.

16. Wates confirm that the following was carried out post-occupation:
- *A programme of seasonal commissioning has been carried out to cover winter, summer and spring / autumn*
- *Seasonal commissioning included testing at times of high and low occupancy, where applicable*
- *Interviews with building managers took place for the basis of the seasonal commissioning*

The criteria for this credit have been met.

17. Wates confirm that a suitable professional who was not involved in the design / construction has carried out a Post-Occupancy Evaluation.

The criteria for this credit have been met.

18. Wates confirm that compliant glare control, in the form of occupant controlled window blinds has been installed to all areas as required.

The criteria for this credit have been met.

19. Wates confirm that systems installed are compliant with the following criteria;
Internal lighting:
- *Illuminance levels (LUX) are specified in accordance with the SLL Code for Lighting 2012*
- *Areas with computer screens are specified in accordance with SLL Lighting Guide 7, sections 3.3,4.6-4.9.*
- *Lighting controls are zoned in accordance with the BREEAM requirements.*

External lighting:
- *Illuminance levels (LUX) are in accordance with BS 5489-1:2013 Lighting of roads and public amenity areas and BS EN 12464-2:2014 Light and lighting - Lighting of work places - Part 2: Outdoor work places.*

The criteria for this credit have been met.

20. Wates confirm that an outline Indoor Air Quality plan for the project was employed.

The criteria for this credit have been met.

21. Wates confirm that an outline Indoor Air Quality plan for the project was employed. This included the guidance required for these credits to be met, which were reviewed by the design team during detailed design.

The criteria for this credit have been met.

22. In line with above item 21.

23. Wates confirm that due to the complexity of the Building Layout and Services, it was necessary to carry out a full dynamic thermal analysis of the building. Heating layout and controls were designed with two aims:
- 1) *Energy efficiency*
 - 2) *To meet the control requirements necessary for the various types of spaces - in collaboration with the client.*

The criteria for this credit have been met.

24. In line with above item 23.

25. In line with above item 23.

26. Wates confirm that compliance in this area was demonstrated via BB93 standards. The acoustic design is compliant with these requirements, barring within the Sports Hall and Atrium. Derogations have been agreed with the acoustic designer for these areas, as they are not teaching spaces. Under the BREEAM criteria, derogations approved as suitable with the acoustic consultant in this manner do not preclude compliance. Pre-completions testing was carried out to UKAS standards.

The criteria for this credit have been met.

27. In line with above item 26.

28. In line with above item 26.

29. In line with above item 26.

30. Wates confirm that a derogation has been agreed in relation to a Crime Impact Statement.

The criteria for this credit have been met.

31. Wates confirm that the project improved on the notional building in all three key areas assessed, including a 37.9% improvement in the BER over the TER for carbon emissions for the boys school and a 17.4% improvement for the girls school.

The criteria for this credit have been met.

32. Wates confirm that over 90% of energy uses are sub-metered, in accordance with CIBSE TM39.

The criteria for this credit have been met.

33. Wates confirm that the external lighting was designed to comply with these requirements.

The criteria for this credit have been met.

34. Wates confirm that an Early (RIBA Stage 2) Passive Design Analysis were carried out.

The criteria for this credit have been met.

35. Wates confirm that the lift supplier complied with BREEAM equivalent standard.

The criteria for this credit have been met.

36. Credits are awarded here based on local public transport provision. One credit is available where dedicated buses are provided by the school at the start and end of each day.

The criteria for this credit have been met.

37. This credit requires local amenities to be provided on site, or close to the site.

The criteria for this credit have been met.

38. This credit requires secure, covered cycle storage for the use of occupants.

The criteria for this credit have been met.

39. This credit requires changing rooms, showers and lockers for cyclists and pedestrians.

The criteria for this credit have been met.

40. Wates confirm that a Travel Plan was developed by the client.

The criteria for this credit have been met.

41. Wates confirm sanitary fittings as follows:
- 4.5l single flush WCs / 6/4 dual flush
 - Wash hand basin taps flow rate limited to 3 l/min
 - No urinals
 - Kitchenette taps flow rate limited to 6 l/min
 - Domestic dish washers to 12 litres per cycle
 - Kitchen equipment within food tech area TBC, requirements likely to be placed on any domestic or commercial dish washers provided
 - Showers limited to 6 litres per minute
 - No grey water / rainwater system

The criteria for this credit have been met.

42. Wates confirm that the minimum standard in this area is achieved, all water and energy uses are monitored.

The criteria for this credit have been met.

43. In line with above item 42.

44. Wates confirm that the boundary water meter can receive a connection ready for the BMS / leak detection system.

The criteria for this credit have been met.

45. Wates confirm a PIR-linked solenoid valve can be installed to each incoming WC area supply.

The criteria for this credit have been met.

46. Wates confirm that there are no unregulated water uses on site.

The criteria for this credit have been met.

47. Wates confirm that the specifications are as follows:
External walls: Masonry with SFS (A rated)
Windows: PVC (A rated)
Upper floors: PC Concrete planks - pre-tensioned, hollow-core (A rated)
Roof: PC Planks with hot melt (E rated)
Internal walls: Metal stud (A rated)
Floor finishes: Vinyl, carpet (A rated)

The criteria for this credit have been met.

48. Wates confirm that all timber used on site was sourced in accordance with the UK Government's Timber Procurement Policy.

The criteria for this credit have been met.

49. Wates confirm that we sourced materials for the project in accordance with a documented sustainable procurement plan.

The criteria for this credit have been met.

50. Wates confirm to be a founding members of the 'Supply Chain Sustainability School' - an initiative that promotes responsible procurement and manufacturing processes within their supply chain.

The criteria for this credit have been met.

51. Wates confirm that all insulation in the shell development was specified as types that achieve an A rating.

The criteria for this credit have been met.

52. Wates confirm the following:
- Kick plates are provided to doors
 - Floor finishes are hard wearing and easily washable carpet and vinyl specifications
 - Corner guards are provided to internal delivery areas if applicable, with kitchen walls protected according to best practice
 - WC specifications are laminate / vinyl
 - Severe Duty Corridor Walls are catered for
 - Kerbs are provided to all vehicle manoeuvring areas

The criteria for this credit have been met.

53. Wates confirm that they carried out the Designing Out Waste workshops.

The criteria for this credit have been met.

54. Wates confirmed production of 4.9 T per 100m² of floor area

The criteria for this credit have been met.

55. Wates confirm that they achieved a recycling rate of over 97% .

The criteria for this credit have been met.

56. Wates confirm that site accommodation provision was compliant with the criteria.

The criteria for this credit have been met.

57. Wates confirm they conducted a climate change adaptation strategy appraisal for structural and fabric resilience by the end of Concept Design (RIBA Stage 2 or equivalent).

The criteria for this credit have been met.

58. Wates confirm the following:
1) A building-specific functional adaptation strategy study was undertaken by the design team by Concept Design (RIBA Stage 2 or equivalent)
2) Functional adaptation measures were implemented (RIBA Stage 4 or equivalent) in accordance with the functional adaptation strategy recommendations, where practical and cost effective

The criteria for this credit have been met.

59. This credit is awarded where the site is remediated for contamination (chemical or biological) prior to development.

The criteria for this credit have been met.

60. Wates confirm that native planting areas have been provided across the site to mitigate species removed during site clearance. Where possible, existing habitats and species were left in place - retention amounts to circa 15% of the site area.

The criteria for this credit have been met.

61. Wates confirm a suitably qualified ecologist was appointed to make recommendations for the general enhancement and protection of the site ecology. All of the ecologist's recommendations were implemented.

The criteria for this credit have been met.

62. Wates confirm the appointment of suitably qualified ecologist prior to the commencement of site works, who advised on compliance with relevant EU and UK legislation.

The criteria for this credit have been met.

63. Wates confirm that cooling was only provided to IT areas and server rooms, plus activity studio.

The criteria for this credit have been met.

64. Wates confirm that the space heating and hot water is via efficient gas boiler - typically achieving NOx emissions of 40mg/kWh or less.

The criteria for this credit have been met.

65. Wates confirm that an FRA was carried out confirming that the site is in a low Flood Risk Area.

The criteria for this credit have been met.

66. Wates confirm that the site is attenuated.

The criteria for this credit have been met.

67. Wates confirm that the wider site area was redeveloped in 2004 - connection and capacity was left for this future development site.

The criteria for this credit have been met.

68. Wates confirm that the lighting design is in accordance with the dark sky principles.

The criteria for this credit have been met.

69. Wates confirm that the HRS Noise & Vibration Assessment was provided to confirm that the design considers this requirement.

The criteria for this credit have been met.

70. In line with above item 8.

The criteria for this credit have been met.



Gavin Davis

Operations Director

For and on behalf of Wates Construction Limited





Planning Stage - Sustainability Review

BREEAM 2014 New Construction: Education

Eden Boys' and Eden Girls' Leadership Academies, Manchester

08.01.2018

Introduction

Sustainable Assessments Ltd. Were appointed during RIBA Stage 1 and have been retained as part of the project team, to review the management and design development of the proposals for the Eden Boys' and Eden Girls' Leadership Academies, as planned for Cheetham Hill, Manchester. Throughout this process, SAL have advised Wates on the measures that would be necessary to obtain a BREEAM 'Very Good' rating for the overall site - covering both schools.

The below review examines the BREEAM criteria that would apply to the project, as well as the evidence that has been provided by Wates Construction towards confirming that they have planned and designed the project in accordance with the aims of the BREEAM criteria.

Where possible at this stage of design, SAL have reviewed design information, project management practices, and Wates' on-site and procurement procedures, as indicative confirmation of the ways in which the project complies with the requirements and aims of the criteria. The intent of this review is to provide confidence for key stakeholders that were the project submitted for formal certification, it would successfully achieve a score of over 55%, including all requisite mandatory requirements, as necessary for a BREEAM Rating of 'Very Good' to be achieved.

This review has gone beyond the usual 'Pre-Assessment' process for a project, including evidence collation and reviews to ensure compliance. The results of this are described below.

Summary of Performance

Based on the evidence provided to SAL at this stage, we have been able to identify that the minimum score likely to be obtained by the project (see 'Baseline' score below), were it to be submitted for formal certification, would be 60.54%. This equates to a BREEAM Rating of 'Very Good' (minimum score of 55%), with a 5.54% margin for change. A single assessment has been carried out to address the entire site - covering both schools.

Were all 'Potential Credits' - those highlighted in blue in the below tables obtained - then a score of 67.25% could be achieved for the project.

As the baseline score includes a margin for change of over 5% above the minimum 'Very Good' requirement, it is considered that the project would comfortably achieve a BREEAM 'Very Good' rating under formal certification, based on the current design and the minimum standards imposed by the EFSA framework.

It is worthy of note that the project as designed at present also achieves all of the Mandatory BREEAM Standards associated with a BREEAM Rating of 'Excellent', although would not achieve the 70% score associated with that rating.

Baseline	Potential
60.54%	67.25%
Rating	Rating
VERY GOOD	VERY GOOD

Risks / Modifications

Some credits present a level of risk, as performance objectives are set that can only be met following detailed design, or are awarded based on performance on site.

Where issues of this nature are identified, they have been assigned MEDIUM or HIGH risk / impact status. All other credits are assigned as LOW risk.

This risk rating is applied so as to inform the project team as to where priority should be given to ensuring compliance throughout the design and construction process.

Credits highlighted in BLUE represent measures that may be achieved for the project but that could not be confirmed at this stage. These credits have not been included within the 'Baseline Score' for the project.

	Issue	Responsibility	Credits for Issue	Value of Credit	Credit Target	Risk / Specification Uplift	Credit Criteria	SAL Assessment of Compliance
Man 1 - Project Design and Brief								
1	Consultation (Project Delivery)	Design Team	1	0.57	1	L	Prior to the completion of RIBA Stage 2, appropriate stakeholders have been consulted, as follows: the client, the building occupier (where known), the design team and the construction project manager. The project team demonstrate how the project delivery stakeholder contributions and the outcomes of the consultation process have influenced or changed the Initial Project Brief, including if appropriate, the Project Execution Plan, Communication Strategy, and the Concept Design.	Wates and their wider design team have been appointed from RIBA Stage 1, with consultation from a BREEAM AP also sought from the outset of the project. The project brief and subsequent designs have been carried out in accordance with a documented execution plan, and are based on the development of previous, similar projects. Wates provided SAL with evidence of this process. The criteria for this credit have been met.
	Consultation (Third Party)	N/A	4	0.57	0	N/A	Credit not sought – DQI has not been carried out.	
2	Sustainability Champion (Design)	BREEAM AP	1	0.57	1	L	A Sustainability Champion has been appointed to facilitate the setting and achievement of BREEAM performance target(s) for the project. The design stage Sustainability Champion is appointed to perform this role during the feasibility stage. The defined BREEAM performance target has been formally agreed between the client and design/project team no later than the Concept Design stage.	Ben Sidebottom - SAL - was appointed as BREEAM AP for this project from RIBA Stage 1. Were the project to progress to full certification, this appointment and input would continue. The criteria for these credits have been met to date.
	3	Sustainability Champion (Monitoring Progress)	BREEAM AP	1	0.57	1	L	
Man 2 - Life Cycle Cost and Service Life Planning								
	Elemental LCC	N/A	2	0.57	0	N/A	Credit not sought.	
	Component Level LCC	N/A	4	0.57	0	N/A	Credit not sought.	
4	Capital Cost Reporting	Client	1	0.57	1	L	Report the capital cost for the building in pounds per square metre (£/m2), via the BREEAM Assessment Scoring and Reporting tool, Assessment Issue Scoring tab, Management section.	This credit requires the cost per m2 to be submitted to the BRE, which would be carried out under formal assessment. The criteria for this credit have been met.

	Issue	Responsibility	Credits for Issue	Value of Credit	Credit Target	Risk / Specification Uplift	Credit Criteria	SAL Assessment of Compliance
Man 3 - Responsible Construction Practices								
5	MANDATORY: Timber Procurement	Main Contractor	-	-	-	L	All timber to be 'legally harvested and traded.'	Wates Sustainable Materials Policies require all timber product suppliers to be able to provide evidence of compliant FSC / PEFC policies or equal equivalent. The criteria for this mandatory standard has been met.
6	Environmental Management	Main Contractor	1	0.57	1	L	1) The Main Contractor operates an ISO14001 certified EMS; 2) The Main Contractor implements PPG 6 compliant pollution prevention policies.	Wates are ISO14001 accredited, with fully compliant pollution prevention measures carried out as standard as part of their normal site operations under their accredited EMS. The criteria for this credit have been met.
7	Sustainability Champion (Construction)	Main Contractor / BREEAM AP	1	0.57	1	L	A Sustainability Champion is appointed to monitor progress against the agreed BREEAM performance target(s) throughout the Construction, Handover and Close Out stages (as defined by the RIBA Plan of Works 2013, stages 5 and 6), and formally report progress to the client and design team. To do this the Sustainability Champion must be site based, or visit the site regularly to carry out spot checks at key stages of construction that would effect BREEAM compliance of evidence requirements. They must also have sufficient operational authority to influence site managers and operatives in order to ensure that requirements are adhered to. The following qualifications are considered to demonstrate compliance with the criteria: - BREEAM Accredited Professional (AP) Membership Scheme - BRE Site Sustainability Manager Membership Scheme.	Ben Sidebottom - SAL - was appointed as BREEAM AP for this project from RIBA Stage 1. Were the project to progress to full certification, this appointment and input would continue. The criteria for this credit have been met to date.
8	Considerate Construction	Main Contractor	2	0.57	2	M	The Main Contractor achieves a score of 35 under the CCS scheme, with no section below a score of 7.	Wates average CCS score is over 40, hence, it is likely that for a project of this size, the 35 points required for two credits in this area, and the 40 required for the innovation credit (see Innovation Section below) would be met. Examples of where scores of 40 and above have been obtained by the local region have been provided as evidence. SAL are satisfied that the criteria for these credits will be met.
9	Monitoring of Construction Site Impacts (Energy and Water)	Main Contractor	1	0.57	1	L	Main Contractor sets targets, monitors and reports on energy and water consumption each month, based on site activities.	Wates standard practices, as well as the KPIs requisite for EFSA projects ensure that the information collection, carbon emission data and water use data necessary to obtain these credits will be collated as a matter of course, for this project.
10	Monitoring of Construction Site Impacts (Transport)	Main Contractor	1	0.57	1	L	Main Contractor monitors transport of materials from the factory gate to the building site, including any transport, intermediate storage and distribution; as well as Transport of construction waste from the construction gate to waste disposal processing/recovery centre gate.	SAL are satisfied that the criteria for this credit will be met.

	Issue	Responsibility	Credits for Issue	Value of Credit	Credit Target	Risk / Specification Uplift	Credit Criteria	SAL Assessment of Compliance
Man 4 - Commissioning and Handover								
11	Commissioning, Testing Schedule and Responsibilities	M&E	1	0.57	1	L	The following must for elements of the commissioning process: - A Commissioning / Testing Schedule identifying timescales for commissioning and re-commissioning of all complex and simple services, as well as testing and inspecting the building fabric. - Commissioning to be carried out in accordance with current Building Regulations and in line with applicable CIBSE and BSRIA guidelines; - An appropriate member of the design team will be appointed to monitor pre-commissioning, commissioning and any required re-commissioning; - The main contractor will account for the commissioning programme, responsibilities and requirements within the main programme of works.	This credit is awarded based on a well-managed hands-on commissioning process, with input from a Commissioning Specialist through the detailed design development, installation and commissioning / performance testing stage. For a project of this type, with the complexity of systems present, it is standard practice for Wates to carry out the requisite activities on site.
12	Commissioning Building Services	M&E	1	0.57	1	M	For buildings with complex building services and systems, a specialist commissioning manager is appointed during the design stage with responsibility for: a. Undertaking design reviews and giving advice on suitability for ease of commissioning; b. Providing commissioning management input to construction programming and during installation stages; c. Management of commissioning, performance testing and handover/post-handover stages. The specialist may be an employee of the M&E Sub-Contractor who specialises or is experienced in systems commissioning, but that is not otherwise involved in the design or installation works OR an independent consultant.	It is also a minimum standard expected for EFSA projects that compliant commissioning of building service systems is carried out. SAL are satisfied that the criteria for this credit will be met.
13	Testing and Inspecting the Building Fabric	N/A	1	0.57	1	M	The project will be subject to both air-tightness testing and a continuity of thermal insulation inspection via thermographic testing, with any defects rectified.	Wates have a 'preferred partner' arrangement with HRS, to provide Air-Tightness and Thermographic Testing - it is expected that this relationship will be applied to all EFSA projects. SAL are satisfied that the criteria for this credit will be met.
14	Handover	Team	1	0.57	1	L	The following demonstrates compliance: 1) A BUG is developed prior to handover; 2) A training schedule is prepared for building occupiers/premises managers, timed appropriately around handover and proposed occupation plans, which includes the following content as a minimum: a. The building's design intent; b. The available aftercare provision and aftercare team main contact(s), including any scheduled seasonal commissioning and post occupancy evaluation; c. Introduction to, and demonstration of, installed systems and key features, particularly building management systems, controls and their interfaces; d. Introduction to the Building User Guide and other relevant building documentation, e.g. design data, technical guides, maintenance strategy, operations and maintenance (O&M) manual, commissioning records, log book etc. e. Maintenance requirements, including any maintenance contracts and regimes in place.	These requirements form standard practice for Wates as part of any EFSA projects. In essence, the credit is awarded for the provision of 'easy-to-use' instructions on the operation of the building, along with a thorough training process as part of the handover stage of the project. This level of early 'soft landings' service is mandatory for EFSA projects. SAL are satisfied that the criteria for this credit will be met.

	Issue	Responsibility	Credits for Issue	Value of Credit	Credit Target	Risk / Specification Uplift	Credit Criteria	SAL Assessment of Compliance
Man 5 - Aftercare								
15	Aftercare Support	Main Contractor / Client	1	0.57	1	L	1. Aftercare support will be provided to the building occupier(s), including: a. A meeting programmed to occur between the aftercare team/individual and the building occupier/management 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; 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; 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. Operational infrastructure and resources are in place to co-ordinate the collection and monitoring of energy and water consumption data for a minimum of 12 months, once the building is occupied	Wates 12 months defects and aftercare procedure as applied as standard to EFSA projects is compliant with the aims of the 'Soft Landings' approach required by BREEAM in this area. This will include any necessary re-commissioning of systems, on a seasonal basis by technical project team members.
16	Seasonal Commissioning	M&E	1	0.57	1	L	The following will be carried out post-occupation: - A programme of seasonal commissioning will be carried out to cover winter, summer and spring / autumn; - Seasonal commissioning will include testing at times of high and low occupancy, if applicable; - Interviews with building occupants will for the basis of the seasonal commissioning, to identify issues or concerns; - Re-commissioning will be carried out as deemed necessary with changes recorded within the O&M file. For any complex systems (e.g. cooling systems, PV cells), this would require input from the commissioning specialist. For simple systems (e.g. natural ventilation / extract, gas boilers, lighting), this can be carried out by the FM team / suitable project team member.	The collation of water, energy use and occupant satisfaction data is the responsibility of the client for most BREEAM projects - however for Tauheedul, the BMS will collect the requisite resource use information, and occupancy satisfaction data will be actively sought by Wates, for use in the post-occupancy evaluation process required by the EFSA Framework 'Facilities Output Specification. SAL are satisfied that the criteria for these credits will be met.
17	Post Occupancy Evaluation	Main Contractor	1	0.57	1	L	A suitable professional who was not involved in the design / construction will carry out a Post-Occupancy Evaluation. The results will be made publicly available in the form of an on-line case study.	

	Issue	Responsibility	Credits for Issue	Value of Credit	Credit Target	Risk / Specification Uplift	Credit Criteria	SAL Assessment of Compliance
Hea 1 - Visual Comfort								
18	Glare Control	Architect	1	0.83	1	L	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 and/or building design measures / blinds with transmittance of less than 0.1 2. The glare control strategy avoids increasing lighting energy consumption, by ensuring that: a. The glare control system is designed to maximise daylight levels under all conditions while avoiding disabling glare in the workplace or other sensitive areas. The system should not inhibit daylight from entering the space under cloudy conditions, or when sunlight is not on the facade. AND b. The use or location of shading does not conflict with the operation of lighting control systems.	Wates have confirmed that compliant glare control, in the form of occupant controlled window blinds will be installed to all areas. SAL are satisfied that the criteria for this credit will be met.
	Day-lighting	N/A	2	0.83	0	N/A	Credit not sought:	
	View-Out	N/A	4	0.83	0	N/A	Credit not sought:	
19	Internal & External Lighting	M&E	1	0.83	1	M	Internal lighting: - Illuminance levels (LUX) will be specified in accordance with the SLL Code for Lighting 2012 - Areas with computer screens will be specified in accordance with SLL Lighting Guide 7, sections 3.3,4,6-4.9. - Lighting controls are zoned in accordance with the BREEAM requirements. External lighting: - Illuminance levels (LUX) in accordance with BS 5489-1:2013 Lighting of roads and public amenity areas and BS EN 12464-2:2014 Light and lighting - Lighting of work places - Part 2: Outdoor work places.	Lighting level (lux) design for the project will be in accordance with industry best-practice as a baseline. Control systems for classrooms and other functional spaces requiring manual adjustment will be provided in accordance with the requirements of the school identified for each space. The above are minimum standards for EFSA projects. The initial BRUKL Part L2a calculation for the project has been provided confirming that the energy efficiency associated daylight dimming for areas close to windows is part of the design at this stage. SAL are satisfied that the criteria for this credit will be met.
Hea 2 - Indoor Air Quality								
20	IAQ Plan	M&E / Architect	1	0.83	1	L	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	SAL have provided Wates with an outline IAQ plan for the project, which will be employed for the project. SAL are satisfied that the criteria for this credit will be met.
	Ventilation	N/A	4	0.83	0	N/A	Credit not sought:	

Issue	Responsibility	Credits for Issue	Value of Credit	Credit Target	Risk / Specification Uplift	Credit Criteria	SAL Assessment of Compliance
Hea 2 - Indoor Air Quality Continued							
Volatile Organic Compounds - Specification	Architect / Main Contractor	1	0.83	?	H	1) All paints and varnishes comply with BS EN 13300:2001 and Decorative Paint Directive 2004/42/CE, tested in accordance with EN 13999-2:2007, whilst being fungal/algal resistant. 2) At least five of the eight remaining categories of materials within table 8 of the BREEAM Manual comply with the stated requirements.	SAL have provided Wates with an outline IAQ plan for the project, which will be employed for the project. The IAQ plan includes the guidance required for these credits to be met - whether they are included will be reviewed by the design team during detailed design. SAL are satisfied that the criteria for this credit may be met, however, this has not been confirmed.
Volatile Organic Compounds - Testing	Main Contractor / IAQ Testing Specialist	1	0.83	?	M	The following shall be carried out, post-construction: - 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, 2010); - The total volatile organic compound (TVOC) concentration 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; - Where levels are found to exceed these limits, the project team confirms the measures that have, or will be undertaken in accordance with an Indoor Air-Quality Plan, to reduce the TVOC and formaldehyde levels to within the above limits; - The testing and measurement of the above pollutants are in accordance with the following standards where relevant: a. BS EN ISO 16000-4: 2011 - Diffusive sampling of formaldehyde in air b. EN ISO 16000-6: 2011 - VOCs in air by active sampling c. BS EN 16017-2: 2003 - VOCs - Indoor, ambient and workplace air by passive sampling d. BS EN ISO 16000-3: 2011 - Formaldehyde and other carbonyls in air by pumped sampling	
Potential-for-Natural-Ventilation	M&E/-Architect	4	0.83	0	N/A	Credit-not-sought.	
Hea 4 - Thermal Comfort							
Thermal Comfort	M&E	1	0.83	1	L	The building complies with the following: - Full dynamic thermal modelling is carried out in accordance with CIBSE AM11 / ClassCool for more simple buildings; - Modelling confirms that thermal comfort levels will be maintained in accordance with BB101. NAT VENT ONLY: Overheating risk is limited in accordance with CIBSE TM52.	Due to the complexity of the Building Layout and Services, it will be necessary to carry out a full dynamic thermal analysis of the building, in order to confirm compliance with BB101.
Adaptability for Climate Change	M&E	1	0.83	?	H	To achieve this credit requires that the thermal modelling demonstrates that the relevant requirements set out above are achieved for a projected climate change environment - this could be via a 'Future Passive Design Adaptation.'	Heating layout and controls will be designed with two aims: 1) Energy efficiency; 2) To meet the control requirements necessary for the various types of spaces - in collaboration with the client.
Thermal Comfort	M&E	1	0.83	1	L	The strategy for proposed heating and cooling systems must be shown to address end-user needs in respect of: - Appropriate zoning (e.g. 7m perimeter zone / core zone); - Occupant / manual control based on occupant needs; - User knowledge of building services; - Occupancy patterns, room functions; - User expectations and behaviour (i.e. opening windows while A/C is active, access to TRVs, need for fresh air vs. avoiding drafts); - How systems interact (e.g. AC offices / gas heated operational areas)	The above process is a minimum standard for the project, and so ensures compliance with the BREEAM criteria. Whether the project passes the BB101 criteria under projected climate change conditions cannot be confirmed at this stage. SAL are satisfied that the criteria for the first and third credits will be met.

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Hea 5 - Acoustic Performance								
26	Pre-requisite	Acoustician	-	-	-	M	An acoustician will be appointed at an appropriate stage to assist in the design.	Compliance in this area will be demonstrated via BB93 standards. The current acoustic design is compliant with these requirements, barring within the Sports Hall and Atrium. Derogations have been agreed with the acoustic designer for these areas, as they are not teaching spaces. Under the BREEAM criteria, derogations approved as suitable with the acoustic consultant in this manner do not preclude compliance. Pre-completions testing to UKAS standards, as well as any required remediation and re-testing are minimum standards for EFSA projects. SAL are satisfied that the criteria for these credits will be met.
27	Sound Insulation	Acoustician	1	0.83	1	M	Requires compliance with Section 2 of the Acoustic Performance Standard for the Priority Schools Building Programme (APS), June 2013 in terms of airborne and impact sound insulation of walls and floors. Pre-completion testing is carried out in accordance with the APS requirements and the ANC Good Practice Guide, Acoustic testing of Schools; by an appropriate testing body, with any required remediation being followed through.	
28	Indoor Ambient Noise Levels	Acoustician	1	0.83	1	M	Requires compliance with Section 2 of the Acoustic Performance Standard for the Priority Schools Building Programme (APS), June 2013 in terms of: - Indoor ambient noise; - 'Heavy' rain noise to within 20dB of limits, where roofs are per units mass less than 150kg/m3 or where there are roof lights. Pre-completion testing is carried out for Ambient Noise Only, in accordance with the APS requirements and the ANC Good Practice Guide, Acoustic testing of Schools; by an appropriate testing body, with any required remediation being followed through.	
29	Reverberation	Acoustician	1	0.83	1	M	Acoustic environment (Control of reverberation, sound absorption and speech transmission index (STI)): Teaching and study spaces: achieve the requirements relating to reverberation time for teaching and study spaces set out within table 5 in Section 2 of APS. Open plan teaching spaces: achieve the performance requirements relating to speech transmission index (STI) set out within Section 2.8 of APS. Corridor and stairwells: for those that give direct access to teaching and study spaces, achieve the performance requirements relating to sound absorption. Pre-completion testing is carried out as follows: Teaching and study spaces: A programme of acoustic measurements is carried out by a compliant test body in accordance with the ANC Good Practice Guide, Acoustic testing of Schools. Open plan teaching spaces: STI Measurements of the STI should be taken in at least one in ten typical student listening positions in the open plan spaces in accordance with the ANC Good Practice Guide, Acoustic testing of Schools. Corridors and stairwells: Installation of a specification compliant with the APS criteria demonstrates compliance. Where this refers to the use of building regulations, the country-specific building regulations or standards can be applied.	
Hea 6 - Safety and Security								
	Safe Access	N/A	4	0.83	0	N/A	Credit not achievable as delivery access is through car parking areas.	
30	Consultation with ALO	ALO	1	0.83	1	H	This credit will require the project to undergo a Crime Impact Statement by the local police, and to comply with requirements, except for derogations agreed by the ALO.	This is planned for the project. SAL are satisfied that the criteria for this project will be met.

Issue	Responsibility	Credits for Issue	Value of Credit	Credit Target	Risk / Specification Uplift	Credit Criteria	SAL Assessment of Compliance
Ene 1 - Reduction of CO2 Emissions							
Reduction of CO2 Emissions	Energy Assessor	12	0.83	7	M	Credits are awarded here based on the improvement of the development over BRUKL Part L2a requirements in three areas: 1) Fabric Performance; 2) Systems efficiency; 3) CO2 emissions.	The as-designed BRUKL Part L2a calculation for the project has been assessed. NOTE: The preliminary energy calculations provided are based on a slightly larger floor area than the current proposal due to minor alterations across a number of areas within the school, however all other variables remain as per the calculations. According to the design engineer, BCM, the reported performance at preliminary stage would not be impacted by the distributed changes in floor area. Detailed and final energy calculations will be carried out at a later stage of design. The project improves on the notional building in all three key areas assessed, including a 37.9% improvement in the BER over the TER for carbon emissions for the boys school and a 17.4% improvement for the girls school. BOYS: An Energy Performance Ratio (New Construction) of 0.626 has been achieved - equating to 8 credits. GIRLS: An EPRnc of 0.495 has been achieved - equating to 6 credits. This meets the Mandatory BREEAM standards Excellent. 7 credits have been awarded here as an average between the two schools.
Ene 2 - Energy Monitoring							
By Energy Use MANDATORY	M&E	1	0.83	1	M	Over 90% of energy uses to be sub-metered, in accordance with CIBSE TM39. This must be via BMS for buildings over 1000m2 in floor area; or via meters with pulsed outputs for future connection for smaller buildings.	Wates confirmed that the development will include sub-metering for all of the following, where possible: 1) Heating 2) Cooling 3) Hot-Water 4) Major Fans 5) Lifts 6) Lighting 7) Small Power Metering provided will be compliant with the BREEAM requirements, linked to the BMS. This is in accordance with the minimum standards provided by Wates for EFSA projects. SAL are satisfied that the criteria for this credit will be met.
By-Building-Area	N/A	4	0.83	0	N/A	Credit-not-sought:	
Ene 3 - External Lighting							
External lighting	M&E	1	0.83	1	L	EITHER: a) The building is designed to operate without the need for external lighting systems; OR b) The average initial luminous efficacy of the external light fittings in the construction zone is 60 lamp lumen per circuit watt or greater AND c) All fittings are automatically controlled to prevent function during day light hours, as well as with presence sensors in areas of intermittent pedestrian traffic.	Wates confirmed that the external lighting designer will be required to comply with these requirements - the initial BCM plan (WTNW-BCM-ZZ-ZZ-DR-E-0001) complies with the requirements in full. The excellent energy efficiency predicted for the development serves to confirm that the fittings provided both internally and externally will be of the necessary efficacies. SAL are satisfied that the criteria for this credit will be met.

	Issue	Responsibility	Credits for Issue	Value of Credit	Credit Target	Risk / Specification Uplift	Credit Criteria	SAL Assessment of Compliance	
Ene 4 - Low Carbon Design									
34	Passive Design Analysis	Energy Assessor	1	0.83	1	M	This credit requires: - Early (RIBA Stage 2) Passive Design Analysis carried out to meet BREEAM requirements; - Results implemented with a meaningful reduction in total energy demand as a result (5% or more) due to passive measures (e.g. Natural Ventilation, Free Cooling, Insulation / Air-tightness better than building regulations; Natural Daylight; Solar Shading.) HEA 04 - First Credit must be achieved.	The analysis for the Building Fabric Performance under ENE01 confirmed an 8% improvement of the actual building over the notional in terms of heating and cooling demand alone. There will also be passive savings born from the use of day light controls for lighting systems. It is clear based on an analysis of the current energy usage calculation, that the passive design savings achieved for the building will exceed the 5% required for compliance.	
	Free-Cooling	N/A	4	0.83	0	N/A	Credit not sought.		
	LZC Technology	N/A	4	0.83	0	N/A	Credit not sought.		
Ene 6 - Energy Efficient Transportation Systems									
35	Lifts & Escalators	Lift Specialist	3	0.83	3	L	The lift supplier should be asked to provide a lift transport analysis and system comparison in compliance with BREEAM requirements - to confirm that the system with the lowest energy consumption has been specified. The lift should have the following three energy efficient features: a. The lifts operate in a stand-by condition during off-peak periods. b. The lift car uses energy-efficient lighting and display lighting i.e. an average lamp efficacy, across all fittings in the car, of > 55 lamp lumens/ circuit watt and lighting switches off after the lift has been idle for a prescribed length of time. c. The lift uses a drive controller capable of variable-speed, variable-voltage, variable-frequency (VVVF) control of the drive motor. Where demonstrated to save energy, then the lift must have a regenerative drive unit so that any energy generated by a traction lift is returned back to the electricity utility supplier or used elsewhere in the building.	Wates confirmed that the lift supplier will be informed of requirement to comply with BREEAM equivalent standard. The potential suppliers identified by Wates typically achieve the BREEAM requirements, based on previous project experience. SAL are satisfied that the criteria for this credit will be met.	
	Ene 8 - Energy Efficient Equipment								
	Energy Efficient Equipment	N/A	2	0.83	0	N/A	For this project, it is likely that server rooms and IT intensive areas will form a major unregulated energy use – the requirements for these areas in a building of this type / layout are onerous.		
Tra 1 - Public Transport Accessibility									
36	Accessibility Index	BREEAM AP	5	0.89	1	L	Credits are awarded here based on local public transport provision. One credit is available where dedicated buses are provided by the school at the start and end of each day.	Based on local public transport, and the provisions to be made by the school, one credit will be achieved here.	
	Tra 2 - Proximity to Amenities								
37	Proximity to Amenities within 500m	BREEAM AP	1	0.89	1	L	This credit requires local amenities to be provided on site, or close to the site.	There will be a food store (canteen), as well as sports facilities, and recreational space for the use of students on site.	

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Tra 3 - Cyclist Facilities								
38	Cycle Storage	Architect	1	0.89	1	L	This credit requires secure, covered cycle storage for the use of occupants	There will be 1600 students plus staff on site at any one time. This would require at least 56 cycle spaces, 6 showers and associated changing spaces to be provided on site.
39	Cyclist Facilities	Architect	1	0.89	1	L	This credit requires changing rooms, showers and lockers for cyclists and pedestrians.	Wates have confirmed that more than 56 spaces will be provided on site - drawings have been provided to confirm both this. The number of showers, lockers and changing rooms will also exceed the requirements of the credit. SAL are satisfied that the criteria for this credit will be met.
Tra 5 - Travel Plan								
40	Travel Plan	Client / Transport Consultant	1	0.89	1	L	A BREEAM compliant Travel Plan will be developed by the client.	Transport Assessments and a Travel Plan will be developed both as part of the planning process, and as part of EFSA requirements. SAL are satisfied that the criteria for this credit will be met.
Wat 1 - Water Consumption								
41	Water Consumption MANDATORY - 1 CREDIT	M&E	5	0.67	2	M	Sanitary fittings will be as follows: - 4.5l single flush WCs / 6/4 dual flush - Wash hand basin taps flow rate limited to 3 l/min - No urinals - Kitchenette taps flow rate limited to 6 l/min - Domestic dish washers to 12 litres per cycle - Kitchen equipment within food tech area TBC, requirements likely to be placed on any domestic or commercial dish washers provided. - Showers limited to 6 litres per minute. - No grey water / rainwater system	The project will favour maintainability of water efficiency, while meeting minimum standards that ensure that at least two credits will be achieved here. SAL are satisfied that the criteria for at least two credits will be met in this area.
Wat 2 - Water Monitoring								
42	MANDATORY	M&E	-	-	-	L	The main supply to each building will be fitted with a water meter with a pulsed output. Any external taps must also be sub-metered.	The minimum standard in this area will be achieved, all water and energy uses will be monitored by the BMS.
43	Water Sub Meters	M&E	1	0.67	?	M	Any water uses accounting for over 10% of total consumption will be sub-metered.	Whether all water uses over 10% will be sub-metered has yet to be confirmed.
Wat 3 - Water Leak Detection and Prevention								
44	Water Leak Detection	M&E	1	0.67	1	M	The boundary water meter will have a pulsed / digital output left ready for connection to BMS / leak detection system close to the internal service terminations.	The proposed water services for the project were reviewed by SAL and BCM (the M&E Designer), in order to confirm that the criteria for this credit will be met.
45	Water Leak Prevention	M&E	1	0.67	?	M	A PIR-linked solenoid valve will be installed to each incoming WC area supply to prevent water flow when not in use.	Whether presence controlled flow devices will be installed is yet to be confirmed.
Wat 4 - Water Efficient Equipment								
46	Unregulated Water Use	Main Contractor	1	0.67	1	L	There are no unregulated water uses on site; irrigation is by precipitation only.	Wates have confirmed that this will be a pre-requisite of the detailed landscape design. SAL are satisfied that the criteria for at least two credits will be met in this area.

	Issue	Responsibility	Credits for Issue	Value of Credit	Credit Target	Risk / Specification Uplift	Credit Criteria	SAL Assessment of Compliance
Mat 1 - Life Cycle Impacts								
47	Life Cycle Impacts	Architect / Structural Engineer	6	0.89	4	L	This credit is awarded based on the Green Guide to Specification ratings allocated to the materials employed for the following building elements: 1) External Walls 2) Windows 3) Upper Floors 4) Roof Areas 5) Internal Walls 6) Floor finishes	The proposed specifications are as follows: EXTERNAL WALLS: Masonry with SFS (A+ rated) WINDOWS: Aluminium (B > D rated) OR PVC (A+ rated) UPPER FLOORS: PC Concrete planks - pre-tensioned, hollow-core (A rated) ROOF: PC Planks with hot melt (B > E rated) INTERNAL WALLS: Metal stud (A / A+ rated) FLOOR FINISHES: Vinyl, carpet (A / A+ rated) Based on the above, at least 4 credits will be obtained.
Mat 2 - Hard Landscaping and Boundary Protection								
	Hard Landscaping and Boundary Protection	N/A	4	0.89	0	N/A	Credit not sought — the required volume of recycled sub-base is unlikely to be available for the site.	
Mat 3 - Responsible Sourcing of Materials								
48	Timber Procurement MANDATORY	Main Contractor	-	-	-	L	All timber used on site will be sourced in accordance with the UK Government's Timber Procurement Policy.	See Man 3 above - this mandatory standard is met for all timber products.
49	Sustainable Procurement Plan	Main Contractor	1	0.89	1	L	The principal contractor sources materials for the project in accordance with a documented sustainable procurement plan.	Wates operate in accordance with an ISO14001 certified EMS and documents Sustainable Materials Procurement policies and procedures. Wates existing policies are compliant with the credit criteria.
50	Major Building Elements	Main Contractor	3	0.89	1	H	This will require ISO14001 accredited materials generally, and BES6001 accredited concrete products / reinforcement / aggregates.	Wates are founding members of the 'Supply Chain Sustainability School' - an initiative that promotes responsible procurement and manufacturing processes within their supply chain. Based on the suppliers likely to be used for key materials, reviewed at a meeting between SAL and Wates, at least one credit will be achieved in this area.
Mat 4 - Insulation								
51	Embodied Impact of Insulation	Main Contractor / Tenant Fit-Out	1	0.89	1	L	All insulation in the shell development will be specified as types that achieve an A or A+ rating, according to the Green Guide to Specification Online.	Wates, BCM and SAL reviewed the types of insulants likely to be specified. These included mineral and glass wools, as well as PIR foam - all of which are A or A+ rated.
Mat 5 - Designing for Durability and Resistance								
52	Designing for Robustness	Architect / Tenant Fit-Out	1	0.89	1	L	1) Vulnerable internal and external areas of the building will be identified, with suitable durability / protection / design measures taken, for example: - Protection from high pedestrian traffic in main entrances, public areas and thoroughfares (i.e. 'Severe Duty' wall specifications, kick plates to doors, easily washable and durable flooring); - Protection against any internal trolley movement within 1m of the internal building fabric in storage, delivery, corridor and kitchen areas (i.e. wall guards); - Protection against potential vehicular collision where cars / delivery vehicles will be manoeuvring within 1m of the external building facade (i.e. ARMCO Barriers, bollards, raised kerbs.) 2) The relevant building elements incorporate appropriate design and specification measures to limit material degradation due to environmental factors.	Wates and SAL reviewed the requirements of the credit, with reference to the Site Plan and the proposals for internal spaces: - Kick plates will be provided to doors; - Floor finishes are hard wearing and easily washable carpet and vinyl specifications; - Corner guards will be provided to internal delivery areas, with kitchen walls protected according to best practice; - WC specifications will be laminate / vinyl - all considered to be suitable resistant to vandalism; - EFSA FOS Clause 2.7.13 requires Severe Duty Corridor Walls; - Kerbs are provided to all vehicle manoeuvring areas. Otherwise, external wall, roof and hardstanding specifications, as well as boundary protection specifications are all robust to best practice. SAL are satisfied that the criteria for this credit will be met.

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Mat 6 - Material Efficiency							
Materials Efficiency Reviews	Architect / Main Contractor	1	0.89	1	L	1) Opportunities have been identified, and appropriate measures investigated and implemented, to optimise the use of materials in building design, procurement, construction, maintenance and end of life , 2) The above is carried out by the design/construction team in consultation with the relevant parties at each of the following RIBA stages: a. Preparation and Brief b. Concept Design c. Developed Design d. Technical Design e. Construction. RELEVANT PARTEIS: Client/developer, Cost consultant, Architect, Structural/civil engineers, Building services engineers, Principal contractor, Demolition/strip-out contractor, Environmental consultant, Project management consultant, Materials/component manufacturers/suppliers.	SAL have provided Wates with a template to carry out the requisite Designing Out Waste workshops to WRAP standards. Wates provided SAL with an exemplar SWMP that will be replicated for Tauheedul - this includes detailed reviews of sub-contractor work packages and possible measures for designing out waste. SAL are satisfied that the criteria for this credit will be met.
Wst 1 - Construction Waste Management							
Construction Resource Efficiency	Main Contractor	3	0.94	2	H	Targets will be set within the Site Waste Management Plan, and procedures put in place, to ensure that less than 6.5 T per 100 m2 (gross floor area) of non-hazardous construction waste (excluding excavation / demolition waste) will be produced on site.	Wates produced 4.9 T per 100m2 of floor area for a similar, local project in recent history. This would have achieved 2 credits.
Diversion of waste from Landfill	Main Contractor	1	0.94	1	L	Targets and procedures will be put in place to ensure that over 70% by volume / 80% by weight of construction waste generated, and 80% by volume / 90% by weight of non-hazardous demolition waste, is diverted from landfill, with materials sorted into key waste groups on or off site.	Wates achieved a recycling rate of over 97% for a local, similar project - this would be compliant with the criteria for this credit.
Wst 2 - Recycled Aggregates							
Recycled-Aggregates	N/A	4	0.94	0	N/A	Credit-not-sought.	
Wst 3 - Recyclable Waste Storage							
Recyclable Waste Facilities	Architect / Client	1	0.94	1	M	This credit will require a dedicated waste recycling area of at least 20m2, as well as food composting facilities and an external tap for cleaning, in addition to general waste areas - for the use of the whole site.	The current provision as proposed for the site is compliant with the criteria.
Wst 5 - Adaptation to Climate Change							
Structural and Fabric Resilience	Structural Engineer / Architect	1	0.94	?	M	Conduct a climate change adaptation strategy appraisal for structural and fabric resilience by the end of Concept Design (RIBA Stage 2 or equivalent), in accordance with the following approach: Carry out a systematic (structural and fabric resilience specific) risk assessment to identify and evaluate the impact on the building over its projected life cycle from expected extreme weather conditions arising from climate change and, where feasible, mitigate against these impacts. The assessment should cover the following stages. i. Hazard identification ii. Hazard assessment iii. Risk estimation iv. Risk evaluation v. Risk management.	SAL have provided a template for a Climate Change Risk Assessment to Wates.

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Wst 6 - Functional Adaptability								
58	Functional Adaption Strategy	Structural Engineer / Architect	1	0.94	?	M	1) A building-specific functional adaptation strategy study has been undertaken by the client and design team by Concept Design (RIBA Stage 2 or equivalent), which includes recommendations for measures to be incorporated to facilitate future adaptation; 2) Functional adaptation measures have been implemented (RIBA Stage 4 or equivalent) in accordance with the functional adaptation strategy recommendations, where practical and cost effective. Omissions have been justified in writing to the assessor.	SAL have provided an exemplar strategy to Wates.
LE 1 - Site Selection								
	Previously Developed Land	N/A	4	4.00	0	N/A	The site at present is in the process of being reclaimed by nature – as such this credit may not be achievable.	
59	Contaminated Land	Specialist	1	1.00	1	L	This credit is awarded where the site is remediated for contamination (chemical or biological) prior to development.	A Japanese Knotweed Survey (MC10187 - Report Number 001 - July 2017) has been carried out for the site. There will be significant decontamination works carried out on site, including both removal, and on-site treatment.
LE 2 - Ecological Value of Site and Protection of Ecological Features								
	Ecological Value of Site and Protection of Ecological Features	N/A	2	4.00	0	N/A	While the site is not deemed to be of significant value via the Preliminary Ecological Appraisal and Reptile Report, as included within the application – the site does fall under what BREEAM may categorise as being of 'ecological value', with the proposal removing some established trees / ecological plot areas.	
LE 3 - Mitigating Ecological Impact								
60	Mitigating Ecological Impact MANDATORY - 1 CREDIT	Ecologist / Main Contractor	2	1.00	1	H	An ecologist will be appointed to provide a habitat survey of the existing site, and to provide calculations to confirm the pre and post development species count, based on their planting recommendations. MANDATORY: The project must ensure that a species loss no greater than NINE species occurs as a result of development.	Wates confirmed that native planting areas have been provided across the site to mitigate species removed during site clearance. Where possible, existing habitats and species are to be left in place - retention amounts to circa 15% of the site area. Site plans have been provided as evidence of this. SAL are satisfied that the species loss on site will be less than 9 species.
LE 4 - Enhancing Site Ecology								
61	Ecologist's Recommendations	Ecologist	1	1.00	1	L	A suitably qualified ecologist will be appointed to make recommendations for the general enhancement and protection of the site ecology. All of the ecologist's recommendations will be implemented.	An ecologist has been appointed to provide the requisite surveys and advice, which has been followed. SAL are satisfied that the criteria for this credit have been met.
	Species Change	N/A	4	4.00	0	N/A	Credit not sought.	

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LE 5 - Long Term Impact on Biodiversity								
62	Long Term Impact on Biodiversity	Ecologist / Main Contractor	2	1.00	2	L	A suitably qualified ecologist will be appointed prior to the commencement of site works, to advise on compliance with relevant EU and UK legislation. If applicable, a 5 year biodiversity management plan will be prepared by the ecologist. Furthermore, the applicable additional requirements outlined within the ecologist's report will be undertaken by the contractor e.g.: - A 'Biodiversity Champion' will be appointed to oversee any ecological protection; - Training will be provided to all site operatives; - Actions taken to protect biodiversity will be formally recorded, to be made publicly available if requested; Site clearance will commence outside of bird breeding season (March - August, inclusive), and generally to avoid disturbance to wildlife; - A new ecologically valuable habitat will be created.	Wates confirmed that they will abide by the advice of the ecologist both in terms of design, and also in terms of site clearance timing / inspections - hence, all EU and UK legislation will be followed. The landscape designer and ecologist have been commissioned to provide a 5 year biodiversity management plan / landscape management plan as part of the O&M / H&S information for the project. There will be ecological protection on site - 15% of the site area will be left un-touched - Wates have confirmed that they will follow best practice, as per ecological advice. SAL are satisfied that the criteria for this credit will be met.
Pol 1 - Impact of Refrigerants								
63	Direct Effect Life Cycle Emissions	M&E	3	0.77	1	M	Credits are awarded for: 1) The installation of an automatic leak detection and pump-down system; 2) A DELCO CO₂e of less than 1000 (1 credit) / 100 (2 credits)	BCM confirmed that cooling will only be provided to IT areas and server rooms, plus activity studio - according to the current design. This will be via central VRF on roof to serve local systems. SAL are satisfied that it is likely that the refrigerant containing systems will achieve a DELCO CO₂e value of 1000 or less.
Pol 2 - NOx Emissions								
64	NOx Emissions	M&E	3	0.77	3	L	NOx levels from heating and hot water will be less than 40mg/kWh (applies to heating AND hot water unless hot water can be demonstrated to be less than 10%). It is assumed that heating will be via gas boilers / CHP, with heat recovery provided to any mechanically ventilated areas.	BCM confirmed that space heating and hot water will be via efficient gas boiler - these typically achieve NOx emissions of 40mg/kWh or less. SAL are satisfied that the criteria required to allow three credits will be met.

Issue	Responsibility	Credits for Issue	Value of Credit	Credit Target	Risk / Specification Uplift	Credit Criteria	SAL Assessment of Compliance
Pol 3 - Surface Water Run-Off							
65 Flood Risk	Civil Engineer / Flood Risk Assessor	2	0.77	2	L	An FRA will be carried out to confirm that the site is in a low Flood Risk Area.	According to the EA Flood Map, the site is in a low flood risk area. A full FRA and drainage strategy have been developed.
66 Surface Water Run-Off - Peak Rate	Civil Engineer	1	0.77	1	L	The site will be attenuated such that water run off is the same or less than it was prior to development.	Wates confirmed that attenuation will be provided to ensure that these criteria are achieved.
67 Surface Water Run-Off - Volume , Attenuation / limiting discharge	Civil Engineer	1	0.77	1	L	It is assumed that flooding of property will not occur in the event of local drainage system failure (caused either by extreme rainfall or a lack of maintenance) AND: a) The post development run-off volume, over the development lifetime, is no greater than it would have been prior to the assessed site's development, with any additional predicted volume of run-off for the 100 year 6 hour event prevented from leaving the site by using infiltration or other SUDS techniques OR (where this cannot be achieved) b) Justification from the Appropriate Consultant indicates why the above criteria cannot be achieved i.e. where infiltration or other Suds techniques are not technically viable options; AND Drainage design measures are specified to ensure that the post development peak rate of run-off is reduced to the limiting discharge. The limiting discharge is defined as the highest flow rate from the following options: (i) the pre development 1-year peak flow rate; OR (ii) The mean annual flow rate Qbar; OR (iii) 2l/s/ha. Note that for the 1-year peak flow rate the 1 year return period event applies.	Wates confirmed that the wider site area was redeveloped in 2004 - connection and capacity was left for this future development site. SAL are satisfied that the criteria for this credit will be met.
Minimising water-course-pollution	N/A	4	0.77	0	N/A	It is assumed that the first 5mm of rainfall will not be retained on-site.	
Pol 4 - Reduction of Night Time Light Pollution							
68 Reduction of Night Time Light Pollution	M&E	1	0.77	1	L	All external lighting will be controlled via time switch to deactivate between the hours of 2300 to 0700. The lighting system will be specified in accordance with Table 1 (and associated notes) of the ILP Guidance Notes for the Reduction of Obtrusive Light, 2005. Security lighting can be active between 2300 - 0700, provided that this part of the lighting system complies with the lower lighting levels recommended during these hours.	BCM confirmed that the lighting design will be in accordance with dark sky principles. SAL are satisfied that the criteria for this credit will be met.
Pol 5 - Reduction of Night Time Light Pollution							
69 Noise Attenuation	Acoustician	1	0.77	1	L	An acoustician will be appointed to measure background noise levels in accordance with BS7445, in order to inform the plant noise limits for the fit-out works.	Wates confirmed that it will be a condition of planning to ensure that the development does not impact upon background noise levels. The HRS Noise & Vibration Assessment has been provided to confirm that the design considers this requirement. SAL are satisfied that the criteria for this credit will be met.

Issue		Responsibility	Credits for Issue	Value of Credit	Credit Target	Risk / Specification Uplift	Credit Criteria	SAL Assessment of Compliance
<i>Innovation Credits</i>								
70	Man 03 - Responsible Construction Practices	Main Contractor	1	1	1	H	Requires a score of at least 40 under the Considerate Constructors Scheme.	See Man 3 above.
	Man 05 - Aftercare	Client	1	1	?	L	Energy, water and occupant satisfaction monitoring will be carried out for the first 36 months of occupation.	See Man 5 above - the client will be informed of the additional requirement to carry out monitoring for the 36 month period, although the credit has not been awarded as part of this exercise.
	Hea 01 - Day Lighting	N/A	4	4.00	0	N/A	Credit not sought.	
	Hea 02 - VOC	N/A	2	4.00	0	N/A	Credit not sought.	
	Ene 01 - Reduction of Energy Use	N/A	5	4.00	0	N/A	Credit not sought.	
	Wat 01 - Water Consumption	N/A	4	4.00	0	N/A	Credit not sought.	
	Mat 01 - Life Cycle Impacts	N/A	3	4.00	0	N/A	Credit not sought.	
	Mat 03 - Responsible Sourcing of Materials	N/A	4	4.00	0	N/A	Credit not sought.	
	Wst 01 - Construction Waste Management	N/A	4	4.00	0	N/A	Credit not sought.	
	Wst 02 - Recycled Aggregates	N/A	4	4.00	0	N/A	Credit not sought.	
	Wst 05 - Adaptation to Climate Change	N/A	4	4.00	0	N/A	Credit not sought.	
	Unlisted, BRE approved innovations			4.00	0	N/A	Credit not sought.	