BEAM Plus Existing Buildings

(Global Version)

Version 1.0
(2024.05)

HKGBC 香港綠色建築議會

BEAM 建築環保評估協會

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1. Introduction

1.1 Overview

BEAM

Building Environmental Assessment Method (BEAM) Plus is a comprehensive environmental assessment tool for buildings which is carried out on a voluntary basis. It defines the best practice criteria for a range of sustainability issues across the whole life cycle of buildings and projects, such as how buildings should be designed, constructed and operated, etc. Recognised as one of the world's leading green building assessment tools, it provides a comprehensive set of performance standards that can be pursued by developers and owners.

BEAM Plus Existing Buildings (Global Version), owned and operated by the BEAM Society Limited (BSL), is a rating tool that falls under the BEAM Plus framework. It specifically focuses on the management, operation, maintenance, and environmental performance of existing buildings. The assessment can be initiated once the building has been in operation for a minimum of one year.

It aims to reduce the environmental impacts of existing buildings whilst improving quality and user satisfaction by the adoption of the best techniques available. It also drives the society to achieve carbon neutrality.

BEAM Plus Existing Buildings (Global Version) Version 1.0

The building operational emissions are responsible for about 30% of global energy related carbon emissions. Encouraging building owners, especially in private sector, to adopt green building management and upgrading the building services systems can play a significant role in the world of sustainability and achieving carbon neutrality.

BEAM Plus Existing Building (Global Version) Version 1.0 (EB Global v1.0) aims to embrace more participation in "Green" existing buildings, encourage more energy saving towards net zero emission, and educate and induce behavioural change. The BEAM Plus EB Global v1.0 is introduced to encourage existing buildings to consider holistic green enhancements for more energy efficient and sustainable operation.

The BEAM Plus EB Global v1.0 is unique in the way with the following features:

i. Copes with the global climate, physical constraints and ease of long-term facility management;
ii. Is unique in new features which may set precedent to promote sustainability in worldwide;
iii. Incorporates new initiatives to improve the energy efficiency and environmental performance;
iv. Echoes with globe's target of net carbon zero by 2050;
v. Moulds inhabitant's behaviour lifestyle through demand-side management;
vi. Encourages enhancement to aged buildings;
vii. Embraces existing buildings of all ages;
viii. Contains various levels of practical requirements; and
ix. Provides flexible implementation options to encourage participation.

There are 2 major schemes under BEAM Plus EB Global v1.0, i.e. Comprehensive Scheme and Selective Scheme. Comprehensive Scheme adopts the 'Plan-Do-Check-Act' approach for the continual improvement of the buildings while Selective Scheme embraces the 'Better than yesterday' principal to recognise the efforts made by the building management of the aged existing buildings to achieve better building performance.

BEAM Society Limited (BSL)

BEAM is owned and operated by BSL, an independent non-profit public body whose membership is drawn from many professional and interest groups in Hong Kong's building construction and real estate sectors. BSL is committed to developing and implementing the BEAM assessment tools, assessing green buildings and training professionals.

Hong Kong Green Building Council (HKGBC)

HKGBC was established in 2009 as Hong Kong's industry body that coordinates efforts towards green building. HKGBC certifies BEAM Plus projects, accredits BEAM Professional (BEAM Pro), BEAM Affiliate (BA) and BEAM Assessor (BAS).

Disclaimer

BEAM Plus has been prepared with the assistance and participation of many individuals and representatives from various organisations. The outcome represents a general consensus, but unanimous support from each and every organisation and individual consulted is not implied. The BEAM Plus documentation shall be reviewed on a regular basis and as frequently as necessary. BSL reserves the right to amend, update and change this Manual from time to time without prior notice. Where changes in regulations necessitate changes to the assessment criteria, they will be issued to all parties involved in an assessment and will be announced in the BSL's website. An appropriate transitional period shall be allowed for projects undergoing assessment process.

It should be noted that none of the parties involved in the funding of BEAM, including BSL and its members, provide any warranties or assume any liability or responsibility to the users of BEAM, or any third parties for the accuracy, completeness or use of, or reliance on, any information contained in BEAM, or from any injuries, losses, or damages arising out of such use or reliance.

As a condition of use, users covenant not to sue, and agree to waive and release BSL and its members from any and all claims, demands and causes of actions for any injuries, losses and damages that users may now or hereafter have a right to assert against such parties as a result of the use of, or reliance of BEAM.

Limitations

BSL does not endorse any self-assessed rating awarded by the use of BEAM Plus for Existing Buildings (Global Version).

HKGBC offers a formal certification process of rating, which provides an independent third-party review of credit submission in order to ensure all credits claimed are supported by the provision of the necessary documentary evidence. Any users or parties without a formal certification are not entitled to issue any rating certification of BEAM Plus Existing Buildings (Global Version).

Application and Eligibility

BEAM Plus EB Global v1.0 attempts to cover the management, operation and maintenance of all types and ages of existing buildings, from small single building to large buildings, including but not limited to commercial, educational, government, industrial, office and residential buildings, hotels and shopping centres etc.

Existing buildings that have not been certified by BEAM Plus or other green building certificates are also encouraged to participate in this Scheme. It is recommended that building(s) should gather at least one year operational data of the building before registration.

BEAM Plus does not assess any buildings or portions of any buildings that are unauthorized by local building ordinance of their respective region. In case any non-compliance works or unauthorised portions in a building are

reported, both HKGBC and BSL reserve the right to deprive the awarded rating from the Applicant.

Assessment Boundaries

BEAM Plus concerns the interactions between the assessed building, neighbouring properties, and the neighbourhood in general. The assessment seeks to reduce negative impacts on neighbours and rewards efforts to improve the quality of the immediate surroundings to the benefit of the neighbourhood: the concept of 'good neighbour' buildings.

Under normal circumstances, BEAM Plus EB Global v1.0 only assesses those areas which are under the control of the Applicant. It is understood that the involvement of tenants also plays an important role in improving the building's environmental performance. Therefore, credit points could be awarded when the Applicant can demonstrate that their tenants are also getting involved in the assessment. Details shall be referred to the assessment criteria of individual credit.

1.2 Framework

Certification Framework	A Comprehensive Scheme and Selective Scheme in BEAM Plus EB Global v1.0 are designed to provide Applicants with more flexibility to participate in this green assessment to suit their program, budget and technical capability.
Comprehensive Scheme	Comprehensive Scheme is a one-go assessment for all aspects under this Manual and one full certificate is offered if the requirements are fulfilled.
Selective Scheme	Selective Scheme is an individual aspect assessment approach, and certificate will be issued for each individual assessed aspect. Building Owners/ Building Management Companies may choose to apply BEAM Plus certification via Selective Scheme if they do not intend to achieve the performance requirements for all aspects.
Certification Process	Independent BEAM Assessors (BAS) or BSL in-house BAS would be assigned to each project to undertake the assessment works. The Assessment Sub-committee (ASC) of BSL will review the assessment reports done by the BAS and endorse the assessment results, followed by the issuance of certification by the HKGBC. Detail assessment procedures can be found in the BEAM Plus Project Assessment Procedures Manual which is available in the HKGBC and BSL websites.
Documentation	The Applicant has the obligation to provide evidence to demonstrate credit compliance. In BEAM Plus EB Global v1.0, only sufficient amount of material (by way of example) is required to be submitted. However, the Applicant must make sure all supporting information is timely collected and properly documented. Just in case when the BEAM assessor considers it necessary to demand additional materials of the same sort for clarification, the Applicant is obligated to produce such materials upon request.
Certification Fees	BEAM Plus EB Global certification fee comprises 2 parts, namely Registration Fee and Assessment Fee which are payable to HKGBC and BSL respectively. Certification fees for BEAM Plus EB Global v1.0 depend on the size and complexity of the project as determined by the HKGBC and BSL. Submission of credit interpretation request (CIR) and Appeals are subject to separate published charges. Details on the fee structure can be found in the HKGBC and BSL websites.
Credit Interpretation Request (CIR)	CIR process is a means whereby Applicants can seek technical and administrative guidance from the BSL TRC on the application of BEAM Plus credits to their projects. Examples may include: i. Alternative compliance approaches to fulfilling the objectives of a particular credit; ii. Clarifications of credit options and special circumstances; and iii. Petitioning for higher credit allocation (performance enhancements). CIR submissions should comprise a method statement identifying the objective of BEAM Plus EB Global v1.0 for which credit is being sought, a description of the approach being adopted and, where appropriate, the proposed alternative and method for assessment. More details of CIR can be found in HKGBC and BSL website.
Appeals	The Applicants may submit an appeal on individual credit should they disagree to and not accept the decision made by the BSL. More details can be found in HKGBC and BSL website.
Certificate Validity	BEAM Plus EB Global v1.0 certificate is normally valid for 3 years from the

date of issuance.

Upon the expiry date or failure of submission of on-going data report, the certificate and grading are no longer effective or recognised by the BSL. Applicants are encouraged to commission and submit separate certification assessments to renew their certificate.

On-going Data Report

On-going data report on building's key sustainability data shall be submitted on an annual basis by the Applicant after the issuance of the BEAM Plus EB Global certificate to demonstrate on-going tracking and monitoring of building performance. Detail shall be referred to the submittals criteria of individual credit. Submittal requiring on-going data report is denoted with " **^** ".

Performance Categories

Different assessment methods have different credit distribution based on preferences of the tool developer. In BEAM Plus EB Global v1.0, credits are grouped into the following categories:

i. Management (MAN);
ii. Integrated Design and Construction Management (IDCM);
iii. Sustainable Site (SS);
iv. Materials and Waste (MW);
v. Energy Use (EU);
vi. Water Use (WU);
vii. Health and Wellbeing (HWB); and
viii. Innovations and Additions (IA).

While BEAM Plus EB Global v1.0 adopts similar categories as in other BEAM Plus tools, the number and nature of credits within each category are specific to the context of operation, maintenance and management of existing buildings in different locations.

Management (MAN)

MAN focuses on the sustainable management of the occupied buildings during operation. The main objectives of MAN are as follows:

i. Green Procurement;
ii. Environmental, Health and Safety (EHS) and Energy Management;
iii. Environmental, Social, and Governance (ESG) Disclosure;
iv. Operation and Maintenance; and
v. Green and Health Management.

Integrated Design and Construction Management (IDCM)

IDCM focuses on the integration between design and operation, integrated design between building management staff and building users, and integration throughout the development process from design to construction. The main objectives of IDCM are as follows:

i. Integrated Design Process;
ii. Retro-commissioning;
iii. IAQ Management for Renovation; and
iv. Design for Engagement and Education on Green Buildings.

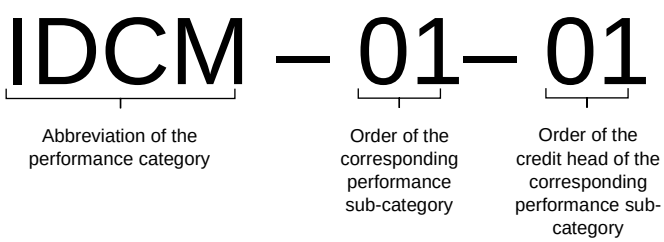
Sustainable Site (SS)

SS focuses on the design and planning issues, and the integration of neighbourhood and site location. The main objectives of SS are as follows:

i. Neighbourhood Integration;
ii. Ecologically Responsible Design; and
iii. Bioclimatic Design.

Materials and

MW focuses on the green procurement practice and minimisation of waste

Waste (MW)	generation. The main objectives of MW are as follows: i. Selection of Materials; and ii. Waste Reduction.
Energy Use (EU)	EU focuses on the evaluation of energy performance and reduction of energy consumption during occupancy. The main objectives of EU are as follows: i. Building Energy Monitoring; ii. Renewable and Alternative Energy Generation; iii. Energy Management and Analysis; and iv. Energy Efficient Improvement.
Water Use (WU)	WU focuses on the reduction of water consumption and discharge management. The main objectives of WU are as follows: i. Water Conservation; ii. Effluent; iii. Water Harvesting and Recycling; and iv. Water Management.
Health and Wellbeing (HWB)	HWB focuses on the human development and environmental quality. It is designed to expand the scope of previous indoor environmental quality (IEQ) category and adopt human centric design elements. The main objectives of HWB are as follows: i. Inclusive Design; and ii. Indoor Environmental Quality.
Innovations and Additions (IA)	IA focuses on promoting and rewarding true innovations. The main objectives of IA are as follows: i. Innovation Techniques; and ii. Innovation Challenges.
Credit Point Allocation	Credits points have been broadly allocated to each assessment criterion by taking into account other internationally recognised green building assessment tools as well as the sensitivity analysis and the comments received during the stakeholder engagement workshops.
Credit Code	All BEAM Plus tools will adopt the same nomenclature. The classification of each credit is divided into three levels which includes: i) Performance category, ii) Performance sub-category and iii) Credit head.  The coding system of each credit consists of English letters and Arabic numbers. The first level of the coding system is the performance category which adopts the abbreviation. The second level is coded by Arabic numbers to present the corresponding performance sub-category. The third level represents the order of credit head.
Extent of Application	Extent of Applications specify the applicable credit to different types of buildings.

Absolute Point-Based Scoring

Having reviewed the local and international assessment schemes as well as echoing the design principle “Simple”, the final BEAM Plus result is calculated based on the total credit points achieved across performance categories without category weighting or averaging scores.

Core and Elective Requirement

Core Requirements defined mature technologies, techniques or practices that are considered an important precondition of a green building and can be applied to a wide spectrum (i.e. in terms of building types, age, geographic location, etc.) of buildings. The Applicant must demonstrate that the minimum benchmark of Core Requirements is achieved in each performance categories.

Elective Requirements address broader range of sustainability issues beyond the precondition defined under Core Requirements, which provide high flexibility for the Applicant to suit their own national/ local sustainability priorities and requirements and/or business sustainability strategies.

Bonus Credit Point

Bonus credit points are independent from the normal credit point(s) under the same credit item. They can be achieved regardless of the success or failure in attaining the normal credit point(s). The bonus credit points are counted under corresponding performance categories. A factor of 1.5 is applied in score calculation for the attainment of bonus credit point.

Additional Credit Point

Additional credit point(s) are dependent on the normal credit point(s) under the same credit item. The award of normal credit point(s) is the prerequisite for attaining the additional credit point(s).

IA Credit Point

The IA credit points in BEAM Plus EB Global v1.0 are counted towards the total number of credit points achieved in all the respective categories for an award classification. One (1) point is counted towards the total number of credit points for each successful IA credit and a maximum of five (5) IA credit points could be awarded in IA performance category for achieving a higher overall credit points in the assessment.

Example for Credit Points Achievement

Below tables demonstrate the credit points achievement based on the abovementioned absolute point-based scoring system and counting methodology of bonus credit point in each performance category.

Performance Category	Available Credit Points (Core)	Available Credit Points (Elective)	Factor Applied for Bonus Credit Point
MAN	22	3+3B	1.5
IDCM	15	5+1B	
SS	14	2	
MW	17	-	
EU	46	4	
WU	24	4B	
HWB	22	4+2B	
IA	-	5	1

Example of the overall score calculation based on the above methodology is illustrated below:

Performance Category	Achieved Credit Points	Calculation Demonstration	Final Achieved Score
MAN	10+3B	10 + 3 × 1.5 = 14.5	14.5
IDCM	5+1B	5 + 1 × 1.5 = 6.5	6.5
SS	14	14	14
MW	5	5	5
EU	20	20	20
WU	12+3B	12 + 3 × 1.5 = 21.5	16.5
HWB	15+1B	15 + 1 × 1.5 = 16.5	16.5
IA	1	1	1
		Overall Score	94

Determination of Overall Rating (Comprehensive Scheme)

The final certificate rating for projects certified under BEAM Plus EB Global v1.0 Comprehensive Scheme is subject to the following conditions:

i. Achieving overall credit points required; and
ii. Obtaining minimum no. of Core Requirement for each category listed below.

Overall Score	Minimum No. of Core Requirement						
	MAN	IDCM	SS	MW	EU	WU	HWB
For Platinum Rating:							
75	5	5	5	5	22	5	5
For Gold Rating:							
65	4	4	4	4	18	4	4
For Silver Rating:							
55	3	3	3	3	14	3	3
For Bronze Rating:							
40	2	2	2	2	10	2	2

If a project cannot comply with both the minimum no. of Core Requirement of each performance category and requirements of overall credit achieved for each rating, it will be rated as “Assessment Completed Without Any Rating”.

Determination of Overall Rating (Selective Scheme)

The final certificate grading for projects certified under BEAM Plus EB Global v1.0 Selective Scheme is determined by the overall score for the assessed category/ categories. Grading is awarded separately for each individual category.

Rating	Minimum No. of Credit Achieved						
	MAN	IDCM	SS	MW	EU	WU	HWB
Green+	20	16	13	13	40	19	20
Green	13	10	8	8	25	12	13

If a project cannot comply with the minimum no. of credit achieved of Green Rating in the assessed category, this category will be graded as “Unclassified”.

1.3 Summary of Credits

	Credit Head	Credit Requirement	Extent of Application	Credit Point(s)
2	**Management (MAN)**			**25 + 3 Bonus**
MAN-00-01 *(Core)*	Green Purchasing Plan	1 credit point for demonstrating that green purchasing plan and procedures (including both materials and services), either follow their internal company guideline or other international standards, shall be in place.	All buildings	1
MAN-01-01 *(Elective)*	EHS and Energy Management System	**(a) Environmental Management System Certification** 1 credit point where the building management operates an Environmental Management System (EMS) certified to ISO 14001. **(b) Energy Management System Certification** 1 Bonus credit point where the building management operates an Energy Management System (EnMS) certified to ISO 50001.	All buildings	1 + 1 Bonus
MAN-02-01 *(Elective)*	Environmental, Social and Governance (ESG) Disclosure	**(a) Disclosure of Sustainability and Climate Policy** 1 credit point where the Building Owner/ Building Management Company discloses sustainability policy to the public. 1 credit point where the Building Owner/ Building Management Company discloses climate policy to the public. **(b) ESG Reporting** 1 Bonus credit point where the ESG reporting is prepared in accordance to a credible sustainability reporting guideline and disclosed to the public.	All buildings	2 + 1 Bonus
MAN-02-02 *(Core)*	Net-Zero Transition Plan	**(a) GHG Emissions Targets** 1 credit point for establishment of near-term absolute Scopes 1 and 2 GHG emissions reduction target. 1 credit point for establishment of near-term Scope 3 GHG emissions reduction target. 1 additional credit point if the near-term target is validated by Science Based Target initiative (SBTi).	All buildings	7

	Credit Head	Credit Requirement	Extent of Application	Credit Point(s)
		(b) Net Zero Targets 2 credit points for the building management's commitment to achieving net zero emissions by 2050. 1 additional credit point if the net-zero target is validated by Science Based Targets initiative (SBTi). 1 credit point where the building owner discloses its net-zero transition plan and targets to the public.		
MAN-03-01 *(Core)*	Building Operating Staff Training	1 credit for providing adequate and periodic training for the staff responsible for the O&M of the building.	All buildings	1
MAN-03-02 *(Core)*	Building and Site Operation and Maintenance	**(a) Building Maintenance** 1 credit point for demonstrating the operation of a planned programme of regular inspection, maintenance and repairing of the building's fabric and structure. **(b) External Areas and Facilities** 1 credit point for demonstrating the operation of a planned programme of regular inspection, maintenance and repairing of external areas and facilities.	Refer to assessment criteria	2
MAN-03-03 *(Core)*	Building Services Operation and Maintenance	**(a) Central Heating Ventilation and Air-Conditioning (HVAC) Plant** 2 credit points for demonstrating the operation of a planned programme of regular inspection, maintenance and repairing of the central HVAC plant. **(b) Other Engineering Systems** Maximum 2 credit points for demonstrating the operation of a planned programme of regular inspection, maintenance and repairing for the listed systems: i. Air-conditioning system except HVAC plant; ii. Electrical system; iii. Lighting system; and iv. Plumbing and drainage system.	Part a) – All buildings with central HVAC plant Part b) and c) – All buildings	5

	Credit Head	Credit Requirement	Extent of Application	Credit Point(s)
		(c) Assessment of Operation & Maintenance Practice 1 credit point for having undertaken an audit of the effectiveness of the O&M practices for all building services engineering systems.		
MAN-04-01 *(Core)*	Green Lease	1 credit point for demonstrating the adoption of green lease proposed by the landlord.	All buildings with tenants	1
MAN-04-02 *(Core)*	Green Cleaning	**(a) Implementation of Green Cleaning** 1 credit for implementing the appropriate green cleaning procedures/ practices for the project. **(b) Use of Green Cleaning Detergent** 1 to 2 credit point(s) for demonstrating the use of at least 10% or 20% of green cleaning detergents.	All buildings	3
MAN-04-03 *(Core)*	User Guidance	1 credit point for providing user guide to encourage and promote environmentally friendly activities.	All buildings	1
MAN-04-04 *(Elective)*	Occupational Health and Safety (OHS)	1 Bonus credit point where the building management operates an Occupational Health and Safety System (OHSAS) certified to ISO 45001.	All buildings	1 Bonus
MAN-04-05 *(Core)*	Integrated Pest Management	1 credit point for implementing an integrated programme for pest management.	All buildings	1

	Credit Head	Credit Requirement	Extent of Application	Credit Point(s)
3	**Integrated Design and Construction Management (IDCM)**			**20+1B**
IDCM-00-01 *(Core)*	Sustainability Champions – Project	1 credit point for demonstrating that a Green Building Professional with green building knowledge is engaged in the project. 1 additional credit point if the Green Building Professional is an accredited BEAM Professional (BEAM Pro) with a valid credential for BEAM Plus Existing Building.	All buildings	2
IDCM-00-02	Environmental Management Plan	This credit head is not available under EB Global v1.0.		
IDCM-00-03	Timber Used for Temporary Works	This credit head is not available under EB Global v1.0.		
IDCM-01-01	Sustainability Champions – Design	This credit head is not available under EB Global v1.0.		
IDCM-01-02 *(Elective)*	Complimentary Certification	1 Bonus credit point where the project is assessed and recognised with sustainable buildings certifications.	All buildings	1 Bonus
IDCM-01-03 *(Elective)*	Design Consideration for Operation and Maintenance	1 credit point for providing at least 3 of the listed amenities that improve the operation and maintenance of the building and its engineering services.	All buildings	1
IDCM-01-04	Life Cycle Costing	This credit head is not available under EB Global v1.0.		
IDCM-01-05 *(Core)*	Retro-commissioning	**(a) Planning and Investigation** 2 credit points for planning the retro-commissioning (RCx) process and identifying the potential energy saving opportunities (ESOs). **(b) Implementation** Maximum 3 credit points for implementing the selected ESOs for the listed systems: i. Air-conditioning system; ii. Electrical system; iii. Lift and escalator (if any) system; and iv. Plumbing and drainage system. **(c) On-going Commissioning** 1 credit point for developing on-going commissioning plan.	All buildings	9

	Credit Head	Credit Requirement	Extent of Application	Credit Point(s)
		Maximum 3 additional credit points for executing on-going commissioning for the listed systems: i. Air-conditioning system; ii. Electrical system; iii. Lift and escalator (if any) system; and iv. Plumbing and drainage system.		
IDCM-02-01	Sustainability Champions – Construction	This credit head is not available under EB Global v1.0.		
IDCM-02-02	Measures to Reduce Site Emissions	This credit head is not available under EB Global v1.0.		
IDCM-02-03	Construction and Demolition Waste Recycling	This credit head is not available under EB Global v1.0.		
IDCM-02-04 *(Core)*	Construction IAQ Management	**(a) Construction IAQ Management Plan** 1 credit point for providing a Construction Indoor Air Quality (IAQ) Management Plan. **(b) Implementation of Construction IAQ Management Plan** 1 credit point for providing records showing the Construction IAQ Management Plan has been implemented by the Building Owner/ Building Management Company/ tenants during renovation, fit-out or decoration.	Part a) – All buildings Part b) – All buildings with renovation, fit-out or decoration in past 24 months	2
IDCM-02-05	Considerate Construction	This credit head is not available under EB Global v1.0.		
IDCM-02-06	Building Management Manuals	This credit head is not available under EB Global v1.0.		
IDCM-02-07	Operator Training plus Chemical Storage and Mixing Room	This credit head is not available under EB Global v1.0.		
IDCM-03-01	Digital Facility Management Interface	This credit head is not available under EB Global v1.0.		

	Credit Head	Credit Requirement	Extent of Application	Credit Point(s)
IDCM-03-02	Occupant Engagement Platform	This credit head is not available under EB Global v1.0.		
IDCM-03-03 *(Core)*	Facility Management Team Document Management	1 credit point for demonstrating an electronic O&M platform has been operated by the Building Owner/ Building Management Company, and the required documentation has been stored for facility management.	All buildings	1
IDCM-03-04 *(Core)*	BIM Integration	1 credit point for demonstrating a BIM model including as-built fixtures, finishes and equipment data has been used by the Building Owner/ Building Management Company.	All buildings	1
IDCM-04-01 *(Elective)*	Design for Engagement and Education on Green Buildings	Maximum 4 credit points for providing the listed elements to advocate the behavioural change of building users and benchmark and recognise the green management of building.	All buildings	4

	Credit Head	Credit Requirement	Extent of Application	Credit Point(s)
4	**Sustainable Site (SS)**			**16**
SS-00-01	Minimum Landscaping Requirements	This credit head is not available under EB Global v1.0.		
SS-01-01 *(Core)*	Low Carbon Commuting	**(a) Accessibility to Public Transport** 1 credit point for achieving Accessibility Index of 15 or more of the site. **(b) Provision of Bike Parking** 1 credit point for providing sufficient bike parking for building occupants. **(c) Provision of Shower and Changing Facilities** 1 additional credit point for providing shower and changing facilities for building occupants. **(d) Changing Facilities for Electric Vehicle (EV)** 1 to 2 credit point(s) for providing at least 2 or 4 nos. of quick EV chargers in the carpark.	All buildings	5
SS-01-02 *(Core)*	Neighbourhood Amenities	1 credit point where adequate amenities for building users are located within the site or 1,000m walking distance from the site entrance(s).	All buildings	1
SS-01-03	Building Design for Sustainable Urbanism	This credit head is not available under EB Global v1.0.		
SS-01-04	Neighbourhood Daylight Access	This credit head is not available under EB Global v1.0.		
SS-01-05 *(Elective)*	Noise Control of Building Equipment	1 credit point for providing adequate acoustic treatment to the following building services equipment: chillers, cooling towers, ventilation fans with Sound Power Level (SWL) higher than 80 dB(A). ***Alternatively,*** • *1 credit point for demonstrating the level of intruding noise at the façade of the potential Noise Sensitive Receivers (NSRs) is in compliance with appropriate Acceptable Noise Levels (ANLs) shown in the statutory requirement by calculations and/or measurements.*	All buildings with building services equipment controlled by the Applicant	2

	Credit Head	Credit Requirement	Extent of Application	Credit Point(s)
		1 additional credit point for demonstrating that the level of intruding noise at the façade of the potential NSRs is in compliance with the specified noise criteria by calculations and/or measurements.		
SS-02-01 *(Core)*	Light Pollution Control	3 credit points if there are no external lightings installed for the building. ***Alternatively,*** • *1 to 2 credit point(s) for switching off the Building Owner/ Building Management Company's external lightings from 23:00 to 07:00 hours/ 22:00 to 07:00 hours.* *1 additional credit point for liaising with tenants and requiring them to switch off the external lightings from 23:00 to 07:00 hours.*	All buildings	3
SS-02-02	Biodiversity Enhancement	This credit head is not available under EB Global v1.0.		
SS-03-01 *(Core)*	Urban Heat Island Mitigation	**(a) Mitigation Strategy at Primary Zone** 2 to 3 credit points for demonstrating the implementation of any combination of the following strategies for a minimum of 10% or 20% of the external non-roof area: i. Greenery; ii. Water feature; iii. Green wall or vertical greening; iv. Shading device; and/or v. Paving materials with solar reflectance (SR) of 0.33 or above. **(b) Green Roof** 2 credit points for providing green roof and/or organic farm for at least 20% of the available main roof area.	Part a) – All buildings with external non-roof area in primary zone Part b) – All buildings	5
SS-03-02	Immediate Neighbourhood Wind Environment	This credit head is not available under EB Global v1.0.		
SS-03-03	Outdoor Thermal Comfort	This credit head is not available under EB Global v1.0.		
SS-04-01	Stormwater Management	This credit head is not available under EB Global v1.0.		
SS-04-02	Design for Climate Change Adaptation	This credit head is not available under EB Global v1.0.		

	Credit Head	Credit Requirement	Extent of Application	Credit Point(s)
5	**Materials and Waste (MW)**			**17**
MW-00-01	Minimum Waste Handling Facilities	This credit head is not available under EB Global v1.0.		
MW-01-01	Building Re-use	This credit head is not available under EB Global v1.0.		
MW-01-02	Modular and Standardised Design	This credit head is not available under EB Global v1.0.		
MW-01-03	Prefabrication	This credit head is not available under EB Global v1.0.		
MW-01-04	Design for Durability and Resilience	This credit head is not available under EB Global v1.0.		
MW-02-01	Sustainable Forest Products	This credit head is not available under EB Global v1.0.		
MW-02-02	Recycled Materials	This credit head is not available under EB Global v1.0.		
MW-02-03 *(Core)*	Ozone Depleting Substances	**(a) Newly Installed Equipment Using Refrigerants** 1 credit point for all the newly installed equipment using the refrigerants with Global Warming Potential (GWP) ≤ 50. **(b) Fire Suppression Materials and Other Materials** 1 credit point for using fire suppression and other materials that avoid the use of ozone depleting substances in their manufacture, composition or use.	Part a) – All buildings with newly installed equipment using refrigerants controlled by the Applicant. Part b) – All buildings	2
MW-02-04	Regional Materials	This credit head is not available under EB Global v1.0.		
MW-02-05 *(Core)*	Materials Purchasing Practices	1 credit point for demonstrating at least 50% of on-going consumables purchased in the past 12 months are environmentally friendly products or certified green products under recognised green product certification scheme. 1 credit point for demonstrating at least 50% of durable goods purchased in the past 12 months are environmentally friendly products or certified green products under recognised green product certification scheme.	All buildings	3

	Credit Head	Credit Requirement	Extent of Application	Credit Point(s)
		1 additional credit point for demonstrating at least 70% of on-going consumables and/or durable goods purchased in the past 12 months are environmentally friendly products or certified green products under recognised green product certification scheme.		
MW-02-06	Life Cycle Assessment	This credit head is not available under EB Global v1.0.		
MW-03-01	Adaptability and Deconstruction	This credit head is not available under EB Global v1.0.		
MW-03-02 *(Core)*	Enhanced Waste Handling Facilities	**(a) Waste Management Plan** 1 credit point for developing a waste management plan. **(b) Recycling Facilities for Different Waste Streams** Maximum 4 credit points for providing the listed on-site recycling facilities and implementing the materials collection arrangement: i. Paper/ carboard, metals and plastics; ii. Rechargeable battery; iii. Glass bottle; iv. Fluorescent lamp and tubes; v. Food waste; vi. Clothes; vii. Regulated Electrical Equipment (REE); viii. Small electrical appliance; ix. Waste cooking oil; and x. Other recyclables proposed by the Applicant.	All buildings	5
MW-03-03	No Bottled Water	This credit head is not available under EB Global v1.0.		
MW-03-04 *(Core)*	Waste Management	**(a) Waste and Recycling Records** 1 credit point for the collection of the waste and recycling records for the past 12 months. **(b) Waste Stream Audit** 1 credit point for undertaking a waste stream audit and developing action plan to improve the waste management.	All buildings	7

	Credit Head	Credit Requirement	Extent of Application	Credit Point(s)
		(c) Recycling Performance 1 to 5 credit point(s) can be achieved based on the percentage of annual waste recycling in the past 12 months. Annual recycling rate: 15%(1), 20%(2), 30%(3), 40%(4), 60%(5)		
MW-04-01	Best Practice on Material Usage	This credit head is not available under EB Global v1.0.		

	Credit Head	Credit Requirement	Extent of Application	Credit Point(s)
6	**Energy Use (EU)**			**50**
EU-00-01	Minimium Energy Performance	This credit head is not available under EB Global v1.0.		
EU-01-01	Low Carbon Passive Design	This credit head is not available under EB Global v1.0.		
EU-01-02	Reduction of CO_2 Emissions	This credit head is not available under EB Global v1.0.		
EU-01-03	Peak Electricity Demand Reduction	This credit head is not available under EB Global v1.0.		
EU-01-04 *(Core)*	Metering and Monitoring	**(a) Meters for Electrical Loads** 1 to 3 credit point(s) for equipping metering facilities/ Building Management System (BMS) to monitor energy consumption for 2, 4 or 6 numbers of the following electrical loads of landlord: i. Chiller; ii. Chiller plant; iii. Cooling tower plant; iv. Air side; v. Ventilation system; vi. Lift and escalator (if any); vii. Lighting system; and viii. Plumbing and drainage. **(b) BMS Logging** 1 credit point for having Building Management System (BMS) to log operation data (e.g. pressure, temperature, flow rate, on/ off status) for monitoring operation and function of the system including the following as a minimum: i. Central AC plant – Water side; ii. Central AC plant – Air side; iii. Cooling load; and iv. Lighting control;	All buildings	4
EU-02-01 *(Core)*	Renewable and Alternative Energy System	**(a) On-site Renewable Energy Generation** 1 to 10 credit point(s) where at least 0.2% to 2% of annual building energy consumption in communal area is obtained from renewable energy sources.	All buildings	13

<table>
<tr><th></th><th>Credit Head</th><th>Credit Requirement</th><th>Extent of Application</th><th>Credit Point(s)</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><th>Credit Point(s)</th><th>Percentage of Annual Building Consumption in Communal Area</th></tr>
<tr><td>1</td><td>0.2%</td></tr>
<tr><td>2</td><td>0.4%</td></tr>
<tr><td>3</td><td>0.6%</td></tr>
<tr><td>4</td><td>0.8%</td></tr>
<tr><td>5</td><td>1.0%</td></tr>
<tr><td>6</td><td>1.2%</td></tr>
<tr><td>7</td><td>1.4%</td></tr>
<tr><td>8</td><td>1.6%</td></tr>
<tr><td>9</td><td>1.8%</td></tr>
<tr><td>10</td><td>2.0%</td></tr>
</table>
(b) Off-site Green Power

1 to 3 credit point(s) where the building purchased Renewable Energy Certificate (REC) and/or utilises recognised off-site green power accounting for at least 10%, 20% or 30% of building energy consumption in communal area.</td><td></td><td></td></tr>
<tr><td>EU-03-01</td><td>Air-Conditioning Units</td><td>This credit head is not available under EB Global v1.0.</td><td></td><td></td></tr>
<tr><td>EU-03-02</td><td>Clothes Drying Facilities</td><td>This credit head is not available under EB Global v1.0.</td><td></td><td></td></tr>
<tr><td>EU-03-03</td><td>Energy Efficient Appliances</td><td>This credit head is not available under EB Global v1.0.</td><td></td><td></td></tr>
<tr><td>EU-03-04</td><td>Cooling System Efficiency</td><td>This credit head is not available under EB Global v1.0.</td><td></td><td></td></tr>
<tr><td>EU-03-05</td><td>Air Management System</td><td>This credit head is not available under EB Global v1.0.</td><td></td><td></td></tr>
<tr><td>EU-04-01</td><td>Best Practice on Energy Use</td><td>This credit head is not available under EB Global v1.0.</td><td></td><td></td></tr>
<tr><td>EU-04-02 (Core)</td><td>Energy Management Plan</td><td>2 credit points for developing an energy management plan with action plan for energy performance improvement.</td><td>All buildings</td><td>2</td></tr>
<tr><td>EU-04-03 (Core)</td><td>Energy Analysis</td><td>(a) Data Collection Record

1 credit point for providing energy consumption record of at least 12 months for major electrical loads.

(b) Energy Audit

1 credit point for conducting energy audit/ review in accordance with localised or international standards/ regulations.</td><td>All buildings</td><td>3</td></tr>
</table>

<table>
<tr><th></th><th>Credit Head</th><th>Credit Requirement</th><th>Extent of Application</th><th>Credit Point(s)</th></tr>
<tr><td></td><td></td><td>(c) Carbon Audit

1 credit point for conducting carbon audit in accordance with the requirements as stipulated in the guideline issued by the Authority covering the followings as minimum:

i. Emission in Scopes 1 and 2;
ii. Emission from water use (Scope3); and
iii. Any 1 additional emission in Scope 3.</td><td></td><td></td></tr>
<tr><td>EU-05-01
(Core)</td><td>Energy Benchmarking and Improvement</td><td>(a) Benchmarking

1 to 5 credit point(s) can be attained based on the benchmarking results obtained from Energy Star Portfolio Manager:

<table>
<tr><th>Credit Point(s)</th><th>Percentage of Improvement of Project Energy Use Intensity (EUI) Compared with Weather Normalised Source EUI Obtained from Energy Star Portfolio Manager</th></tr>
<tr><td>1</td><td>EUI ≤ 10%</td></tr>
<tr><td>2</td><td>10% < EUI ≤ 30%</td></tr>
<tr><td>3</td><td>30% < EUI ≤ 50%</td></tr>
<tr><td>4</td><td>50% < EUI ≤ 70%</td></tr>
<tr><td>5</td><td>EUI > 70%</td></tr>
</table>

(b) Self-improvement

2 to 16 credit points can be achieved based on the percentage of annual energy use reduction by comparing energy bill and/or metering data of an average energy consumption of any 3 contiguous years of previous 5 years:

<table>
<tr><th>Credit Point(s)</th><th>Annual Energy Reduction</th></tr>
<tr><td>2</td><td>10%</td></tr>
<tr><td>4</td><td>15%</td></tr>
<tr><td>6</td><td>20%</td></tr>
<tr><td>8</td><td>25%</td></tr>
<tr><td>10</td><td>30%</td></tr>
<tr><td>12</td><td>35%</td></tr>
<tr><td>14</td><td>40%</td></tr>
<tr><td>16</td><td>45%</td></tr>
</table>

(c) Peak Electricity Demand Reduction

1 to 3 credit point(s) for achieving 10%, 15% or 20% reduction in the average peak electricity demand of any 3 contiguous years of previous 5 years.</td><td>Part a) – All locations and building types covered by Energy Star Portfolio Manager

Part b) – All buildings

Part c) – All buildings charged by bulk tariff, large power tariff or maximum demand tariff</td><td>24</td></tr>
</table>

	Credit Head	Credit Requirement	Extent of Application	Credit Point(s)
EU-05-02 *(Elective)*	Energy Efficient Practices and Measures	**(a) Energy Efficient Practices** 1 credit point for implementing at least 1 of the energy improvement measures identified in energy audit. **(b) Energy Efficient Measures** Maximum 3 credit points for demonstrating the prescribed energy efficient measure(s) has been implemented.	All buildings	4

	Credit Head	Credit Requirement	Extent of Application	Credit Point(s)
7	**Water Use (WU)**			**24 + 4 Bonus**
WU-00-01	Minimum Water Saving Performance	This credit head is not available under EB Global v1.0.		
WU-01-01 *(Core)*	Water Efficient Devices	1 to 4 credit point(s) for installing high-efficiency water taps and shower heads for bathing (if any) with flowrates not exceeding the specified performance criteria. ***Alternatively,*** • *1 to 4 credit point(s) for the water taps and shower heads for bathing (if any) are certified under localised water efficiency label, if available.*	All buildings with water devices that are controlled by the Applicant	4
WU-01-02 *(Core)*	Water Use for Irrigation	1 credit point for demonstrating the use of water efficient irrigation technologies and/or harvested rainwater or/and recycled grey water to reduce irrigation water consumption. ***Alternatively,*** • *1 credit point for demonstrating limited use of fresh water for irrigation.*	All buildings with soft landscape area of 200m^2 or more	1
WU-01-03	Water Efficient Appliances	This credit head is not available under EB Global v1.0.		
WU-01-04 *(Core)*	Water Leakage Detection	1 credit point for installing water leakage detection system in all municipal potable water tank and/or pump rooms.	All buildings with potable water tank and/or pump rooms	1
WU-01-05 *(Elective)*	Twin Tank System	1 Bonus credit point for providing twin tank for either potable or flushing water supply system. OR 2 Bonus credit points for providing twin tank for both potable and flushing water supply system.	All buildings (including buildings with centralised/ shared tank that is outside the assessment boundary)	2 Bonus
WU-01-06 *(Core)*	Cooling Tower Water	1 credit point for reducing fresh water consumption by installing water treatment system which can achieve 6 cycles of concentration with acceptable water quality.	All buildings with cooling tower using fresh water as makeup water	1

<table>
<tr><th></th><th>Credit Head</th><th>Credit Requirement</th><th>Extent of Application</th><th>Credit Point(s)</th></tr>
<tr><td>WU-02-01
(Core)</td><td>Effluent Discharge to Foul Sewers</td><td>1 to 4 credit point(s) for installing high-efficiency water closets and urinals (if any) with flowrates not exceeding the specified performance criteria.

Alternatively,
• 1 to 4 credit point(s) for the water closets and urinals (if any) are certified under localised water efficiency label, if available.</td><td>All buildings with flushing system that is controlled by the Applicant</td><td>4</td></tr>
<tr><td>WU-03-01
(Elective)</td><td>Water Harvesting and Recycling</td><td>1 or 2 Bonus credit point(s) for harvesting rainwater and/or recycling grey water that leads to a reduction of at least 2.5% or 5% in the consumption of potable water.</td><td>All buildings</td><td>2 Bonus</td></tr>
<tr><td>WU-04-01
(Core)</td><td>Water Metering</td><td>1 credit point for demonstrating the provision of permanent water meters for at least 2 of the following water sub-systems:

i. Irrigation;
ii. Indoor plumbing fixtures and fittings;
iii. Cooling towers;
iv. Water features/ pools; and
v. Other process water.</td><td>All buildings</td><td>1</td></tr>
<tr><td>WU-04-02
(Core)</td><td>Water Saving Management</td><td>(a) Water Conservation Plan

1 credit point for developing a water conservation plan endorsed by top management.

(b) Water Use Records

1 credit point for maintaining water use records for the past 12 months.

(c) Water Audit

1 credit point for undertaking a water audit and maintaining a water use inventory.

(d) Water Saving Performance

1 to 5 credit point(s) can be achieved based on the reduction percentage by comparing water bill and/or metering data (Baseline year can be any one of the past 5 years):

<table><tr><th>Credit Point(s)</th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th></tr><tr><td>Annual fresh water use reduction</td><td>3%</td><td>6%</td><td>9%</td><td>14%</td><td>20%</td></tr></table></td><td>All buildings</td><td>8</td></tr>
</table>

	Credit Head	Credit Requirement	Extent of Application	Credit Point(s)
WU-04-03 *(Core)*	Quality Water Supply	**(a) Water Safety Plan** 1 credit point for developing a water safety plan. 1 additional credit point for providing water safety inspection records to demonstrate routine checking of the fresh water supply system. **(b) Water Quality Survey** 1 credit point for demonstrating that the quality of fresh water at all fresh water tanks and the supply point(s) at high, middle and low zones of the building meets the limits as stipulated in locally available standards. 1 additional credit point for demonstrating that the quality of fresh water meets the prescribed limits.	All buildings	4

	Credit Head	Credit Requirement	Extent of Application	Credit Point(s)
8	**Health and Wellbeing (HWB)**			**26 + 2 Bonus**
HWB-00-01 *(Core)*	Minimum Ventilation Performance	**(a) On-site Outdoor Air Quality** 1 credit point for demonstrating the level of outdoor air pollutants at selected intake location(s) are within the prescribed criteria. **(b) Minimum Ventilation** 1 credit point for demonstrating that the project is in compliance with the minimum ventilation quantity in accordance with of ANSI/ASHRAE Standard 62.1-2016. ***Alternatively*** In case of the minimum ventilation rate of ANSI/ASHRAE Standard 62.1-2016 is not complied due to the physical constraints of the existing ventilation system, demonstrate that the system is operated at maximum outdoor air delivery rate and provide not less than 5 L/s per person of combined outdoor air rate.	All buildings, except the naturally ventilated spaces	2
HWB-01-01	Healthy and Active Living	This credit head is not available under EB Global v1.0.		
HWB-01-02	Biophilic Design	This credit head is not available under EB Global v1.0.		
HWB-02-01 *(Core)*	Inclusive Design	**(a) Barrier Free Access** 1 credit point for providing at least 3 enhanced barrier free access provisions with reference to the local standard. **(b) Corporate Social Responsibility Facilities/ Services** Maximum 4 credit points for providing the listed CSR facilities/ services: i. Allowing persons with visual impairment to bring along with their guide dogs; ii. Automated External Defibrillator; iii. Baby-care room/ nursing room; iv. Bicycle parking; v. Private breastfeeding space; vi. Free baby stroller lending service; vii. Free drinking water facility; viii. Free wheelchair lending service; ix. Free Wi-Fi in common area;	All buildings	5

	Credit Head	Credit Requirement	Extent of Application	Credit Point(s)
		x. Water closet for children or family in each male and female washroom; xi. Stand alone family washroom; xii. Shaded rest area with seating for care-takers near play equipment for children; and xiii. Others to be proposed by the Applicant.		
HWB-03-01 *(Elective)*	Enhanced Ventilation	**(a) Fresh Air Provision** 1 credit point for demonstrating that 90% of not normally occupied spaces in the building are provided with adequate ventilation. **(b) Exhaust Air** 1 credit point for the provision of an effective ventilation system for spaces where significant indoor pollution sources are generated.	All buildings	2
HWB-03-02 *(Elective)*	Waste Odour Control	1 credit point for providing de-odourising system in all rooms designated for refuse storage or materials recovery.	All buildings with room designated for refuse storage or materials recovery	1
HWB-03-03 *(Core)*	Acoustics and Noise	**(a) Background Noise Level** 1 credit point for demonstrating background noise levels from both external sources and building services equipment are within the prescribed criteria. **(b) Room Acoustics** 1 credit point for demonstrating that the mid-frequency reverberation time in applicable spaces meets the prescribed criteria of different types of premises. **(c) Noise isolation** 1 credit point for demonstrating airborne noise isolation between rooms, spaces and premises fulfils the prescribed criteria.	All buildings with the spaces where speech intelligibility is important, and without rooms of a special acoustical nature	3
HWB-03-04 *(Elective)*	Indoor Vibration	1 Bonus credit point for demonstrating vibration levels not exceeding the prescribed criteria.	All buildings with normally occupied spaces	1 Bonus

	Credit Head	Credit Requirement	Extent of Application	Credit Point(s)
HWB-03-05 *(Core)*	Indoor Air Quality	**(a) Indoor Air Quality in Occupied Spaces** Maximum 4 credit points for demonstrating compliance with local standard for Carbon monoxide (CO), Nitrogen dioxide (NO_2), Ozone (O_3), Carbon dioxide (CO_2), Respirable suspended particulates (PM_{10}), Total volatile organic compounds (TVOCs), Formaldehyde (HCHO) and Radon (Rn) in the landlord's controlled spaces. 1 additional credit point when the above-listed air pollutants in the landlord's controlled spaces comply with the prescribed limits. **(b) Air Quality in Car Park** 1 credit point for complying with the recommended pollutant concentration limits for Carbon Monoxide (CO) and Nitrogen dioxide (NO_2).	Part a) – All buildings Part b) – All buildings with enclosed and/or semi-enclosed car park of areas more than 10% of Construction Floor Area	6
HWB-03-06 *(Core)*	Thermal Comfort in Air-Conditioned Premises	1 credit point for demonstrating an appropriate temperature (i.e. <25.5°C) and relative humidity (i.e. <70%) in the normally occupied spaces.	All buildings with air-conditioning provisions	1
HWB-03-07 *(Core)*	Artificial Lighting	**(a) Artificial Lighting in Normally Occupied Spaces** 1 to 2 credit point(s) for achieving the prescribed lighting performance in normally occupied spaces for each of the listed lighting quality: i. Maintained illuminance and minimum illuminance uniformity; and ii. Unified Glare Rating limit. **(b) Artificial Lighting in Not Normally Occupied Spaces** 1 to 2 credit point(s) for achieving the prescribed lighting performance in not normally occupied spaces for each of the listed lighting quality: i. Maintained illuminance and minimum illuminance uniformity; and ii. Unified Glare Rating limit.	All buildings, except residential units, hotels and apartment buildings	4
HWB-03-08	Daylight	This credit head is not available under EB Global v1.0.		
HWB-03-09 *(Core)*	Biological Contamination	1 credit point for developing a Legionella Management Plan.	All buildings	1

	Credit Head	Credit Requirement	Extent of Application	Credit Point(s)
HWB-03-10	Drinking Water Promotion	This credit head is not available under EB Global v1.0.		
HWB-03-11 *(Elective)*	Building User Satisfaction Survey on Indoor Comfort	1 Bonus credit point for conducting regular building user satisfaction surveys to collect responses regarding the indoor environmental quality.	All buildings	1 Bonus
HWB-03-12 *(Elective)*	Control of Environmental Tobacco Smoke	1 credit point for implementing no smoking policy in the building and outside the building except in designated smoking areas.	All buildings	1
HWB-04-01	Touchless Environment	This credit head is not available under EB Global v1.0.		
HWB-04-02	Healthy Entrance	This credit head is not available under EB Global v1.0.		

	Credit Head	Credit Requirement	Extent of Application	Credit Point(s)
9	**Innovations and Additions (IA)**			**5**
IA-01-01 *(Elective)*	Innovative Techniques	Maximum 5 credits point(s) for implementation of each innovative technique which provides environmental benefits in addition to those already covered in the Manual.	All buildings	5

2. Management

An effective management of building operations and maintenance is the key factor for better environmental performance of the building, especially for existing buildings. The ‘Management’ category assesses the overarching management system, policies and procedures put in place, staffing and resources, and the involvement of building users to ensure buildings are operating in their maximum sustainable potential.

2	**Management**	**MAN-00**	**Basic Requirement**
	Core Requirement	**MAN-00-01**	**Green Purchasing Plan**

Extent of Application

All buildings

Objective

Encourage the purchase of products used in the Operation and Maintenance (O&M) of buildings with reducing environmental impacts through the formulation of procedures or plans.

Credits Point(s) Attainable

1

Credit Requirement

1 credit point for demonstrating that green purchasing plan and procedures (including both materials and services), either follow their internal company guideline or other international standards, shall be in place.

Assessment

1. Provide documentary evidence that purchasing plans and procedures are in place for governing the procurement of materials, products, equipment and services, which shall have no significant negative impacts on the environment and the safety and health of employees and building users.

2. The green purchasing plan shall include but not limited to the following contents:

    2.1 Green purchasing policy;
    2.2 Objectives;
    2.3 Short term (3 years) and long term (5 years) targets;
    2.4 Responsibility;
    2.5 Environmental attributes;
    2.6 Specified on-going consumables, durable goods, products, equipment and services; and
    2.7 Monitoring and checking.

3. The green purchasing plan may include the procurement of:

    3.1 Materials with low embodied energy;
    3.2 Locally produced materials where available;
    3.3 Wood products from well-managed sources;
    3.4 Products which do not use CFCs, HCFCs, halons;
    3.5 Salvaged materials and components;
    3.6 Rapidly renewable materials;
    3.7 Durable materials;
    3.8 Finishes; paints, adhesives, etc., with low levels of emissions;
    3.9 Minimal packaging and/or recyclable packaging;
    3.10 Products having high recyclable content;
    3.11 Products that are recyclable;
    3.12 Energy efficient appliances and equipment; and
    3.13 Water efficient appliances, etc.

4. The above list is not exhaustive and it is not necessary to include all the abovementioned procurement items into the green purchasing plan. The Applicant shall compose their green purchasing plan that suits their own operational needs.

5. The plan shall be endorsed by the top management of building owner/ building management company.

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
MAN-00-01_00	BEAM Plus EB Global submission template for MAN-00-01
MAN-00-01_01	Endorsed green purchasing plan
MAN-00-01-02	Organisation chart demonstrating the line of authority of the personnel endorsing the plan

Remarks

(a) Additional Information

None.

(b) Related Credit Heads

MW-02-03 Ozone Depleting Substances

The related credit head encourages the avoidance of releasing ozone depletion substances into the atmosphere.

MW-02-05 Materials Purchasing Practices

The related credit head encourages purchasing practices which reduce the environmental impacts of products used by implementing green purchasing plan and purchasing environmentally friendly/ certified green products that have low environmental impacts.

2	**Management**	**MAN-01**	**EHS and Energy Management**
	Elective Requirement	**MAN-01-01**	**EHS and Energy Management System**

Extent of Application

All buildings

Objective

Encourage the building management to implement systematic management systems that embrace environmental and energy aspects.

Credits Point(s) Attainable

1 + 1 Bonus

Credit Requirement

a) Environmental Management System Certification

1 credit point where the building management operates an Environmental Management System (EMS) certified to ISO 14001.

b) Energy Management System Certification

1 Bonus credit point where the building management operates an Energy Management System (EnMS) certified to ISO 50001.

Assessment

1. Provide ISO 14001 and/or ISO 50001 certificate(s) to demonstrate that the building is operating the EMS and/or EnMS [1] [2].

2. The project information including building name should be stated in the certificate(s). Credits will not be granted if only the head office operation of the Building Management Company is awarded with the certificate(s).

3. The certificate(s) shall be valid at the time of submission.

Submittals

a) Environmental Management System Certification

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
MAN-01-01a_00	BEAM Plus EB Global submission template for MAN-01-01a
MAN-01-01a_01	A valid ISO 14001 certificate of the building

b) Energy Management System Certification

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
MAN-01-01b_00	BEAM Plus EB Global submission template for MAN-01-01b
MAN-01-01b_01	A valid ISO 50001 certificate of the building

Remarks

(a) Additional Information

[1] International Organization for Standardization. ISO 14001:2015 Environmental management systems – Requirements with guidance for use. [ONLINE]. Available at:
https://www.iso.org/standard/60857.html
[Accessed May 2024].

[2] International Organization for Standardization. ISO 50001:2018 Energy
management systems – Requirements with guidance for use. [ONLINE]. Available at
https://www.iso.org/standard/69426.html
[Accessed May 2024].

(b) Related Credit Heads

EU-04-02 Energy Management Plan

The related credit head encourages high level management to involve in the improvement of energy efficiency and conservation.

2	**Management**	**MAN-02**	**ESG Disclosure**
	Elective Requirement	**MAN-02-01**	**Environmental, Social and Governance (ESG) Disclosure**

Extent of Application

All buildings

Objective

Encourage Building Owner/ Building Management Company to have ESG reporting and disclose its operational performance to the public.

Credits Point(s) Attainable

2 + 1 Bonus

Credit Requirement

a) Disclosure of Sustainability and Climate Policy

1 credit point where the Building Owner/ Building Management Company discloses sustainability policy to the public.

1 credit point where the Building Owner/ Building Management Company discloses climate policy to the public.

b) ESG Reporting

1 Bonus credit point where the ESG reporting is prepared in accordance to a credible sustainability reporting guideline and disclosed to the public.

Assessment

a) Disclosure of Sustainability and Climate Policy

1. Provide sustainability and/or climate policy of the Building Owner/ Building Management Company. The scope of the sustainability and/or climate policy is not regulated but it should cover at least the environmental and/or climate issues.

b) ESG Reporting

1. The ESG report shall be composed in accordance with one of the following credible sustainability reporting guidelines, or equivalent:

    1.1 GRI G4 Guideline in accordance with either “Core” or “Comprehensive” option; or
    1.2 GRI Sustainability Reporting Standards in accordance with either “Core” or “Comprehensive” option; or
    1.3 International Integrated Reporting Framework; or
    1.4 Appendix 27 Environmental, Social and Governance Reporting Guide of the HKEX Main Board Listing Rules; or
    1.5 Guidelines on Corporate Social Responsibility Report for Chinese Enterprises (CASS-CSR).

2. The ESG report shall be published to the public within the past 12 months.

Submittals

a) Disclosure of Sustainability and Climate Policy

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
MAN-02-01a_00	BEAM Plus EB Global submission template for MAN-02-01a
MAN-02-01a_01	Sustainability policy
MAN-02-01a_02	Climate policy
MAN-02-01a_03	Evidence showing the sustainability policy disclosed to public
MAN-02-01a_04	Evidence showing the climate policy disclosed to public

b) ESG Reporting

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
MAN-02-01b_00	BEAM Plus EB Global submission template for MAN-02-01b
MAN-02-01b_01	ESG report of the Building Owner/ Building Management Company that follows credible sustainability reporting guideline
MAN-02-01b_02	Evidence showing the ESG report is publicly available

Remarks

(a) Additional Information

None.

(b) Related Credit Heads

None.

2	**Management**	**MAN-02**	**ESG Disclosure**
	Core Requirement	**MAN-02-02**	**Net-zero Transition Plan**

Extent of Application

All buildings

Objective

Encourage the building management to establish and implement decarbonisation plan to systematically achieve net-zero by 2050.

Credits Point(s) Attainable

7

Credit Requirement

a) GHG Emissions Targets

1 credit point for establishment of near-term absolute Scopes 1 and 2 GHG emissions reduction target.

1 credit point for establishment of near-term Scope 3 GHG emissions reduction target.

1 additional credit point if the near-term target is validated by Science Based Target initiative (SBTi).

b) Net Zero Targets

2 credit points for the building management's commitment to achieving net zero emissions by 2050.

1 additional credit point if the net-zero target is validated by Science Based Targets initiative (SBTi).

1 credit point where the building owner discloses its net-zero transition plan and targets to the public.

Assessment

a) GHG Emissions Targets

1. Provide greenhouse gas (GHG) emissions reduction target of Scopes 1, 2 and 3 emissions in near-term (minimum of 5 years and a maximum of 10 years from the date of submission). The target shall be endorsed by the top management of Building Owner/ Building Management Company.

2. The Scope 3 GHG emissions reduction target could be defined in terms of absolute/ intensity/ supplier or customer engagement.

3. Provide supporting to demonstrate the committed near-term target is science-based and is presented to and validated by Science Based Targets initiative (SBTi).

b) Net Zero Targets

1. Provide a building management's commitment statement for the building to achieving net zero by 2050. The statement shall be endorsed by the top management of Building Owner/ Building Management Company.

2. Provide supporting to demonstrate the committed net-zero target is science-based and is presented to and validated by the Science Based Targets initiative (SBTi).

3. Provide evidence showing the net-zero transition plan and targets are disclosed to the public.

Submittals

a) GHG Emissions Targets

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
MAN-02-02a_00	BEAM Plus EB Global submission template for MAN-02-02a
MAN-02-02a_01	Endorsed reduction target of Scopes 1 and 2
MAN-02-02a_02	Endorsed reduction target of Scope 3
MAN-02-02a_03	Evidence showing the near-term targets are validated by SBTi

b) Net Zero Targets

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
MAN-02-02b_00	BEAM Plus EB Global submission template for MAN-02-02b
MAN-02-02b_01	Endorsed commitment statement of net zero target
MAN-02-02b_02	Evidence showing the net zero targets are validated by SBTi
MAN-02-02b_03	Evidence showing net-zero transition plan and targets are disclosed to the public

Remarks

(a) Additional Information

None.

(b) Related Credit Heads

None.

2	**Management**	**MAN-03**	**Operating and Maintenance**
	Core Requirement	**MAN-03-01**	**Building Operating Staff Training**

Extent of Application

All buildings

Objective

Ensure the staff training and technical resources are adequate for the Operation and Maintenance (O&M) of the building.

Credits Point(s) Attainable

1

Credit Requirement

1 credit point for providing adequate and periodic training for the staff responsible for the O&M of the building.

Assessment

1. Provide training records (e.g. certificate, attendance record) for the staff members responsible for O&M (engineering and property management) for the past 12 months.

2. The topics of the training are not regulated but the training shall be related to the operation of the building. The minimum training requirements are 15 hours and 6 hours per year for the Building Manager and other staff members respectively.

3. The credit assesses whether there are adequate resources to cover for the operation and maintenance of the building. The Applicant shall provide the organisation chart clearly indicating the building management staff members for the O&M of building. Only staff members of the Building Management Company are included in the assessment. Staff members of sub-contractors are excluded from the assessment.

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
MAN-03-01_00	BEAM Plus EB Global submission template for MAN-03-01
MAN-03-01_01	Organisation chart of the building management team
MAN-03-01_02	Staff training records for the past 12 months
MAN-03-01_03	Table summarising the training hours for Building Manager and other staff members

Remarks

(a) Additional Information

None.

(b) Related Credit Heads

None.

2 Management	MAN-03	Operating and Maintenance
Core Requirement	**MAN-03-02**	**Building and Site Operation and Maintenance**

Extent of Application

Part a) – All buildings with building's fabric and structure that are controlled by the Applicant

Part b) – All buildings with external areas and facilities that are controlled by the Applicant and building footprint not exceeding 80% of site area

Objective

Encourage planned inspection, maintenance and repairing of the building fabric, structure, and external areas in order to enhance safety and reduce environmental impacts.

Credits Point(s) Attainable

2

Credit Requirement

a) Building Maintenance

1 credit point for demonstrating the operation of a planned programme of regular inspection, maintenance and repairing of the building's fabric and structure.

b) External Areas and Facilities

1 credit point for demonstrating the operation of a planned programme of regular inspection, maintenance and repairing of external areas and facilities.

Assessment

1. Provide the following documentations to demonstrate the system of inspections, maintenance and general repairs to the building fabric, structural and external areas elements are effective in maintaining reliability and prolonging service life of the building:

    1.1 Maintenance procedures of the applicable element(s);
    1.2 Maintenance programme or equivalent document showing frequencies of inspection, maintenance and repairs (if any) for the past 12 months;
    1.3 Inspection, maintenance and repairs (if any) records for one representative month in the past 12 months; and
    1.4 Planned inspection and maintenance programme for the next 12 months.

2. The frequency of these activities is not regulated and it is subject to the Applicant's operation requirement.

a) Building Maintenance

1. The following building fabric and structure that are under the control of the Applicant shall be included:

    1.1 Building façade;
    1.2 Curtain wall; and
    1.3 External cladding.

2. Provide a list of building fabric and structure elements that are subject to regular inspection, maintenance and general repairs.

b) External Areas and Facilities

1. The following external areas and facilities that are under the control of the Applicant shall be included:

   1.1 Roads and pavements;
   1.2 Hard and soft landscape areas;
   1.3 Stairs and ramps; and
   1.4 Recreational facilities.

2. Provide a list of external areas and facilities elements that are subject to regular inspection, maintenance and general repairs.

Submittals

a) Building Maintenance

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
MAN-03-02a_00	BEAM Plus EB Global submission template for MAN-03-02a
MAN-03-02a_01	A list of building fabric and structure elements subject to regular inspection, maintenance and general repairs
MAN-03-02a_02	Maintenance procedures of the elements as stated in MAN-03-02a_01
MAN-03-02a_03	Maintenance programme or equivalent document showing frequencies of inspection, maintenance and repairs (if any) for the past 12 months
MAN-03-02a_04	Records of inspection, maintenance and repairs (if any) for one representative month in the past 12 months
MAN-03-02a_05	Planned inspection and maintenance programme for the next 12 months

b) External Areas and Facilities

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
MAN-03-02b_00	BEAM Plus EB Global submission template for MAN-03-02b
MAN-03-02b_01	A list of external areas and facilities elements subject to regular inspection maintenance and

	general repairs
MAN-03-02b_02	Maintenance procedures of the elements as stated in MAN-03-02b_01
MAN-03-02b_03	Maintenance programme or equivalent document showing frequencies of inspection, maintenance and repairs (if any) for the past 12 months
MAN-03-02b_04	Records of inspection, maintenance and repairs (if any) for one representative month in the past 12 months
MAN-03-02b_05	Planned inspection and maintenance programme for the next 12 months
MAN-03-02b_06	Document such as layout plan, with calculation showing the building footprint not exceed 80% of site area (substantiation for applicability)

Remarks

(a) Additional Information

None.

(b) Related Credit Heads

None.

2	**Management**	**MAN-03**	**Operating and Maintenance**
	Core Requirement	**MAN-03-03**	**Building Services Operation and Maintenance**

Extent of Application

Part a) – All buildings with central HVAC plant

Part b) and c) – All buildings

Objective

Encourage proper and efficient operation of the engineering systems by operation and maintenance programme.

Credits Point(s) Attainable

5

Credit Requirement

a) Central Heating Ventilation and Air-Conditioning (HVAC) Plant

2 credit points for demonstrating the operation of a planned programme of regular inspection, maintenance and repairing of the central HVAC plant.

b) Other Engineering Systems

Maximum 2 credit points for demonstrating the operation of a planned programme of regular inspection, maintenance and repairing for the listed systems:

i. Air-conditioning system except HVAC plant;
ii. Electrical system;
iii. Lighting system; and
iv. Plumbing and drainage system.

c) Assessment of Operation & Maintenance Practice

1 credit point for having undertaken an audit of the effectiveness of the O&M practices for all building services engineering systems.

Assessment

a) Central Heating Ventilation and Air-Conditioning (HVAC) Plant

1. Provide the following documentations to demonstrate the operation of planned programme for regular inspection, maintenance and repairs (if any) of the central HVAC plant:

    1.1 Maintenance procedures;
    1.2 Maintenance programme or equivalent document showing the frequencies of inspection, maintenance and repairs (if any) in the past 12 months;
    1.3 Inspection, maintenance and repairs (if any) records for one representative month in the past 12 months; and
    1.4 Planned inspection and maintenance programme for the next 12 months.

2. Central HVAC plant refers to HVAC related plant for cooling and/or heating generation (i.e. water side equipment including chiller plant, heat pump plant, cooling tower plant and chilled and condensing water pumps, and air side equipment including primary air units, air handling units).

3. The frequency of these activities is not regulated and subject to the Applicant's operation requirement.

b) Other Engineering Systems

1. 1 credit can be achieved for demonstrating the operation of a planned programme for each of the listed systems:

   1.1 Air-conditioning system except central HVAC plant;
   1.2 Electrical system;
   1.3 Lighting system; and
   1.4 Plumbing and drainage system.

2. Air-conditioning system except central HVAC plant refers to VRV or unitary system and mechanical ventilation system.

3. Provide the following documentations to demonstrate the operation of planned programme of regular inspection and maintenance of the air-conditioning (except central HVAC plant), electrical, lighting and plumbing and drainage system:

   3.1 Maintenance procedures of the applicable system(s);
   3.2 Maintenance programme or equivalent document showing the frequencies of inspection, maintenance and repairs (if any) of the applicable system(s) in the past 12 months;
   3.3 Inspection, maintenance and repairs (if any) records for one representative month in the past 12 months; and
   3.4 Planned inspection and maintenance programme for the next 12 months.

4. The frequency of these activities is not regulated and is subject to the Applicant's operation requirement.

c) Assessment of Operation & Maintenance Practice

1. Provide a report detailing the steps taken, outcomes and actions taken or planned (with appropriate budget information) for improvements in the building services operation and maintenance practices. The audit approach should follow the details in BSRIA's guide [1] or similar equivalent approaches. The effectiveness audit shall be conducted every 5 years.

Submittals

a) Central Heating Ventilation and Air-Conditioning (HVAC) Plant

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
MAN-03-03a_00	BEAM Plus EB Global submission template for MAN-03-03a
MAN-03-03a_01	Maintenance procedures of the central HVAC plant

MAN-03-03a_02	Maintenance programme or equivalent document showing the frequencies of inspection, maintenance and repairs (if any) of the central HVAC plant in the past 12 months
MAN-03-03a_04	Records of inspection, maintenance and repairs (if any) for one representative month in the past 12 months
MAN-03-03a_05	Planned inspection and maintenance programme for the next 12 months

b) Other Engineering Systems

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
MAN-03-03b_00	BEAM Plus EB Global submission template for MAN-03-03b
MAN-03-03b_01	Maintenance procedures of the applicable system(s)
MAN-03-03b_02	Maintenance programme or equivalent document showing the frequencies of inspection, maintenance and repairs (if any) of the applicable system(s) in the past 12 months
MAN-03-03b_04	Records of inspection, maintenance and repairs (if any) for one representative month in the past 12 months
MAN-03-03b_05	Planned inspection and maintenance programme for the next 12 months

c) Assessment of Operation & Maintenance Practice

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
MAN-03-03c_00	BEAM Plus EB Global submission template for MAN-03-03c
MAN-03-03c_01	Audit report showing the effectiveness of the O&M practice

Remarks

(a) Additional Information

[1] Building Services Research and Information Association. BG 24/2012 Asset Management and Maintenance Audits. BSRIA 2012.

(b) Related Credit Heads

None.

2 Management **MAN-04** **Green and Healthy Management**

Core Requirement **MAN-04-01** **Green Lease**

Extent of Application All buildings with tenants

Objective Encourage the Building Owner/ Building Management Company and building users to work together to achieve sustainable operation of the building.

Credits Point(s) Attainable 1

Credit Requirement 1 credit point for demonstrating the adoption of green lease proposed by the landlord.

Assessment

1. Provide the green lease agreement. The contents of the green lease are not regulated and shall be subject to the operation of the Applicant.
2. Provide evidence/ report demonstrating that the project owner has implemented the green actions/ green lease terms as required by the green lease in at least 10% of leased area.
3. Provide area breakdown of green lease coverage.

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
MAN-04-01_00	BEAM Plus EB Global submission template for MAN-04-01
MAN-04-01_01	Copy of green lease agreement
MAN-04-01_02	Implementation records in accordance with the green lease, showing that the green lease is being implemented in at least 10% of leased area
MAN-04-01_03	Calculation of green lease coverage

Remarks

(a) Additional Information

None.

(b) Related Credit Heads

None.

2	**Management**	**MAN-04**	**Green and Healthy Management**
	Core Requirement	**MAN-04-02**	**Green Cleaning**

Extent of Application

All buildings

Objective

Encourage environmentally friendly cleaning products and procedures.

Credits Point(s) Attainable

3

Credit Requirement

a) Implementation of Green Cleaning

1 credit point for implementing the appropriate green cleaning procedures/ practices for the project.

b) Use of Green Cleaning Detergent

1 to 2 credit point(s) for demonstrating the use of at least 10% or 20% of green cleaning detergents.

Assessment

a) Implementation of Green Cleaning

1. Demonstrate the adoption of green cleaning products in the project.

2. Provide green cleaning procedures manual that include the following contents as minimum:

    2.1 List of the responsible person;
    2.2 Materials;
        2.2.1 Product catalogues/ data sheet/ material hazard data sheets (if applicable);
        2.2.2 Toxic/ pesticide/ herbicide (if applicable);
        2.2.3 Chemical handling safety (if applicable); and
        2.2.4 Photo record(s) for the cleaning products.
    2.3 Green cleaning procedures:
        2.3.1 Method statements for all routine cleaning in the project;
        2.3.2 Method statements for purchase, preparation, dilution, mixing, decanting, handling, spillage and disposal of waste;
        2.3.3 Equipment operation and maintenance; and
        2.3.4 Training and communication.

b) Use of Green Cleaning Detergent

1. Demonstrate at least 10% or 20% (in terms of volume) of the cleaning detergents purchased in the past 12 months to be green products.

2. For the green cleaning detergents acquired through bulk purchase of the management company, the Applicant should provide transfer note(s) showing the building in receipt of the green cleaning detergent, date of the transfer and quantity of green cleaning detergent being transferred from the central bulk purchasing department to the project building.

2.1 The transfer note(s) should be endorsed by the person-in-charge of the central bulk purchasing of the management company (i.e. the purchaser of the green cleaning detergent) and building-in-charge (i.e. the recipient of the green cleaning detergent).

Submittals

a) Implementation of Green Cleaning

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
MAN-04-02a_00	BEAM Plus EB Global submission template for MAN-04-02a
MAN-04-02a_01	Green cleaning procedures manual
MAN-04-02a_02	Product catalogue, certificates or product specification of the green cleaning detergents
MAN-04-02a_03	Representative sample of purchase order, delivery notes and/or transfer notes of the green cleaning detergents

b) Use of Green Cleaning Detergent

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
MAN-04-02b_00	BEAM Plus EB Global submission template for MAN-04-02b
MAN-04-02b_01	Summary table showing at least 10% or 20% of the total volume of cleaning detergents purchased in the past 12 months are green cleaning detergents
MAN-04-02b_02	Product catalogue, certificates or product specification of the green cleaning detergents
MAN-04-02b_03	Purchase order, delivery notes and/or transfer notes of cleaning detergents to support the claimed percentage of green cleaning detergents

Remarks

(a) Additional Information

None.

(b) Related Credit Heads

None.

2	**Management**	**MAN-04**	**Green and Healthy Management**
	Core Requirement	**MAN-04-03**	**User Guidance**

Extent of Application

All buildings

Objective

Inform and educate the occupants regarding environmental, comfort and health impacts of their activities, and encourage actions that reduce adverse impacts.

Credits Point(s) Attainable

1

Credit Requirement

1 credit point for providing user guide to encourage and promote environmentally friendly activities.

Assessment

1. Provide a user guide which encourages and promotes environmentally friendly building use and activities. The guide shall include the following contents as minimum:

    1.1 List of the responsible person;
    1.2 Updating frequency of the user guide; and
    1.3 At least five (5) of the following topics:
        1.3.1 Local public transport and cycling provision;
        1.3.2 Information on alternative methods of transport;
        1.3.3 Hygiene and environmental issues;
        1.3.4 Materials selection for fit-out and redecoration;
        1.3.5 Energy issues;
        1.3.6 Water conservation;
        1.3.7 Waste sorting facilities/ practices; and
        1.3.8 Indoor environmental quality.

2. Evidence shall be provided to demonstrate the user guide has been communicated to the regular building occupants (e.g. staff members and tenants). Feedback channel shall also be established for continual improvement.

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
MAN-04-03_00	BEAM Plus EB Global submission template for MAN-04-03
MAN-04-03_01	User guide
MAN-04-03_02	Records showing the user guide has been communicated to the regular building occupants
MAN-04-03_03	Evidence showing that the feedback channel(s) between the regular building occupants and Building Owner/ Building Management Company has been established

Remarks

(a) Additional Information

None.

(b) Related Credit Heads

None.

2	Management	MAN-04	Green and Healthy Management
	Elective Requirement	**MAN-04-04**	**Occupational Health and Safety (OHS)**

Extent of Application

All buildings

Objective

Encourage the building management to implement systematic management systems that embrace healthiness and safety.

Credits Point(s) Attainable

1 Bonus

Credit Requirement

1 Bonus credit point where the building management operates an Occupational Health and Safety System (OHSAS) certified to ISO 45001.

Assessment

1. Provide ISO 45001 certificate to demonstrate that the building is operating the OHSAS [1].

2. The project information including building name should be stated in the certificate. Credit will not be granted if only the head office operation of the Building Management Company is awarded with the certificate.

3. The certificate shall be valid at the time of submission.

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
MAN-04-04_00	BEAM Plus EB Global submission template for MAN-04-04
MAN-04-04_01	A valid ISO 45001 certificate of the building

Remarks

(a) Additional Information

[1] International Organization for Standardization. ISO 45001:2018 Occupational health and safety management systems — Requirements with guidance for use. [ONLINE]. Available at: https://www.iso.org/standard/63787.html [Accessed May 2024].

(b) Related Credit Heads

None.

2	**Management**	**MAN-04**	**Green and Healthy Management**
	Core Requirement	**MAN-04-05**	**Integrated Pest Management**

Extent of Application

All buildings

Objective

Ensure the management of pest is safe, hygienic and with limited environmental impacts.

Credits Point(s) Attainable

1

Credit Requirement

1 credit point for implementing an integrated programme for pest management.

Assessment

1. Provide an integrated pest management plan which details the following:

    1.1 Roles and responsibilities of the pest control service provider;
    1.2 Methods used for pest control;
    1.3 Identification of root causes of pest problems;
    1.4 Pest-specific strategies;
    1.5 Use of pesticides;
    1.6 Record keeping; and
    1.7 Training requirements.

2. Provide pest control schedule to summarise the frequency of pest control in the past 12 months.

3. Provide pest control records for one representative month in the past 12 months.

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
MAN-04-05_00	BEAM Plus EB Global submission template for MAN-04-05
MAN-04-05_01	Integrated pest management plan
MAN-04-05_02	Schedule or equivalent document showing the frequency of pest control
MAN-04-05_03	Pest control records for one representative month in the past 12 months

Remarks

(a) Additional Information

None.

(b) Related Credit Heads

None.

3.	**Integrated Design and Construction Management**	Integrated design management maximises the opportunities for integrated and cost-effective green design approaches and fit-out activities; improvement in the occupant's health and wellbeing; facilitating more environmental benefits during operation and fit-out processes.

3	**Integrated Design and Construction Management**	**IDCM-00-01**	**Basic Requirement**
	Core Requirement	**IDCM-00-01**	**Sustainability Champions – Project**
	Extent of Application	All buildings	
	Objective	Facilitate the application of the BEAM Plus certification process and ensure the compliance of relevant requirements of the BEAM Plus Manual.	
	Credits Point(s) Attainable	2	
	Credit Requirement	1 credit point for demonstrating that a Green Building Professional with green building knowledge is engaged in the project. 1 additional credit point if the Green Building Professional is an accredited BEAM Professional (BEAM Pro) with a valid credential for BEAM Plus Existing Building.	
	Assessment	1. The appointed Green Building Professional shall: 1.1 Participate as one of the key project team members to oversee the submission materials are in compliance with relevant requirements of the BEAM Plus Manual; 1.2 Create a BEAM Plus EB Global Certification Checklist including project goals, performance and BEAM Plus target rating; 1.3 Provide guidance to the project team/ facility management team regarding BEAM Plus principles, structure, timing, certification process and requirements of credits; and 1.4 Advise the Applicant on relevant professionals or parties on respective tasks to address relevant BEAM Plus certification requirements. 2. Complete the prescribed form with qualification details, appointment information and confirmation of appointment of the Green Building Professional. 3. If more than one Green Building Professional is employed for the project, the Applicant should clearly document the works for each Green Building Professional, how the works are handed over and timeline for their involvement. 4. The following shall be included in the BEAM Plus EB Global Certification Checklist: 4.1 Determine the BEAM Plus certification level to pursue; 4.2 Select the BEAM Plus credits to meet the targeted certification level; and	

4.3 Identify the responsible parties to ensure the BEAM Plus requirements for selected credits are met.

5. Provide a copy of the meeting minute of introductory workshop/ meeting (date and content of the minute will be reviewed for compliance) showing the attendance of the Green Building Professional and include a section of providing guidance to the project team/ facility management team regarding BEAM Plus principles, structure, timing, certification processes and BEAM Plus requirements. Confidential or sensitive project information in the minute is not required and could be covered.

6. The Green Building Professional shall possess below qualification requirements as minimum:

   6.1 A degree or equivalent in Built Environment, Housing Management, Property Management, Facilities Management, Engineering, Surveying and related disciplines; and
   6.2 A minimum of 5 years postgraduate professional experience.

7. An additional credit point will be granted if the Green Building Professional is an accredited BEAM Professional with a valid credential for BEAM Plus Existing Building from appointment to completion of the certification process.

8. Provide CV of the Green Building Professional and valid credential for BEAM Plus Existing Building.

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
IDCM-00-01_00	BEAM Plus EB Global submission template for IDCM-00-01
IDCM-00-01_01	BEAM Plus EB Global Certification Checklist
IDCM-00-01_02	Meeting minute of introductory workshop/ meeting
IDCM-00-01_03	CV of Green Building Professional
IDCM-00-01_04	Valid credential for BEAM Plus Existing Building (applicable to additional credit)

Remarks

(a) Additional Information

None.

(b) Related Credit Heads

None.

3	**Integrated Design and Construction Management**	**IDCM-01**	**Integrated Design Process**
	Elective Requirement	**IDCM-01-02**	**Complimentary Certification**

Extent of Application

All buildings

Objective

Recognise the effort of achieving previous BEAM Plus certifications and/or similar green/ healthy building assessment schemes by other organisations.

Credits Point(s) Attainable

1 Bonus

Credit Requirement

1 Bonus credit point where the project is assessed and recognised with sustainable buildings certifications.

Assessment

1. Bonus credit point will be granted when the project is certified with final certification of at least second highest rating by any of the following green rating systems:

    1.1 BEAM Plus;
    1.2 China Green Building Evaluation Label (CGBEL);
    1.3 Leadership in Energy and Environmental Design (LEED);
    1.4 Building Research Establishment Environmental Assessment method (BREEAM);
    1.5 The WELL Building Standard (WELL);
    1.6 Green Star;
    1.7 SBCA Green Mark; and
    1.8 Other equivalent assessment scheme with similar rating proposed by the Applicant.

2. Provide supporting documentation showing the attainment of the final certification. The certificate should be valid at the time of project registration for BEAM Plus Existing Building Global Version.

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
IDCM-01-02_00	BEAM Plus EB Global submission template for IDCM-01-02
IDCM-01-02_01	Green building certificate(s) valid at the time of project registration

Remarks

(a) Additional Information

None.

(b) Related Credit Heads

None.

3	**Integrated Design and Construction Management**	**IDCM-01**	**Integrated Design Process**
	Elective Requirement	**IDCM-01-03**	**Design Consideration for Operation and Maintenance**

Extent of Application

All buildings

Objective

Facilitate the building users and maintenance staff in carrying out operation and maintenance of the building and its engineering services.

Credits Point(s) Attainable

1

Credit Requirement

1 credit point for providing at least 3 of the listed amenities that improve the operation and maintenance of the building and its engineering services.

Assessment

1. Provide evidence that the design has considered the long-term operation and maintenance needs for the building and its engineering services by providing at least 3 of the following features:

    1.1 Aerial working platform;
    1.2 Access and safety provision for external air-conditioning unit at height without use of scaffolding;
    1.3 Building Management System (BMS);
    1.4 Davit arm system;
    1.5 External pipe duct;
    1.6 Fall arrest system;
    1.7 Gondola system;
    1.8 Guard room;
    1.9 Maintenance platform;
    1.10 Maintenance workshop;
    1.11 Master meter room;
    1.12 Movable platform;
    1.13 Spider platform;
    1.14 Twin tank for cooling tower make-up tank; and
    1.15 Others, to be proposed by the Applicant with justification.

2. Same type of amenity in multiple locations can only be counted once.

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
IDCM-01-03_00	BEAM Plus EB Global submission template for IDCM-01-03
IDCM-01-03_01	Summary report listing each type of amenities and their locations
IDCM-01-03_02	Location plan of the amenities
IDCM-01-03_03	Record photographs of the amenities

Remarks

(a) Additional Information

None.

(b) Related Credit Heads

None.

3	**Integrated Design and Construction Management**	**IDCM-01**	**Integrated Design Process**
	Core Requirement	**IDCM-01-05**	**Retro-commissioning**

Extent of Application

All buildings

Objective

Use the retro-commissioning process to improve building energy performance.

Credits Point(s) Attainable

9

Credit Requirement

a) Planning and Investigation

2 credit points for planning the retro-commissioning (RCx) process and identifying the potential energy saving opportunities (ESOs).

b) Implementation

Maximum 3 credit points for implementing the selected ESOs for the listed systems:

i. Air-conditioning system;
ii. Electrical system;
iii. Lift and escalator (if any) system; and
iv. Plumbing and drainage system.

c) On-going Commissioning

1 credit point for developing on-going commissioning plan.

Maximum 3 additional credit points for executing on-going commissioning for the listed systems:

i. Air-conditioning system;
ii. Electrical system;
iii. Lift and escalator (if any) system; and
iv. Plumbing and drainage system.

Assessment

a) Planning and Investigation

1. Provide an action plan of the RCx process addressing the following:

    1.1 Summary of findings during the information collection and preliminary analysis of operating data, and plan for subsequent activities in RCx for optimising the building; and
    1.2 List of potential ESOs, cost/ benefit analysis on the proposed ESOs, implementation details, measurement and verification methods, and any anticipated disturbance to normal services operation to discuss with the relevant stakeholders.

2. The action plan should at minimum cover the building services systems to be attempted in subsequent part of credit heads.

b) Implementation

1. 1 credit point can be achieved for implementing the selected ESOs for each of the listed systems.

    1.1 Air-conditioning system;
    1.2 Electrical system;
    1.3 Lift and escalator (if any) system; and
    1.4 Plumbing and drainage system.

2. Provide a report describing the outcomes of the implemented ESOs, energy saving verification for the implemented ESOs, records of implementation and testing and commissioning records following changes to systems and equipment (if any).

c) On-going Commissioning

1. Develop an on-going commissioning plan with following contents as minimum:

    1.1 Roles and responsibilities;
    1.2 Policies and procedures for updating building documentation;
    1.3 Requirement for tracking energy and system performance;
    1.4 Collection of operational data for continuous energy use analysis; and
    1.5 Recommendation of periodically re-commissioning of the building systems.

2. 1 additional credit point can be achieved for carrying out on-going commissioning for each of the listed system:

    2.1 Air-conditioning system;
    2.2 Electrical system;
    2.3 Lift and escalator (if any) system; and
    2.4 Plumbing and drainage system.

3. Provide on-going commissioning plan and records for at least the past 12 months, which detailing:

    3.1 Person-in-charge;
    3.2 Monitoring requirement (i.e. type of measurement, measurement device, monitoring frequency and duration and acceptable values);
    3.3 Record of measured parameters; and
    3.4 Reference used to evaluate performance.

4. The work records required to demonstrate the implementation of on-going commissioning shall follow the on-going commissioning plan.

5. Provide undertaking letter endorsed by Building Manager showing the commitment of carrying out on-going commissioning within the next 3 years.

Submittals

a) Planning and Investigation

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
IDCM-01-05a_00	BEAM Plus EB Global submission template for IDCM-01-05a
IDCM-01-05a_01	Action plan of the RCx process

b) Implementation

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
IDCM-01-05b_00	BEAM Plus EB Global submission template for IDCM-01-05b
IDCM-01-05b_01	Report summarises the implementation of ESOs
IDCM-01-05b_02	Implementation records (e.g. delivery order, contract document, record photographs, etc.)
IDCM-01-05b_03	Testing and commissioning records following changes to systems and equipment (if applicable)

c) On-going Commissioning

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
IDCM-01-05c_00	BEAM Plus EB Global submission template for IDCM-01-05c
IDCM-01-05c_01	On-going commissioning plan
IDCM-01-05c_02	On-going commissioning records for the past 12 months (e.g. reports, measured data, record photographs, etc.)
IDCM-01-05c_03	Undertaking letter endorsed by Building Manager showing the commitment of carrying out on-going commissioning within the next 3 years

Remarks

(a) Additional Information

None.

(b) Related Credit Heads

None.

3	**Integrated Design and Construction Management**	**IDCM-02**	**IAQ Management for Renovation**
	Core Requirement	**IDCM-02-04**	**Construction IAQ Management**

Extent of Application

Part a) – All buildings

Part b) – All buildings with renovation, fit-out or decoration in past 24 months

Objective

Reduce the potential for having indoor air quality problems caused by renovation, fit-out and decoration and where applicable demolition, with the consideration of the benefit of workers and adjacent neighbours.

Credits Point(s) Attainable

2

Credit Requirement

a) Construction IAQ Management Plan

1 credit point for providing a Construction Indoor Air Quality (IAQ) Management Plan.

b) Implementation of Construction IAQ Management Plan

1 credit point for providing records showing the Construction IAQ Management Plan has been implemented by the Building Owner/ Building Management Company/ tenants during renovation, fit-out or decoration.

Assessment

a) Construction IAQ Management Plan

1. Provide a Construction IAQ Management Plan including the following contents as minimum:

    1.1 Procedures adopted in enhancing the IAQ during renovation, fit-out or decoration and occupancy stage;
    1.2 Measures to avoid contamination of adjacent normally occupied areas and common areas;
    1.3 Contaminant source controls;
    1.4 Provision of adequate outside air during installation of materials and finishes;
    1.5 Measures to protect the air ducts, on-site storage or protection of installed absorptive materials;
    1.6 Cleaning procedures to be employed;
    1.7 Procedures for building flush-out; and
    1.8 Replacement of filtration media used on permanent MVAC equipment at completion of work.

b) Implementation of Construction IAQ Management Plan

1. Provide site records, such as endorsed checklist, on-site photo records or operating records, to demonstrate the Construction IAQ Management Plan has been properly implemented in the past 24 months.

2. Cross-reference the site records to the strategies listed in the Construction IAQ Management Plan.

Submittals

a) Construction IAQ Management Plan

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
IDCM-02-04a_00	BEAM Plus EB Global submission template for IDCM-02-04a
IDCM-02-04a_01	Construction IAQ Management Plan

b) Implementation of Construction IAQ Management Plan

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
IDCM-02-04b_00	BEAM Plus EB Global submission template for IDCM-02-04b
IDCM-02-04b_01	Representative records showing the Construction IAQ Management Plan is properly implemented during renovation, fit-out and decoration in the past 24 months
IDCM-02-04b_02	Cross-referencing table demonstrating implementation of strategies as stipulated in the Construction IAQ Management Plan

Remarks

(a) Additional Information

None.

(b) Related Credit Heads

None.

3	**Integrated Design and Construction Management**	**IDCM-03**	**Smart Design and Technologies**
	Core Requirement	**IDCM-03-03**	**Facility Management Team Document Management**

Extent of Application

All buildings

Objective

Improve the O&M efficiency of the building

Credits Point(s) Attainable

1

Credit Requirement

1 credit point for demonstrating an electronic O&M platform has been operated by the Building Owner/ Building Management Company, and the required documentation has been stored for facility management.

Assessment

1. Demonstrate an electronic O&M platform is adopted by the Building Owner/ Building Management Company to manage the operational documentations in the building.

2. The Applicant may propose any electronic O&M platform, as long as the platform serves the function to store the required documentation. Narrative with screenshot of the electronic O&M platform shall be provided to justify its function.

3. The electronic O&M platform should store the document required for facility management, which at minimum should include the below items. Screenshots or video capture showing the preview of the documents shall be provided as evidence.

    3.1 Building layout drawings;
    3.2 Drawings of the building services systems (e.g. MVAC, plumbing and drainage, fire services, electrical systems, etc.);
    3.3 Equipment schedules of the building services systems (e.g. MVAC, plumbing and drainage, fire services, electrical and lift and escalator etc.); and
    3.4 O&M manuals of the aforesaid systems.

4. The above list is not exhaustive and the Applicant should store the document as required to suit their own operational needs.

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
IDCM-03-03_00	BEAM Plus EB Global submission template for IDCM-03-03
IDCM-03-03_01	Narrative with screenshot of the electronic O&M platform
IDCM-03-03_02	Representative sample of screenshots or video capture showing the required documentations are uploaded to the O&M platform

Remarks

(a) Additional Information

None.

(b) Related Credit Heads

None.

3	**Integrated Design and Construction Management**	**IDCM-03**	**Smart Design and Technologies**
	Core Requirement	**IDCM-03-04**	**BIM Integration**

Extent of Application All buildings

Objective Promote the use of BIM for asset management and facility management to support green and intelligent building approach.

Credits Point(s) Attainable 1

Credit Requirement 1 credit point for demonstrating a BIM model including as-built fixtures, finishes and equipment data has been used by the Building Owner/ Building Management Company.

Assessment

1. Provide screenshots of the asset information/ properties of BIM model to demonstrate that the following documents are already incorporated into the model for asset management and facility management:

    1.1 Fixtures;
    1.2 Finishes; and
    1.3 Equipment data.

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
IDCM-03-04_00	BEAM Plus EB Global submission template for IDCM-03-04
IDCM-03-04_01	Screenshots of the asset information/ properties of BIM model

Remarks

(a) Additional Information

Electrical and Mechanical Services Department - Building Information Modelling - Asset Management (BIM-AM) [ONLINE]
Available at:
https://www.emsd.gov.hk/en/engineering_services/project_management_consultancy/highlights_of_work/bim_am/
[Accessed May 2024]

The Hong Kong Construction Industry Council – CIC BIM Standards. [ONLINE].
Available at:
https://www.bim.cic.hk/en/resources/publications?cate=3&keyword=.
[Accessed May 2024].

The American Institute of Architects (AIA) - The American G202™ – 2013, Project Building Information Modelling Protocol Form [ONLINE]. Available at: https://contractdocs.aia.org/PreviewFiles/Preview_G202-2013%20OmniClass.pdf [Accessed May 2024].

(b) Related Credit Heads

None.

3	**Integrated Design and Construction Management**	**IDCM-04**	**Design for Engagement and Education on Green Buildings**
	Elective Requirement	**IDCM-04-01**	**Design for Engagement and Education on Green Buildings**

Extent of Application

All buildings

Objective

Encourage public education that focuses on strategies and solutions applied to green buildings.

Credits Point(s) Attainable

4

Credit Requirement

Maximum 4 credit points for providing the listed elements to advocate the behavioural change of building users and benchmark and recognise the green management of building.

Assessment

1. 1 credit point can be achieved for providing each of the listed educational element to the building users and/or visitors within the past 12 months.

    1.1 Provide educational signage system that is integrated with the major communal areas of the project to educate users and visitors about the benefits of the green building design measures and provisions;
    1.2 Provide users a platform for sustainable living showcase demonstration, experience or sharing that are relevant to the enabling design measures and provisions in the project. e.g. websites, regular publications available to the public, newspapers or other means;
    1.3 Arrange workshop for building users to read through and review the building user guide/ manuals;
    1.4 Participate in promotional campaign organised by recognisable association [1]; and
    1.5 Additional or alternative educational element(s) proposed by the Applicant with substantiation demonstrating the strategies to be compatible with the listed strategies for achieving the credit objective.

Alternatively

2. 1 credit point can be achieved for demonstrating the achievement of each environmental award/ certificate/ label [2] that is valid at the time of submission. For the award/ certificate/ label without expiry date, it shall only be considered as valid when it was awarded less than 3 years prior to the time of submission.

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
IDCM-04-01_00	BEAM Plus EB Global submission template for IDCM-04-01
IDCM-04-01_01	Educational signage plan (for item 1.1)
IDCM-04-01_02	Record photographs of educational signage (for item 1.1)
IDCM-04-01_03	Supporting document of platform provided, e.g. pdf of the website or electronic newsletter, etc. (for item 1.2)
IDCM-04-01_04	Building user guide/ manuals (for item 1.3)
IDCM-04-01_05	Promotional materials such as posters, notice of the workshop together with indication describing the name and date of the event (for item 1.3)
IDCM-04-01_06	Record photographs of the workshop (for item 1.3)
IDCM-04-01_07	Promotional materials such as posters, notice of the campaign together with indication describing the name and date of the event (for item 1.4)
IDCM-04-01_08	Record photographs of the campaign (for item 1.4)
IDCM-04-01_09	Other supporting document(s) for the additional or alternative educational element(s) (for item 1.5)
IDCM-04-01_10	Record photographs of the additional or alternative educational element(s) (for item 1.5)
IDCM-04-01_11	Copy of award/ certificate/ label issued by recognisable association (for item 2)

Remarks

(a) Additional Information

[1] Example of promotional campaigns:
- World Green Building Week organised by World Green Building Council (WGBC).

[2] Example of award/ certificate/ label:
- Certificate of Quality Water Supply Scheme for Buildings – Fresh Water (Management System)/ Flushing Water by Water Supplies Department;
- Indoor Air Quality Certificate by Environmental Protection Department;
- Wastewi$e Certificate, Energywi$e Certificate, IAQwi$e Certificate and Carbon Reduction Certificate by Hong Kong Green Organisation Certification (HKGOC);

- Asia Pacific Leadership in Green Building Awards by World Green Building Council; and
- WELL Health-Safety Rating by International WELL Building Institute (IWBI).

(b) Related Credit Heads

None.

4. Sustainable Site

Site location is important with regard to adequacy of local amenities and public transport provisions, reduction of travel needs and reliance on private vehicles. There is often an opportunity to enhance the quality of buildings through more thoughtful ‘greening’ and other features. The impacts on neighbouring developments and various discharges and emissions from the site can be significant throughout a building’s lifetime.

4	**Sustainable Site**	**SS-01**	**Neighbourhood Integration**
	Core Requirement	**SS-01-01**	**Low Carbon Commuting**

Extent of Application

All buildings

Objective

Encourage the use of low carbon and/or public transport, with an aim to create a more sustainable and appealing environment that promotes human interaction, a sense of place as well as integration with the surrounding pedestrian transport network.

Credits Point(s) Attainable

5

Credit Requirement

a) Accessibility to Public Transport

1 credit point for achieving Accessibility Index of 15 or more of the site.

b) Provision of Bike Parking

1 credit point for providing sufficient bike parking for building occupants.

c) Provision of Shower and Changing Facilities

1 additional credit point for providing showers and changing facilities for building occupants.

d) Charging Facilities for Electric Vehicle (EV)

1 to 2 credit point(s) for providing at least 2 or 4 nos. of quick EV chargers in the carpark.

Assessment

a) Accessibility to Public Transport

1. Indicate the distances shown alongside unhampered walking routes within a walking distance of 1,000m from the site main entrance(s) to each public transport stop or the main entrance of each station in vicinity on a scaled drawing.

2. Provide evidence of service frequencies of the public transport.

3. Calculate the Accessibility Index (AI) for the site using the prescribed form.

    3.1 Use service frequency data at peak periods for the calculation of waiting time.

        3.1.1 The Applicant shall propose any hour on a weekday as the “peak hour” for the calculation of Accessibility Index (AI). In view of different building natures (e.g. non-residential/ non-commercial building types such as stadium, museum, etc.), the “peak hour” may be considered as any hour on a weekend with justification. The service frequency data of the identified public transport shall be selected at the same “peak hour”.

        3.1.2 Considering the same proposed “peak hour’, the shortest headway (in minutes) from service frequency data shall be

adopted for each of the identified public transports. For example, given that the service frequency of public transport is 15 to 20 minutes within the “peak hour”, the lower bound (i.e. 15 minutes) shall be adopted in the AI calculation.

3.2 Adopt a walking speed of 80m per minute for the calculation of walk time.

4. For a site served by dedicated shuttle service vehicles and to be considered under the AI method, provide the following:

4.1 Notification of services provisions by the service provider to building users confirming that:
- 4.1.1 Routes and stops of the shuttle services providing connection links to the public transport;
- 4.1.2 Capacity of the shuttle service vehicles;
- 4.1.3 Locations of the shuttle service drop-off/ pick-up points; and
- 4.1.4 Operating frequency of the services.

4.2 Justification of the adequacy of service if the capacity of shuttle service vehicles is below 16 passengers.

4.3 An undertaking letter by the Building Owner/ Building Management Company for the provision of shuttle service for a minimum of 3 years.

4.4 A minimum of 1 year rolling contract in place with the service provider information.

b) Provision of Bike Parking

1. Provide a designated space with bike parking facilities (e.g. bicycle racks or demarcated bike parking spaces) within the site.

2. The bike parking facilities shall be able to accommodate at least 4 numbers of bikes or at least 5% of regular building occupants, whichever is larger.

3. The bike parking spaces shall be provided to the occupants at no cost.

c) Provision of Shower and Changing Facilities

1. In addition to the requirements described in SS-01-01b, the Applicant shall provide adequate showers and changing facilities for regular occupants in a quantity listed below:

Nos. of Regular Occupants	Required Nos. of Showers and Changing Facilities
0-99	1
100-999	1 + 1 for every 150 occupants above 100

1,000 – 4,999	8 + 1 for every 500 occupants above 1,000
Above 5,000	16 + 1 for every 1,000 occupants above 5,000

2. The shower and changing facilities may not be necessary within the project area but they shall be within 200m walking distance of any functional entries of the building.

d) Charging Facilities for Electrical Vehicle (EV)

1. Demonstrate that at least 2 or 4 nos. of quick EV chargers with the output power not less than 100kW are provided in the carpark.

2. Provide schematic drawings and photo records demonstrating the installation of quick EV chargers.

3. Provide the manufacturer information (e.g. equipment catalogues, technical data sheet, etc.) of the quick EV chargers installed.

Submittals

a) Accessibility to Public Transport

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
SS-01-01a_00	BEAM Plus EB Global submission template for SS-01-01a
SS-01-01a_01	Calculation for Accessibility Index (AI)
SS-01-01a_02	Scaled drawing indicating the distances alongside unhampered walking routes from the site's entrance(s) to stop/ stations of public transport services
SS-01-01a_03	Evidence of service frequencies of public transport
SS-01-01a_04	Evidence (e.g. site photo) of the identified public transport
For project served by dedicated shuttle service vehicles:	
SS-01-01a_05	Scaled building layout plans showing the drop-off/ pick-up point(s) of shuttle service vehicles
SS-01-01a_06	Notification of shuttle service provisions confirming the details as stated in item 4.1.1 to 4.1.4 in the assessment criteria
SS-01-01a_07	Justification for the adequacy of services (if the capacity of shuttle service vehicles is below 16 passengers)
SS-01-01a_08	Undertaking letter by the Building Owner/ Building Management Company that the shuttle services will

	be provided for a minimum of 3 years
SS-01-01a_09	A minimum of 1 year rolling contract in place with the service provider information
SS-01-01a_10	Evidence (e.g. site photo) of shuttle services in operation

b) Provision of Bike Parking

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
SS-01-01b_00	BEAM Plus EB Global submission template for SS-01-01b
SS-01-01b_01	Summary of nos. of regular occupants
SS-01-01b_02	Calculation demonstrating adequacy of bike parking space
SS-01-01b_03	Layout showing the quantities and locations of bike parking spaces
SS-01-01b_04	Record photographs of the bike parking spaces and facilities

c) Provision of Shower and Changing Facilities

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
SS-01-01c_00	BEAM Plus EB Global submission template for SS-01-01c
SS-01-01c_01	Summary of nos. of regular occupants
SS-01-01c_02	Calculation demonstrating adequacy of showers and changing facilities
SS-01-01c_03	Layout showing the quantities and locations of the showers and changing facilities
SS-01-01c_04	Record photographs of the shower and changing facilities

d) Charging Facilities for Electric Vehicle (EV)

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
SS-01-01d_00	BEAM Plus EB Global submission template for SS-01-01d
SS-01-01d_01	Layout showing the quantities and locations of the EV charging stations
SS-01-01d_02	Schematic diagram for the EV charging facilities
SS-01-01d_03	Equipment catalogue/ technical data sheet of the EV chargers
SS-01-01d_04	Record photographs of the EV chargers

Remarks

(a) Additional Information

Public Transport Accessibility Levels, Transport for London [ONLINE] Available at: https://data.london.gov.uk/dataset/public-transport-accessibility-levels [Accessed May 2024].

Promotion of Electric Vehicles, Environmental Protection Department [ONLINE]
Available at: https://www.epd.gov.hk/epd/english/environmentinhk/air/promotion_ev/promotion_ev.html
[Accessed May 2024].

(b) Related Credit Heads

SS-01-02 Neighbourhood Amenities

The related credit head promotes good pedestrian accessibility to amenities within and in the vicinity of the site. Better integration of the surrounding pedestrian networks and pedestrian pathways within the site will achieve enhanced accessibility for building users and/or the public.

4	**Sustainable Site**	**SS-01**	**Neighbourhood Integration**
	Core Requirement	**SS-01-02**	**Neighbourhood Amenities**

Extent of Application

All buildings

Objective

Encourage building development that is integrated within, and an asset to, the immediate neighbourhood.

Credits Point(s) Attainable

1

Credit Requirement

1 credit point where adequate amenities for building users are located within the site or 1,000m walking distance from the site entrance(s).

Assessment

1. Provide a summary based on a survey of the immediate neighbourhood and the development itself to demonstrate that at least 10 amenities for building users are located within the site or 1,000m walking distance from the site entrance(s) to the main entrances of the amenities or the common entrance of a collective amenity (a complex comprising 2 or more amenities).

    1.1. Food outlets
    - Restaurants/ cafes/ food and beverage outlets

    1.2. Community retail
    - Convenience/ grocery stores
    - Supermarket/ wet markets
    - Retail shops

    1.3. Services
    - Banks or Automated Teller Machine (ATM)
    - Hairdresser
    - Pharmacy (with registered license and for retail purpose)
    - Laundry or dry cleaners

    1.4. Community facilities
    - Nursery classes/ kindergarten/ day care centre/ child care facilities
    - Elderly care facilities
    - Primary/ secondary school
    - Art venues (including venues for dance, drama, music, etc) / public entertainment*
    - Place of worship
    - Medical/ health facility (including hospitals, specialist clinics/ polyclinics, general clinics/ health centres, dental clinics etc.)
    - Libraries
    - Post offices/ postal facilities (including posting boxes or facilities which offer delivery services such as sending and receiving letters, parcels and goods)
    - Community hall**
    - Public toilets

    1.5. Recreational facilities/ open spaces
    - Active recreational facilities or open spaces***

- Passive recreational facilities or open spaces***

** Public entertainment means any entertainment to which the general public is admitted with or without payment*

*** Community hall is a place for local community activities undertaken by all age groups, including activities such as meetings of local community organisations; social group and civic education activities; training courses; and celebration, recreation and sport activities*

**** Open space is defined as outdoor open-air space which is used principally for active and/or passive recreation use developed either by the public or private sector*

2. Indicate lines and distances shown alongside of unhampered walking routes from the site entrance(s) to the main entrance of each amenity or each collective amenity in vicinity on a scaled drawing.

    2.1. When there are multiple site entrances in a development, the one having the least numbers of amenities complying with the credit requirements shall be demonstrated for compliance; and

    2.2. Count 2 or more amenities of the same type as 2 amenities.
    Example 1: 3 cafes and 2 ATMs shall be counted as 4 amenities.
    Example 2: 3 cafes, 2 ATMs and 3 public toilets shall be counted as 6 amenities

3. Provide justifications to count amenities that are not listed in this credit for consideration. The justification shall be considered based on the individual merits of the amenities, basic necessity, psychological and/or physical wellbeing of the immediate neighbourhood.

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
SS-01-02_00	BEAM Plus EB Global submission template for SS-01-02
SS-01-02_01	Scaled drawing indicating the distances alongside unhampered walking routes from the site's entrance(s) to amenities
SS-01-02_02	Justifications on the needs of building users/ public to count amenities that are not listed (if applicable)
SS-01-02_03	Evidence of the amenities identified in the vicinity within 1,000m walking distance and/or Evidence of the amenities provided within the site for building users

Remarks

(a) Additional Information

None.

(b) Related Credit Heads

SS-01-01 Pedestrian-oriented and Low Carbon Transport

The related credit head promotes good pedestrian accessibility to public transport. Better integration of the surrounding pedestrian networks and pedestrian pathways within the site will achieve enhanced accessibility for building users and/or the public

4	**Sustainable Site**	**SS-01**	**Neighbourhood Integration**
	Elective Requirement	**SS-01-05**	**Noise Control of Building Equipment**

Extent of Application

All buildings with building services equipment controlled by the Applicant

Objective

Reduce the noise nuisance to neighbours caused by building services equipment.

Credits Point(s) Attainable

2

Credit Requirement

1 credit point for providing adequate acoustic treatment to the following building services equipment: chillers, cooling towers, ventilation fans with Sound Power Level (SWL) higher than 80 dB(A).

Alternatively,

- *1 credit point for demonstrating the level of intruding noise at the façade of the potential Noise Sensitive Receivers (NSRs) is in compliance with appropriate Acceptable Noise Levels (ANLs) shown in the statutory requirement by calculations and/or measurements.*

1 additional credit point for demonstrating that the level of intruding noise at the façade of the potential NSRs is in compliance with the specified noise criteria by calculations and/or measurements.

Assessment

1. Demonstrate the provision of adequate acoustic treatment to chillers, cooling towers and ventilation fans with Sound Power Level (SWL) higher than 80 dB(A). For examples:

   1.1 Chillers are being enclosed in an acoustic enclosure or plantroom or are installed with discharge/ intake silencer;
   1.2 Erection of a barrier or installation of silencer for cooling tower; and
   1.3 Installation of silencer at major fan discharge outlets (for exhaust fans) or at air inlets (for intake fans).

   Alternatively,

2. Demonstrate by calculations and/or measurements that the level of intruding noise at the façade of the potential NSRs is in compliance with the appropriate Acceptable Noise Levels (ANLs) shown in the local statutory requirements.

3. Assessment shall be made at the façade of the potential NSRs.

4. The Applicant shall provide evidence in form of detailed analysis, appropriate calculations and/or measurements demonstrating that the building complies with the assessment criteria. In cases where a Noise Abatement Notice has been served, evidence of full compliance with the required remedial action shall also be presented.

5. The calculation and/or measurement report shall be prepared and endorsed by locally accredited/ acceptable acoustic professional.
6. Whether or not acoustic treatment is required, the credit is attainable by

calculations and/or measurements.

7. An additional credit point will be granted for the level of intruding noise at the façade of the potential NSRs is in compliance with the criteria as stipulated in Chapter 9 of the Hong Kong Planning Standards and Guidelines (HKPSG) [1].

   7.1. The noise criteria shall be 5dB(A) below the appropriate ANLs shown in the statutory requirements or the prevailing background noise levels, whichever is lower.

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
SS-01-05_00	BEAM Plus EB Global submission template for SS-01-05
SS-01-05_01	Equipment catalogues showing the SWLs of chillers, cooling towers, ventilation fans
SS-01-05_02	Operation schedule of chillers, cooling towers and ventilation fans
To demonstrate the provision of adequate acoustic treatment:	
SS-01-05_03	Drawings showing the provision of adequate acoustic treatment for the concerned equipment
SS-01-05_04	Record photographs of the acoustic treatment
To demonstrate requirement by calculation and/or measurements:	
SS-01-05_05	Summary table listing the nearest NSRs, building equipment sound level, quantities, ANL and noise level at the façade of the NSRs
SS-01-05_06	Location plan to indicate the location of the NSRs and building equipment
SS-01-05_07	Endorsed calculation and/or measurement report
SS-01-05_08	Endorsed background noise measurement report (applicable to additional credit)

Remarks

(a) Additional Information

[1] Planning Department. Hong Kong Planning and Standards Guidelines, Chapter 9 Environment. [ONLINE]. Available at: https://www.pland.gov.hk/file/tech_doc/hkpsg/full/pdf/ch9.pdf [Accessed May 2024].

(b) Related Credit Heads

None.

4	**Sustainable Site**	**SS-02**	**Ecologically Responsible Design**
	Core Requirement	**SS-02-01**	**Light Pollution Control**

Extent of Application

All buildings

Objective

Minimise light pollution caused by external lighting.

Credits Point(s) Attainable

3

Credit Requirement

3 credit points if there is no external lighting installed for the building.

Alternatively,

- *1 to 2 credit point(s) for switching off the Building Owner/ Building Management Company's external lightings from 23:00 to 07:00 hours/ 22:00 to 07:00 hours.*

1 additional credit point for liaising with tenants and requiring them to switch off the external lightings from 23:00 to 07:00 hours.

Assessment

1. 3 credit points can be achieved if there are no external lightings, including advertisement boards, façade lightings and video walls, installed by the Building Owner/ Building Management Company and tenants (if any) on exterior of the building.

   Alternatively

2. 1 credit point will be granted for demonstrating the external lightings that are under controlled by the Building Owner/ Building Management Company's are switched off from 23:00 to 07:00 hours.

3. If the abovementioned external lightings are switched off from 22:00 to 07:00 hours, 2 credit points will be granted.

4. An additional credit point will be granted for liaising with tenants and requesting them to switch off their external lightings from 23:00 to 07:00 hours.

5. Provide an external lighting management policy endorsed by top management.

6. The scope and exemption of the switch-off requirement should made reference to local standards or credible guidelines or Clauses 38 to 43 of the Document for Engaging Stakeholders and the Public set up by the Task Force on External Lighting [1] if local standards or credible guidelines are not available.

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
If there are no external lightings installed on exterior of the project:	
SS-02-01_00	BEAM Plus EB Global submission template for SS-02-01
SS-02-01_01	Record photographs of external area and exterior of the building
SS-02-01_02	Layouts/ building services drawings demonstrating that there are no external lightings installed for the project
If there are external lightings installed on exterior of the project:	
SS-02-01_03	Summary table listing the quantities and operation schedule of all external lightings
SS-02-01_04	Endorsed external lighting management policy
SS-02-01_05	Record photographs of Building Owner/ Building Management Company's external lighting in both switch-on and switch-off state
SS-02-01_06	Location plan to indicate the external lightings
SS-02-01_07	Signed agreement between Building Owner/ Building Management Company and tenants for switching off the external lightings (applicable to additional credit)
SS-02-01_08	Record photographs of tenants' external lighting in both switch-on and switch-off state (applicable to additional credit)

Remarks

(a) Additional Information

[1] Task Force on External Lighting. Document for Engaging Stakeholders and the Public. [ONLINE]. Available at: https://www.gov.hk/en/residents/government/publication/consultation/docs/2013/ExternalLightingEng.pdf
[Accessed May 2024].

(b) Related Credit Heads

None.

4	**Sustainable Site**	**SS-03**	**Bioclimatic Design**
	Core Requirement	**SS-03-01**	**Urban Heat Island Mitigation**

Extent of Application

Part a) – All buildings with external non-roof area in primary zone

Part b) – All buildings

Objective

Ensure the microclimate has been adequately considered, and where appropriate, suitable mitigation measures are provided.

Credits Point(s) Attainable

5

Credit Requirement

a) Mitigation Strategy at Primary Zone

2 to 3 credit points for demonstrating the implementation of any combination of the following strategies for a minimum of 10% or 20% of the external non-roof area:

i. Greenery;
ii. Water feature;
iii. Green wall or vertical greening;
iv. Shading device; and/or
v. Paving materials with solar reflectance (SR) of 0.33 or above.

b) Green Roof

2 credit points for providing green roof and/or organic farm for at least 20% of the available main roof area.

Assessment

a) Mitigation Strategy at Primary Zone

1. Demonstrate the use of any combination of the listed strategies (in terms of area) of the external non-roof area, including both ground floor and podium with less than 15m in height.

2. All greenery areas shall be measured based on the soil areas as shown on the drawings. Water features shall be measured based on the horizontal water surface area. Reduction factor is not necessary when computing the area for water feature.

3. Example of strategies that are not accepted included:

   3.1 Greenery in movable pots; and
   3.2 Glass canopy.

b) Green Roof

1. Demonstrate the provision of green roof and/or organic farm for at least 20% of available main roof area.

2. Areas occupied by installation of PV, solar thermal panels, MEP equipment, skylights and any other built-in, nonstructural portion of a roof system can be excluded from total main roof area. The surrounding uncovered maintenance access, however, is not classified as

nonstructural portion of a roof system and shall be included in the calculation of roof area.

3. All green roof and/or organic farm areas shall be measured horizontally based on the soil areas as shown on the plan. Greenery in movable pots shall not be accounted for.

Submittals

a) Mitigation Strategy at Primary Zone

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
SS-03-01a_00	BEAM Plus EB Global submission template for SS-03-01a
SS-03-01a_01	Narrative and layout plan with indication of all provided strategies
SS-03-01a_02	Calculations with summary of total and breakdown of external non-roof area and area covered with the listed strategies
SS-03-01a_03	Record photographs of water features, green walls/ vertical greenings, shading devices and/or paving materials
SS-03-01a_04	Material catalogue or laboratory test reports showing the solar reflectance (SR) of paving materials (if applicable)

b) Green Roof

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
SS-03-01b_00	BEAM Plus EB Global submission template for SS-03-01b
SS-03-01b_01	Layout plans with indication of green roof/ organic farm
SS-03-01b_02	Calculations with summary of total and breakdown of main roof area and area covered with green roof/ organic farm
SS-03-01b_03	Record photographs of the green roof/ organic farm

Remarks

(a) Additional Information

None.

(b) Related Credit Heads

None.

5. Material and Waste

The amount and types of materials used and the waste generated in operation and maintenance and fitting-out of buildings represents a significant use of natural resources. There are opportunities to reduce environmental impacts through interior design methods and choice of materials and products, in terms of extracted raw materials, emissions, and embodied energy. Discussion on waste management is more critical than before. It is important to encourage the stakeholders to recognise the importance of the waste management for existing buildings.

5	**Materials and Waste**	**MW-02**	**Selection of Materials**
	Core Requirement	**MW-02-03**	**Ozone Depleting Substances**

Extent of Application

Part a) – All buildings with newly installed equipment using refrigerants controlled by the Applicant

Part b) – All buildings

Objective

Reduce the release of ozone depletion substances into the atmosphere.

Credits Point(s) Attainable

2

Credit Requirement

a) Newly Installed Equipment Using Refrigerants

1 credit point for all the newly installed equipment using the refrigerants with Global Warming Potential (GWP) ≤ 50.

b) Fire Suppression Materials and Other Materials

1 credit point for using fire suppression and other materials that avoid the use of ozone depleting substances in their manufacture, composition or use.

Assessment

1. Newly installed equipment/ material is defined as the equipment/ material that is installed within the past 12 months at the time of project registration.

a) Newly Installed Equipment Using Refrigerants

1. Provide summary table listing the newly installed equipment, type, model number and refrigerant type.

2. Provide equipment catalogue/ technical data sheet to demonstrate the newly installed equipment using refrigerants with GWP less than 50.

b) Fire Suppression Materials and Other Materials

1. All portable fire extinguishers shall avoid the use of ozone depleting substances (ODS) in their manufacturing process, composition or use.

2. For permanent system/ equipment (e.g. replacement of fire suppressants, thermal insulations, and other applications), only newly installed materials would be assessed.

Submittals

a) Newly Installed Equipment Using Refrigerants

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
MW-02-03a_00	BEAM Plus EB Global submission template for MW-02-03a
MW-02-03a_01	Summary table listing the newly installed equipment, type, model number and refrigerant type
MW-02-03a_02	Equipment catalogue/ data technical sheets

b) Fire Suppression Materials and Other Materials

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
MW-02-03b_00	BEAM Plus EB Global submission template for MW-02-03b
MW-02-03b_01	Summary table listing the quantity, types, model number and materials for portable fire extinguishers and fixed fire protection system
MW-02-03b_02	Equipment catalogue/ technical data sheets

Remarks

(a) Additional Information

None.

(b) Related Credit Heads

None.

5	**Materials and Waste**	**MW-02**	**Selection of Materials**
	Core Requirement	**MW-02-05**	**Materials Purchasing Practices**

Extent of Application

All buildings

Objective

Encourage purchasing practices which reduce the environmental impacts of products used by implementing Green Purchasing Plan, as well as the certified green products that have low environmental impacts.

Credits Point(s) Attainable

3

Credit Requirement

1 credit point for demonstrating at least 50% of on-going consumables purchased in the past 12 months are environmentally friendly products or certified green products under recognised green product certification scheme.

1 credit point for demonstrating at least 50% of durable goods purchased in the past 12 months are environmentally friendly products or certified green products under recognised green product certification scheme.

1 additional credit point for demonstrating at least 70% of on-going consumables and/or durable goods purchased in the past 12 months are environmentally friendly products or certified green products under recognised green product certification scheme.

Assessment

1. Demonstrate at least 50% or 70% of on-going consumables and/or durable goods purchased in the past 12 months are environmentally friendly or certified products. The procurement of materials, products and equipment can refer to the Green Purchasing Plan under MAN-00-01.

2. The percentage calculation shall be in dollar value. Green product's technical information shall be provided for review.

3. For certified green products, the products shall be certified under internationally recognised schemes. The Applicant can refer to the list of worldwide recognised Green Building Product Certifications and Standards under HKGBC's Eco-Product Directory [1].

4. For the on-going consumables and durable goods acquired through bulk purchase of the management company, the Applicant should provide transfer note(s) showing the building in receipt of the green product, date of the transfer and quantity of green product being transferred from the central bulk purchasing department to the project building.

    4.1 The transfer note(s) should be endorsed by the person-in-charge of the central bulk purchasing of the management company (i.e. the purchaser of the green product) and building-in-charge (i.e. the recipient of the green product).

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
MW-02-05_00	BEAM Plus EB Global submission template for MW-02-05
MW-02-05_01	Summary table listing the product type, manufacturer, quantities and environmental attribute
MW-02-05_02	Calculation showing percentage of on-going consumables and/or durable goods purchased in the past 12 months to be green products
MW-02-05_03	Product catalogue or specification showing the environmental attributes and/or Certificate(s) of the green products
MW-02-05_04	Purchase records, delivery notes and/or transfer notes of the purchased on-going consumables/ durable goods to support the claimed percentage of green products

Remarks

(a) Additional Information

[1] HKGBC's Eco-Product Directory [ONLINE]. Available at: https://epdir.hkgbc.org.hk/subpagex.php?serial=32 [Accessed May 2024].

(b) Related Credit Heads

None.

5	**Materials and Waste**	**MW-03**	**Waste Reduction**
	Core Requirement	**MW-03-02**	**Enhanced Waste Handling Facilities**

Extent of Application

All buildings

Objective

Encourage best practice for the management of waste, including sorting, recycling and disposal of waste.

Credits Point(s) Attainable

5

Credit Requirement

a) Waste Management Plan

1 credit point for developing a waste management plan.

b) Recycling Facilities for Different Waste Streams

Maximum 4 credit points for providing the listed on-site recycling facilities and implementing the materials collection arrangement:

i. Paper/ carboard, metal and plastics;
ii. Rechargeable battery;
iii. Glass bottle;
iv. Fluorescent lamp and tubes;
v. Food waste;
vi. Clothes;
vii. Regulated Electrical Equipment (REE);
viii. Small electrical appliance;
ix. Waste cooking oil; and
x. Other recyclables proposed by the Applicant.

Assessment

a) Waste Management Plan

1. Provide waste management plan including the following contents as minimum:

    1.1 Objectives;
    1.2 Responsibility;
    1.3 Waste minimisation programme;
    1.4 Waste recycle/ reuse programme;
    1.5 Waste data collection system;
    1.6 Influence on building users (e.g. training/ workshop/ campaign);
    1.7 Resource allocation;
    1.8 Training for staff; and
    1.9 Reporting to top management.

2. The waste management plan shall be endorsed by top management of Building Owner/ Building Management Company and reviewed regularly.

b) Recycling Facilities for Different Waste Streams

1. 1 credit can be achieved for providing on-site recycling facilities for the storage of each recyclable stream. Same type of provision in multiple locations can only be counted once.

2. For each waste stream, provide at least one dedicated and properly labelled storage bin/ storage area for recycling. The size of facilities and collection frequency are not regulated.

    2.1 The facilities for recyclables listed in item i to iv above shall be located in prominent location(s) (i.e. cannot be located in car park or other non-occupied areas);
    2.2 For the recyclables listed in item v to ix, in case the facilities are not located in prominent location(s), at least one public signage or notice shall be provided to notify the building users about the location of facilities; and
    2.3 Nonetheless, the Applicant shall demonstrate there is convenient access for occupants, building operator and waste collection organisation/ recycler to all recycling facilities for proper waste management, including disposal and collection.

3. Provide the collection organisation/ recycler information, including:

    3.1 Company name and address;
    3.2 List of recycled material;
    3.3 Collection frequency; and
    3.4 Evidence (e.g. service agreement, sample collection records, etc.) demonstrating the implementation of materials collection arrangement in the past 12 months.

Submittals

a) Waste Management Plan

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
MW-03-02a_00	BEAM Plus EB Global submission template for MW-03-02a
MW-03-02a_01	Endorsed waste management plan
MW-03-02a_02	Organisation chart demonstrating the line of authority of the personnel endorsing the plan

b) Recycling Facilities for Different Waste Streams

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
MW-03-02b_00	BEAM Plus EB Global submission template for MW-03-02b
MW-03-02b_01	Summary table illustrating the quantities and locations of the waste handling facilities
MW-03-02b_02	Layout plan showing the location of the waste handling facilities

MW-03-02b_03	Record photographs of waste handling facilities
MW-03-02b_04	Collection organisation/ recycler information
MW-03-02b_05	Record photographs of public signage/ notice on the location of facilities (if applicable)

Remarks

(a) Additional Information

None.

(b) Related Credit Heads

MW-03-04 Waste Management

The related credit head advocates the continual improvement for waste management and achieve better waste and recycle performance.

5	**Materials and Waste**	**MW-03**	**Waste Reduction**
	Core Requirement	**MW-03-04**	**Waste Management**

Extent of Application

All buildings

Objective

Promote recycling and advocate the continual improvement for waste management

Credits Point(s) Attainable

7

Credit Requirement

a) Waste and Recycling Records

1 credit point for the collection of the waste and recycling records for the past 12 months.

b) Waste Stream Audit

1 credit point for undertaking a waste stream audit and developing action plan to improve the waste management.

c) Recycling Performance

1 to 5 credit point(s) can be achieved based on the percentage of annual waste recycling in the past 12 months.

Annual recycling rate: 15%(1), 20%(2), 30%(3), 40%(4), 60%(5)

Assessment

a) Waste and Recycling Records

1. Prepare a waste flow table summarising the quantity of waste generated, disposed and recycled (by weight or volume) in the past 12 months and provide the waste and recycling records for one representative month.

2. Provide the collection organisation/ recycler information, including:

    2.1 Company name and address;
    2.2 List of recycled material;
    2.3 Collection frequency; and
    2.4 Evidence (e.g. service agreement, sample collection records, etc.) demonstrating the implementation of materials collection arrangement in the past 12 months.

3. Provide monthly breakdown of annual waste and recycling data for every next 12 months after the issuance of BEAM Plus EB Global certificate.

b) Waste Stream Audit

1. Conduct waste audit for the prevailing waste streams. The report shall include:

    1.1. Identifies the types and quantities of wastes that are expected regularly (from day to day use);
    1.2. Determine the amounts of material that have potential for recycling or reuse (paper, plastics, metals, obsolete equipment, etc.), and

the potential for recycling or reuse;

1.3. Site survey; and

1.4. Recommendations with action plan to improve the waste diversion.

2. The waste stream audit shall be conducted within the past 12 months.

c) Recycling Performance

1. In addition to the requirements described in MW-03-04a, the Applicant shall provide a summary showing the percentage of waste recycled (by weight or volume) in the past 12 months. Waste and recycle records shall be provided to substantiate the claimed percentage.

2. Provide monthly breakdown of annual waste and recycling data for every next 12 months after the issuance of BEAM Plus EB Global certificate.

Submittals

a) Waste and Recycling Records

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
MW-03-04a_00	BEAM Plus EB Global submission template for MW-03-04a
MW-03-04a_01	Waste flow table
MW-03-04a_02	Representative monthly waste and recycle record of the past 12 months
MW-03-04a_03	Collection organisation/ recycler information
MW-03-04a_04^	Monthly breakdown of annual waste and recycle data
^ *Evidence shall be submitted on an annual basis after the issuance of the certificate. Refer to On-going Data Report under Section 1.2 Framework*.	

b) Waste Stream Audit

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
MW-03-04b_00	BEAM Plus EB Global submission template for MW-03-04b
MW-03-04b_01	Waste audit report

c) Recycling Performance

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
MW-03-04c_00	BEAM Plus EB Global submission template for MW-03-04c
MW-03-04c_01	Waste flow table showing the percentage of recycling
MW-03-04c_02	Waste and recycling records to support the claimed percentage of recycling
MW-03-04c_03	Collection organisation/ recycler information
MW-03-04c_04^	Monthly breakdown of annual waste and recycle data
^ *Evidence shall be submitted on an annual basis after the issuance of the certificate. Refer to On-going Data Report under Section 1.2 Framework.*	

Remarks

(a) Additional Information

None.

(b) Related Credit Heads

None.

6. Energy Use

An objective of EB Global v1.0 is to encourage thorough evaluation of the performance of building and services system designs, and greater investments into measures that will help to improve the energy performance of existing buildings, so as to reduce energy consumption and the associated environmental impacts, and summer peak electricity demand.

The assessment of the building and engineering systems is performance based as far as possible, but credits are also given to features which have proven to contribute to energy efficiency and conservation. Credits are given when management, operation and maintenance practices seek to achieve continual improvements in energy performance.

6	**Energy Use**	**EU-01**	**Building Energy Monitoring**
	Core Requirement	**EU-01-04**	**Metering and Monitoring**

Extent of Application

All buildings

Objective

Ensure building operators measure, monitor the performance of building engineering systems, facilitate auditing works and develop improvement plans for the systems.

Credits Point(s) Attainable

4

Credit Requirement

a) Meters for Electrical Loads

1 to 3 credit point(s) for equipping metering facilities/ Building Management System (BMS) to monitor energy consumption for 2, 4 or 6 numbers of the following electrical loads of landlord:

i. Chiller;
ii. Chiller plant;
iii. Cooling tower plant;
iv. Air side;
v. Ventilation system;
vi. Lift and escalator (if any);
vii. Lighting system; and
viii. Plumbing and drainage.

b) BMS Logging

1 credit point for having Building Management System (BMS) to log operation data (e.g. pressure, temperature, flowrate, on/ off status) for monitoring operation and function of the system including the following as a minimum:

i. Central AC plant – Water side;
ii. Central AC plant – Air side;
iii. Cooling load; and
iv. Lighting control.

Assessment

a) Meters for Electrical Loads

1. Provide separate metering facilities for collecting energy consumption data for any 2, 4 or 6 numbers of the following installation in landlord's controlled area, where present in the project:

   Meter(s) for each individual installation for the following type of installation:

   1.1 Energy consumption of each chiller;
   1.2 Energy consumption of each equipment in chiller/ heating plant;
   1.3 Energy consumption of each cooling tower plant; and
   1.4 Energy consumption of each equipment in HVAC air-side system (i.e. air handling unit, and primary air unit).

One single meter for each type of installation is allowed for following type of installation:

1.5 Energy consumption of mechanical ventilation system;
1.6 Energy consumption of lift and escalator system ;
1.7 Energy consumption of lighting system ; and
1.8 Energy consumption of plumbing and drainage system.

2. Electrical metering should comply with BS EN accuracy class 1 or equivalent.

3. Monitoring records should be at intervals of one hour or less and capable to record both consumption and demand (i.e. kWh and kW).

4. The entire energy monitoring system is capable of storing metering data for at least 36 months.

b) BMS Logging

1. Monitoring system for central chiller plant shall allow the overall performance of the plant and individual chillers to be determined for all operating modes and range of operating conditions. As a minimum, temperature, flow rate and pressure measurements shall be monitored.

2. Sensors for operating performance monitoring should meet the minimum accuracy requirements in ASHRAE Standard 114 or similar equivalent.

3. Monitoring records should be at intervals of 30-minute or less and capable of recording the operating performance data for at least 36 months.

Submittals

a) Meters for Electrical Loads

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
EU-01-04a_00	BEAM Plus EB Global submission template for EU-01-04a
EU-01-04a_01	Electrical schematic diagram highlighting the metering locations
EU-01-04a_02	Electrical load breakdown summary table of metering
EU-01-04a_03	Equipment catalogues/ technical data sheet of metering facilities/ BMS
EU-01-04a_04	Record photographs of metering system

b) BMS Logging

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
EU-01-04b_00	BEAM Plus EB Global submission template for EU-01-04b
EU-01-04b_01	Schematic diagram and point schedule of BMS
EU-01-04b_02	Equipment catalogue/ technical data sheet of monitoring facilities/ BMS
EU-01-04b_03	Record photographs of BMS showing the logging of operating performance data

Remarks

(a) Additional Information

None.

(b) Related Credit Heads

None.

6 Energy Use **EU-02** **Energy Saving Performance**

Core Requirement **EU-02-01** **Renewable and Alternative Energy Systems**

Extent of Application All buildings

Objective Encourage the wider application of renewable energy sources in buildings.

Credits Point(s) Attainable 13

Credit Requirement

a) On-site Renewable Energy Generation

1 to 10 credit point(s) where at least 0.2% to 2% of annual building energy consumption in communal area is obtained from renewable energy sources.

Credit Point(s)	Percentage of Annual Building Consumption in Communal Area
1	0.2%
2	0.4%
3	0.6%
4	0.8%
5	1.0%
6	1.2%
7	1.4%
8	1.6%
9	1.8%
10	2.0%

b) Off-site Green Power

1 to 3 credit point(s) where the building purchased Renewable Energy Certificate (REC) and/or utilises recognised off-site green power accounting for at least 10%, 20% or 30% of building energy consumption in communal area.

Assessment

a) On-site Renewable Energy Application

1. Provide energy bills and/or metering records showing the annual on-site renewable energy generation and annual building energy consumption.

2. Calculate the percentage of annual building energy consumption in communal area that is obtained from on-site renewable energy sources. The calculation shall be referenced to the energy generation/ consumption in the past 12 months from the date of submission.

3. Energy use and lost by the renewable energy systems shall be discounted from the system output.

4. In order to demonstrate the amount of energy generation from renewable energy sources, provide calculation for system operated less than 1 year, or provide measurement for system operated for more than 1 year.

4.1 The calculation of annual energy provided by on-site renewable energy systems should take into account of diurnal and seasonal variations in the external environmental conditions.

5. Examples of renewable energy systems accepted in this credit include:

5.1 Solar photovoltaic (PV) System;
5.2 Solar water heating system;
5.3 Wind power system;
5.4 Bio-gas heating/ electricity generation; and
5.5 Biofuel.

6. Provide annual on-site renewable energy generation and building energy consumption in communal area after the issuance of BEAM Plus EB Global certificate.

b) Off-site Green Power

1. Calculate the percentage of energy purchased from Renewable Energy Certificate (REC) and/or recognised off-site green power from the annual building energy consumption in communal area.

2. The calculation shall be referenced to the energy consumption in the past 12 months from the date of submission.

3. REC and green power shall be Green-e Energy Certified or equivalent.

4. Provide annual purchased REC and/or green power and building energy consumption in communal area after the issuance of BEAM Plus EB Global certificate.

Submittals

a) On-site Renewable Energy Generation

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
EU-02-01a_00	BEAM Plus EB Global submission template for EU-02-01a
EU-02-01a_01	Calculation for the percentage of annual building energy consumption in communal area that is obtained from on-site renewable energy sources
EU-02-01a_02	Energy bills and/or metering records showing annual on-site renewable energy generation and annual building energy consumption
EU-02-01a_03	Manufacturer specification/ catalogue of the renewable energy system(s)
EU-02-01a_04	Schematic diagram of the renewable energy system(s)
EU-02-01a_05	Layout plan highlighting the location of renewable energy system(s)
EU-02-01a_06	Record photographs of the renewable energy

	system(s)
EU-02-01a_07	Calculation of annual yield of on-site renewable energy system and any associated assumptions (if applicable)
EU-02-01a_08^	Annual on-site renewable energy generation and building energy consumption in communal area
^ *Evidence shall be submitted on an annual basis after the issuance of the certificate. Refer to On-going Data Report under Section 1.2 Framework.*	

b) Off-site Green Power

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
EU-02-01b_00	BEAM Plus EB Global submission template for EU-02-01b
EU-02-01b_01	Calculation for the percentage of energy purchased from REC/ green power from the annual building energy consumption in communal area
EU-02-01b_02	Renewable Energy Certificate and/or record of off-site green power issued by the Authority
EU-02-01b_03	Energy bills and/or metering records showing annual building energy consumption
EU-02-01b_04^	Annual purchased REC/ green power and building energy consumption in communal area
^ *Evidence shall be submitted on an annual basis after the issuance of the certificate. Refer to On-going Data Report under Section 1.2 Framework.*	

Remarks

(a) Additional Information

None.

(b) Related Credit Heads

None.

6	**Energy Use**	**EU-04**	**Energy Management and Analysis**
	Core Requirement	**EU-04-02**	**Energy Management Plan**

Extent of Application

All buildings

Objective

Encourage involvement of high level management in improvement of energy efficiency and conservation.

Credits Point(s) Attainable

2

Credit Requirement

2 credit points for developing an energy management plan with action plan for energy performance improvement.

Assessment

1. The Applicant shall provide an energy management plan containing the following contents as a minimum:

    1.1 Energy management policy;
    1.2 Objective and target;
    1.3 Action plan for energy performance improvement; and
    1.4 Reporting to top management on progress.

2. The action plan prescribed in item 1.3 above shall address the following as a minimum:

    2.1 Planned upgrading/ retrofitting works for the next 3 years;
    2.2 Budget;
    2.3 Projected saving and payback; and
    2.4 Target implementation date.

3. The energy management plan shall be composed or updated within the past 12 months, and such plan shall be endorsed by top management of Building Owner/ Building Management Company.

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
EU-04-02_00	BEAM Plus EB Global submission template for EU-04-02
EU-04-02_01	Endorsed energy management plan
EU-04-02_02	Organisation chart demonstrating the line of authority of the personnel endorsing the plan

Remarks

(a) Additional Information

None.

(b) Related Credit Heads

None.

6	**Energy Use**	**EU-04**	**Energy Management and Analysis**
	Core Requirement	**EU-04-03**	**Energy Analysis**

Extent of Application

All buildings

Objective

Encourage building operators to monitor and review the energy performance of the building services installation.

Credits Point(s) Attainable

3

Credit Requirement

a) Data Collection Record

1 credit point for providing energy consumption record of at least 12 months for major electrical loads.

b) Energy Audit

1 credit point for conducting energy audit/ review in accordance with localised or international standards/ regulations.

c) Carbon Audit

1 credit point for conducting carbon audit in accordance with the requirements as stipulated in the guideline issued by the Authority covering the followings as minimum:

i. Emission in Scopes 1 and 2;
ii. Emission from water use (Scope 3); and
iii. Any 1 additional emission in Scope 3.

Assessment

a) Data Collection Record

1. Provide record of energy consumption for the following major electrical loads where applicable in order to demonstrate that proper record keeping practice has been implemented:

    1.1 MVAC system;
    1.2 Lighting system;
    1.3 Lift and escalator system; and
    1.4 Plumbing and drainage system.

2. Provide monthly breakdown of annual energy consumption (per fuel type) for every next 12 months after the issuance of BEAM Plus EB Global Certificate.

b) Energy Audit

1. Provide an energy audit report confirming that an energy audit has been completed for the project building(s) in accordance with local standards/ regulations or ISO 50002 [1] or ASHRAE Standard 211 [2] or other equivalent international standards.

2. The energy audit report shall meet the following requirements:

    2.1 Completed within the past 3 years from the date of submission; and
    2.2 Endorsed by locally qualified professional.

c) Carbon Audit

1. Provide a carbon or greenhouse gas (GHG) emission audit report in accordance with local standards/ regulations or the Greenhouse Gas Protocol [3] or other equivalent international standards.

2. The carbon audit report shall meet the following requirements:

    2.1 Conducted within the past 3 years from the date of submission;
    2.2 Cover the asset level;
    2.3 Endorsed by locally qualified professional (e.g. certified carbon auditor);
    2.4 Include all emissions in Scopes 1 and 2; and
    2.5 Include emission in water use and one (1) additional GHG emission in Scope 3.

Submittals

a) Data Collection Record

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
EU-04-03a_00	BEAM Plus EB Global submission template for EU-04-03a
EU-04-03a_01	Energy consumption record for major electrical loads (e.g. BMS, log data, metering log data, manually recorded data)
EU-04-03a_02	Spreadsheet summarising the energy consumption data according to major electrical loads with monthly bar chart plotted
EU-04-03a_03^	Monthly breakdown of annual energy consumption
^ *Evidence shall be submitted on an annual basis after the issuance of the certificate. Refer to On-going Data Report under Section 1.2 Framework.*	

b) Energy Audit

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
EU-04-03b_00	BEAM Plus EB Global submission template for EU-04-03b
EU-04-03b_01	Endorsed energy audit report
EU-04-03b_02	CV of locally qualified professional to demonstrate adequate expertise of energy audit

c) Carbon Audit

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
EU-04-03c_00	BEAM Plus EB Global submission template for EU-04-03c
EU-04-03c_01	Endorsed carbon audit report
EU-04-03c_02	CV of locally qualified professional to demonstrate adequate expertise of carbon audit

Remarks

(a) Additional Information

[1] International Organization for Standardization. ISO 5002:2014 Environmental audits – Requirements with guidance for use. [ONLINE]. Available at:
https://www.iso.org/standard/60088.html
[Accessed May 2024].

[2] ANSI/ASHRAE Standard 211-2018. Standard for Commercial Building Energy Audits.

[3] The World Business Council for Sustainable Development and Word Resources Institute, The Greenhouse Gas Protocol.

(b) Related Credit Heads

None.

6 Energy Use **EU-05** **Energy Efficient Improvement**

Core Requirement **EU-05-01** **Energy Benchmarking and Improvement**

Extent of Application

Part a) – All locations and building types covered by Energy Star Portfolio Manager

Part b) – All buildings

Part c) – All buildings charged by bulk tariff, large power tariff or maximum demand tariff

Objective

Reduce the building energy consumption and consequent emissions of carbon dioxide (CO_2) and encourage energy conservation and methods to reduce peak electricity demand.

Credits Point(s) Attainable

24

Credit Requirement

a) Benchmarking

1 to 5 credit point(s) can be attained based on the benchmarking results obtained from Energy Star Portfolio Manager:

Credit Point(s)	Percentage of Improvement of Project Energy Use Intensity (EUI) Compared with Weather Normalised Source EUI Obtained from Energy Star Portfolio Manager
1	EUI ≤ 10%
2	10% < EUI ≤ 30%
3	30% < EUI ≤ 50%
4	50% < EUI ≤ 70%
5	EUI > 70%

b) Self-improvement

2 to 16 credit points can be achieved based on the percentage of annual energy use reduction by comparing energy bill and/or metering data of an average energy consumption of any 3 contiguous years of previous 5 years:

Credit Point(s)	Annual Energy Reduction
2	10%
4	15%
6	20%
8	25%
10	30%
12	35%
14	40%
16	45%

c) Peak Electricity Demand Reduction

1 to 3 credit point(s) for achieving 10%, 15% or 20% reduction in the average peak electricity demand of any 3 contiguous years of previous 5 years.

Assessment

a) Benchmarking

1. Conduct benchmarking by Energy Star Portfolio Manager for the project building.

2. The data used for the benchmarking shall be within the past 12 months at the time of submission.

3. Provide calculation to demonstrate the percentage of improvement of Project Energy Use Intensity (EUI) compared with Weather Normalised Source EUI obtained from Energy Star Portfolio Manager.

4. Provide monthly breakdown of annual energy consumption (per fuel type) for every next 12 months after the issuance of BEAM Plus EB Global Certificate.

b) Self-improvement

1. Provide summary table with supporting documents such as energy bills and metering records for the energy consumption (e.g. electricity, towngas, natural gas, etc.) of the past 12 months (assessment period) and average energy consumption of any 3 contiguous years of previous 5 years (baseline period).

2. Provide calculation for the percentage reduction of annual energy use of the landlord's controlled area of the assessment period with that of baseline period.

3. Provide monthly breakdown of annual energy consumption (per fuel type) for every next 12 months after the issuance of BEAM Plus EB Global Certificate.

c) Peak Electricity Demand Reduction

1. Provide summary table with supporting documents such as electricity bills and metering records for the peak electricity demand of past 12 months (assessment period) and an average of any 3 contiguous years of previous 5 years (baseline period).

2. Provide calculation for the percentage reduction of peak electricity demand of the landlord's controlled area of the assessment period with that of baseline period.

Submittals

a) Benchmarking

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
EU-05-01a_00	BEAM Plus EB Global submission template for EU-05-01a
EU-05-01a_01	Screenshot showing the input parameters for Energy Star Portfolio Manager
EU-05-01a_02	Supporting documents of the input parameters
EU-05-01a_03	Calculation of the percentage of improvement of Project EUI compared with Weather Normalised Source EUI obtained from Energy Star Portfolio Manager
EU-05-01a_04^	Monthly breakdown of annual energy consumption
^ *Evidence shall be submitted on an annual basis after the issuance of the certificate. Refer to On-going Data Report under Section 1.2 Framework.*	

b) Self-improvement

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
EU-05-01b_00	BEAM Plus EB Global submission template for EU-05-01b
EU-05-01b_01	Energy consumption records of baseline and assessment period
EU-05-01b_02	Calculation for the percentage reduction of annual energy use of the assessment period with that of baseline period.
EU-05-01b_03^	Monthly breakdown of annual energy consumption
^ *Evidence shall be submitted on an annual basis after the issuance of the certificate. Refer to On-going Data Report under Section 1.2 Framework..*	

c) Peak Electricity Demand Reduction

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
EU-05-01c_00	BEAM Plus EB Global submission template for EU-05-01c
EU-05-01c_01	Energy consumption records of baseline and assessment period
EU-05-01c_02	Calculation for the percentage reduction of peak electricity demand of the assessment period with that of baseline period.

Remarks

(a) Additional Information

None.

(b) Related Credit Heads

None.

6	**Energy Use**	**EU-05**	**Energy Efficient Improvement**
	Elective Requirement	**EU-05-02**	**Energy Efficient Practices and Measures**

Extent of Application

All buildings

Objective

Encourage energy management practices and the implementation of energy efficient measures to improve building energy performance.

Credits Point(s) Attainable

4

Credit Requirement

a) Energy Efficient Practices

1 credit point for implementing at least 1 of the energy improvement measures identified in energy audit.

b) Energy Efficient Measures

Maximum 3 credit points for demonstrating the prescribed energy efficient measure(s) has been implemented.

Assessment

a) Energy Efficient Practices

1. Provide an energy audit report that identifies the practice(s) that have potential for reducing energy consumption. Site survey and recommendations are required.

2. The energy audit shall be conducted in accordance with local standards/ regulations or equivalent international standards.

3. Endorsement of energy audit report by locally qualified professional is not required under this credit.

4. Provide implementation records of the energy efficient practice(s) recommended in energy audit report, such as record photographs, contract, agreement, drawings, equipment schedule, manufacturer specification/ catalogue and testing and commissioning records.

b) Energy Efficient Measures

1. 1 credit can be achieved for demonstrating each of the listed energy efficient measures. Provide a summary of the energy efficient measures installed.

Air-conditioning System

1.1 Chiller(s) serving the building are water-cooled chiller(s);
1.2 Fresh air flow rate to the building is controlled by CO_2 sensor(s);
1.3 Supply air flow rate of PAU(s)/ AHU(s) and FCU(s) are supplied by energy efficient fan (e.g. VSD fan(s), EC plug fan(s), etc.);

Lighting System

1.4 Lighting serving all not normally occupied areas such as lift

lobbies, corridors, toilets, refuse rooms, plant rooms, etc are provided with motion/ occupancy sensors controls;

1.5 Lighting serving all areas that are accessible to daylight are provided with daylight dimming controls;

Lift System

1.6 Re-generative breaks for lift(s);
1.7 Variable Voltage Variable Frequency (VVVF) drives for lift(s) and escalator(s);
1.8 Destination control system for passenger lifts;

Other System

1.9 Solar window film is applied to all window areas with direct access to daylight (windows that are heavily shaded or not having a direct view to the sky can be excluded); and
1.10 Domestic hot water is pre-heated by heat pump.

2. Provide supporting photographs and documentation, such as contract, agreement, drawings, equipment schedule, manufacturer specification/ catalogue to demonstrate the provision of measures.

Submittals

a) Energy Efficient Practices

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
EU-05-02a_00	BEAM Plus EB Global submission template for EU-05-02a
EU-05-02a_01	Energy audit report
EU-05-02a_02	Records demonstrating implementation in accordance with recommendations in energy audit report

b) Energy Efficient Measures

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
EU-05-02b_00	BEAM Plus EB Global submission template for EU-05-02b
EU-05-02b_01	Summary of energy saving measures
EU-05-02b_02	Supporting photographs and documentation to demonstrate the provision of measures

Remarks

(a) Additional Information

None.

(b) Related Credit Heads

None.

7. Water Use

Water is known to be in scarce supply in many parts of the world. Globally, water storage is already a major issue. International cooperation is essential in tackling the global water shortage problem. Sharing best practices, technologies, and resources can help countries facing water scarcity find innovative solutions and work towards sustainable water management.

7 Water Use **WU-01** **Water Conservation**

Core Requirement **WU-01-01** **Water Efficient Devices**

Extent of Application All buildings with water devices that are controlled by the Applicant

Objective Reduce the consumption of fresh water through the application of water saving devices that have proven performance and reliability.

Credits Point(s) Attainable 4

Credit Requirement 1 to 4 credit point(s) for installing high-efficiency water taps and shower heads for bathing (if any) with flowrates not exceeding the specified performance criteria.

Alternatively,

- *1 to 4 credit point(s) for the water taps and shower heads for bathing (if any) are certified under localised water efficiency label, if available.*

Assessment

1. Maximum 4 credit points can be achieved for water devices meeting the flowrate requirement below.

Credit Point(s)	**1**	**2**
Water Tap (L/min)	2.8 (non-mixing type)	2.4 (non-mixing type)
	4.9 (mixing type)	4.2 (mixing type)
Shower head (L/min)	8.4	7.2

Alternatively,
Maximum 4 credit points can be achieved for water devices are certified under localised water efficiency label.

Credit Point(s)	**1**	**2**
Water Tap	2nd highest rating of water efficiency label	Highest rating of water efficiency label
Shower head	2nd highest rating of water efficiency label	Highest rating of water efficiency label

2. Provide a schedule to show the model, installed location, quantity and flowrate for each type of water fixtures and calculation to demonstrate at least 80% (by quantity) of water taps and shower heads for bathing (if any) installed at locations under the control of Applicant meet the prescribed performance.

3. Provide proof of rating of water efficiency label.

4. In case the documentation showing flowrate of the water fixture is unavailable, on-site measurement shall be accepted in evaluating the actual performance. The Applicant shall provide supporting such as on-site photograph and/or video records to substantiate the measured flowrate.

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
WU-01-01_00	BEAM Plus EB Global submission template for WU-01-01
WU-01-01_01	Schedule of water taps and shower heads for bathing (if any) installed at the locations under the control of the Applicant
WU-01-01_02	Calculation showing percentage of high-efficiency water taps and shower heads (if any)
WU-01-01_03	Record photographs of the water fixtures
To demonstrate flowrates not exceeding specified performance criteria:	
WU-01-01_04	Manufacturer specification or catalogues of water taps and shower heads for bathing (if any) with the flowrates indicated
WU-01-01_05	On-site measurement results with supporting to substantiate the flowrates (if applicable)
To demonstrate water devices are certified under water efficiency label:	
WU-01-01_06	Proof of rating of water efficiency label

Remarks

(a) Additional Information

None.

(b) Related Credit Heads

WU-04-02 Water Management

The related credit encourages continual improvements in reducing fresh water consumption.

7	**Water Use**	**WU-01**	**Water Conservation**
	Core Requirement	**WU-01-02**	**Water Use for Irrigation**

Extent of Application	All buildings with soft landscape area of 200m^2 or more
Objective	Reduce the reliance on potable water for irrigation.
Credits Point(s) Attainable	1
Credit Requirement	1 credit point for demonstrating the use of water efficient irrigation technologies and/or harvested rainwater or/and recycled grey water to reduce irrigation water consumption. ***Alternatively,*** • *1 credit point for demonstrating limited use of fresh water for irrigation.*
Assessment	1. Demonstrate the project is equipped with water efficient irrigation technology and/or the use of harvested rainwater and/or recycled grey water to reduce the water consumption for irrigation as compared to conventional irrigation method. 2. Provide schematic and layout drawings of the irrigation system showing the water source(s) of irrigation and indicating the type of water efficient irrigation feature(s) in place in the project, such as drip or root-fed irrigation, rain or moisture sensors, smart controller, etc. 3. In case rainwater harvesting system and/or grey water recycling systems is used, the Applicant shall provide drawings showing the general arrangement, schematic diagrams and information of collection tank. ***Alternatively,*** 4. If self-sustained plants are used to form all permanent greenery, which do not require irrigation beyond their establishment period (maximum two years), the Applicant shall provide the report with drawing of soft landscaping, planting schedule and other supporting documents to justify why no irrigation will be required based on local rainfall and plants' water demands. The justification should be endorsed by a professional landscape architect, landscape designer or ecologist.

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
WU-01-02_00	BEAM Plus EB Global submission template for WU-01-02
WU-01-02_01	Soft landscape drawing with area break-down of greenery area
WU-01-02_02	Planting schedule
If water efficient irrigation technology, harvested rainwater system or recycled grey water system is provided:	
WU-01-02_03	Schematic and layout drawings for irrigation system including water source diagrams
WU-01-02_04	Drawing and schematic diagrams of the rainwater harvesting and/or grey water recycling systems (if applicable)
WU-01-02_05	Record photographs of the soft landscape area and water efficient irrigation system and/or water recycling system
If self-sustained plants are provided:	
WU-01-02_06	Endorsed report to justify no irrigation is required after establishment period of the plants
WU-01-02_07	CV of landscape architect, landscape designer or ecologist to demonstrate adequate expertise of landscape design
WU-01-02_08	Record photographs of the soft landscape area

Remarks

(a) Additional Information

None.

(b) Related Credit Heads

None.

7 Water Use **WU-01** **Water Conservation**

Core Requirement **WU-01-04** **Water Leakage Detection**

Extent of Application All buildings with potable water tank and/or pump rooms

Objective Identify water leakage once detected for the arrangement of maintenance work.

Credits Point(s) Attainable 1

Credit Requirement 1 credit point for installing water leakage detection system in all municipal potable water tank and/or pump rooms.

Assessment

1. Demonstrate water leakage detection systems are installed in the municipal potable water tank and/or pump rooms serving fresh water supply system, flushing water system (if using fresh water for flushing), cleansing water system, irrigation water system and air conditioning system (e.g. make-up water tank and/or pump for fresh water cooling towers).

2. Water tank and/or pump room serving non-potable water system or fire services system are not assessed.

3. Water tank and/or pump rooms which have multiple water tanks and/or pumps should have at least one leakage detection system.

4. The detection systems should have the capability to automatically alert the operator or the security guard and to identify the room with leakage when leakage occurs.

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
WU-01-04_00	BEAM Plus EB Global submission template for WU-01-04
WU-01-04_01	Drawing(s) (e.g. layout plans, control schematic, BMS drawings) highlighting the provisions of water leakage detection systems in all potable water tank and/or pump rooms
WU-01-04_02	Catalogue or manufacturer's information of the water leakage detection systems

Remarks

(a) Additional Information

None.

(b) Related Credit Heads

None.

7	Water Use	WU-01	Water Conservation
	Elective Requirement	**WU-01-05**	**Twin Tank System**

Extent of Application	All buildings (including buildings with centralised/ shared tank that is outside the assessment boundary)
Objective	Reduce the water wastage during the maintenance or cleaning of the water tanks and provide an uninterrupted potable and flushing water supply to building users.
Credits Point(s) Attainable	2 Bonus
Credit Requirement	1 Bonus credit point for providing twin tank for either potable or flushing water supply system. OR 2 Bonus credit points for providing twin tank for both potable and flushing water supply system.
Assessment	1. Twin tank shall be installed for potable and/or flushing supply water systems, which shall include: 1.1 All main storage tanks (regardless of capacity); and 1.2 Other tanks (e.g. transfer tanks and intermediate tanks) directly supplying potable/ flushing water to the points of use with capacity of 5,000 litres or above. 2. Two-compartment tank and two separate identical tanks are accepted as twin tank. Each compartment/ tank of the twin tank shall be equipped with: 2.1 A duplicated set of inlet, outlet and associated overflow and drainage pipeworks; 2.2 A stop valve at the inlet of each tank compartment to ensure that water will not get into the compartment when it is being cleaned; and 2.3 An automatic pump control switch at the downstream side of each sump pump to protect the up-feed system particularly when the stop valve for the tank compartment is closed. 3. For item 2.3 above, if other alternatives such as pressure switch and manual approach are adopted, the following supporting information shall be provided: 3.1 Justification of the difficulty/ constraint for the project to provide an automatic pump control switch; 3.2 Details of an alternative proposal; and 3.3 Evidence such as design drawings, undertaking letter from the Building Owner/ Building Management Company, operation manual of the project, etc.

to demonstrate how the proposed alternative could serve the same function as an automatic pump control switch to protect the up-feed system (i.e. upfeed pumps) when the stop valve for the tank compartment is closed during cleansing.

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
WU-01-05_00	BEAM Plus EB Global submission template for WU-01-05
WU-01-05_01	Plumbing schematic and layout drawings highlighting the provisions of the twin tank system for potable water and/or flushing water systems, and the associated installations as stated in item 2.1 to 2.3 in the assessment criteria
WU-01-05_02	Supporting information for the adopted alternative as stated in items 3.1 to 3.3 in the assessment criteria (if applicable)

Remarks

(a) Additional Information

None.

(b) Related Credit Heads

None.

7	**Water Use**	**WU-01**	**Water Conservation**
	Core Requirement	**WU-01-06**	**Cooling Tower Water**

Extent of Application	All buildings with cooling tower using fresh water as makeup water
Objective	Reduce the fresh water consumption for cooling tower makeup.
Credits Point(s) Attainable	1
Credit Requirement	1 credit point for reducing fresh water consumption by installing water treatment system which can achieve 6 cycles of concentration with acceptable water quality.
Assessment	1. Install the water treatment system and conduct water sampling. The ratio between the concentration of dissolved solids in the cooling tower and make-up water should be 6 or more. 2. Demonstrate that the corresponding make-up water pumps can provide sufficient flowrate and pressure to sustain the specified cycle of concentration. 3. All cooling towers using potable water within the assessment boundary should comply with this requirement. 4. Submit cooling tower water treatment proposal to demonstrate minimum cycles of concentration of 6 or more is designed and adopted, with reference to local standard/ credible guidelines or EMSD Code of Practice for Fresh Water Cooling Tower [1] if local standard/ credible guidelines is not available. 5. Provide the cooling water sampling results and associated water sampling test report to substantiate satisfactory cooling water quality.

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
WU-01-06_00	BEAM Plus EB Global submission template for WU-01-06
WU-01-06_01	MVAC schematic drawings showing the fresh water cooling tower(s) with designation
WU-01-06_02	Water treatment proposal highlighting the cycles of concentration
WU-01-06_03	Equipment catalogues/ technical data sheet of cooling tower, water treatment equipment and make-up water pumps
WU-01-06_04	Water sampling results

Remarks

(a) Additional Information

[1] Electrical and Mechanical Services Department – Code of Practice for Fresh Water Cooling Towers CoP (FWCT). [ONLINE]. Available at: http://www.emsd.gov.hk/en/energy_efficiency/fwct_scheme/publications/index.html
[Accessed May 2024].

(b) Related Credit Heads

None.

7 Water Use **WU-02** **Effluent**

Core Requirement **WU-02-01** **Effluent Discharge to Foul Sewers**

Extent of Application All buildings with flushing system that is controlled by the Applicant.

Objective Reduce the volumes of sewage discharged from buildings thereby reducing burdens on municipal sewage supply and treatment facilities.

Credits Point(s) Attainable 4

Credit Requirement 1 to 4 credit point(s) for installing high-efficiency water closets and urinals (if any) with flowrates not exceeding the specified performance criteria.

Alternatively,

- *1 to 4 credit point(s) for the water closets and urinals (if any) are certified under localised water efficiency label, if available.*

Assessment

1. Maximum 4 credit points can be achieved for flushing systems meeting the flowrate requirement below.

Credit Point(s)	**1**	**2**
Water closet (L/flush)	6 / 3.5 (dual flush)	4.5 / 3 (dual flush)
	3.5 (single flush)	3 (single flush)
Urinal (L/flush)	2	1.5

Alternatively

Maximum 4 credit points can be achieved for flushing systems are certified under localised water efficiency label.

Credit Point(s)	**1**	**2**
Water closet	2nd highest rating of water efficiency label	Highest rating of water efficiency label
Urinal	2nd highest rating of water efficiency label	Highest rating of water efficiency label

2. Provide a schedule to show the model, installed location, quantity and flowrate of each type of flushing systems and calculation to demonstrate at least 80% (by quantity) of water closets and urinals (if any) installed at locations under the control of Applicant meet the prescribed performance.

3. Provide proof of rating of water efficiency label.

4. In case the documentation showing flowrate of the flushing systems is

unavailable, on-site measurement and/or calculation shall be accepted in evaluating the actual performance. The Applicant shall provide supporting such as on-site photograph and/or video records to substantiate the flowrate.

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
WU-02-01_00	BEAM Plus EB Global submission template for WU-02-01
WU-02-01_01	Schedule of the water closets and urinals (if any) installed at the locations under the control of the Applicant
WU-02-01_02	Calculation showing percentage of high-efficiency water closets and urinals (if any)
WU-02-01_03	Record photographs of the flushing system
To demonstrate flowrates not exceeding specified performance criteria:	
WU-02-01_04	Manufacturer specification or catalogues of the water closets and urinals (if any) with the flowrates indicated
WU-02-01_05	On-site measurement/ calculation results with supporting to show the flowrates (if applicable)
To demonstrate flushing systems are certified under water efficiency label:	
WU-02-01_06	Proof of rating of water efficiency label

Remarks

(a) Additional Information

None.

(b) Related Credit Heads

None.

7 Water Use **WU-03** **Water Harvesting and Recycling**

Elective Requirement **WU-03-01** **Water Harvesting and Recycling**

Extent of Application All buildings

Objective Encourage harvesting of rainwater and recycling of grey water in order to reduce the consumption of potable water.

Credits Point(s) Attainable 2 Bonus

Credit Requirement 1 or 2 Bonus credit point(s) for harvesting rainwater and/or recycling grey water that leads to a reduction of at least 2.5% or 5% in the consumption of potable water.

Assessment

1. Provide details on the rainwater harvesting and/or grey water systems including the drawings showing the general arrangement and the schematic diagrams. The calculation of the expected potable water saving shall also be provided.

2. Where it can be demonstrated that the savings in potable water use is at least 2.5% or 5% of the total amount of potable water consumption, the Bonus credit point(s) can be achieved.

3. The water saving can be determined by the meter reading of amount of rainwater harvested and/or grey water recycled per year divided by the amount of potable water meter reading from the building per year (in m^3).

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
WU-03-01_00	BEAM Plus EB Global submission template for WU-03-01
WU-03-01_01	Drawing and schematic diagrams of the rainwater harvesting and/or grey water recycling systems
WU-03-01_02	Calculation on the potable water saving
WU-03-01_03	Metering records to support the percentage of water saving
WU-03-01_04	Record photographs of the water recycling system(s)

Remarks

(a) Additional Information

None.

(b) Related Credit Heads

None.

7 Water Use **WU-04** **Water Management**

Core Requirement **WU-04-01** **Water Metering**

Extent of Application All buildings

Objective Provide opportunity to reduce water use by tracking the water consumption records on different water systems.

Credits Point(s) Attainable 1

Credit Requirement 1 credit point for demonstrating the provision of permanent water meters for at least 2 of the following water sub-systems:

i. Irrigation;
ii. Indoor plumbing fixtures and fittings;
iii. Cooling towers;
iv. Water features/ pools; and
v. Other process water.

Assessment

1. Provide sufficient water meters so that the water usage for different water sub-systems can be tracked.

2. The water meters may be manually read, equipped with data logging capability or connected to Building Management System (BMS), where the Applicant shall provide water meters for at least two water systems as stated above, the credit can be achieved.

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
WU-04-01_00	BEAM Plus EB Global submission template for WU-04-01
WU-04-01_01	Plumbing schematic diagrams or layout drawings showing the provisions of water metering for at least two water sub-systems
WU-04-01_02	Data logging records for each water sub-system for one representative month in the past 12 months
WU-04-01_03	Record photographs of the water meters

Remarks

(a) Additional Information

None.

(b) Related Credit Heads

None.

7 Water Use **WU-04** **Water Management**

Core Requirement **WU-04-02** **Water Saving Management**

Extent of Application All buildings

Objective Encourage the continual improvement in reducing fresh water consumption through the application of water saving strategies that have proven performance and reliability as well as operation management measures.

Credits Point(s) Attainable 8

Credit Requirement

a) Water Conservation Plan

1 credit point for developing a water conservation plan endorsed by top management.

b) Water Use Records

1 credit point for maintaining water use records for the past 12 months.

c) Water Audit

1 credit point for undertaking a water audit and maintaining a water use inventory.

d) Water Saving Performance

1 to 5 credit point(s) can be achieved based on the reduction percentage by comparing water bill and/or metering data (Baseline year can be any one of the past 5 years).

Credit Point(s)	1	2	3	4	5
Annual fresh water use reduction	3%	6%	9%	14%	20%

Assessment

a) Water Conservation Plan

1. Provide the water conservation plan endorsed by top management of Building Owner/ Building Management Company.

2. The water conservation plan shall include the following content as minimum:

   2.1 Objectives;
   2.2 Short-term (3 years) and long-term (5 years) water saving targets;
   2.3 Strategies in reducing the fresh water consumption, including those already adopted and planned for future implementation;
   2.4 Monitoring of fresh water consumption;
   2.5 Frequency of water audit; and
   2.6 Feedback channels.

b) Water Use Records

1. Provide records of water consumption (e.g. water bills and/or metering data) for all water use in the building under control by the Applicant.

2. The overall water consumption records of the building are accepted for this credit; however, the tracking of water consumption on different water systems (e.g. indoor plumbing fixtures and fittings, cooling towers, irrigation, etc.) is recommended for water use reduction opportunity.

3. Provide monthly breakdown of annual water use data for every next 12 months after the issuance of BEAM Plus EB Global certificate.

c) Water Audit

1. Undertake water audit and compose a water audit report. The water audit shall be conducted within the past 3 years.

2. The water audit report shall cover the water consumption and operation and maintenance for all areas of water use, but may exclude water consumption by tenants. The report shall include:

   2.1 Breakdown of usage across the site and site activities, reconciled against total metered water consumption;
   2.2 Inspection of equipment, devices and processes across the site as part of preparing a usage inventory investigation of consumption by major equipment, devices and processes;
   2.3 Investigation of usage trends and patterns;
   2.4 Preparation of Key Performance Indicators (KPIs) of consumption (using baseline data) in relation to an appropriate indicator (such as L/m^2); and
   2.5 Demonstration of the implementation of water conservation plan.

3. Demonstrate a water use inventory of the building is maintained.

d) Water Saving Performance

1. Compute the reduction of water consumption by the water bills and/or metering data. The water consumption from the past 12 months shall be used to compare against the baseline year. The baseline year can be any one of the past 5 years.

2. A ratio indicator by a certain operational measuring unit (such as the number of building users) can be applied to allow for such comparison.

3. Provide monthly breakdown of annual water use data for every next 12 months after the issuance of BEAM Plus EB Global certificate.

Submittals

a) Water Conservation Plan

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
WU-04-02a_00	BEAM Plus EB Global submission template for WU-04-02a
WU-04-02a_01	Endorsed water conservation plan
WU-04-02a_02	Organisation chart demonstrating the line of authority of the personnel endorsing the plan

b) Water Use Records

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
WU-04-02b_00	BEAM Plus EB Global submission template for WU-04-02b
WU-04-02b_01	Water use record of the building
WU-04-02b_02^	Monthly breakdown of annual water use data
^ *Evidence shall be submitted on an annual basis after the issuance of the certificate. Refer to On-going Data Report under Section 1.2 Framework.*	

c) Water Audit

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
WU-04-02c_00	BEAM Plus EB Global submission template for WU-04-02c
WU-04-02c_01	Water audit report
WU-04-02c_02	Water use inventory of the building

d) Water Saving Performance

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
WU-04-02d_00	BEAM Plus EB Global submission template for WU-04-02d
WU-04-02d_01	Water consumption data records (e.g. water bills, metering log data, manually recorded data) for the baseline year and past 12 months
WU-04-02d_02	Calculation showing the percentage of reduction
WU-04-02d_03^	Monthly breakdown of annual water use data
^ *Evidence shall be submitted on an annual basis after the issuance of the certificate. Refer to On-going Data Report under Section 1.2 Framework.*	

Remarks

(a) Additional Information

None.

(b) Related Credit Heads

WU-01-01 Annual Water Use

The related credit encourages the application of water saving devices.

7 Water Use	WU-04	Water Management
Core Requirement	WU-04-03	Quality Water Supply

Extent of Application

All buildings

Objective

Encourage Building Owner/ Building Management Company to adopt water safety plan to safeguard drinking water quality in their buildings.

Credits Point(s) Attainable

4

Credit Requirement

a) Water Safety Plan

1 credit point for developing a water safety plan.

1 additional credit point for providing water safety inspection records to demonstrate routine checking of the fresh water supply system.

b) Water Quality Survey

1 credit point for demonstrating that the quality of fresh water at all fresh water tanks and the supply point(s) at high, middle and low zones of the building meets the limits as stipulated in locally available standards.

1 additional credit point for demonstrating that the quality of fresh water meets the prescribed limits.

Assessment

a) Water Safety Plan

1. Provide a water safety plan (WSP) which detail the following:
   - 1.1 General description of the building, including the personnel designated to oversee the WSP;
   - 1.2 Water supply flow diagrams indicating the essential plumbing components of building;
   - 1.3 Risk assessment on building's plumbing system; and
   - 1.4 Routine water safety checklist summarising the checking duties based on the risk assessment.
2. The WSP shall be reviewed regularly (e.g. every two years) to verify the effectiveness of the WSP.
3. An additional credit point will be granted for conducting routine water safety inspection/ checking according to the checklists described in WSP to demonstrate effective operational monitoring. The records of inspection performed by the designated personnel shall be provided for review.

b) Water Quality Survey

1. Conduct water quality testing to verify the water quality. Samples of fresh water shall be collected at all fresh water storage and supply tanks and at least 1 supply point(s) at each high, middle and low zones of each building within the assessment boundary.

2. Samples of fresh water for metal, physical, chemical and bacteriological examinations shall be collected, preserved, handled and tested in accordance with the requirements stipulated in ISO 5667 and fulfill locally available standard.

3. An additional credit point will be granted for the water quality fulfill the requirements as stated in below table.

Test parameter		Acceptance criteria
Metal Parameters	Lead (µg/L)	≤ 10
	Cadmium (µg/L)	≤ 3
	Chromium (µg/L)	≤ 50
	Nickel (µg/L)	≤ 70
	Copper (µg/L)	≤ 2,000
	Antimony (µg/L)	≤ 20
Chemical and Physical Parameters	Turbidity (NTU)	≤ 3.0
	Colour (HU)	≤ 5
	pH at 25ºC	6.5 - 9.5
	Conductivity at 25ºC (µS/cm)	≤ 500
	Free Residual Chlorine (mg/L)	≤ 1.5
Bacteriological Parameters	E.coli (cfu/100mL)	0
	Heterotrophic Plate Count (cfu/mL)	≤ 20

4. The water quality survey shall be carried out by a locally accredited laboratory for environmental testing.

5. If any result(s) of the water sampling test(s) fails to comply with any of the acceptance criteria, the retest of water sample shall follow the below arrangement:

    5.1 If any result(s) of metal parameter(s) at certain sampling location(s) fails to comply with the acceptance criteria, retesting of all parameters (i.e. metal, bacteriological, physical and chemical) at the same location(s) is required; and

    5.2 For any failed sample(s) other than metal parameters, retesting for all parameters other than metal is required at the same location(s).

Submittals

a) Water Safety Plan

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
WU-04-03a_00	BEAM Plus EB Global submission template for WU-04-03a
WU-04-03a_01	Water safety plan
WU-04-03a_02	Records of routine water safety inspection/ checking at interval as specified in WSP (applicable to additional credit point)

b) Water Quality Survey

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
WU-04-03b_00	BEAM Plus EB Global submission template for WU-04-03b
WU-04-03b_01	Plumbing schematic diagrams and layout drawings with clear indication of the fresh water sampling points
WU-04-03b_02	Water quality survey report endorsed by accredited laboratory

Remarks

(a) Additional Information

Water Supplies Department. Water Safety Plan for Buildings [ONLINE]. Available at: https://www.wsd.gov.hk/en/water-safety/water-safetyin-buildings/index.html. [Accessed May 2024].

(b) Related Credit Heads

None.

8. Health and Wellbeing

This section considers the broader perspectives of sustainable interior spaces as well as the occupants' health and wellbeing. The broader sustainable issues include provisions of hygiene and amenities maintenance provided in the building, which have impact on the quality of working and living environments.

Indoor environmental quality includes indoor air quality and ventilation provisions that safeguard health. Considerations of health and wellbeing also include thermal comfort, lighting, acoustic and noise, impact on wellbeing, comfort and productivity.

8	**Health and Wellbeing**	**HWB-00**	**Basic Requirement**
	Core Requirement	**HWB-00-01**	**Minimum Ventilation Performance**

Extent of Application

All buildings, except the naturally ventilated spaces

Objective

Assess the quality of on-site outdoor air and demonstrate that a minimum quantity of outdoor air is supplied to all normally occupied spaces in the project in order to safeguard the health and comfort of building users.

Credits Point(s) Attainable

2

Credit Requirement

a) On-site Outdoor Air Quality

1 credit point for demonstrating the level of outdoor air pollutants at selected intake location(s) are within the prescribed criteria.

b) Minimum Ventilation

1 credit point for demonstrating that the project is in compliance with the minimum ventilation quantity in accordance with of ANSI/ASHRAE Standard 62.1-2016.

Alternatively,

- *In case of the minimum ventilation rate of ANSI/ASHRAE Standard 62.1-2016 is not complied due to the physical constraints of the existing ventilation system, demonstrate that the system is operated at maximum outdoor air delivery rate and provide not less than 5 L/s per person of combined outdoor air rate.*

Assessment

a) On-site Outdoor Air Quality

1. Conduct outdoor air quality measurements for the following outdoor air pollutants:

    1.1 Carbon monoxide (CO);
    1.2 Nitrogen dioxide (NO_2)
    1.3 Ozone (O_3); and
    1.4 Respirable suspended particulates (PM_{10}).

    Report from accredited inspection bodies for air quality inspection is acceptable. The measurement shall be carried out within 12 months prior to the time of the submission.

2. At least one sample should be taken at the selected intake location. Representative locations are acceptable if there is accessibility issue. The samples should be taken when no construction/ retrofitting activities were on-going on the day of measurement. All parameters at one sampling location should be taken on the same day.

3. Prepare a narrative to benchmark the measurement results against the locally available standard or below acceptance limits when it is not available.

Parameter	8-hour average acceptance limit
Carbon monoxide (CO)	<7,000 µg/m^3 or <6.1 ppmv
Nitrogen dioxide (NO_2)	<150 µg/m^3 or <80 ppbv Plus [1-hour] <200 µg/m^3 or <106 ppbv
Ozone (O_3)	<120 µg/m^3 or <61 ppbv
Respirable suspended particulate (PM_{10})	<100 µg/m^3

4. Due to site constraints, it may not be practicable to take 8-hour continuous measurement. In these circumstances, surrogate measurement (i.e. an intermittent measurement strategy based on the average of half-an-hour measurements conducted at four time slots) is also accepted.

b) Minimum Ventilation

1. Prepare a schedule of the normally occupied spaces in the building. Normally occupied spaces are enclosed areas where people normally stay more than 1 hour. Spaces which are not used daily, but will be occupied for more than 1 hour when used, are also considered normally occupied spaces. Examples of normally occupied spaces can be found in Appendix 10.2 Space Type.

2. Provide a report demonstrating compliance with the minimum ventilation rate stipulated in ANSI/ASHRAE Standard 62.1-2016 in all normally occupied spaces.

Alternatively,

3. In case of the minimum ventilation rate of ANSI/ASHRAE Standard 62.1-2016 is not complied due to the physical constraints of the existing ventilation system, a report shall be submitted to show the details of the system's maximum ventilation rate, and demonstrate that the system is operated at maximum capacity to deliver outdoor air into the space and provide not less than 5 L/s per person of combined outdoor air rate.

    3.1 The maximum ventilation rate shall be supported with T&C records, equipment catalogue or technical data sheet of the equipment.

Submittals

a) On-site Outdoor Air Quality

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
HWB-00-01a_00	BEAM Plus EB Global submission template for HWB-00-01a
HWB-00-01a_01	Endorsed outdoor air pollutants measurement report

b) Minimum Ventilation

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
HWB-00-01b_00	BEAM Plus EB Global submission template for HWB-00-01b
HWB-00-01b_01	Schedule of all normally occupied spaces in the building
HWB-00-01b_02	Report demonstrating compliance with the minimum ventilation rate stipulated in ASHRAE Standard 62.1-2016
HWB-00-01b_03	Report demonstrating that the system is operated at maximum capacity to deliver outdoor air into the space and provide not less than 5 L/s per person of combined outdoor air rate (if applicable)
HWB-00-01b_04	T&C records, equipment catalogue or technical data sheet to substantiate the maximum ventilation rate (if applicable)
HWB-00-01b_05	MVAC fan schedule and air side schematic diagrams
HWB-00-01b_06	MVAC layout plan

Remarks

(a) Additional Information

ANSI/ASHRAE Standard 62.1-2016. Ventilation for Acceptable Indoor Air Quality. American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.

(b) Related Credit Heads

HWB-03-05 Indoor Air Quality

Carrying out on-site outdoor analysis provides useful information for the operation of ventilation system to ensure a good air quality provision.

8	**Health and Wellbeing**	**HWB-02**	**Inclusive Design**
	Core Requirement	**HWB-02-01**	**Inclusive Design**

Extent of Application

All buildings

Objective

Encourage user-friendliness in the building design for people of all backgrounds and abilities.

Credits Point(s) Attainable

5

Credit Requirement

a) Barrier Free Access

1 credit point for providing at least 3 enhanced barrier free access provisions with reference to the local standard.

b) Corporate Social Responsibility Facilities/ Services

Maximum 4 credit points for providing the listed CSR facilities/ services:

i. Allowing persons with visual impairment to bring along with their guide dogs;
ii. Automated External Defibrillator;
iii. Baby-care room/ nursing room;
iv. Bicycle parking;
v. Private breastfeeding space;
vi. Free baby stroller lending service;
vii. Free drinking water facility;
viii. Free wheelchair lending service;
ix. Free Wi-Fi in common area;
x. Water closet for children or family in each male and female washroom;
xi. Stand alone family washroom;
xii. Shaded rest area with seating for caretakers near play equipment for children; and
xiii. Others to be proposed by the Applicant.

Assessment

a) **Barrier Free Access**

1. Provide a report detailing at least 3 applicable enhanced provisions as stipulated in local standard/ credible guidelines or “Recommended Design Requirements” of BFA 2008 [1] if local standard/ credible guidelines is not available. Same type of provision in multiple locations can only be counted once.

b) **Corporate Social Responsibility Facilities/ Services**

1. 1 credit can be achieved for demonstrating the provision of each of the listed corporate social responsibility (CSR) facilities/ services. Same type of provision in multiple locations can only be counted once.

2. Each type of the claimed facilities/ services shall be supported with record photographs for verification.

Submittals

a) Barrier Free Access

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
HWB-02-01a_00	BEAM Plus EB Global submission template for HWB-02-01a
HWB-02-01a_01	Summary table with narrative on the barrier free access provisions and their locations
HWB-02-01a_02	Layout plan with indication on the barrier free access provisions
HWB-02-01a_03	Record photographs of the barrier free access provisions

b) Corporate Social Responsibility Facilities/ Services

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
HWB-02-01b_00	BEAM Plus EB Global submission template for HWB-02-01b
HWB-02-01b_01	Layout plan with indication on the CSR facilities/ services
HWB-02-01b_02	Record photographs of the CSR facilities/ services

Remarks

(a) Additional Information

[1] Buildings Department. Design Manual: Barrier Free Access 2008. [ONLINE]. Available at: https://www.bd.gov.hk/doc/en/resources/codes-and-references/code-and-design-manuals/BFA2008_e.pdf [Accessed May 2024].

(b) Related Credit Heads

None.

8	**Health and Wellbeing**	**HWB-03**	**Indoor Environmental Quality**
	Elective Requirement	**HWB-03-01**	**Enhanced Ventilation**

Extent of Application

All buildings

Objective

Maintain effective ventilation and prevent exposure to concentrated indoor pollutant sources to support occupants' health and wellbeing.

Credits Point(s) Attainable

2

Credit Requirement

a) Fresh Air Provision

1 credit point for demonstrating that 90% of not normally occupied spaces in the building are provided with adequate ventilation.

b) Exhaust Air

1 credit point for the provision of an effective ventilation system for spaces where significant indoor pollution sources are generated.

Assessment

a) Fresh Air Provision

1. Prepare a schedule with area breakdown of the not normally occupied spaces in the building. Not normally occupied spaces are enclosed areas within the building where people normally stay less than 1 hour. Examples of not normally occupied spaces can be found in Appendix 10.2 Space Type.

2. Provide a report demonstrating compliance with the minimum ventilation rate stipulated by recognised authorities, e.g. ASHRAE Standard 62.1-2016 [1] or equivalent, in at least 90% by area of not normally occupied spaces.

3. Compliance shall be demonstrated by calculations on a representative sample of each type of space.

b) Exhaust Air

1. Prepare a schedule of all spaces where significant indoor pollution sources are generated.

2. Provide design criteria that have been adopted and the details of ventilation system designs providing local exhaust where concentrated pollutant sources are likely to be present.

3. Provide exhaust air rate calculation demonstrating the compliance of design criteria. ANSI/ASHARE Standard 62.1 – 2016 and CIBSE Guide B 2016 are accepted references for this credit. Justification is needed for other references.

Submittals

a) Fresh Air Provision

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
HWB-03-01a_00	BEAM Plus EB Global submission template for HWB-03-01a
HWB-03-01a_01	Schedule with area breakdown of not normally occupied spaces
HWB-03-01a_02	Design criteria adopted for the not normally occupied spaces
HWB-03-01a_03	Report of methodology and results of calculations to demonstrate compliance

b) Exhaust Air

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
HWB-03-01b_00	BEAM Plus EB Global submission template for HWB-03-01b
HWB-03-01b_01	Schedule of all spaces provided with local exhaust, highlighting the exhaust rate
HWB-03-01b_02	Summary table detailing the design criteria and the ventilation system designs providing local exhaust
HWB-03-01b_03	Drawings showing the locations with significant indoor pollution sources and associated ventilation system layouts
HWB-03-01b_04	Calculation indicating that the exhaust rate is achieved
HWB-03-01b_05	Record photographs or drawings showing the location of the exhaust point

Remarks

(a) Additional Information

[1] ANSI/ASHRAE Standard 62.1-2016. Ventilation for Acceptable Indoor Air Quality. American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.

[2] Chartered Institute of Building Services Engineers (CIBSE) Guide B 2016. Heating, Ventilation, Air Conditioning and Refrigeration.

(b) Related Credit Heads

HWB-03-05 Indoor Air Quality
Indoor air quality can be improved via dilution resulted by maintaining suitable ventilation rate

8 Health and Wellbeing **HWB-03 Indoor Environmental Quality**

Elective Requirement **HWB-03-02 Waste Odour Control**

Extent of Application

All buildings with room designated for refuse storage or materials recovery

Objective

Reduce nuisance caused by odour from the waste disposal facilities entering occupied areas or public areas.

Credits Point(s) Attainable

1

Credit Requirement

1 credit point for providing de-odourising system in all rooms designated for refuse storage or materials recovery.

Assessment

1. Provide MVAC drawings showing the locations of refuse room or refuse collection chambers and the de-odourising system. When a centralised ventilation system is adopted, a single air purifier or carbon filter may be installed before final discharge into the atmosphere.

2. Provide manufacturer specification or catalogue of the de-odourising system. Air purifying devices such as 'Chemical Air Scrubber', 'Bio-oxygen Generator', 'Photo-oxidation Generator' or other appropriate devices are also accepted.

3. Provide on-site photographs of the de-odourising system.

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
HWB-03-02_00	BEAM Plus EB Global submission template for HWB-03-02
HWB-03-02_01	MVAC Drawings showing the locations of refuse room or refuse collection chambers and the de-odourising system
HWB-03-02_02	Manufacturer specification or catalogues of the de-odourising system
HWB-03-02_03	Record photographs of the de-odourising system

Remarks

(a) Additional Information

None.

(b) Related Credit Heads

HWB-03-01 Enhanced Ventilation
The related credit awards project demonstrating ventilation performance for spaces where significant indoor pollution sources are generated.

8	**Health and Wellbeing**	**HWB-03**	**Indoor Environmental Quality**
	Core Requirement	**HWB-03-03**	**Acoustics and Noise**

Extent of Application

All buildings with the spaces where speech intelligibility is important, and without rooms of a special acoustical nature

Objective

Ensure the normally occupied spaces are in comfortable acoustic environment.

Credits Point(s) Attainable

3

Credit Requirement

a) Background Noise

1 credit point for demonstrating background noise levels from both external sources and building services equipment are within the prescribed criteria.

b) Room Acoustics

1 credit point for demonstrating that the mid-frequency reverberation time in applicable spaces meets the prescribed criteria of different types of premises.

c) Noise Isolation

1 credit point for demonstrating airborne noise isolation between rooms, spaces and premises fulfils the prescribed criteria.

Assessment

1. Compliance shall be demonstrated by computer simulation (for Part c only), detailed calculations or measurements depending on the Applicant's preference. If the Applicant opt to demonstrate compliance by measurement, the measurement shall be carried out within the past 12 months.

2. The computer simulation report, measurement report and/or acoustic calculations shall be endorsed by locally accredited acoustic professionals (e.g. corporate Member of Hong Kong Institute of Acoustics in Hong Kong region). CV shall be provided to demonstrate its adequate expertise of acoustic.

3. Based on the nature of the building, alternative appropriate criteria with sufficient justification and evidence provided by the Applicant will be allowed.

a) Background Noise

1. Demonstrate that the background noise levels from both external sources and external building services equipment of project building are within the below criteria.

2. Internal noise level (NR and NC value should be consistently used in the project):

    - Office type premises: NR/ NC 40;

- Classrooms and similar premises: NR/ NC 35;
- Residential premises, hotel and apartments: NR/ NC 35;
- Common areas in shopping malls: NR/ NC 45; and
- Indoor games halls and indoor swimming pools: NR/ NC 50.

3. Internal noise calculations or site measurements shall include at least one sample of each type of occupied space, taking account the worst case condition of exposure to noise sources external to the space, and undertaken during periods appropriate to the usage pattern for the space. Measuring equipment shall conform to the accuracy requirements given in IEC 61672-1 [1] Class 1 requirements, or equivalent standard.

4. The assessment should take into account noise from building services equipment under normal operation mode. For residential units, the assessment should only account traffic noise and chiller/ water plant equipment (window type and outdoor unit of VRV are not considered).

b) Room Acoustics

1. Demonstrate that mid-frequency reverberation time in applicable rooms meets the below criteria of different types of premises.

2. Average reverberation time for mid frequencies (500Hz, 1kHz and 2kHz):

   - Office type premises: 0.4 to 0.6s;
   - Classrooms and similar premises: 0.4 to 0.6s;
   - Residential premises, hotels and apartments: 0.4 to 0.6s;
   - Indoor games halls, indoor swimming pools: 1.5 to 2s; and
   - Common areas in shopping malls: 1.0 to 1.5s.

3. The assessment shall include at least one sample of each type of occupied space.

4. The reverberation time shall be assessed using Sabine's formula [2] or similar alternative taking into account the room details and appropriate assumptions about the materials in the space. Measurements during commissioning shall use the method given in ISO 3382 [3] or equivalent. Measuring equipment shall conform to the accuracy requirements given in IEC 61672-1 [1] Class 1 requirements, or equivalent.

c) Noise Isolation

1. Demonstrate that airborne noise isolation between spaces fulfills the prescribed criteria.

2. The performance of the weighted Sound Reduction Index (SRI) or Level Difference shall fulfill the requirements as stated in the table below. The criteria apply to partition walls which are provided by the landlord.

Type of Premises	Weighted SRI	Level Difference
Between offices/ conference rooms/ retails shop	R_w 44	$D_{nT,w}$ 38

Between hotel rooms/ serviced apartments/ function rooms/ activity rooms	R_w 52	$D_{nT,w}$ 46
Between classrooms	R_w 37	$D_{nT,w}$ 31
Between bedroom to living room (same unit)	R_w 46	$D_{nT,w}$ 40
Between bedroom to bedroom/ living room to living room (different units)	R_w 52	$D_{nT,w}$ 46
Between bedroom to bedroom (same unit)	R_w 44	$D_{nT,w}$ 38

3. The Applicant shall submit a schedule of the premises and spaces in the building, noise isolation criteria adopted, relevant partition or slab details as they impact on noise isolation, the rooms/ premises subject to field tests or for which detailed calculations or simulations have been made, underlying assumptions, and the results of tests of calculations/ simulations demonstrating compliance with the criteria.

4. For measurement, measuring equipment shall conform to the accuracy requirements given in IEC 61672-1 [1] Class 1 requirements, or equivalent.

Submittals

a) Background Noise

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
HWB-03-03a_00	BEAM Plus EB Global submission template for HWB-03-03a
HWB-03-03a_01	Endorsed background noise calculation report or Endorsed background noise measurement report
HWB-03-03a_02	CV of the professional as per requirements in the assessment

b) Room Acoustics

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
HWB-03-03b_00	BEAM Plus EB Global submission template for HWB-03-03b
HWB-03-03b_01	Endorsed reverberation time calculation report at representative locations with supporting documents of the absorption coefficients

	or Endorsed report on reverberation time measurement at representative locations
HWB-03-03b_02	CV of the professional as per requirements in the assessment

c) Noise Isolation

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
HWB-03-03c_00	BEAM Plus EB Global submission template for HWB-03-03c
HWB-03-03c_01	Layout plan or sectional drawings showing the location of partition walls
HWB-03-03c_02	Construction details of the partition walls (applicable to calculation and simulation route only)
HWB-03-03c_03	Endorsed airborne noise isolation computer simulation/ calculation report or Endorsed airborne noise isolation measurement report
HWB-03-03c_04	CV of the professional as per requirements in the assessment

Remarks

(a) Additional Information

[1] International Electrotechnical Commission. IEC 61672-1:2013 Electroacoustic – Sound level meters.

[2] I.Sharland. Woods practical guide to noise control. Colchester England.

[3] International Organisation for Standardisation – ISO 3382:2009 - Acoustics - Measurement of room acoustic parameters.

(b) Related Credit Heads

None.

8	**Health and Wellbeing**	**HWB-03**	**Indoor Environmental Quality**
	Elective Requirement	**HWB-03-04**	**Indoor Vibration**

Extent of Application

All buildings with normally occupied spaces

Objective

Avoidance of excessive vibration from building services equipment and other external sources within site boundary.

Credits Point(s) Attainable

1 Bonus

Credit Requirement

1 Bonus credit point for demonstrating vibration levels not exceeding the prescribed criteria.

Assessment

1. Vibration generated from the building services equipment shall be in compliance with the criteria given in ISO 2631-2 [1], BS 6472-1:2008 [2], BS 6472-2:2008 [3], Department of Environment and Conservation of NSW – Assessing Vibration: a technical guideline [4] or equivalent standard.

2. Calculations/ measurements should be carried out at representative normally occupied spaces. The selection of sampling points should follow the guidance given in ISO 2631-2:2003, BS 6472-1:2008, BS 6472-2:2008, Department of Environment and Conservation of NSW - Assessing Vibration: a technical guideline or equivalent standard. Vibration from emergency generator is excluded from assessment.

3. The level of vibration in terms of root mean square acceleration shall be determined by calculation or on-site measurement. Root mean square acceleration requirement should be assessed with regards to the above standards or equivalent.

4. Vibration source(s) identified in the report should be justified. External sources other than building services equipment that might impact on building space may include nearby railway, underground tunnel etc.

5. If the Applicant opt to demonstrate compliance by measurement, the measurement shall be carried out within the past 12 months.

6. The measurement report and/or acoustic calculations shall be endorsed by locally available acoustic professionals (e.g. corporate Member of Hong Kong Institute of Acoustics in Hong Kong region). CV shall be provided to demonstrate its adequate expertise of acoustic.

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
HWB-03-04_00	BEAM Plus EB Global submission template for HWB-03-04
HWB-03-04_01	Endorsed calculation report on vibration level [or] Endorsed vibration measurement report
HWB-03-04_02	Layout drawings showing the location(s) of sensitive receiver(s) and vibration source(s)
HWB-03-04_03	CV of the professional endorsing the calculation/ measurement report

Remarks

(a) Additional Information

[1] International Standard Organisation. ISO 2631-2:2003. Evaluation of human exposure to whole-body vibration – Part 2: Continuous and shock-induced vibration in buildings (1 to 80Hz).

[2] British Standard. BS 6472-1:2008. Guide to evaluation of human exposure to vibration in buildings Part 1: Vibration sources other than blasting.

[3] British Standard. BS 6472-2:2008. Guide to evaluation of human exposure to vibration in buildings Part 2: Blast-induced vibration.

[4] Department of Environment and Conservation of NSW, Assessing Vibration: a technical guideline or equivalent standard 2006. [ONLINE]. Available at: https://www.environment.nsw.gov.au/resources/noise/vibrationguide0643.pdf. [Accessed May 2024].

(b) Related Credit Heads

None.

8	**Health and Wellbeing**	**HWB-03**	**Indoor Environmental Quality**
	Core Requirement	**HWB-03-05**	**Indoor Air Quality**

Extent of Application

Part a) – All buildings

Part b) – All buildings with enclosed and/or semi-enclosed car park of areas more than 10% of Construction Floor Area

Objective

Demonstrate that airborne contaminants do not give rise to unacceptable levels in the building.

Credits Point(s) Attainable

6

Credit Requirement

a) Indoor Air Quality in Occupied Spaces

Maximum 4 credit points for demonstrating compliance with local standard for Carbon monoxide (CO), Nitrogen dioxide (NO_2), Ozone (O_3), Carbon dioxide (CO_2), Respirable suspended particulates (PM_{10}), Total volatile organic compounds (TVOCs), Formaldehyde (HCHO) and Radon (Rn) in the landlord's controlled spaces.

1 additional credit point when the above-listed air pollutants in the landlord's controlled spaces comply with the prescribed limits .

b) Air Quality in Car Park

1 credit point for complying with the recommended pollutant concentration limits for Carbon Monoxide (CO) and Nitrogen dioxide (NO_2).

Assessment

1. Credits compliance shall be demonstrated by measurements. The measurement report shall be prepared and endorsed by accredited inspection bodies for air quality inspection.

2. The measurement report should at minimum include:

   2.1 Layout plan showing the location of measurement points;
   2.2 Description of the measurement methodology;
   2.3 Date, time and duration of measurements;
   2.4 Measurement results;
   2.5 Calibration certificate(s) for the measuring equipment; and
   2.6 On-site photos of measurement.

a) Indoor Air Quality in Occupied Spaces

1. 1 credit point is achieved for demonstrating compliance of each two (2) of the listed parameters.

2. At least one sampling point should be located at each type of landlord's controlled space.

3. An additional credit point will be granted when all of the listed air pollutants fulfill the below acceptance criteria.

Parameter	8-hour average acceptance limit
Carbon dioxide (CO_2)	<1,800 mg/m^3 or <1,000 ppmv
Carbon monoxide (CO)	<7,000 µg/m^3 or <6.1 ppmv
Nitrogen dioxide (NO_2)	<150 µg/m^3 or <80 ppbv Plus [1 hour] <200 µg/m^3 or <106 ppbv
Ozone (O_3)	<120 µg/m^3 or <61 ppbv
Respirable suspended particulate (PM_{10})	<100 µg/m^3
Total volatile organic compounds (TVOC)	<600 µg/m^3 or <261 ppbv
Formaldehyde (HCHO)	<100 µg/m^3 or <81 ppbv Plus [30 mins] <100 µg/m^3 or <81 ppbv
Radon (Rn)	<167 Bq/m^3
Airborne bacteria	<1,000 cfu/m^3

4. The measurement protocol (e.g. equipment used, measurement methodology, number and location of sampling points, etc.) shall follow the guidelines given in local standard/ credit guideline or A Guide on Indoor Air Quality Certification Scheme for Offices and Public Places [1] when local standard/ credible guideline is not available.

5. Where it may not be practicable to take 8 hour continuous measurement, surrogate measurement (i.e. an intermittent measurement strategy based on average of half an hour measurements conducted at four time slots) is also accepted.

b) Air Quality in Car Park

1. The measurement protocol (e.g. equipment used, duration of measurements, number of sampling points) shall make reference to the guidelines given in local standard/ credible guideline or ProPECC PN 2/96 [2] when local standard/ credible guideline is not available.

2. Semi-enclosed car park without any mechanical ventilation shall also be included in the assessment.

3. Prepare a narrative to benchmark the measurement results against the locally available standard or below acceptance criteria when it is not available.

Parameter	5-minute average acceptance limit
Carbon monoxide (CO)	<115,000 µg/m^3 or <100 ppm
Nitrogen dioxide (NO_2)	<1,800 µg/m^3 or <1 ppm

Submittals

a) Indoor Air Quality in Occupied Spaces

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
HWB-03-05a_00	BEAM Plus EB Global submission template for HWB-03-05a
HWB-03-05a_01	Endorsed IAQ measurement report

b) Air Quality in Car Park

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
HWB-03-05b_00	BEAM Plus EB Global submission template for HWB-03-05b
HWB-03-05b_01	Endorsed test report of air quality in car park
HWB-03-05b_02	Document such as layout plan, with calculation showing the carpark area is not less than 10% of Construction Floor Area (substantiation for applicability)

Remarks

(a) Additional Information

[1] Indoor Air Quality Certification Scheme, Indoor Air Quality Information Centre. [ONLINE]. Available at:
https://www.iaq.gov.hk/en/iaq-certification-scheme/
[Accessed May 2024].

[2] Environmental Protection Department, ProPECC PN2/96 Control of Air Pollution in Car Parks. [ONLINE]. Available at:
https://www.epd.gov.hk/epd/sites/default/files/epd/english/resources_pub/publications/files/pn96_2.pdf
[Accessed May 2024].

(b) Related Credit Heads

HWB-00-01 Minimum Ventilation Performance

The related credit awards project demonstrating a minimum supply of outdoor air to the normally occupied spaces.

8	**Health and Wellbeing**	**HWB-03**	**Indoor Environmental Quality**
	Core Requirement	**HWB-03-06**	**Thermal Comfort in Air-Conditioned Premises**

Extent of Application

All buildings with air-conditioning provisions

Objective

Ensure the specified thermal comfort conditions can be achieved under conditions of normal occupancy.

Credits Point(s) Attainable

1

Credit Requirement

1 credit point for demonstrating an appropriate temperature (i.e. <25.5°C) and relative humidity (i.e. <70%) in the normally occupied spaces.

Assessment

1. Demonstrate that the temperature and relative humidity (RH) in the normally occupied spaces are measured and/or monitored during operational hours by providing:

    1.1. Real-time sensor data (e.g. Building Management System, data loggers, etc.); and/or
    1.2. On-site measurements results.

2. If the temperature and RH are demonstrated by real-time sensor monitoring, provide at least one representative daily record of the sensors in the past 12 months.

    2.1 The temperature and RH sensors should provide records at intervals of 30 minutes or less.
    2.2 Sensor data of 10 nos. of sensors shall be provided to demonstrate credit compliance.
    2.3 The selected sensors shall be installed at representative floors, including the building entrance floor and typical floors.

3. If the temperature and RH are demonstrated by measurement, the measurement report shall be prepared and endorsed by a locally accredited inspection bodies for air quality inspection.

    3.1 Measurement protocols (e.g. measurement methodologies, number and location of sampling points, etc.) shall follow the guidelines specified in local standard/ credible guideline or A Guide on Indoor Air Quality Certification Scheme for Offices and Public Places [1] when local standard/ credible guideline is not available.
    3.2 Where it may not be practicable to take 8-hour continuous measurement, surrogate measurement (i.e. an intermittent measurement strategy based on the average of half-an-hour measurements conducted at four time slots) is also accepted.
    3.3 Measurement shall be carried out in the past 12 months.

4. Prepare a narrative to benchmark the results against the below acceptance criteria.

Parameter	8-hour average acceptance limit
Temperature	<25.5°C
Relative humidity (RH)	<70%

5. The measurement report should at minimum include:

   5.1 Layout plan showing the location of measurement points;
   5.2 Description of the measurement methodology;
   5.3 Date, time and duration of measurements;
   5.4 Measurement results;
   5.5 Calibration certificate(s) for the measuring equipment; and
   5.6 On-site photos of measurement.

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
HWB-03-06_00	BEAM Plus EB Global submission template for HWB-03-06
HWB-03-06_01	Representative daily real-time sensor data in the past 12 months or Endorsed measurement report
HWB-03-06_02	Schematic drawings showing location of temperature and RH sensors (if applicable)
HWB-03-06_03	Equipment catalogues/ technical data sheet of temperature and RH sensor (if applicable)

Remarks

(a) Additional Information

[1] Indoor Air Quality Management Group, A Guide on Indoor Air Quality Certification Scheme for Offices and Public Spaces 2019. [ONLINE]. Available at: https://www.iaq.gov.hk/wp-content/uploads/2021/04/new-iaq-guide_eng.pdf
[Accessed May 2024].

(b) Related Credit Heads

None.

8 Health and Wellbeing **HWB-03 Indoor Environmental Quality**

Core Requirement **HWB-03-07 Artificial Lighting**

Extent of Application All buildings, except residential units, hotels and apartment buildings

Objective Promote indoor lighting design which is comfortable for occupants' indoor activities.

Credits Point(s) Attainable 4

Credit Requirement

a) Artificial Lighting in Normally Occupied Spaces

1 to 2 credit point(s) for achieving the prescribed lighting performance in normally occupied spaces for each of the listed lighting quality:

i. Maintained illuminance and minimum illuminance uniformity; and
ii. Unified Glare Rating limit.

b) Artificial Lighting in Not Normally Occupied Spaces

1 to 2 credit point(s) for achieving the prescribed lighting performance in not normally occupied spaces for each of the listed lighting quality:

i. Maintained illuminance and minimum illuminance uniformity; and
ii. Unified Glare Rating limit.

Assessment

1. Demonstrate compliance with the assessment criteria including maintained illuminance, minimum illuminance uniformity and Unified Glare Rating limit either by measurements using a standardised measurement protocol appropriate to the parameter being assessed, or by computer modelling. The prescribed lighting criteria shall be based on The SLL Code for Lighting 2012 Section 2.2 [1] or equivalent authoritative guidance.

2. For computer modelling, the following typical surface reflectance can be adopted. If different values are adopted, supporting documents (e.g. on-site record photographs/ cut sheets/ catalogues/ laboratory reports, etc.) showing the corresponding information are required for justification.

Surfaces	Reflectance of surfaces
Ceiling	0.6
Walls	0.3
Working planes	0.2
Floor	0.1

3. Submit an Artificial Lighting Performance Report, including the following content:

   3.1 Technical details of the installed lighting systems;
   3.2 Design criteria for each room type; and
   3.3 Results of measurements or computer modelling.

a) Artificial Lighting in Normally Occupied Spaces

1. This credit only assesses indoor normally occupied spaces with permanently installed lighting fixtures provided by the Applicant. Normally occupied areas are enclosed areas where people normally stay more than 1 hour. Spaces which are not used daily, but will be occupied for more than 1 hour when used, are also considered normally occupied spaces. Examples of normally occupied spaces can be found in Appendix 10.2 Space Type.

b) Artificial Lighting in Not Normally Occupied Spaces

1. This credit only assesses indoor not normally occupied spaces with permanently installed lighting fixtures provided by the Applicant. Not normally occupied areas are enclosed areas where people normally stay less than 1 hour. Examples of not normally occupied spaces can be found in Appendix 10.2 Space Type.

Submittals

a) Artificial Lighting in Normally Occupied Spaces

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
HWB-03-07a_00	BEAM Plus EB Global submission template for HWB-03-07a
HWB-03-07a_01	Lighting layout plan
HWB-03-07a_02	Summary table indicating the illuminance, illuminance uniformity and Unified Glare Rating (by measurements or computer modelling) at each zone of the normally occupied areas
HWB-03-07a_03	Record photographs or other supporting documents showing the reflectance value for computer modelling approach (if applicable)
HWB-03-07a_04	Light fitting schedule
HWB-03-07a_05	Artificial Lighting Performance Report

b) Artificial Lighting in Not Normally Occupied Spaces

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
HWB-03-07b_00	BEAM Plus EB Global submission template for HWB-03-07b
HWB-03-07b_01	Lighting layout plan
HWB-03-07b_02	Summary table indicating the illuminance, illuminance uniformity and Unified Glare Rating (by measurements or computer modelling) at each zone of the not normally occupied areas
HWB-03-07b_03	Record photographs or other supporting documents showing the reflectance value for computer modelling approach (if applicable)
HWB-03-07b_04	Light fitting schedule
HWB-03-07b_05	Artificial Lighting Performance Report

Remarks

(a) Additional Information

[1] The Chartered Institution of Building Services Engineers (CIBSE) – The SLL Code for Lighting 2012.

(b) Related Credit Heads

None.

8	**Health and Wellbeing**	**HWB-03**	**Indoor Environmental Quality**
	Core Requirement	**HWB-03-09**	**Biological Contamination**

Extent of Application

All buildings

Objective

Reduce the risk of biological contamination from the operation of the HVAC and water systems.

Credits Point(s) Attainable

1

Credit Requirement

1 credit point for developing a Legionella Management Plan.

Assessment

1. Provide Legionella Management Plan for applicable systems listed below:

    1.1 Water supply systems;
    1.2 HVAC systems; and
    1.3 Other water features.

2. The plan shall detail the following:

    2.1 Roles and responsibilities of the Legionella management in the building;
    2.2 Water system inventory and process flow diagrams of systems;
    2.3 Risk assessment of water assets;
    2.4 List of monitoring actions, acceptable limits, action levels for relevant variables and corrective actions when variables exceed the limits;
    2.5 List of critical control points to maintain identified relevant variables;
    2.6 Verification and validation procedures for evaluating the suitability and proper implementation of the management plan;
    2.7 A Legionella sampling schedule is included if the project has operational control over cooling towers and spas; and
    2.8 Protocols for documenting results of monitoring activities, sample testing results (if applicable) and corrective actions.

3. The Legionella Management Plan shall be endorsed by top management of Building Owner/ Building Management Company.

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
HWB-03-09_00	BEAM Plus EB Global submission template for HWB-03-09
HWB-03-09_01	Endorsed Legionella Management Plan

Remarks

(a) Additional Information

None.

(b) Related Credit Heads

None.

8	**Health and Wellbeing**	**HWB-03**	**Indoor Environmental Quality**
	Elective Requirement	**HWB-03-11**	**Building User Satisfaction Survey on Indoor Comfort**

Extent of Application

All buildings

Objective

Obtain building users' satisfaction rate regarding indoor environmental quality for continual improvement of indoor comfort.

Credits Point(s) Attainable

1 Bonus

Credit Requirement

1 Bonus credit point for conducting regular building user satisfaction surveys to collect responses regarding the indoor environmental quality.

Assessment

1. The Applicant shall conduct at least one building user satisfaction survey every 2 years to collect responses from the building users. The survey shall at minimum cover the following indoor environmental quality issues:

    1.1 Thermal comfort;
    1.2 Indoor air quality;
    1.3 Ventilation;
    1.4 Aural comfort;
    1.5 Lighting quality; and
    1.6 Hygiene.

2. The survey shall include representative samples of building users contributing at least 30% of the total building occupants. The survey response can be anonymous. Credit can be achieved by presenting the survey results.

3. The Applicant shall develop a corrective action plan to address comfort issue(s) if the survey results indicate that more than 20% of occupants are dissatisfied.

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
HWB-03-11_00	BEAM Plus EB Global submission template for HWB-03-11
HWB-03-11_01	Report of the building user satisfaction survey results, with survey questions and sample of occupant responses
HWB-03-11_02	Corrective actions plan for discomfort issue(s) (if applicable)

Remarks

(a) Additional Information

None.

(b) Related Credit Heads

HWB-00-01 Minimum Ventilation Performance

The related credit awards project that demonstrates a minimum supply of outdoor air to the normally occupied spaces.

HWB-03-03 Acoustics and Noise

Carrying out assessment to ensure the normally occupied spaces are in a comfortable acoustic environment.

HWB-03-05 Indoor Air Quality

Carrying out on-site air quality measurements to ensure a good indoor air quality provision.

HWB-03-06 Thermal Comfort

Carrying out on-site measurements to ensure the specified thermal comfort conditions is maintained for building users.

HWB-03-07 Artificial Lighting

This credit promotes indoor lighting design which is comfortable for occupants' indoor activities.

8	**Health and Wellbeing**	**HWB-03**	**Indoor Environmental Quality**
	Elective Requirement	**HWB-03-12**	**Control of Environmental Tobacco Smoke**

Extent of Application

All buildings

Objective

Protect the health of building users and reduce the risk of environmental tobacco smoke entering the occupied areas or public areas.

Credits Point(s) Attainable

1

Credit Requirement

1 credit point for implementing no smoking policy in the building and outside the building except in designated smoking areas.

Assessment

1. Provide no smoking policy covering the followings:

    1.1 Smoking is prohibited in the building; and
    1.2 For the external areas of the building, smoking is prohibited except in the designated smoking areas.

2. Demonstrate the below measures are implemented in the external areas of the building:

    2.1 For those areas with business purposes, smoking shall be prohibited; and
    2.2 For those areas without business purposes, smoking shall be prohibited within the site boundary, except in designated smoking areas located at least 7.5m from all entries, outdoor air intakes and operable window.

3. The smoking policy shall apply to all building users. Signage should be posted at all building entrances indicating the no smoking policy, boundary of no smoking areas and location of designated smoking areas (if any).

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
HWB-03-12_00	BEAM Plus EB Global submission template for HWB-03-12
HWB-03-12_01	No smoking policy
HWB-03-12_02	Layout plan showing the designated smoking areas in the external areas (if applicable)
HWB-03-12_03	Record photographs of the signage

Remarks

(a) Additional Information

None.

(b) Related Credit Heads

None.

9. Innovations and Additions

BEAM encourages innovative and/or new techniques that are yet to be found in the mainstream application in the industry addressing sustainability objectives for the buildings.

This section allows the Applicant to submit any innovative techniques or performance enhancements, where additional environmental benefits can be provided, on top of those covered in this manual for consideration of the award of credit point(s).

The Applicant shall be solely responsible to submit qualitative and/or quantitative evidence for BEAM Society Limited Assessment Sub-Committee (BSL ASC) review and approval.

Generally, the submission materials shall comprehensively detail the benefits, environmental impacts averted, or exemplary performance achieved as compared to the existing criteria.

9	**Innovations and Additions**	**IA-01**	**Innovations and Additions**
	Elective Requirement	**IA-01-01**	**Innovative Techniques**

Extent of Application

All buildings

Objective

Encourage innovative and/or new techniques/ practices/ design that are yet to find in the mainstream application which address the sustainability objectives for existing buildings.

Credits Point(s) Attainable

5

Credit Requirement

Maximum 5 credits point(s) for implementation of each innovative technique which provides environmental benefits in addition to those already covered in the Manual.

Assessment

1. Present evidence of the application of new practices, technologies and/or techniques that are (1) not described in this Manual; or (2) not market mainstream implementation; or (3) multiple aspect achievement; and the associated benefits in addressing sustainability objectives for existing buildings:

    1.1 Identify the sustainability objectives addressed by the proposed innovative applications;
    1.2 Detail the method and criteria evaluating the benefits and effectiveness of the applications (quantifiable performance indicators to be proposed if applicable);
    1.3 Justify the number of Bonus credit for the proposed applications;
    1.4 Provide evidence of the implementation of the applications; and
    1.5 Evaluate the achievements and any suggestion for improvement for the applications.

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*	
IA-01-01_00	BEAM Plus EB Global submission template for IA-01-01
IA-01-01_01	A report on the objectives, evaluating method and criteria, and proposed number of Bonus credit for the innovative techniques
IA-01-01_02	Evidence of implementation and evaluation of achievements/ proposed improvements for the innovative techniques
IA-01-01_03	Relevant technical documents, if necessary (e.g. drawings, specifications, product catalogues, test reports, etc.)

Remarks

(a) Additional Information

None.

(b) Related Credit Heads

None.

10. Appendices

10.1 Glossary

Biophilic Design

Designing for people as a biological organism and respecting the mind-body systems as indicators of health and well-being in the context of what is locally appropriate and responsive.

Certificate Validity

Certificate Validity refers to the duration for which a BEAM Plus certificate and rating remains effective and officially recognised by the HKGBC.

Charrette

A design workshop that quickly generates a design solution while integrating the aptitudes and interests of project team and core design disciplines, shall be held no later than design development phase and preferably during schematic design.

Construction Waste

Any substance, matter or thing which is generated as a result of construction work and abandoned whether or not it has been processed or stockpiled before being abandoned. It is a mixture of surplus materials arising from site clearance, excavation, construction, refurbishment, renovation, demolition and road works.

Demolition Waste

All wastes (including recyclable waste) generated from deconstruction of existing interior space at the demolition stage are counted as demolition waste.

FSC Certification

A certification system for timber products which confirms that timber has been harvested in a sustainable manner.

Global Warming Potential

Global Warming Potential, GWP, provides a measure of the potential for damage that a chemical has relative to one unit of carbon dioxide, the primary greenhouse gas.

Hydro-chlorofluorocarbons

HCFCs cause ozone depletion when released into the atmosphere.

Interior General Lighting

Interior general lighting provides a substantially uniform level of illumination in an area. General lighting shall not include decorative lighting or lighting that provides a dissimilar level of illumination to serve a specialised application or feature within such area.

Multi-disciplinary Design Charrette

An intensive, multiparty workshop that brings people from different disciplines and backgrounds together to explore, generate, and collaboratively produce design options.

Normally Occupied Spaces

Normally occupied spaces are enclosed areas where people normally stay more than 1 hour. Spaces which are not used daily but will be occupied for more than 1 hour being used, are considered as normally occupied spaces. Refer to Appendix 10.2 for examples of normally occupied spaces.

Not Normally Occupied Spaces

Not normally occupied spaces are enclosed areas within the building where people normally stay less than 1 hour. Refer to Appendix 10.2 for examples of not normally occupied spaces.

Primary Zone

The 15m vertical zone of a site along the abutting street level. The greenery in this zone is for providing visual contacts or access from a street through common parts of the building for enhancing the walkability of urban space to the public, visitors or occupiers. The top level of soil or similar base for planting should be taken as the reference level for inclusion in the Primary Zone.

Regional Materials

Materials which are extracted and manufactured within an 800km radius of the project by road transportation; within a 1,600km radius by rail transportation; or within a 4,000km radius by sea transportation.

Temporary Works

Temporary works refer to enabling works, temporary protection works, temporary protection erected between different phases of the works or other occupants, temporary protection erected for walls, doors, finishes, cabinets, partitions, equipment, lifts, escalators, and the like, temporary protection applied for floors, flooring, and carpets, temporary hoardings, and all temporary doors, supports, bracing, cross bracing, fixings, trimming, hangers, and the like.

Unoccupied Spaces

Unoccupied spaces are areas within the building where the primary function is not intended for human activities. These spaces are occupied by the occupants for a short period of time and only occasionally. Refer to Appendix 10.2 for examples of unoccupied spaces.

10 Appendices 10.2 Space Type

BEAM Plus considers indoor environmental quality as a key to sustain occupants' health and wellbeing. To assist the Applicant in designing a more thorough and satisfactory strategies, BEAM Plus imposes high requirements on indoor environmental quality covering ventilation, air quality, acoustics and lighting.

As the impacts of indoor environmental quality are dependent on the level of interaction between the occupants and the indoor spaces where they spend their time in, it is crucial for the Applicant to understand and identify the level of usage of each indoor space. To facilitate assessment, the Applicant should prepare a schedule including all spaces present within the building and their respective location. The spaces should be categorised into the following three types (refer to Glossary for definitions):

- Normally occupied spaces
- Not normally occupied spaces
- Unoccupied spaces

Space Usage of *normally occupied spaces*

- Auditorium
- Concourse
- Conference room
- Food and beverage dining space
- Front desk
- Gallery space
- Gymnasium
- Information desk
- Meeting room
- Open office
- Private office
- Reception

Space Usage of *not normally occupied spaces*

- Break room
- Copy rooms
- Corridor
- Entrance lobby (other than hotel)
- Lift lobby
- Pantry
- Staircases
- Toilet

Space Usage of *unoccupied spaces*

- Car park
- Emergency exit corridor
- Mechanical and electrical rooms
- Storeroom
- Warehouse