BEAM Plus Interiors

Version 2.0 (Beta 0)

02.2022

Manual for Non-Residential Units

HKGBC 香港綠色建築議會

BEAM 建築環保評估協會

Disclaimers of BEAM Plus Interiors V2.0 (Beta 0)

The BEAM Plus Interiors V2.0 (Beta 0) is released as a beta version for pilot use. This must not be taken as an official launch of the final version which is subject to changes in due course.

In no circumstances shall a reader rely on this version for any purpose other than treating this as a beta version for pilot use.

BEAM Society Limited, its commissioned consultant, participants of Steering Committee and all individuals involved in the revamp of BEAM Plus Interiors accept no liability for any loss or damage arising from any use or misuse of or reliance on any information in this manual/ checklist.

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Note:

Please be noted that supporting information for this credit claim has to be collected at the material time, meaning that it needs to be documented during the process and cannot be done retrospectively.

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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.

Owned and operated by the BEAM Society Limited (BSL), BEAM Plus Interiors is one of the BEAM Plus rating tools that covers the design and construction of the interior spaces.

Based on the credit achievement where the standard or defined performance criteria are satisfied, the project will be rated Platinum, Gold, Silver or Bronze, to reflect the overall performance.

BEAM Plus Interiors Version 2.0 (BI V2.0)

The upgraded BI V2.0 aims to be up-to-date, practical, clear and standardised in defining the key elements of green interior spaces including health and wellbeing, hygiene, site impacts, use of materials, water quality, energy efficiency, indoor environmental quality, etc. During the upgrade process, the following fundamentals have been established:

Above Statutory Requirements – Requirements for each credit should be set above the statutory requirements.

Simplification – Certification process and submittals should be simplified so that the amount of records will not be laborious.

Adaptability – Routes for standard and bespoke interior space types should be established. Requirements for standard interior space types should be better defined with more assurance of the applicability of the criteria.

Certainty – Requirements should be clearly defined to reduce ambiguity and promote better certainty in the assessment process. Submittal requirements should be standardised as well as practicable.

Human-centric – Requirements are expanded to emphasise on human factors to provide an environment which yields better health benefits to the occupants of the certified interior spaces.

It is envisaged that these fundamentals form the basis of the holistic green interior space performance indicators which suitably integrate different green features into a user-friendly assessment tool.

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).

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Development of BI V2.0

The development of BI V2.0 was led by a BSL Steering Committee, comprising industry practitioners and experts. Industry stakeholders have been consulted via engagement workshops for feedback and opinion in areas, including but not limited to the overall framework, performance categories and their relative emphasis, assessment criteria, submission requirements and rating methodology. The Steering Committee comprises:

Convener – Mr HK LI

Members – Mr Peter CHAN, Ir Prof Joseph CHI, Dr Benny CHOW, Ir Tony HO, Ms Yvonne IEONG, Ir Ryan LEE, Ir Kenneth LI, Mr Adrian LO, Mr Horace PAN, Mr KM SO

Advisors – Mr Nevin LAM, Dr Evan YUNG

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 of BEAM Plus Interiors.

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 Interiors.

Application and Eligibility

Area of the assessed interior spaces must not be less than 20 m^2 usable floor area.

BEAM Plus Interiors covers the planning, design, construction and "as-built" condition of the fit-out of interior spaces.

Certification under BEAM Plus Interiors is designed to take place as a one-stage process at the end of the fit-out works and associated testing and commissioning. This helps to ensure that design commitments have been implemented, construction practices have met the required standards, and that testing and commissioning have verified the installation's performance.

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Projects cannot be certified before their completion. It is the BSL's aim for certification to be granted as soon as possible upon project completion so that the Applicant is able to promote their achievements at the earliest opportunity.

Eligible Premises Types

BEAM Plus Interiors targets the most frequently encountered interior fit-out projects in Hong Kong, namely:

- Food Space;
- Hotel Space;
- Institutional Space;
- Leisure & Entertainment Space;
- Residential Communal Space;
- Shopping Space; and
- Work Space.

Table A illustrates the typical functions and installations within the premises for which BEAM Plus Interiors criteria are provided.

TABLE A - ELIGIBLE TYPES OF INTERIOR SPACE

Food Space (commercial kitchen space is excluded)

- Cafe
- Bar
- Lounge
- Restaurant
- Canteen
- Food Court

Typical scope of works in:

- Eating / Dining Space
- Office / Staff Space
- Washroom Facility

Hotel Space

- Commercial Hotel
- Budget Hotel
- City Hotel
- Resort
- Serviced Apartment

Typical scope of works in:

- Entrance / Reception Space
- Playroom
- Function Rooms / Social Space
- Eating / Dining Space
- Washroom Facility
- Room

Institutional Space

- Community Centre
- University / Learning Centre
- Library
- Hospital / Clinic
- Airport / Public Transport Station
- Government Space

Typical scope of works in:

- Classroom / Teaching Room
- Assembly / Sports Hall, Etc.
- General Ward / Consultation Room

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- Entrance / Reception / Circulation Space
- Printer / Copier Room
- Washroom Facility (if included)

Leisure & Entertainment Space
- Spa
- Swimming Pool
- Club
- Cinema / Theatre
- Health / Fitness Centre
- Gym
- Beauty Centre
- Salon
- Game Centre
- Theme Park

Typical scope of works in:
- Function room / Social space
- Entrance / Reception / Circulation Space
- Washroom Facility
- Office / Staff Space

Residential Communal Space
- Clubhouse Space
- Lift Lobby

Typical scope of works in:
- Library / Reading Room
- Gym / Playroom
- Function Room / Social Space
- Eating / Dining Space
- Washroom Facility

Shopping Space
- Shop
- Retail Outlet
- Showroom
- Department Store
- Food Market
- Shopping Mall
- Kiosk

Typical scope of works in:
- Entrance / Reception / Circulation Space
- Washroom Facility
- Function room / Social Space

Work Space
- Office
- Studio
- Warehouse
- Factory
- Co-Working Space

Typical scope of works in:
- Main Office Space (Open Plan / Cellular)
- Entrance / Reception Space
- Conference / Meeting Room
- Wet/Dry Pantry
- Social Space

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- Printer / Copier Room
- Washroom Facility (if included)

Specialist Spaces Excluded

To avoid undue complexity, process related equipment, services and functions that involve specialist requirements described in the following Spaces are excluded from the assessment.

- Plantroom;
- Data Centre, Server Room, Water Meter Cabinet;
- Karaoke Room, Clean Room, Cold Room;
- Commercial Kitchen, Kitchen Equipment, Walk-In Freezer;
- Steam Room, Sauna;
- Car Park, Loading Bay Space; and
- Balcony, Roof and Terrace Space.

Assessment Boundaries

The Applicant shall define the assessment boundary to undergo the BEAM Plus assessment. The assessment boundary needs not necessarily follow the site boundary of the premises, which however, should be consistent throughout the project assessment.

Under normal circumstances, BI V2.0 only assesses those Spaces which are under the control of the Applicant. It is understood that the involvement of the tenants also plays an important role in improving the building's environmental performance. Therefore, additional or Bonus credit point(s) 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.

Certification Framework

Assessment under BI V2.0 covers the demolition, planning, design, construction and commissioning of the interior spaces and should be initiated in the early stages of project development. BI V2.0 aims to reduce the environmental impacts of the interior spaces while improving the quality and user satisfaction, by the adoption of the best techniques available within reasonable cost.

A notable attribute of BI V2.0, as compared with other mostly used schemes elsewhere, is that an assessment for the interior spaces is not finalised until the spaces are completed, ensuring that "green" and "sustainable" design features are actually implemented, and construction practice meets the required performance standards. Besides being in the interests of the Client and tenants in certifying the actual performance of the finished product, this approach also serves to "dovetail" assessment with BEAM Plus New Buildings and Existing Buildings.

Certification Process

Independent BAS or BSL in-house BAS will 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.

BEAM Professional (BEAM Pro)/ Affiliate (BA)

BEAM Pro/ BA mentioned in this manual should process the valid credential for BI V2.0 for facilitating the certification process and to ensure the compliance of relevant credit requirements.

Site Audit

BSL shall, in due course after consultation with stakeholders, institute a random site audit mechanism as part of the verification processes, if required. Details will be given in an Audit Manual yet to be issued. Audit will be conducted only after the official publication of the Audit Manual and formal implementation of the audit mechanism.

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Documentation	The Applicant has the obligation to provide evidence to demonstrate credit compliance. In BI V2.0, 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. In the event when the BAS considers that it is necessary to supplement additional material of the same sort for clarification, the Applicant is obligated to produce such material upon request.
Certification Fee	BEAM Plus certification fee comprises 2 parts, namely Registration Fee and Assessment Fee, which are payable to HKGBC and BSL respectively. Details on the fee structure can be found in the HKGBC and BSL websites.
Credit Interpretation Request (CIR)	CIR is designed to allow project teams to obtain specific guidance on whether certain BEAM Plus credits can be fulfilled pertaining to the special situation of a project. Details on CIR can be found in HKGBC and BSL websites.
Appeal	The Applicant may submit an appeal on an individual credit if they disagree to and/ or do not accept the decision made by the BSL. More details can be found in the HKGBC and BSL websites.

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1.2 Framework

Performance Categories

Different assessment methods have different credit distribution based on different preferences of the tool developer. In BI V2.0, credits are grouped into the following categories:

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

While BI V2.0 adopts similar categories as in other BEAM Plus tools, the number and nature of credits within each category are specific to the context of fit-out projects in Hong Kong.

Integrated Design and Construction Management (IDCM)

IDCM focuses on the integration between design and operation, integrated design between design team members and the client, and integration throughout the development process from design to construction. The core objectives of IDCM are as follows:

i. Integrated Design Process; and
ii. Green Construction Practices.

Management (MAN)

MAN focuses on the sustainable management of the occupied Spaces during occupancy. The core objective of MAN is as follows:

i. Green and Healthy Management.

Materials and Waste (MW)

MW focuses on the minimisation of operational materials and waste. The core objectives of MW are as follows:

i. Use of Materials;
ii. Selection of Materials; and
iii. Waste Reduction.

Energy Use (EU)

EU focuses on the reduction of building operation energy consumption. It is energy performance based and it seeks to encourage quality passive design. The core objectives of EU are as follows:

i. Energy Use Reduction and Control;
ii. Energy Efficient Equipment; and
iii. Energy Management and Monitoring.

Water Use (WU)

WU focuses on the reduction of water consumption and discharge management. The core objectives of WU are as follows:

i. Water Conservation;
ii. Effluent; and
iii. 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 core objectives of HWB are as follows:

i. Design for Green Living;
ii. Inclusive Design;

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iii. Indoor Environmental Quality; and
iv. Good Hygiene Design.

Innovations and Additions (IA)

IA focuses on promoting and rewarding true innovations. The core objective of IA is as follows:

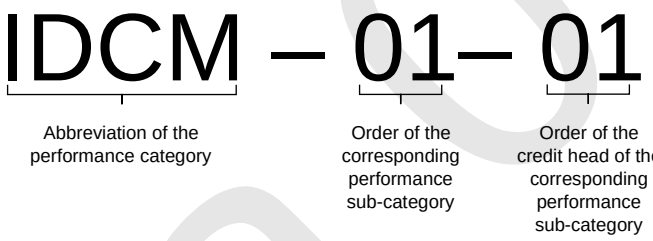
i. Innovation Techniques; and
ii. Innovation Challenges.

Credit Point Allocation

Credit 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.

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.

Bonus Credit Point & Additional Bonus Credit Point

The Bonus credit points and additional Bonus credit points are counted under corresponding performance categories. A factor of 1.2 is applied in score calculation for the attainment of Bonus credit point and additional 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). Whereas the additional Bonus 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 Bonus credit point(s).

IA Bonus Credit Point

The IA Bonus credit points in BI V2.0 are counted towards the total number of credit points achieved in the respective categories for an award classification. A maximum of 10 IA Bonus credit points could be submitted for achieving a higher overall credit points in the assessment.

Determination of Overall Rating

The final certificate rating for projects certified under BI V2.0 is subject to the following conditions:

i. Achieving overall credit points required; and
ii. Obtaining minimum percentage (%) for each category listed below.

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Rating	Minimum Percentage for Each Category (except WU and IA)	Overall Credit Points Achieved
Platinum	20%	≥ 75
Gold	20%	≥ 65
Silver	20%	≥ 55
Bronze	20%	≥ 40

If a project cannot comply with both the minimum percentage of each performance category and requirements of overall credit achieved for each rating, it will be rated as “Assessment Completed Without Any Rating”.

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1.3 Summary of Credits

	Credit Head	Credit Requirement	Extent of Application	Credit Point(s)
2	**Integrated Design and Construction Management (IDCM)**			**17 + 7 Bonus**
IDCM-00-01	Sustainability Champions – Project	1 credit point for demonstrating that an accredited BEAM Professional (BEAM Pro) with a valid credential for BI V2.0 is engaged as the Project BEAM Pro. ***Alternatively,*** • *1 credit point for at least 2 members from the project team are accredited BEAM Affiliates (BAs).*	All Space Types	1
IDCM-00-02	Environmental Management Plan	*This credit head is not applicable under BI V2.0.*		
IDCM-00-03	Timber Used for Temporary Works	**For project using timber for temporary works:** 1 credit point for all timber being used for temporary works is originated from sustainable sources or re-used from other sites. **For project without using timber for temporary works:** 1 credit point for project that does not use any timber for temporary works.	All Space Types	1
IDCM-01-01	Sustainability Champions - Design	1 credit point for at least one (1) specialist who involved in the project design is an accredited BEAM Professional (BEAM Pro) with a valid credential for BEAM Plus BI V2.0. ***Alternatively,*** • *1 credit point for at least two (2) specialists who involved in the project design are accredited BAs.* 1 additional Bonus credit point will be awarded if that Design BEAM Pro is also a Hong Kong Professional Institution qualified holder.	All Space Types	1 + 1 Bonus
IDCM-01-02	Complimentary Certification	1 to 3 Bonus credit points for BEAM Plus ND/NB/EB Comprehensive Scheme with Bronze or Silver rating or BEAM Plus EB Selective Scheme with Very Good to Excellent rating; BEAM Plus ND/NB/EB Comprehensive Scheme with Gold Rating; BEAM Plus ND/NB/EB Comprehensive Scheme with Platinum Rating.	All Space Types	3 Bonus
IDCM-01-03	Integrated Design Process	1 credit point for considering an integrated design process to explore the interrelationships among different green interior design strategies and systems in the conceptual design stage.	All Space Types	2

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	Credit Head	Credit Requirement	Extent of Application	Credit Point(s)
		1 additional credit point for organising at least one (1) multi-disciplinary design charrette to formulate passive and active design strategies in the conceptual/ schematic design stage.		
IDCM-01-04	Life Cycle Costing	*This credit head is not applicable under BI V2.0.*		
IDCM-01-05	Commissioning	**For alterations to host building services undertaken or supplementary building services installed by the Applicant:** **(a) Commissioning Specification or Clause** 1 credit point for providing specifications and/or clauses in contract documents that specify details of the commissioning requirements for building services systems and equipment being installed by the Applicant within the assessment boundary, that have impact on energy use and indoor environmental quality. **(b) Commissioning Method Statement** 1 credit point for providing a commissioning method statement that specifies details of all the specified commissioning work for building services systems being installed by the Applicant within the assessment boundary, that have impact on energy use and indoor environmental quality. **(c) Commissioning Report** 1 credit point for providing commissioning reports for building services systems and equipment being installed by the Applicant within the assessment boundary, that have impact on energy use and indoor environmental quality. **For no alterations to building services in the host building undertaken and no supplementary building services installed by the Applicant:** 3 credit points for providing contractual document to confirm that no alterations to building services in the host building have been undertaken and no supplementary building services have been installed within the assessment boundary by the Applicant.	All Space Types	3

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	Credit Head	Credit Requirement	Extent of Application	Credit Point(s)
IDCM-02-01	Sustainability Champions – Construction	1 Bonus credit point for at least one (1) accredited BEAM Pro with valid credentials for BI V2.0 is engaged by the fit-out contractor of the project. ***Alternatively,*** • *1 Bonus credit point for at least two (2) accredited BEAM Affiliates are engaged by the fit-out contractor of the project.*	All Space Types	1 Bonus
IDCM-02-02	Measures to Reduce Site Emissions	**(a) Minimisation of Air Pollution** 1 credit point for implementing mitigation measures to minimise air pollution during the entire fit-out period. **(b) Minimisation of Noise Pollution** 1 credit point for implementing mitigation measures to minimise noise pollution during the entire fit-out period. **(c) Minimisation of Chemical Waste** 1 credit point for implementing mitigation measures to minimise pollution from chemical waste during the entire fit-out period.	All Space Types	3
IDCM-02-03	Construction and Demolition Waste Recycling	**(a) Waste Management Plan** 1 credit point for demonstrating compliance with the Waste Management Plan (WMP) and the application of proactive waste management provisions during entire fit-out period. **(b) Construction Waste Recycling** 1 to 2 additional Bonus credit points for demonstrating recycling of at least 10% or 30% of waste arising from fit-out activities.	All Space Types	1 + 2 Bonus
IDCM-02-04	Construction IAQ Management	1 credit point for implementing a Construction IAQ Management Plan for adequate mitigation measures that reduce IAQ impacts arising from fit-out activities. 1 credit point for undertaking flush-out and replacement of all filters that are under the Applicant's control, within the normally occupied assessment boundary prior to occupancy. **<u>For the assessment boundary of which the primary air unit/ air handling unit/ fresh air unit is not under the Applicant's control:</u>**	All Space Types	2

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	Credit Head	Credit Requirement	Extent of Application	Credit Point(s)
		Alternatively, • *1 credit point will be awarded for providing an IAQ (Good Class) report of the assessment boundary endorsed by an accredited IAQ Certificate Issuing Body.*		
IDCM-02-05	Considerate Construction	1 credit point for implementing a Safety Management Plan for fit-out activities and reviewing and updating the content if necessary	All Space Types	1
IDCM-02-06	Building Management Manuals	**(a) Operation and Maintenance Manual Development and Storage** 1 credit point for preparing operation and maintenance (O&M) manuals for building services systems and equipment, which are installed by the Applicant within the assessment boundary and demonstrating that the manuals have been stored in a local device drive or an electronic platform. **(b) Stakeholder Orientation** 1 credit point for organising an orientation tour by the Applicant for all applicable stakeholders demonstrating the appropriate use of the maintenance facilities.	All Space Types	2
IDCM-02-07	Operator Training plus Chemical Storage and Mixing Room	*This credit head is not applicable under BI V2.0.*		
IDCM-03-01	Digital Facility Management Interface	*This credit head is not applicable under BI V2.0.*		
IDCM-03-02	Occupant Engagement Platform	*This credit head is not applicable under BI V2.0.*		
IDCM-03-03	Document Management System	*This credit head is not applicable under BI V2.0.*		
IDCM-03-04	BIM Integration	*This credit head is not applicable under BI V2.0.*		
IDCM-04-01	Design for Engagement and Education on Green Buildings	*This credit head is not applicable under BI V2.0.*		

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	Credit Head	Credit Requirement	Extent of Application	Credit Point(s)
3	**Management (MAN)**			**3 + 3 Bonus**
MAN-00-01	Green Purchasing Plan	*This credit head is not applicable under BI V2.0.*		
MAN-01-01	EHS and Energy Management System	*This credit head is not applicable under BI V2.0.*		
MAN-02-01	Environmental, Social and Governance (ESG) Disclosure	*This credit head is not applicable under BI V2.0.*		
MAN-03-01	Staff Training and Resources	*This credit head is not applicable under BI V2.0.*		
MAN-03-02	Building and Site Operation and Maintenance	*This credit head is not applicable under BI V2.0.*		
MAN-03-03	Building Services Operation and Maintenance	*This credit head is not applicable under BI V2.0.*		
MAN-04-01	Green Lease	**(a) Green Lease** 1 Bonus credit point for demonstrating the adoption of green lease proposed by the landlord. **(b) Long-Term Lease** 1 Bonus credit point for demonstrating that the fixed lease period is at least 3 years.	All Space Types	2 Bonus
MAN-04-02	Green Cleaning	1 Bonus credit point for demonstrating the implementation of appropriate green cleaning procedures/ practices within the assessment boundary.	All Space Types	1 Bonus
MAN-04-03	User Guidance	1 credit point for providing a user's guide to encourage and promote environmentally friendly activities within the assessment boundary, including but not limited to local transport, hygiene and environmental practices, sustainable materials selection, energy conservation, indoor environmental quality, water conservation, and waste sorting, etc.	All Space Types	1
MAN-04-04	Occupational Health and Safety (OHS)	1 to 2 credit points for scoring at least 50% or 70% of the applicable occupational health and	All Space Types	2

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Credit Head	Credit Requirement	Extent of Application	Credit Point(s)
	safety measures and facilities within the assessment boundary. ***Alternatively,*** • *2 credit points will be awarded if the assessment boundary has been certified and implemented with ISO 45001 certification.*		

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	Credit Head	Credit Requirement	Extent of Application	Credit Point(s)
4	**Materials and Waste (MW)**			**26 + 6 Bonus**
MW-00-01	Minimum Waste Handling Facilities	*This credit head is not applicable under BI V2.0.*		
MW-01-01	Building Re-use	**(a) Interior Furniture** 1 to 2 credit points for at least 20% or 40% (by mass/ cost/ volume/ number of pieces) of furniture have been reused from salvaged or existing furniture. 1 additional Bonus credit point for at least 60% (by mass/ cost/ volume/ number of pieces) of furniture have been reused from salvaged or existing furniture. **(b) Interior Components** 1 to 2 credit points for at least 20% or 40% (by surface area/ volume) of interior components (Including walls, glazing, ceilings, doors, flooring and existing wall coverings) have been reused from salvaged or existing components. 1 additional Bonus credit point for at least 60% (by surface area/ volume) of interior components (Including walls, glazing, ceilings, doors, flooring and existing wall coverings) have been reused from salvaged or existing components. **(c) Electrical Appliances** 1 to 2 credit points for at least 50% or 80% (by number of pieces) of electrical appliances have been reused from salvaged or existing electrical appliances. 1 additional Bonus credit point for 100% (by number of pieces) of electrical appliances have been reused from salvaged or existing electrical appliances. Percentage of above existing element being reused (%) should be calculated by below equation: **Reuse of Existing Elements (%) = (∑ Existing Elements Reused / ∑ Existing Elements) x 100%**	All Space Types	6 + 3 Bonus
MW-01-02	Modular and Standardised Design	1 credit point for preparing a narrative that demonstrates a proactive approach in designing modular elements of the newly	All Space Types	2

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	Credit Head	Credit Requirement	Extent of Application	Credit Point(s)
		installed major elements and modules within the assessment boundary. 1 additional credit point for designing modular elements which contribute 25% or more (by mass/ cost/ surface area/ volume) of the newly installed major elements and modules within the assessment boundary. The following items should be included in the assessment (if applicable): i) Partition; ii) Wall; iii) Ceiling; iv) Door; v) Raised floor; and vi) Carpet tile. Total quantity of modular design (%) of each of the above items should be calculated by below equation: **Modular Design (%) = (∑ Modular Elements (m^2) / ∑ Newly Installed Items (m^2))x 100%**		
MW-01-03	Prefabrication	*This credit head is not applicable under BI V2.0.*		
MW-01-04	Design for Durability and Resilience	1 credit point for preparing a narrative that demonstrates a proactive approach to evaluate the durability of the building materials with at least 3 of following items. i) Timber door set (fire rated door); ii) Panel wall for partition; iii) Ceramic tile (floor tile and wall tile); iv) Drainage uPVC pipe and fitting; v) Paint; vi) Close-coupled water closet suite; or vii) Other items may be proposed at the discretion of the Applicant.	All Space Types	1
MW-01-05	Design for Maintainability	1 credit point for preparing a narrative that demonstrates a proactive approach in evaluating the maintainability of the building materials with at least 3 of the following items. i) Panels/ partition; ii) Flooring; iii) Cabinetry/ fitting; iv) Insulation; v) Furniture; vi) Light fitting; vii) Plumbing and drainage; viii) Air terminal; ix) Louvre; or x) Other items may be proposed at the discretion of the Applicant.	All Space Types	1

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	Credit Head	Credit Requirement	Extent of Application	Credit Point(s)
MW-01-06	Germ-resistance Management	**(a) Moisture Management** 1 credit point for implementing measures to reduce the potential of moisture occurrence and accumulation. **(b) Anti-microbial High Touch Surface** 1 credit point if all high touch surfaces within the access route of the assessment boundary, including handles/ doorknobs of entrance doors and toilets, switches of common areas lighting and countertops of the main entrance, are coated with or comprised of or sprayed with material that is abrasion-resistant, non-leaching and antimicrobial, like copper, brass and plexiglass. **(c) Anti-microbial Wall Surface** 1 credit point if at least 50% of the wall surface has applied anti-microbial paint or coating. **Application of Anti-Microbial Wall Surface (%) = (∑ Wall Surface With Anti-Microbial Paint or Coating / ∑ Wall Surface) x 100%**	All Space Types	3
MW-02-01	Sustainable Forest Products	**For projects using timber and composite timber products:** 1 to 2 credit points for demonstrating that at least 30% or 50% (by mass/ cost/ volume/ number of pieces) of all the timber and composite timber products being used within the assessment boundary are from sustainable sources/ recycled/ reused timber. Total quantity of sustainable forest product (%) should be calculated by below equation: **Sustainable Forest Product (%) = (∑Sustainable Sources/ Recycled Timber / ∑Forest Product Within Assessment Boundary) x 100%** **For projects without using timber and composite timber products:** 1 credit point for demonstrating that no timber and composite timber products are used within the assessment boundary.	All Space Types	2
MW-02-02	Recycled Materials	*This credit head is not applicable under BI V2.0.*		

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	Credit Head	Credit Requirement	Extent of Application	Credit Point(s)
MW-02-03	Ozone Depleting Substances	*This credit head is not applicable under BI V2.0.*		
MW-02-04	Regional Materials	1 to 2 credit points for at least 50% (by mass/ cost/ volume) of any 1 or 2 of the following items which are newly installed and meet the prescribed requirements of regional materials. i) Furniture and partition; ii) Wall; iii) Ceiling; or iv) Flooring. **Requirements of regional materials:** The point of raw materials and manufacture should be located within an 800km radius of the HKSAR by road transportation; within a 1,600km radius by rail transportation; or within a 4,000km radius by sea transportation. Total quantity of regional material (%) for each of the above items should be calculated by below equation: **Regional Material (%) = (∑Newly Installed Regional Material / ∑Newly Installed Material) x 100%**	All Space Types	2
MW-02-05	Use of Green Products	1 to 3 credit points for having at least 10%, 20% or 30% (by mass/ volume/ number of pieces/ surface area/ cost) of certified green products endorsed by Construction Industry Council (CIC) Green Product Certification, or internationally or regionally recognised standard being applied to two (2) of the following interior non-structural components or building services components. 1 additional Bonus credit point for at least 30% (by mass/ volume/ number of pieces/ surface area/ cost) of certified green products endorsed by Construction Industry Council (CIC) Green Product Certification, or internationally or regionally recognised standard being applied to four (4) of the following interior non-structural components or building services components. **Interior non-structural components:** i) Panel board; ii) Ceramic tile; iii) Plant-based fibre composite; iv) Furniture; v) Stone (Natural/ Artificial); vi) Wall covering; vii) Paint & coating; viii) Adhesive & sealant; ix) Block for internal partition; x) Synthetic carpet; xi) Thermal insulation; or	All Space Types	3 + 1 Bonus

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	Credit Head	Credit Requirement	Extent of Application	Credit Point(s)
		xii) Alternative elements proposed by the Applicant; **Building services components** xiii) LED lighting; xiv) Compact fluorescent lamp (CFL) bulb; xv) Electronic ballast; xvi) Cable & wire; or xvii) Alternative element proposed by the Applicant. Total quantity of green product (%) for each of the above items should be calculated by below equation: **Green Product (%) = (∑Newly Installed Green Product / ∑Newly Installed Product) x 100%**		
MW-02-06	Lift Cycle Assessment	*This credit head is not applicable under BI V2.0.*		
MW-03-01	Adaptability and Deconstruction	Maximum 2 credit points for obtaining each of the following characteristics: i) Adoption of flexible spaces to suit changing needs and multi- purposes; ii) Demonstration of how access to daylight and the proper use of artificial light that improve occupant's energy, disposition and health, can be maintained with the adaptable design; iii) Demonstration of how access to nature and biophilic design can be maintained with the adaptable design; iv) Accommodation of flexible / movable / convertible furniture and a variety of workstations; v) Provision of movable partitions to maximise the layout options and accommodate a variety of uses; or vi) Adoption of minimalist interiors to reduce carbon footprint.	All Space Types	2
MW-03-02	Enhanced Waste Handling Facilities	**(a) Recyclables Collection** 1 to 3 credit points for demonstrating the provisions of facilities for collection, sorting, storage and disposal of any 4, 6 or 8 of the following recyclable streams within the assessment boundary or the host building. i) Paper; ii) Plastic (Mixed); iii) Metal; iv) Glass; v) Beverage carton; vi) Rechargeable battery;	All Space Types	4 + 2 Bonus

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Credit Head		Credit Requirement	Extent of Application	Credit Point(s)
		vii) Cloth; viii) Food waste; ix) Cartridge; x) Foam board; xi) Compact fluorescent lamp (CFL) bulb, T5 tube, T8 tube and/or LED lighting; or xii) Other recyclables may be proposed at the discretion of the Applicant. 1 additional Bonus credit point for providing recycling boxes for each type of plastic, i.e. PET & HDPE, within the assessment boundary or the host building. **(b) Quantifying wastes** 1 credit point for providing a waste audit report of the project Space by the smart waste scale provided within the host building or assessment boundary to encourage waste audit and monitor waste disposal performance. **(c) Waste Treatment Equipment** 1 Bonus credit point for installing an on-site waste processor such as food waste composter or reverse vending machine, within the assessment boundary or the host building.		
MW-04-01	Best Practice on Material Usage	*This credit head is not applicable under BI V2.0.*		

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	Credit Head	Credit Requirement	Extent of Application	Credit Point(s)
5	**Energy Use (EU)**			**20 + 3 Bonus**
EU-00-01	Minimum Energy Performance	*This credit head is not applicable under BI V2.0.*		
EU-01-01	Low Carbon Passive Design	*This credit head is not applicable under BI V2.0.*		
EU-01-02	Reduction of CO_2 Emissions	Maximum 14 credit points for using energy efficient systems and controls that reduce carbon emissions from energy use by HVAC&R and/ or lighting systems. **General:** i) 1 credit point for applying energy saving reminders at common Spaces/ near switches of all building services systems/ appliances; ii) 1 credit point for arranging routine cleaning schedule for equipment/ systems to ensure operational efficiency of equipment/ systems; **HVAC&R:** iii) 1 to 5 credit points for a reduction of Coefficient of Performance (COP) by: 2%, 4%, 6%, 8% or 10% respectively (compared to the latest Building Energy Code under the same category) for split-type and window-type air conditioners; iv) 1 credit point for appropriate zoning and thermostat distribution; v) 2 credit points for occupancy sensors and/or programmable timers for controlling HVACR operation; vi) 1 credit point for at least 1 ceiling or wall mounted fan for normally occupied space within the assessment boundary to increase air circulation hence reducing demand for air conditioning; vii) 3 credit points for variable speed drive fan coil units or high efficiency motors or variable air volume (VAV) box for normally occupied spaces within the assessment boundary; viii) 1 credit point for openable windows for mixed mode/natural ventilation. ix) 2 or 4 credit points for at least 30% or 50% of the total window areas with direct access to daylight are installed with solar window films (windows that are heavily shaded or do not have a direct sky view are excluded); x) 1 credit point for installing air curtain at the main entrance of the premises;	All Space Types	14

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		xi) 3 credit points for installing heat recovery system; **Lighting:** xii) 1 to 5 credit points for a reduction of Lighting Power Density (LPD) by: 2%, 4%, 6%, 8% or 10% respectively (compared to the latest Building Energy Code in the same category). Decorative lighting is excluded; xiii) 1 credit point for appropriate zoning and manual control distribution. Switches are clearly labelled and easily accessible by the occupants; xiv) 2 credit points for daylight dimming/ separate lighting controls of all areas accessible to daylight; xv) 2 credit points for occupancy sensors / timer controls of all public areas such as corridors, toilets, etc.; xvi) 1 credit point for master switch (main switch) within the assessment boundary for the occupants to switch off all the lighting systems and non-essential power before leaving; xvii) 1 credit point for applying dual circuit with a timer at retail shop front/ hotel signboards and non-essential lighting in order to have separate control for switching off these lighting after operating hours, or no later than 23:00 hours; xviii) 1 credit point for provision of task lighting for all workstations within the assessment boundary; and **Small power:** xix) 2 credit points for provision of a smart power strip or smart socket, which is capable of pre-setting a schedule or creating countdown timer lists for connected electrical appliances to automatically manage devices for at least 50% of power socket outlet (irrespective of number of gang) within the assessment boundary.		
EU-01-03	Peak Electricity Demand Reduction	*This credit head is not applicable under BI V2.0.*		
EU-01-04	Metering and Monitoring	**(a) Real-time monitoring system** 1 credit point for providing electrical meters for lighting system to establish a real-time energy data monitoring system. 1 additional Bonus credit point for providing electrical meters for any one (1) of the following engineering systems to	All Space Types	2 + 2 Bonus

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		establish a real-time energy data monitoring system. 1 additional Bonus credit point for providing electrical meters for any two (2) of the following engineering systems to establish a real-time energy data monitoring system. **Engineering systems:** i) Air-conditioner and mechanical ventilation energy consumption; ii) Small power energy consumption; iii) Lift system energy consumption (if applicable); iv) Escalator system energy consumption (if applicable); v) Hot water system energy consumption (if applicable); vi) Plumbing and drainage system energy consumption (if applicable); and vii) Loads associated with server/ equipment room (if applicable). **(b) Data Collection Record** 1 credit point for demonstrating that the energy meters can collect and store the energy consumption data on an hourly basis for at least 1 year.		
EU-02-01	Renewable and Alternative Energy Systems	*This credit head is not applicable under BI V2.0.*		
EU-03-01	Air-Conditioning Units	*This credit head is not applicable under BI V2.0.*		
EU-03-02	Clothes Drying Facilities	*This credit head is not applicable under BI V2.0.*		
EU-03-03	Energy Efficient Appliances	**<u>For the assessment boundary with appliances provided by the Applicant:</u>** 1 to 3 credit points when 60%, 80% or 100% of the total quantity, for each type of electrical appliance is certified energy efficient. **<u>For the assessment boundary without appliances provided by the Applicant:</u>** 2 credit points will be awarded if no appliances will be provided within the assessment boundary by the Applicant.	All Space Types	3
EU-03-04	Cooling System Efficiency	*This credit head is not applicable under BI V2.0.*		

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EU-03-05	Air Management System	*This credit head is not applicable under BI V2.0.*		
EU-04-01	Best Practice on Energy Use	*This credit head is not applicable under BI V2.0.*		
EU-04-02	Smart Devices	1 Bonus credit point for adopting network of smart devices with at least two (2) of the following sensors, which are capable of connecting to the internet, gathering information from their environments and exchanging data with other smart devices for analysis to maximise energy efficiency, optimise comfort and productivity of the interior spaces. Sensors for smart control: i) Occupancy/ Motion/ light sensor for lighting control; ii) Temperature and humidity sensor for AC control; iii) Air quality sensor for MVAC control; iv) Light sensor for curtain control; and v) Others proposed by the Applicant.	All Space Types	1 Bonus
EU-04-03	Energy Management	1 credit point for implementing energy management plan within the assessment boundary.	All Space Types	1

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	Credit Head	Credit Requirement	Extent of Application	Credit Point(s)
6	**Water Use (WU)**			**7 + 0 Bonus**
WU-00-01	Minimum Water Saving Performance	*This credit head is not applicable under BI V2.0.*		
WU-01-01	Annual Water Use	**<u>For the assessment boundary with potable water supply:</u>** 1 to 3 credit points for achieving annual water saving of 20%, 25% or 30% or more by using water efficient flow devices with reference to BEAM Plus baseline. ***Alternatively,*** • *3 credit points will be awarded if all potable water devices within the assessment boundary achieve Grade 1 under the WSD's Water Efficiency Labelling Scheme (WELS).* **<u>For the assessment boundary without potable water supply:</u>** 3 credit points will be awarded if all potable water devices in the host building achieve Grade 1 under the WSD's WELS. ***Alternatively,*** • *2 credit points will be awarded if the host building has installed aerators to restrict the water flow in basin mixers, kitchen taps and shower heads (if applicable).* ***Alternatively,*** • *1 credit point will be awarded if the host building has installed infrared sensor faucets to restrict the water flow in basin mixers, kitchen taps and shower heads (if applicable).*	All Space Types	3
WU-01-02	Water Efficient Irrigation	*This credit head is not applicable under BI V2.0.*		
WU-01-03	Water Efficient Appliances	*This credit head is not applicable under BI V2.0.*		
WU-01-04	Water Leakage Detection	**<u>For the assessment boundary with potable water supply:</u>** 1 credit point for installing water leakage detection system in the covered pipework near all water points.	All Space Types	1

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	Credit Head	Credit Requirement	Extent of Application	Credit Point(s)
		For the assessment boundary without potable water supply and with piping adjacent to the boundary: 1 credit point will be awarded for not installing built-in furniture so that seepage of water or water from the adjacent interior spaces can be easily detected. **For the assessment boundary without potable water supply and no piping adjacent to the boundary:** 1 credit point for project that does not have potable water supply or piping adjacent to the assessment boundary.		
WU-01-05	Twin Tank System	*This credit head is not applicable under BI V2.0.*		
WU-01-06	Cooling Tower Water	*This credit head is not applicable under BI V2.0.*		
WU-02-01	Effluent Discharge to Foul Sewers	**For the assessment boundary with flushing water supply:** 1 credit point for installing water efficient flushing devices with Grade 1 label under the WSD's WELS. **For the assessment boundary without flushing water supply:** 1 credit point will be awarded if the host building has installed dual flush water closets and/or infrared sensor urinals.	All Space Types	1
WU-03-01	Water Harvesting and Recycling	*This credit head is not applicable under BI V2.0.*		
WU-04-01	Smart Water Metering	*This credit head is not applicable under BI V2.0.*		
WU-04-02	Water Saving Management	*This credit head is not applicable under BI V2.0.*		
WU-04-03	Water Quality Survey	**For the assessment boundary with potable water supply:** 1 credit point for demonstrating that the quality of potable water meets WSD's Hong Kong Drinking Water Standards (HKDWS).	All Space Types	1

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<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>Parameter(s)</th><th>Criteria</th></tr>
<tr><td>Antimony (Sb)</td><td>≤ 20 µg/L</td></tr>
<tr><td>Cadmium (Cd)</td><td>≤ 3 µg/L</td></tr>
<tr><td>Chromium (Cr)</td><td>≤ 50 µg/L</td></tr>
<tr><td>Copper (Cu)</td><td>≤ 2000 µg/L</td></tr>
<tr><td>Lead (Pb)</td><td>≤ 10 µg/L</td></tr>
<tr><td>Nickel (Ni)</td><td>≤ 70 µg/L</td></tr>
<tr><td>Residual Chlorine</td><td>≤ 5 mg/L</td></tr>
<tr><td>E.coli</td><td>0 cfu/100 mL</td></tr>
</table>

<u>For the assessment boundary without potable water supply:</u>

1 credit point will be awarded if the host building has been awarded with Quality Water Supply Scheme for Buildings – Fresh Water (Management System) by WSD.</td><td></td><td></td></tr>
<tr><td>WU-04-04</td><td>Drinking Water Promotion</td><td>1 credit point for installing water dispenser that is located within a 30m walking distance of all the normally occupied spaces and in all the dining spaces (if applicable).</td><td>All Space Types</td><td>1</td></tr>
</table>

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	Credit Head	Credit Requirement	Extent of Application	Credit Point(s)
7	**Health and Wellbeing (HWB)**			**24 + 14 Bonus**
HWB-00-01	Minimum Ventilation Performance	1 credit point for demonstrating that the project space has met the requirements of corresponding air changes per hour (ACH) of air ventilation rate. ***Alternatively,*** • *1 credit point for demonstrating that the carbon dioxide level within the project space can comply with the Good Class requirements as stipulated in IAQ Certification Scheme; or* • *1 credit point for demonstrating that the minimum ventilation rate of the space is in compliance with ASHRAE Standard 62.1-2019 with respective to its designed ventilation mode.*	All Space Types	1
HWB-01-01	Healthy and Active Living	*This credit head is not applicable under BI V2.0.*		
HWB-01-02	Biophilic Design	1 to 2 credit points for fulfilling at least 2 or 3 of the following requirements. List of requirements: i) Potted plants or planted beds cover at least 1% of the total internal floor area within the assessment boundary; ii) Plant wall(s) cover wall area that is at least 1% of the total internal floor area within the assessment boundary; iii) Use of natural materials for interior design and build; iv) Nature sound in common areas; v) At least 1 water features; or vi) Others to be proposed by the Applicant. ***Alternatively,*** • *1 to 2 credit points for demonstrating visual connection with nature and/ or biophilic design features within the assessment boundary with Visual Quality Score of at least 1.5 or 2.5.*	All Space Types	2
HWB-02-01	Inclusive Design	**(a) Barrier Free Access (BFA) Design** 1 to 2 credit points for providing at least 1 or 2 applicable enhanced provisions as stipulated in the “Recommended Design Requirements” of BFA 2008.	All Space Types	4

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	Credit Head	Credit Requirement	Extent of Application	Credit Point(s)
		(b) Corporate Social Responsibility (CSR) Facilities 1 to 2 credit points for providing 2 or 4 of the following CSR facilities. List of CSR facilities: i) AED/ First-aid kits; ii) Baby-care room or lactation room in the host building; iii) Bicycle storage for at least 5% or more of the regular occupants within the host building; iv) Permanent physical or digital board for green building education; v) Dedicated fitness/exercise space; vi) Quiet or wellness room; vii) Family restroom within the host building; viii) Permanent aesthetic display; ix) Dedicated Dining Spaces; or x) Others to be proposed by the Applicant.		
HWB-03-01	Enhanced Ventilation	1 credit point for demonstrating that the space has exceeded the air changes per hour (ACH) in credit HWB-00-01 Minimum Ventilation Performance by 30%. ***Alternatively,*** • *1 credit point for demonstrating that the carbon dioxide level within the project space can comply with the Excellent Class requirements as stipulated in IAQ Certification Scheme;* • *1 credit point for demonstrating the minimum ventilation rate of the space has exceeded ASHRAE 62.1-2019 by 30%.*	All Space Types	1
HWB-03-02	Waste Odour Control	*This credit head is not applicable under BI V2.0.*		
HWB-03-03	Acoustics and Noise	**(a) Background Noise Level** 1 credit point for demonstrating background noise levels within the prescribed criteria to ensure the well-being of the occupants. **(b) Reverberation time** 1 credit point for demonstrating that the reverberation time in the applicable areas meets the prescribed criteria of given types of space to ensure speech clarity.	All Space Types	3

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	Credit Head	Credit Requirement	Extent of Application	Credit Point(s)
		(c) Noise isolation 1 credit point for demonstrating airborne noise isolation between spaces fulfils the prescribed criteria.		
HWB-03-04	Indoor Vibration	*This credit head is not applicable under BI V2.0.*		
HWB-03-05	Indoor Air Quality	**(a) Design for good IAQ** 1 credit point for providing air treatment methods, i.e. sizable standalone air purifier or independent exhaust system, to indoor pollution source areas, such as photocopy rooms / kitchen / bathrooms / locations, where significant indoor pollution is generated. 1 credit point for demonstrating that the fresh air louvre is at least 15m from exhaust air louvre. ***Alternatively,*** • *1 credit point for providing sizable standalone air purifier to normally occupied spaces.* 1 Bonus credit point if all air handling units serving the assessment boundary are equipped with UV-C lighting for air-stream disinfection. **(b) IAQ Measurement** 2 credit points for submitting an IAQ Certification Scheme (Good Class) report of the assessment boundary endorsed by an accredited IAQ Certificate Issuing Body (CIB). 1 additional Bonus credit point for submitting an IAQ Certification Scheme (Excellent Class) report of the assessment boundary endorsed by an accredited IAQ Certificate Issuing Body (CIB). **(c) Continuous IAQ Monitoring** 1 to 2 credit points for installing a real-time monitor for every 500m^2 and at least 1 per floor to measure at least 2 or 4 of the following monitored parameters in a normally occupied or common space within the assessment boundary:	All Space Types	6 + 3 Bonus

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	Credit Head	Credit Requirement	Extent of Application	Credit Point(s)
		i) PM2.5 or PM10; ii) Carbon dioxide; iii) Carbon monoxide; iv) Ozone; v) Total VOCs; vi) Nitrogen dioxide; and vii) Formaldehyde. 1 additional Bonus credit point for setting up a notification system to inform the occupants if any of the above monitored parameters fails to meet the IAQ (Good Class) requirements of IAQ certification scheme.		
HWB-03-06	Thermal Comfort	1 credit point for demonstrating that the assessment boundary meets the 80% acceptability limit on any one day during the selected hottest month with reference to weather data file. The determination of the 80% acceptability limit should refer to ASHRAE 55-2020. The results shall demonstrate compliance with the prescribed design criteria within the prescribed limits, for a minimum of 80% of the prescribed locations. 1 credit point for providing thermal zones with the maximum size as 60m^2 or one per 10 occupants, whichever is larger.	All Space Types	2
HWB-03-07	Artificial Lighting	**(a) Colour Rendering Index** 1 credit point for all electric lightings with Colour Rendering Index (CRI) of 80 or above within the assessment boundary. **(b) Unified Glare Rating** 1 credit point for demonstrating that the following Unified Glare Rating (UGR) requirements with reference to BSI Light and lighting – Lighting of work places can be achieved.	All Space Types	3

UGR Value	Application
16	Technical drawing room
19	Office, Conference room, Classroom, Lecture hall, Ward, Laboratory Library, Hotel, Clinic,
22	Common spaces, Cafeterias & restaurant, Retail space, Industrial space for fine work, Gymnasium, Staff room
25	Average industrial work, Circulation space and corridor
28	Heavy industrial work

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	Credit Head	Credit Requirement	Extent of Application	Credit Point(s)
		(c) Light dimming 1 credit point for having multizone control systems with dimming function that enable the occupants to adjust the lighting to meet their needs and preferences.		
HWB-03-08	Daylight	**(a) Glare Control** 1 credit point for providing envelope glazing shading or blinds that are controllable by the occupants or can be set to prevent glare automatically. **(b) Daylighting Exposure** 2 Bonus credit points for demonstrating that at least 55% of the total area of the studied normally occupied spaces achieve spatial Daylight Autonomy$_{300/50\%}$ ($sDA_{300/50\%}$) and no more than 10% of the same area receive Annual Sunlight Exposure$_{1000,250}$ ($ASE_{1000,\ 250}$).	All Space Types	1 + 2 Bonus
HWB-03-09	Biological Contamination	*This credit head is not applicable under BI V2.0.*		
HWB-04-01	Touchless Environment	1 credit point if all the waste receptacles within the assessment boundary are covered with lids and equipped with hands-free operation. 1 Bonus credit point if at least 50% of the main doors of entrances/exits can be automatically opened and all door switches are touchless. 1 Bonus credit point if toilet doors can be hands-free opened. 1 Bonus credit point if all water dispensers are equipped with hands-free operation. 2 Bonus credit points if all dual flush WCs are equipped with hands-free operation.	All Space Types	1 + 5 Bonus
HWB-04-02	Healthy Entrance	1 Bonus credit point if a healthy entrance is set up with a body temperature detector and alcohol hand rubs are provided at the entrance. 1 additional Bonus credit point if disinfectant mats are provided at the entrance. 2 additional Bonus credit points if an automatic disinfection station for sanitising spray is provided next to the entrance.	All Space Types	4 Bonus

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	Credit Head	Credit Requirement	Extent of Application	Credit Point(s)
8	**Innovations and Additions (IA)**			**Max. 10 Bonus**
IA-01-01	Innovations and Additions	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) that have multiple aspects achievement; or (4) performance enhancement; and the associated benefits in addressing sustainability objectives for the interior spaces.	All Space Types	Maximum 10 Bonus

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2	**Integrated Design and Construction Management**	This section focuses on the integrative design management which maximises the opportunities for integrated and cost-effective green design approaches and methodologies for fit-out activities; improvement in the occupant's health and wellbeing; facilitating better waste management and more environmental benefits during fit-out processes.

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2 Integrated Design and Construction Management

IDCM-00 Basic Requirement

IDCM-00-01 Sustainability Champions – Project

Extent of Application

All Space Types

Objective

Facilitate the application of the BI V2.0 certification process and ensure the compliance of relevant requirements of the BI V2.0 Manual.

Credit Point(s) Attainable

1

Credit Requirement

1 credit point for demonstrating that an accredited BEAM Professional (BEAM Pro) with a valid credential for BI V2.0 is engaged as the Project BEAM Pro.

Alternatively,

- *1 credit point for at least two (2) members from the project team are accredited BEAM Affiliates (BAs).*

Assessment

1. Provide one (1) Project BEAM Pro that is employed for the project. The Applicant should provide the qualification details of the appointed Project BEAM Pro who should maintain valid credential from appointment to completion of the certification process.

2. Provide a copy of the meeting minutes (date and content of the minutes will be reviewed for compliance) highlighting the attendance of the Project BEAM Pro or BAs in the following meetings, including (1) Introductory workshop/ multi-disciplinary design charrette with Design BEAM Pro/ BAs (if any), (2) Kick-off meeting with Construction BEAM Pro/ BAs or contractor representative(s) and (3) Review meeting with Construction BEAM Pro/ BAs or contractor representative(s).

   Confidential or sensitive project information on the minutes is not required and should be excluded.

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
IDCM-00-01_00	BI submission form for IDCM-00-01
IDCM-00-01_01	BEAM Pro or BAs qualification details
IDCM-00-01_02	A copy of the meeting minutes of introductory workshop/ multi-disciplinary design charrette with Design BEAM Pro or BAs
IDCM-00-01_03	A copy of the meeting minutes of kick-off meeting with the fit-out contractor(s) or Construction BEAM Pro or BAs
IDCM-00-01_04	A copy of the meeting minutes of review meeting with the fit-out contractor(s) or Construction BEAM Pro or BAs

Remarks

(a) Additional Information

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Hong Kong Green Building Council publishes the latest registers of BEAM Professionals and BEAM Affiliates on its website. [ONLINE] Available at: https://www.practitioner.hkgbc.org.hk/beam-professional [Accessed Dec 2021].

(b) Related Credits

IDCM-01-01 Sustainability Champions – Design

The related credit encourages the engagement of Design BEAM Pro or BAs to integrate BEAM Plus standards and practices into the planning and design of the interior spaces.

IDCM-01-03 Integrated Design Process

The related credit encourages early consideration of integrated interior design process and operational issues to support holistic and cost-effective outcomes of interior design performance, human health and environmental benefits.

IDCM-02-01 Sustainability Champions – Construction

The related credit encourages the engagement of BEAM Pro or BAs engaged by the contractors during fit-out activities to work collaboratively with the Project BEAM Pro or BAs to monitor the progress towards the targeted construction-related BEAM Plus requirements.

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2	**Integrated Design and Construction Management**	**IDCM-00**	**Basic Requirement**
		IDCM-00-02	**Environmental Management Plan**

This credit head is not applicable under BI V2.0.

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2	**Integrated Design and Construction Management**	**IDCM-00**	**Basic Requirement**
		IDCM-00-03	**Timber Used for Temporary Works**

Extent of Application

All Space Types

Objective

Encourage the well-managed use of timber.

Credit Point(s) Attainable

1

Credit Requirement

For project with timber use for temporary works:

1 credit point for all timber being used for temporary works is originated from sustainable sources or re-used from other sites.

For project without timber use for temporary works:

1 credit point for project that does not use timber for temporary works.

Assessment

For project using timber for temporary works:

1. Timber being used for all temporary works locating inside or outside the project space, shall be originated from sustainable forestry or re-used from existing material.

2. Sustainable timber shall be certified by the Forest Stewardship Council (FSC) [1], the American Forest and Paper Association (AFPA) [2] or Programme for the Endorsement of Forest Certification (PEFC) [3] or “known licensed sources” [4].

3. A summary table (with monthly breakdown), including type, certificate number, manufacturer, country of origin, quantity, etc. which demonstrates credit requirements, prepared and declared by the fit-out contractor.

4. Provide endorsed timber delivery schedule/ records of new timber being used or transfer notes of reused timbers for the entire interior fit-out period.

5. Provide a declaration letter by the fit-out contractor confirming that no virgin forest products are used for all temporary works.

6. The reuse of timber for all temporary works is acceptable. Transfer notes and dated photo record(s) should be kept and submitted to show the original timber source, the quantity and the date of transfer of the timber products between the despatch work site and the project site (recipient). The transfer notes should bear the detailed name and address of the work sites concerned and duly signed by both the despatch and recipient parties (i.e. site representative/ stores officer in managerial position), together with company chops.

7. For timber products sourced from suppliers who have already been accredited by the Approval Organisations, i.e. FSC, AFPA, PEFC or other "known licensed sources” according to the respective protocol (accredited company), and the timber products purchased have been issued with the Certificate under the CoC (Chain of Custody) system, the following documents as proof to demonstrate the timber products purchased from the timber supplier and used in the project site are from a sustainable source are acceptable:

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7.1 Endorsed timber product delivery schedule/ records with the reference Certificate number [5] [6];

7.2 A copy of the CoC Certificate of the certified timber supplier [5] [6];

7.3 Dated photo record(s) of the timber products; and

7.4 For timber products made from recycled timber, supporting documents that quantify the timber and composite timber products installed in the project site, such as invoices plus delivery notes, should be provided. Also, certificates (e.g. FSC Recycled) (if any), declaration letter or other supporting documents should be provided to show that the timber and composite timber products are made from timber which is recycled by recognised recyclers.

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
IDCM-00-03_00	BI submission form for IDCM-00-03
IDCM-00-03_01	Summary table (with monthly breakdown) of timber use for temporary works with the fit-out contractor's endorsement
IDCM-00-03_02	Endorsed timber delivery schedule/ records quantifying the new timber used from vendors and manufacturers for all sustainable sourced timber **[or]** Endorsed transfer notes for timber being reused from other sites
IDCM-00-03_03	Timber product compliance certificate [e.g. Chain of Custody (CoC), etc.] (for project using timber for temporary works only)
IDCM-00-03_04	Dated photo record(s) for timber products (for project using timber for temporary works only)
IDCM-00-03_05	Declaration letter by the fit-out contractor confirming that no virgin forest products are used for all temporary works (for project using timber for temporary works only)
IDCM-00-03_06	Declaration letter from the site representative or project owner specifying that timber has not been used for temporary works/ no timber has been used for the entire fit-out period (for project without using timber for temporary works)

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Remarks

(a) Additional Information

[1] Forest Stewardship Council. [ONLINE] Available at: http://www.fsc.org/ [Accessed Dec 2021].

[2] American Forest and Paper Association. [ONLINE] Available at: http://www.afandpa.org/ [Accessed Dec 2021].

[3] Programme for the Endorsement of Forest Certification. [ONLINE] Available at: https://www.pefc.org/ [Accessed Dec 2021]

[4] Architectural Services Department, General Specifications for Building 2017, Section 13, Carpentry and Joinery. [ONLINE]. Available at: https://www.archsd.gov.hk/media/publications-publicity/general-specificationfor-building/general_specification_for_building_2017_edition-20191223.pdf [Accessed Dec 2021]

[5] BEAM Society Limited. [ONLINE]. Available at: https://www.beamsociety.org.hk/files/download/20191129_FAQ_MA_Attachment_a1.pdf [Accessed Aug 2021].

[6] BEAM Society Limited. [ONLINE]. Available at: https://www.beamsociety.org.hk/files/download/20191129_FAQ_MA_Attachment_a2.pdf [Accessed Aug 2021].

[7] Buildings Department PNAP ADV-5 gives guidance on the alternatives of hardwoods in order to reduce the amount of tropical hardwood timber being used in building projects.

[8] World Wildlife Fund, Guide to Responsible Purchasing of Forest Products provides guidelines, templates and implementation measures to help organisations develop purchasing policies and practices that help conserve forest resources.

(b) Related Credits

MW-02-01 Sustainable Forest Products

The related credit encourages the use of timber from well-managed forests.

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2	**Integrated Design and Construction Management**	**IDCM-01**	**Integrated Design Process**
		IDCM-01-01	**Sustainability Champions – Design**
	Extent of Application	All Space Types	
	Objective	Encourage the engagement of Design BEAM Pro and/ or BAs to integrate BEAM Plus standards and practices into the planning and design of the interior spaces.	
	Credit Point(s) Attainable	1 + 1 Bonus	
	Credit Requirement	1 credit point for at least one (1) specialist who involved in the project design is an accredited BEAM Professional (BEAM Pro) with a valid credential for BEAM Plus BI V2.0. ***Alternatively,*** • *1 credit point for at least two (2) specialists who involved in the project design are accredited BAs.* 1 additional Bonus credit point will be awarded if that Design BEAM Pro is also a Hong Kong Professional Institution qualified holder.	
	Assessment	1. The Design BEAM Pro or BAs shall: 1.1 Be engaged in the applicable core design disciplines from project inception to completion of detailed design and specifications stage of the project. Core design disciplines shall be justified by the specific project space type. The following disciplines, if being engaged in the project, shall form the core design disciplines: 1.1.1 Architectural; 1.1.2 Building Services/ Mechanical Engineering; 1.1.3 Interior designer; and 1.1.4 Other as proposed and justified by the specific nature of the project. 1.2 The Design BEAM Pro or BAs may also assume other roles in the project team. 2. Participate in introductory workshop/ multi-disciplinary design charrette. 2.1. Provide supporting documents demonstrating the qualification details of the Design BEAM Pro or BAs (if any). The appointed Design BEAM Pro or BAs (if any) should maintain his/ her accreditation and credential during his/ her appointment. 2.2. Provide a copy of the meeting minutes (confidential/sensitive project information is not required and should be excluded) highlighting the attendance of the Design BEAM Pro or BAs (if any) in the introductory workshop/ multi-disciplinary design charrette.	

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3. Encourage Design BEAM Pro to pursue other professional qualification from the Hong Kong Professional Institutions, including one of the following qualifications:

   a. Full member of The Hong Kong Institute of Architects (HKIA);

   b. Full member of Hong Kong Institution of Engineers (HKIE) (Building Services/ Mechanical/ Environmental discipline); and

   c. Other as proposed and justified by the nature of the project.

3.1. The appointed Design BEAM Pro or BAs (if any) should maintain his/ her accreditation and credential during his/ her appointment.

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
IDCM-01-01_00	BI submission form for IDCM-01-01
IDCM-01-01_01	BEAM Pro qualification details of the Design BEAM Pro or BAs
IDCM-01-01_02	A copy of the meeting minutes of the introductory workshop/ multi-disciplinary design charrette
IDCM-01-01_03	Qualification details of any one of the listed/ proposed Hong Kong professional institution

Remarks

(a) Additional information

Hong Kong Green Building Council publishes the latest registers of BEAM Professionals and BEAM Affiliates on its website. [ONLINE] Available at: https://practitioner2.hkgbc.org.hk/index.php?r=Beam/Directory [Accessed Dec 2021].

(b) Related credits

IDCM-00-01 Sustainability Champions – Project

The related credit encourages the engagement of BEAM Pro or BAs to facilitate the application for the BEAM Plus certification process and to ensure the compliance of relevant requirements of the BEAM Plus.

IDCM-01-03 Integrated Design Process

The related credit encourages early consideration of integrated interior design process and operational issues to support holistic and cost-effective outcomes of interior design performance, human health and environmental benefits.

IDCM-02-01 Sustainability Champions – Construction

The related credit encourages the engagement of BEAM Pro or BAs engaged by the contractors during fit-out activities in order to work collaboratively with the Project BEAM Pro or BAs to monitor the progress towards the targeted construction-related BEAM Plus requirements.

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2 Integrated Design and Construction Management

IDCM-01 Integrated Design Process

IDCM-01-02 Complimentary Certification

Extent of Application

All Space Types

Objective

Encourage the interior spaces to adopt green building practices by taking the advantages from the host building.

Credit Point(s) Attainable

3 Bonus

Credit Requirement

For the host building being certified by any of the following schemes:

i) BEAM Plus Neighbourhood (ND) certification;
ii) BEAM Plus New Buildings (NB) certification;
iii) BEAM Plus Existing Buildings (EB) certification; or
iv) BEAM Plus Data Centres (NDC/ EDC) certification.

1 Bonus credit point for BEAM Plus ND/ NB/ NDC/ EDC/ EB Comprehensive Scheme with Bronze or Silver rating or BEAM Plus EB Selective Scheme with Very Good to Excellent rating;

2 Bonus credit points for BEAM Plus ND/ NB/ NDC/ EDC/ EB Comprehensive Scheme with Gold rating;

3 Bonus credit points for BEAM Plus ND/ NB/ NDC/ EDC/ EB Comprehensive Scheme with Platinum rating.

The certification should be valid at the time of project registration for BI V2.0.

Assessment

(a) BEAM Plus Neighbourhood (ND) certification

1. Provide supporting documentation showing the attainment of BEAM Plus ND certification at the time of project registration of BI V2.0 certification.

2. Provide evidence demonstrating that the project space is within the site boundary as defined in the BEAM Plus ND certification.

(b) BEAM Plus New Buildings (NB) certification

1. Provide supporting documentation showing the attainment of BEAM Plus NB certification at the time of project registration of BI V2.0 certification.

2. Provide evidence demonstrating that the project space is within the site boundary as defined in the BEAM Plus NB certification of the host building.

(c) BEAM Plus Existing Buildings (EB) certification

1. Provide supporting documentation showing the attainment of BEAM Plus EB certification (Comprehensive/ Selective Scheme) at the time of project registration of BI V2.0 certification.

2. Provide evidence demonstrating that the project space is within the site boundary as defined in the BEAM Plus EB certification of the host building.

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(d) BEAM Plus Data Centres (NDC/ EDC) certification

1. Provide supporting documentation showing the attainment of BEAM Plus NDC/ EDC certification at the time of project registration of BI V2.0 certification.

2. Provide evidence demonstrating that the project space is within the site boundary as defined in the BEAM Plus NDC/ EDC certification of the host building.

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
IDCM-01-02_00	BI submission form for IDCM-01-02
IDCM-01-02_01	Supporting documentation showing that the host building has achieved BEAM Plus ND/ NB/ EB/ NDC/ EDC
IDCM-01-02_02	Evidence demonstrating the project site is within certification boundary of the BEAM Plus ND/ NB/ EB/ NDC/ EDC

Remarks

(a) Additional information

BEAM Plus Project Directory & Statistics. Hong Kong Green Building Council. [ONLINE] Available at: https://www.hkgbc.org.hk/eng/beam-plus/beam-plus-dir-stat/BEAMPlusDirectory.jsp [Accessed Dec 2021].

(b) Related Credits

None

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2	**Integrated Design and Construction Management**	**IDCM-01**	**Integrated Design Process**
		IDCM-01-03	**Integrated Design Process** ⏲
	Extent of Application	All Space Types	
	Objective	Encourage early consideration of an integrated interior design process and operational issues to support holistic and cost-effective outcomes of interior design performance, human health and environmental benefits.	
	Credit Point(s) Attainable	2	
	Credit Requirement	1 credit point for considering an integrated design process to explore the interrelationships among different green interior design strategies and systems in the conceptual design stage. 1 additional credit point for organising at least one (1) multi-disciplinary design charrette to formulate passive and active design strategies in the conceptual/ schematic design stage.	
	Assessment	1. Early Considerations for Integrated Interior Design 1.1 Provide a design review report in comparing preliminary sustainable design benefits for at least one (1) baseline and one (1) alternative design option for each issue. 1.2 The report should at least have the sections below: 1.2.1. Executive Summary; 1.2.2. Project Program; 1.2.3. Workshop for integrated design process (with date of workshop, record of attendance); 1.2.4. Selected consideration, each with: A baseline with the same development potentials as the design options. The design should conform to the statutory requirements such as Buildings Ordinance. An alternative design option with graphical support at conceptual level and calculation in supporting the argument. 1.2.5. Conclusion. 1.3 One (1) or multiple design options are demonstrated to address at least two (2) issues of each of the following considerations:	

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Considerations	Issues
Indoor environmental quality	Air ventilation/ thermal comfort Daylighting access
Energy use/ saving	Energy efficient design Smart energy controls
Biophilic design options	Visual connection with nature Presence of water Interior green wall Ecological value
Material selection	Recycled materials Reuse of materials Sustainable sourced furniture

1.4 Strategies addressing multiple considerations and issues are acceptable.

2. Multi-disciplinary design charrette

Provide evidence that at least one (1) multi-disciplinary design charrette, which can be combined with the introductory workshop as required in IDCM-00-01, has been held before the completion of schematic design stage.

The charrette shall, at minimum, address the following issues:

2.1 Participants:

2.1.1. Project owner/ owner representative(s);
2.1.2. User representative(s) (if users are known in the design stage);
2.1.3. Operation and maintenance team representative(s) (if identified in the design stage); and
2.1.4. Project BEAM Pro or BAs.

2.2 Introduce fundamentals of an integrated design process [1]:

2.2.1 Well-defined vision, goals and objectives;
2.2.2 Collaborative team and open communication;
2.2.3 Whole-system thinking and innovative synthesis; and
2.2.4 Iterative process and feedback cycles.

2.3 Review and agree on the following principal design strategies:

2.3.1 Key stakeholders' values, aspirations and requirements;
2.3.2 Key environmental and waste management features;
2.3.3 Key active building systems for energy saving; and
2.3.4 Other strategies to be proposed by the Applicant.

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
IDCM-01-03_00	BI submission form for IDCM-01-03
IDCM-01-03_01	Design review report on preliminary sustainable design benefits
IDCM-01-03_02	Multi-disciplinary design charrette report (if applicable)

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Remarks

(a) Additional Information

[1] BC Green Building Roundtable. Roadmap for the Integrated Design Process. [ONLINE]. Available at:
http://www.greenspacencr.org/events/IDProadmap.pdf
[Accessed Dec 2021].

(b) Related Credits

IDCM-00-01 Sustainability Champions – Project

The related credit encourages the engagement of BEAM Pro or BAs to facilitate the application for the BEAM Plus certification process and to ensure the compliance of relevant requirements of the BEAM Plus.

IDCM-01-01 Sustainability Champions – Design

The related credit encourages the engagement of Design BEAM Pro or BAs to integrate BEAM Plus standards and practices into the planning and design of the interior spaces.

IDCM-02-01 Sustainability Champions – Construction

The related credit encourages the engagement of BEAM Pro or BAs by the contractors during fit-out activities in order to work collaboratively with the Project BEAM Pro or BAs to monitor the progress towards the targeted construction-related BEAM Plus requirements.

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2	**Integrated Design and Construction Management**	**IDCM-01**	**Integrated Design Process**
		IDCM-01-04	**Life Cycle Costing**

This credit head is not applicable under BI V2.0.

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2 Integrated Design and Construction Management

IDCM-01 Integrated Design Process

IDCM-01-05 Commissioning

Extent of Application

All Space Types

Objective

Ensure the building systems perform as designed and the interior spaces operate as design intended.

Credit Point(s) Attainable

3

Credit Requirement

Have alterations to host building services undertaken or supplementary building services installed by the Applicant:

(a) Commissioning Specification or Clause

1 credit point for providing specifications and/ or clauses in contract documents that specify details of the commissioning requirements for building services systems and equipment being installed by the Applicant within the assessment boundary, that have impact on energy use and indoor environmental quality.

(b) Commissioning Method Statement

1 credit point for providing commissioning method statements that specify details of all the specified commissioning work for building services systems and equipment being installed by the Applicant within the assessment boundary, that have impact on energy use and indoor environmental quality.

(c) Commissioning Report

1 credit point for providing commissioning reports for building services systems and equipment being installed by the Applicant within the assessment boundary, that have impact on energy use and indoor environmental quality.

No alterations to building services in the host building undertaken and no supplementary building services installed by the Applicant:

2 credit points for providing contractual document confirming that no alterations to building services in the host building have been undertaken and no supplementary building services have been installed within the assessment boundary by the Applicant.

Assessment

For alterations to host building services undertaken nor supplementary building services installed by the Applicant:

(a) Commissioning Specification and Clause

1. Provide extracts of contract conditions and/or specifications highlighting the clause that requires the contractors to carry out the commissioning process for the following building services systems:

    1.1. Heating, ventilating, air conditioning and refrigeration (HVAC&R) systems and associated controls;

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1.2. Lighting systems and associated controls;
1.3. Energy monitoring systems (if any);
1.4. Renewable energy systems (if any);
1.5. Hot water systems (if any); and
1.6. Other systems being installed by the Applicant within the assessment boundary (i.e. plumbing and drainage, etc.).

2. Commissioning specifications informing the contractors and/ or sub-contractors of their roles and responsibilities throughout the commissioning process.

(b) Commissioning Method Statement

1. Engage a Commissioning Authority (CxA) who shall meet the following requirements:

1.1 Chartered Engineer/ Registered Professional Engineer (R.P.E.)/ Member of HKIE (under the discipline of Building Services/ Electrical/ Mechanical/ Energy/ Environmental);

1.2 With proper experience and credentials including adequate expertise in the commissioning of electrical and mechanical systems, equipment and components to develop and implement effective commissioning;

1.3 With relevant commissioning experience in at least two (2) buildings or fit-out projects; and

1.4 Can be employed by the owner directly or a qualified employee or consultant of the owner.

2. The Commissioning method statement should include the following content:

2.1 Goals and objectives;

2.2 General project information;

2.3 Systems to be commissioned;

2.4 Description of the commissioning team, including team members, roles and responsibilities;

2.5 Description of the commissioning team's communication protocol, coordination, meetings and management;

2.6 Development of system functional test procedures for all applicable building services systems;

2.7 Verification of system performance;

2.8 Reporting deficiencies and the resolution process; and

2.9 Acceptance of all applicable systems.

(c) Commissioning Report

1. Provide the commissioning report(s) with all the approved checklists and endorsement from the CxA shall be provided.

2. The commissioning report should include the following content:

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2.1 Executive summary of the commissioning process and results, system deficiencies identified and resolutions, outstanding issues identified;

2.2 List of participants and their respective roles;

2.3 Brief building description;

2.4 List of systems being commissioned;

2.5 Equipment catalogues;

2.6 Functional performance tests including date and time of test, individuals presence during testing, visual inspection observations, sensor checks, device checks, operating mode tests and result;

2.7 All identified outstanding deficiencies during or as a result of commissioning activities should be listed and highlighted; and

2.8 Operations and maintenance review and recommendations;

2.9 Dated photo records.

For projects with no alterations to building services in the host building undertaken and no supplementary building services installed by the Applicant:

1. Provide the contractual document from the project owner to confirm that no alternations to the building services provided by the host building have been undertaken and no supplementary building services have been installed.

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
IDCM-01-05_00	BI submission form for IDCM-01-05
IDCM-01-05_01	Commissioning specifications/ clause detailing the commissioning requirements of each system and equipment
IDCM-01-05_02	Organisation chart of the project team with CxA's involvement and a brief description of the commissioning tasks
IDCM-01-05_03	CV of the CxA to demonstrate his/her adequate expertise
IDCM-01-05_03	Endorsed commissioning method statement to demonstrate all tasks in part (b)
IDCM-01-05_05	Endorsed commissioning report to demonstrate all commissioning tasks fulfilling part (c)
IDCM-01-05_06	Undertaking letter from the project's CxA confirming his/her involvement before the start of the schematic design stage, duties and responsibilities of the testing & commissioning process
IDCM-01-05_07	Contractual document confirming no alternations to the building services system have been undertaken in the host building

Remarks

(a) Additional information

The Chartered Institution of Building Services Engineers (CIBSE) – Air distribution systems. CIBSE. Commissioning Code A. [ONLINE] Available at: http://www.cibse.org/

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[Accessed Dec 2021].

Building Services Research and Information Association (BSRIA) – Commissioning air systems. Application procedures for buildings. [ONLINE] Available at: https://www.bsria.co.uk/
[Accessed Dec 2021].

American Society of Heating, Air-conditioning, and Refrigerating Engineers (ASHRAE) – Standard and Guidelines on Commissioning Essentials. [ONLINE] Available at: http://www.ashrae.org/
[Accessed Dec 2021].

Architectural Services Department, Building Services Branch – Testing and Commissioning Procedure. [ONLINE] Available at: https://www.archsd.gov.hk/en/publications-publicity/testing-commissioning-procedure.aspx.
[Accessed Dec 2021].

(b) Related Credits

None

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2	**Integrated Design and Construction Management**	**IDCM-02**	**Green Construction Practices**

IDCM-02-01 Sustainability Champions – Construction

Extent of Application

All Space Types

Objective

Encourage the engagement of BEAM Pro or BAs by the contractors during construction to work collaboratively with the Project BEAM Pro or BAs to monitor the progress towards the targeted construction-related BEAM Plus requirements.

Credit Point(s) Attainable

1 Bonus

Credit Requirement

1 Bonus credit point for at least one (1) accredited BEAM Pro with valid credentials for BI V2.0 is engaged by the fit-out contractor of the project.

Alternatively,

- *1 Bonus credit point for at least two (2) accredited BAs are engaged by the fit-out contractor of the project.*

Assessment

1. The Construction BEAM Pro or BAs shall:

   1.1 Be engaged by the fit-out contractor from the commencement of the respective contract to completion of the certification process;

   1.2 Collaborate with the Project BEAM Pro to monitor the progress towards the targeted rating of BEAM Plus BI V2.0 requirements;

   1.3 Participate in the kick-off meeting and at least one (1) review meeting; and

   1.4 Check and ensure that the fit-out activities-related submission materials comply with requirements of attempted credits in the BI V2.0 Manual. The Construction BEAM Pro or BAs may also assume other roles in the construction team of the project.

2. Demonstrate that one (1) Construction BEAM Pro that is employed for the project. The Applicant should provide the qualification details of the appointed Construction BEAM Pro who should maintain valid credential from appointment to completion of the certification process.

3. Provide relevant contract documents highlighting the clause that requires the fit-out contractor to engage related Construction BEAM Pro or BAs.

4. Provide meeting minutes (confidential/ sensitive project information is not required and should be excluded) highlighting the attendance of the Construction BEAM Pro or BAs in the kick-off meeting and at least one (1) review meeting, which shows dedicated efforts made by the Construction BEAM Pro or BAs (if any).

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Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
IDCM-02-01_00	BI submission form for IDCM-02-01
IDCM-02-01_01	Construction BEAM Pro or BAs qualification details
IDCM-02-01_02	A copy of the meeting minutes of the kick-off meeting
IDCM-02-01_03	A copy of the meeting minutes of any one (1) of the review meetings

Remarks

(a) Additional Information

Hong Kong Green Building Council publishes the latest registers of BEAM Professionals and BEAM Affiliates on its website. [ONLINE] Available at: https://practitioner2.hkgbc.org.hk/index.php?r=Beam/Directory [Accessed Dec 2021]

(b) Related Credits

IDCM-00-01 Sustainability Champions – Project

The related credit encourages the engagement of BEAM Pro or BAs to facilitate the application for the BEAM Plus certification process and to ensure the compliance of relevant requirements of the BEAM Plus.

IDCM-01-01 Sustainability Champions – Design

The related credit encourages the engagement of BEAM Pro or BAs engaged by respective core design disciplines so as to integrate BEAM Plus standards and practices into the planning, design and construction of the building.

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2 Integrated Design and Construction Management **IDCM-02 Green Construction Practices**

IDCM-02-02 Measures to Reduce Site Emissions

Extent of Application All Space Types

Objective Minimise nuisance to the immediate neighbourhood caused by air, noise and chemical usage during construction and fit-out activities.

Credit Point(s) Attainable 3

Credit Requirement

(a) Minimisation of Air Pollution

1 credit point for implementing mitigation measures to minimise air pollution during the entire fit-out period.

(b) Minimisation of Noise Pollution

1 credit point for implementing mitigation measures to minimise noise pollution during the entire fit-out period.

(c) Minimisation of Chemical Waste

1 credit point for implementing mitigation measures to minimise pollution from chemical waste during the entire fit-out period.

Assessment

(a) Minimisation of Air Pollution

1. Provide a summary report to demonstrate the following:

   1.1. Implementation of mitigation measures [1] to minimise air pollution throughout the entire fit-out period; and

   1.2. There are no convictions or complaints about air emissions from the site that have been upheld by the Environmental Protection Department or police leading to an issue of a fine or prosecution.

2. Provide a declaration letter stating that no written complaints have been received during the entire fit-out period.

(b) Minimisation of Noise Pollution

1. Provide a summary report to demonstrate the following:

   1.1. Implementation of mitigation measures [2] to minimise noise pollution throughout the entire fit-out period; and

   1.2. There are no convictions or complaints about noise emissions from the site that have been upheld by the Environmental Protection Department or police, leading to an issue of a fine or prosecution.

2. Provide a declaration letter stating that no written complaints have been received during the entire fit-out period.

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(c) Minimisation of Chemical Waste

1. Provide a summary report to demonstrate the following:

   1.1. Implementation of mitigation measures [3] to minimise chemical wastes throughout the fit-out period; and

   1.2. There are no convictions or complaints about hazards arising from chemical waste in the site that have been upheld by the Environmental Protection Department or police, leading to an issue of a fine or prosecution during the entire fit-out period.

2. Provide a declaration letter stating that no written complaint received during the entire fit-out period.

The report(s) shall be reviewed and endorsed by the Construction BEAM Pro/ BAs or Project BEAM Pro/BAs.

Submittals

(a) Minimisation of Air Pollution

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
IDCM-02-02a_00	BI submission form for IDCM-02-02a
IDCM-02-02a_01	A summary report demonstrating the monthly implementation of air minimisation
IDCM-02-02a_02	Declaration letter stating that no written complaints have been received during the fit-out period

(b) Minimisation of Noise Pollution

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
IDCM-02-02b_00	BI submission form for IDCM-02-02b
IDCM-02-02b_01	A summary report demonstrating the monthly implementation of noise minimisation
IDCM-02-02b_02	Declaration letter stating that no written complaints have been received during the fit-out period

(c) Minimisation of Chemical Waste

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
IDCM-02-02c_00	BI submission form for IDCM-02-02c
IDCM-02-02c_01	A summary report demonstrating the monthly implementation of chemical waste minimisation
IDCM-02-02c_02	Declaration letter stating that no written complaints have been received during the fit-out period

Remarks

(a) Additional Information

[1] Environmental Protection Department, Pollution Problems & Practical Solutions: Air [ONLINE] Available at: https://www.epd.gov.hk/epd/english/greenproperty/poll_pro/popup_ren_air.html
[Accessed Dec 2021].

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[2] Environmental Protection Department, Pollution Problems & Practical Solutions: Noise [ONLINE] Available at: https://www.epd.gov.hk/epd/english/greenproperty/poll_pro/popup_ren_noise.html
[Accessed Dec 2021].

[3] Environmental Protection Department, Pollution Problems & Practical Solutions: Waste and Water [ONLINE] Available at: https://www.epd.gov.hk/epd/english/greenproperty/poll_pro/popup_ren_wastewater.html
[Accessed Dec 2021].

Hong Kong Construction Association. Best Practice Guide for Environmental Protection on Construction Sites. [ONLINE] Available at: https://www.hkca.com.hk/publications
[Accessed Dec 2021].

Environmental Protection Department. A guide to the chemical waste control scheme [ONLINE] Available at: https://www.epd.gov.hk/epd/sites/default/files/epd/english/environmentinhk/waste/guide_ref/files/guide_e.pdf
[Accessed Dec 2021].

Environmental Protection Department, Quality Powered Mechanical Equipment (QPME) system. [ONLINE] Available at: http://www.epd.gov.hk/epd/english/environmentinhk/noise/qpme/index.html
[Accessed Dec 2021].

(b) Related Credits

IDCM-02-03 Construction and Demolition Waste Recycling

The related credit encourages best practices in the management of construction resources consumption, including waste reduction.

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2	**Integrated Design and Construction Management**	**IDCM-02**	**Green Construction Practices**
		IDCM-02-03	**Construction and Demolition Waste Recycling**

Extent of Application

All Space Types

Objective

Encourage best practices in the management of construction resource consumption, including waste reduction.

Credit Point(s) Attainable

1 + 2 Bonus

Credit Requirement

(a) Waste Management Plan

1 credit point for demonstrating compliance with the Waste Management Plan (WMP) and the application of proactive waste management provisions during the entire fit-out period.

(b) Construction Waste Recycling

1 to 2 additional Bonus credit points for demonstrating recycling at least 10% or 30% of waste arising from fit-out activities.

Assessment

(a) Waste Management Plan

1. Prepare a WMP demonstrating waste management and recycling works have been considered within the assessment boundary during the entire fit-out period. Proactive waste management provisions shall refer to the Good Housekeeping Checklist in Appendix 8.2 of Hong Kong Construction Association's Best Practice Guide for Environmental Protection on Construction Sites [1].

2. The WMP shall be reviewed and endorsed by the Construction BEAM Pro/ BAs or Project BEAM Pro/ BAs.

(b) Construction Waste Recycling

1. Provide a summary report (with monthly breakdown) to demonstrate the implementation as stipulated in the WMP covering the entire fit-out period and include the following items as minimum:

    1.1. Waste flow table (see prescribed form);

    1.2. All waste and recycling records; and

    1.3. Collection organisation/ recycler information.

2. Provide a summary of the percentage of recycled construction waste (either by weight or by volume), prepared and declared by the contractor.

Beta

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Submittal **(a) Waste Management Plan**

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
IDCM-02-03a_00	BI submission form for IDCM-02-03a
IDCM-02-03a_01	Endorsed waste management plan

(b) Construction Waste Recycling

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
IDCM-02-03a_00	BI submission form for IDCM-02-03b
IDCM-02-03b_01	Summary report on the implementation of waste management and recycling
IDCM-02-03b_02	Summary of the percentage of recycled construction waste

Remarks **(a) Additional Information**

[1] Hong Kong Construction Association (HKCA), Best Practice Guide for Environmental Protection on Construction Sites. [ONLINE]. Available at: https://www.epd.gov.hk/epd/english/greenconstruction/links/links.html [Accessed Dec 2021].

(b) Related Credits

None

Beta

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2	**Integrated Design and Construction Management**	**IDCM-02**	**Green Construction Practices**
		IDCM-02-04	**Construction IAQ Management**

Extent of Application

All Space Types

Objective

Reduce the potential of indoor air quality problems resulting from fit-out activities, for the benefits of workers, and adjacent neighbours.

Credit Point(s) Attainable

2

Credit Requirement

1 credit point for implementing a Construction IAQ Management Plan for adequate mitigation measures that reduce IAQ impacts arising from fit-out activities.

1 credit point for undertaking flush-out and replacement of all filters that are under the Applicant's control within the normally occupied assessment boundary prior to occupancy.

For the assessment boundary of which the primary air unit/ air handling unit/ fresh air unit is not under the Applicant's control:

1 credit point for providing an IAQ (Good Class) report of the assessment boundary endorsed by an accredited IAQ Certificate Issuing Body (CIB).

Assessment

1. Provide a Construction IAQ Management Plan that includes the following content:
    - 1.1. An overview of tasks to be executed;
    - 1.2. A list of reference documents, including environmental legislation and guidelines;
    - 1.3. A list of participants in the process and their responsibilities;
    - 1.4. A plan for management, communication and documentation;
    - 1.5. Construction IAQ management plan control measures on: HVAC&R system and components protection, contaminant source control, interruption of moisture/ pollutant pathways, housekeeping, scheduling;
    - 1.6. Monitoring and auditing of implementation;
    - 1.7. In the event that HVAC&R system, building components or air pathways have not been adequately protected, cleaning procedures have to be employed prior to occupancy;
    - 1.8. A schedule of activities; and
    - 1.9. Emergency procedures including the labour, materials and time required for implementation.
2. Provide a summary report demonstrating the effective implementation of the Construction IAQ Management Plan during the indoor construction/ fit-out

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activities period. A master programme shall also be included. The summary report shall include the following:

i. Measures taken to schedule delivery, store, protect and install absorptive materials in order to minimise exposure to moisture and airborne contaminants;

ii. Protection measures for fixed HVAC&R systems and equipment;

iii. Source control of pollutants from materials such as sealants and paints;

iv. Isolation of areas of work to prevent contamination of adjacent clean or occupied spaces;

v. Exhausting of contaminants to outside air where appropriate;

vi. Cleaning activities during construction;

vii. Replacement of appropriate filter media upon completion;

viii. Implementation of pre-occupancy flush-out.

2.1 The report shall be reviewed and endorsed by the Construction BEAM Pro/ BAs or Project BEAM Pro/ BAs.

3. Provide a “flush-out” report to demonstrate:

i. Technical information of the filtration media being used during construction and prior to occupancy;

ii. Details of building flush-out procedures including actual dates of flush-out;

iii. The filtration media being used has a Minimum Efficiency Reporting Value (MERV) of 13 as determined by ANSI/ASHRAE 52.2-2012 or equivalent performance specification;

iv. A flush-out with new filtration media is carried out after the completion of construction and prior to occupancy;

v. Flushing duration as defined by the calculation of fresh air, is required to attain the IAQ Certification Scheme Good Class requirements;

vi. No construction work is done in the vicinity of the space during flushing out;

vii. The space is protected against any recontamination after flushing out; and

viii. Replacement of appropriate filter media upon completion.

3.1 The report(s) shall be reviewed and endorsed by the Construction BEAM Pro/ BAs or Project BEAM Pro/ BAs.

For the assessment boundary of which the primary air unit/ air handling unit/ fresh air unit is not under the Applicant's control:

1. Conduct air measurement conforming to IAQ Certification Scheme Good Class

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level. Sampling criteria, period and points should follow the latest guide on Indoor Air Quality Certification Scheme for Offices and Public Places [1].

2. Provide an IAQ report of the assessment boundary endorsed by an accredited IAQ Certificate Issuing Body (CIB).

Submittal

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
IDCM-02-04_00	BI submission form for IDCM-02-04
IDCM-02-04_01	Construction IAQ management plan for indoor construction within the project space
IDCM-02-04_02	A summary report demonstrating the implementation of the construction IAQ management plan during the indoor construction period
IDCM-02-04_03	Report on flush-out and/ or filter replacement with dated photo record(s)
IDCM-02-04_04	HVAC drawings
IDCM-02-04_05	IAQ measurement report endorsed by an accredited IAQ CIB (for the primary air unit/ air handling unit/ fresh air unit is not under the Applicant's control)

Remarks

(a) Additional Information

[1] Hong Kong Environmental Protection Department – Indoor Air Quality Information Centre. A Guide on Indoor Air Quality Certification Scheme for Offices and Public Places. [ONLINE] Available at: https://www.iaq.gov.hk/en/publications-and-references/guidance-notes.aspx
[Accessed Dec 2021]

American Society of Heating, Refrigerating and Air-conditioning Engineers (ASHRAE) – ANSI/ASHRAE Standard 52.2-2012. Method of Testing General Ventilation Air-cleaning Devices for Removal Efficiency by Particle Size. [ONLINE] Available at: www.ashrae.org
[Accessed Dec 2021]

(b) Related Credits

None

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2	**Integrated Design and Construction Management**	**IDCM-02**	**Green Construction Practices**
		IDCM-02-05	**Construction Safety/ Considerate Construction**

Extent of Application

All Space Types

Objective

Encourage development of systematic safety management plan that embraces the safety and health of the workers and neighbours.

Credit Point(s) Attainable

1

Credit Requirement

1 credit point for implementing a Safety Management Plan for fit-out activities and reviewing and updating the content where necessary.

Assessment

1. Provide a Safety Management Plan that includes the following:

    1.1. Person-in-charge and emergency contact;
    1.2. Hazard / risk identification;
    1.3. Public protection controls (e.g. prevent unauthorised access, falling debris);
    1.4. Hazard control methods;
    1.5. Site inspection programme;
    1.6. Common plant and equipment used;
    1.7. Accident/ incident investigation procedures;
    1.8. Promotion & training;
    1.9. Personal protection equipment used;
    1.10. Emergency preparedness; and
    1.11. Evaluation, selection and control of the sub-contractors, etc.

2. Provide a summary report/ logbook/ site diary/ similar daily monitoring record demonstrating an effective implementation of the Safety Management Plan during the entire fit-out activities period. A master programme shall also be included.

3. Provide a report demonstrating the implementation of considerate measures to (a) neighbourhood, passers-by, and (b) workers during fit-out activities; and the application of corrective actions to avoid continuous dissatisfaction/ non-compliance of any item(s). Considerate measures shall refer to the assessment criteria as recommended by “Being Considerate to Neighbourhood and Passers-by” and “Care of Workers and Others” in the Considerate Contractors Site Award Scheme Guidelines. [1], [2]

4. The report(s) shall be reviewed and endorsed by the Construction BEAM Pro/ BAs or Project BEAM Pro/ BAs.

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Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
IDCM-02-05_00	BI submission form for IDCM-02-05
IDCM-02-05_01	Safety management plan
IDCM-02-05_02	A summary report of implementation of the safety management plan during the entire fit-out period **[or]** Logbook with monitoring records and/ or maintenance records
IDCM-02-05_03	A report demonstrating the implementation of considerate measures to (a) neighbourhood, passers-by, and (b) workers during fit-out activities

Remarks

(a) Additional Information

[1] Development Bureau and Construction Industry Council. Considerate Contractors Site Award Scheme Guideline for Non-Public Works Site Participation, Appendix V Scope of Assessment Criteria. [ONLINE] Available at: https://www.devb.gov.hk/filemanager/en/content_175/28th_CCSAS_Non_Public_Works_Guidelines_Eng_r2.pdf
[Accessed Dec 2021].

[2] Development Bureau and Construction Industry Council. Considerate Contractors Site Award Scheme Guideline for Public Works Site Participation, Appendix V Scope of Assessment Criteria. [ONLINE]. Available at: https://www.devb.gov.hk/filemanager/en/content_175/28th_CCSAS_Public_Works_Guidelines_Eng_r2.pdf
[Accessed April 2021].

Labour Department – Occupational Safety and Health Management in Renovation and Maintenance Works for the Property Management Industry. [ONLINE] Available at: https://www.labour.gov.hk/eng/public/os/D/pm_renovation.pdf
[Accessed Dec 2021].

Labour Department – Code of Practice on Safety Management. [ONLINE] Available at: https://www.labour.gov.hk/eng/public/os/manage.pdf
[Accessed Dec 2021].

Labour Department – Safety Hints on Renovation Work. [ONLINE] Available at: https://www.labour.gov.hk/eng/public/os/D/Renovation.pdf
[Accessed Dec 2021].

Labour Department – A Casebook of Occupational Fatalities related to Renovation and Maintenance Works. [ONLINE] Available at: https://www.labour.gov.hk/eng/public/os/D/CaseBook.pdf
[Accessed Dec 2021].

(b) Related Credits

None

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2 Integrated Design and Construction Management

IDCM-02 Green Construction Practices

IDCM-02-06 Building Management Manuals

Extent of Application

All Space Types

Objective

Encourage the provision of a fully documented operations and maintenance manual to enable facility management to implement the design intent and a fully documented energy management manual containing instructions that enable systems to operate at a high level of energy efficiency.

Credit Point(s) Attainable

2

Credit Requirement

(a) Operation and Maintenance Manual Development and Storage

1 credit point for preparing operation and maintenance (O&M) manuals for building services systems and equipment, which are installed by the Applicant within the assessment boundary and demonstrating that the manuals have been stored in a local device drive or an electronic platform.

(b) Stakeholder Orientation

1 credit point for organising an orientation tour by the Applicant for all applicable stakeholders demonstrating the appropriate use of the maintenance facilities.

Assessment

(a) Operation and Maintenance Manual Development and Storage

1. Provide an O&M manual covering the following systems as a minimum:

    1.1. Heating, ventilating, air conditioning and refrigeration (HVAC&R) systems and associated controls;
    1.2. Lighting systems and associated controls;
    1.3. Energy monitoring systems (if any);
    1.4. Renewable energy system (if any); and
    1.5. Hot water system (if any).

Note: Only systems installed by the Applicant and serving the project space are assessed.

2. The O&M manual shall include the following:

    2.1. List of person in charge;
    2.2. List of all systems;
    2.3. The design intent;
        2.3.1. Space temperature and humidity criteria (also refer to the section on HWB);
        2.3.2. Levels operator and/ or occupant's control over HVAC&R systems;
        2.3.3. Ventilation requirements and related indoor air quality criteria (also refer to the section on HWB);
        2.3.4. Performance criteria related to energy efficiency;
        2.3.5. Environmental responsiveness of the facility; and
        2.3.6. Commissioning criteria.

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2.4. The basis of design;
  2.4.1. Details of occupancy;
  2.4.2. Space activity and any process requirements;
  2.4.3. Applicable regulations, codes, and standards;
  2.4.4. Design assumptions;
  2.4.5. Performance standards and benchmarks; and
  2.4.6. Control system appropriate for the skill of the operations and maintenance staff.
2.5. The name and contact information of the manufacturer or vendor and installing contractor; and
2.6. As-built documentation package.
  2.6.1. Control drawings and schematics; and
  2.6.2. Endorsed testing and commissioning records.
2.7. The O&M manual shall be reviewed and endorsed by the owner representative(s).

3. Provide dated photo record(s) demonstrating the path of digital O&M Manual to be stored. It can be in PDF format with table of contents linked to respective sections for easy navigation. Scanned PDF images are not accepted.

Note: In an event that the host building operator provides maintenance service for the entire Building Services installation (excluding Fire Services), the Applicant shall submit the information, including the contract, scope of work, programme, schedule, and maintenance method statements to attain this credit.

(b) Stakeholder Orientation

1. Carry out the guided orientation tour by the appointed facility management staff or the Applicant representative(s).

2. The guided orientation tour shall cover below items as minimum:

  2.1. Typical operation examples of each system;
  2.2. Start-up and shutdown procedures;
  2.3. Operation under all specified modes of control and sequences of operation; and
  2.4. Procedures under emergency or abnormal conditions.

3. Evidence of carrying out the guided orientation tour (e.g. record of attendance, dated photo record(s)) is required.

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Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
IDCM-02-06_00	BI submission form for IDCM-02-06
IDCM-02-06_01	Digital operation and maintenance manual
IDCM-02-06_02	Dated photo record(s) demonstrating the path of digital O&M manual to be stored
IDCM-02-06_03	Evidence of the orientation tours that have been carried out

Remarks

(a) Additional Information

None

(b) Related Credits

None

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2	**Integrated Design and Construction Management**	**IDCM-02**	**Green Construction Practices**
		IDCM-02-07	**Operator Training plus Chemical Storage and Mixing Room**

This credit head is not applicable under BI V2.0.

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2	**Integrated Design and Construction Management**	**IDCM-03**	**Smart Design and Technologies**
		IDCM-03-01	**Digital Facility Management Interface**

This credit head is not applicable under BI V2.0.

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2	**Integrated Design and Construction Management**	**IDCM-03**	**Smart Design and Technologies**
		IDCM-03-02	**Occupant Engagement Platform**

This credit head is not applicable under BI V2.0.

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2	**Integrated Design and Construction Management**	**IDCM-03**	**Smart Design and Technologies**
		IDCM-03-03	**Document Management System**

This credit head is not applicable under BI V2.0.

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2	**Integrated Design and Construction Management**	**IDCM-03**	**Smart Design and Technologies**
		IDCM-03-04	**BIM Integration**

This credit head is not applicable under BI V2.0.

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

IDCM-04-01 Design for Engagement and Education on Green Buildings

This credit head is not applicable under BI V2.0.

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3 Management

This section focuses on the green and healthy management of the interior spaces which maximises the opportunities for the best practices of occupancy health and safety. An effective communication enables building occupants to adapt to the new interior spaces and reduce avoidable environmental impacts.

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3 Management **MAN-00** **Basic Requirement**

MAN-00-01 **Green Purchasing Plan**

This credit head is not applicable under BI V2.0.

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3 Management **MAN-01** **EHS and Energy Management**

MAN-01-01 **EHS and Energy Management System**

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3 Management MAN-02 ESG Disclosure

MAN-02-01 Environmental, Social and Governance (ESG) Disclosure

This credit head is not applicable under BI V2.0.

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3 Management **MAN-03** **Staff Training**

MAN-03-01 **Staff Training and Resources**

This credit head is not applicable under BI V2.0.

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3 Management **MAN-03** **Operation and Maintenance**

MAN-03-02 **Building and Site Operation and Maintenance**

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3 Management **MAN-03** **Operation and Maintenance**

MAN-03-02 **Building Services Operation and Maintenance**

This credit head is not applicable under BI V2.0.

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

MAN-04-01 Green Lease and Long-Term Lease

Extent of Application All Space Types

Objective Encourage selection of the host building that adopts long-term lease or green lease terms to conserve natural resources and reduce waste and associated environmental impacts in the same location.

Credit Point(s) Attainable 2 Bonus

Credit Requirement

(a) Green Lease

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

(b) Long-Term Lease

1 Bonus credit point for demonstrating the fixed lease period is at least 3 years.

Assessment

(a) Green Lease

1. Provide a copy of certified true copy of the green lease agreement.

2. Provide evidence/ a report demonstrating that the project owner has been implemented green actions/ green lease terms as required by the green lease.

(b) Long-Term Lease

1. Provide a copy of certified true copy of the lease agreement for the prescribed duration.

Note: Leasing period shall mean the fixed term period of the lease. For example, a 2+2 lease, with a two (2) year fixed period, and a two (2) year optional period does NOT fulfil the requirement.

Alternatively,

- *If the project owner is also the building owner, the landlord or a related company, a letter signed by a director from the building owner shall be submitted which clearly states the occupation commitment for the prescribed duration.*

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
MAN-04-01_00	BI submission form for MAN-04-01
MAN-04-01_01	A copy of certified true copy of the green lease/ long-term lease agreement **[or]** Undertaking letter by a director from the building owner clearly stating the occupation commitment for the prescribed duration
MAN-04-01_02	An implementation report in accordance with the green lease (if applicable)

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Remarks

(a) Additional Information

None

(b) Related Credits

None

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

MAN-04-02 **Green Cleaning**

Extent of Application All Space Types

Objective Encourage environmentally friendly cleaning products and procedures.

Credit Point(s) Attainable 1 Bonus

Credit Requirement 1 Bonus credit point for demonstrating the implementation of appropriate green cleaning procedures/ practices for the assessment boundary.

Assessment

1. Demonstrate the adoption of lower toxicity cleansing agents and procedures for cleaning each area of the interior spaces.

2. Provide a green cleaning procedure manual that covers the handling and disposal of waste resulting from cleansing activities. The manual shall include the following topics:

    2.1 Responsible person
    2.2 Materials:
        2.2.1 Product purchase records, delivery notes;
        2.2.2 Product catalogues/ data sheet/ material hazard data sheets (if applicable);
        2.2.3 Toxic/ pesticide/ herbicide (if applicable);
        2.2.4 Chemical handling safety (if applicable); and
        2.2.5 Dated photo record(s) for all cleaning products.
    2.3 Green cleaning procedures:
        2.3.1 Method statements for all routine cleaning including floors, carpet, walls, doors, partitions, windows, furniture, desks, chairs, telephones, air filters, AC units, electronic equipment, etc. in the project interior spaces;
        2.3.2 Method statements for purchase, preparation, dilution, mixing, decanting, handling, spillage, and disposal of waste;
        2.3.3 Record keeping;
        2.3.4 Equipment operation and maintenance;
        2.3.5 Training and communication; and
        2.3.6 Dated photo record(s) of cleaning procedures conducted.
    2.4 Cleansing Records
        2.4.1 Log book/ endorsed daily records.

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Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
MAN-04-02_00	BI submission form for MAN-04-02
MAN-04-02_01	Green cleaning procedure manual
MAN-04-02_02	Manufacturer's data, data sheet with hazardous and non-hazardous product purchase notes, delivery notes, hazard data sheets, etc.
MAN-04-02_03	Dated photo record(s) showing all cleaning products, cleaning activities, handling procedures, waste handling, etc.
MAN-04-02_04	Procedures for keeping records, with method statements, logbook
MAN-04-02_05	Procedures for staff training and training records
MAN-04-02_06	Logbook with monitoring records and/ or maintenance records

Remarks

(a) Additional Information

None

(b) Related Credits

None

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

MAN-04-03 **User Guidance**

Extent of Application All Space Types

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

Credit Point(s) Attainable 1

Credit Requirement 1 credit point for providing a user's guide to encourage and promote environmentally friendly activities within the assessment boundary, including but not limited to local transport, hygiene and environmental practices, sustainable materials selection, energy conservation, indoor environmental quality, water conservation, and waste sorting, etc.

Assessment

1. Provide a user guide for the project spaces that are designed specifically for the occupants, that includes:

    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 (e.g. information, maps and timetables);
        1.3.2 Information on alternative methods of transport (e.g. car sharing schemes; shuttle bus services; electric car rental and charging location, whatever available);
        1.3.3 Hygiene and environmental issues (e.g. green cleaning);
        1.3.4 Materials selection for fit-out (e.g. low VOC products, sustainable timber, reuse of materials);
        1.3.5 Energy issues (e.g. energy efficient operation of air conditioning, lighting and/or hot water system(s), selection of energy efficient appliances);
        1.3.6 Water conservation (e.g. adoption of low flow taps);
        1.3.7 Waste sorting facilities or practices (e.g. details of recyclable waste, location of recycling bins); or
        1.3.8 Indoor environmental quality (e.g. IAQ certification), etc.

2. Effective communication with explanation of the features on the notice board, or electronic board; and

3. Dated photo record(s) demonstrating the compliance of the items as stated in item 1.

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
MAN-04-03_00	BI submission form for MAN-04-03
MAN-04-03_01	User guide showing the responsible person and updating frequency
MAN-04-03_02	Dated photo record(s) showing the included items and notice board/ poster/ electronic board information

Beta

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Remarks

(a) Additional Information

None

(b) Related Credits

None

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3	**Management**	**MAN-04**	**Green and Healthy Management**
		MAN-04-04	**Occupational Health and Safety (OHS)**

Extent of Application

All Space Types

Objective

Interior layout provisions that embrace healthiness and safety.

Credit Point(s) Attainable

2

Credit Requirement

1 to 2 credit points for scoring at least 50% or 70% of the applicable occupational health and safety measures and facilities within the assessment boundary.

Alternatively,

- *2 credit points will be awarded if the assessment boundary has been certified and implemented with ISO 45001 certification.*

Assessment

1. Provide a summary of the percentage of OHS measures and facilities that are provided within the assessment boundary.

Ergonomics:

1.1 Anti-fatigue matting or footrests; [10% of the workstations]
1.2 Desk or tables are rounded corners with no sharp edges; [100% of the workstations]
1.3 Height-adjustable desks; [10% of the workstations]
1.4 Sufficient space below desks; [100% of the workstations]
1.5 Adjustable chairs (height, seat angle, backrest angle, armrest); [100% of the workstations]
1.6 Rotary chairs with five-pronged base; [100% of the workstations]
1.7 Height-adjustable stands for monitor; [50% of the workstations]
1.8 Monitors with built-in height adjustment; [100% of the workstations]
1.9 “Ergonomic” mice; [100% of the workstations]
1.10 Wrist rests; [10% of the workstations]
1.11 Headsets; [10% of the workstations]
1.12 Stretching equipment;
1.13 Others as proposed by the Applicant;

Storage:

1.14 Closed lid bins for all waste storage;
1.15 A distance of 1.2m in front of storage to provide sufficient space for safe movement;
1.16 Safe means of climbing up to storage with a height more than 2m;
1.17 Others as proposed by the Applicant;

Interior Layout:

1.18 No exposed electrical extension cords crossing walkway/ corridor;
1.19 No materials that can easily catch fire left near a heat source; or
1.20 Others as proposed by the Applicant.

Alternatively,

- *Provide a copy of ISO 45001 Certificate and the certification should be valid at the time of project registration for BI V2.0.*

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- *Provide a report demonstrating that the project owner has implemented corresponding actions in accordance with ISO 45001 within the assessment boundary.*

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
MAN-04-04_00	BI submission form for MAN-04-04
MAN-04-04_01	Summary on OHS measures and facilities
MAN-04-04_02	Dated photo record(s) of the provided OHS measures and facilities
MAN-04-04_03	ISO 45001 certificate
MAN-04-04_04	Implementation record of ISO 45001

Remarks

(a) Additional Information

Occupational Safety & Health Council. OSH Tips for PC users. [Online]. Available at: http://www.oshc.org.hk/eng/main/hot/dse/
[Accessed Dec 2021].

The United States Department of Labour. Occupational Safety & Health Administration. Ergonomics. [Online]. Available at:
http://www.osha.gov/SLTC/ergonomics/
[Accessed Dec 2021].

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 Dec 2021].

(b) Related Credits

None

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4 Materials and Waste

In fit-out design of the interior spaces, environmentally sustainable natural resources should be used as materials to a significant extent. Practical considerations should include extracted raw materials, emissions and embodied energy. There are opportunities to reduce environmental impacts through improved design, choice of materials, and installation methods. The following items are of concern:

- Pollutants arising from manufacturing, transportation and operation; and
- Waste generated and recycled.

Encourage to reduce the use of materials through modular designs allowing off-site prefabrication, lean construction methods, etc.; and to reduce waste from a life cycle perspective, including provisions of appropriately designed waste facilities for waste recycling/ recovery/ reuse.

Due to COVID-19, an increasing importance of germ resistance management in the interior spaces, including anti-microbial coating, is anticipated.

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4 Materials and Waste

MW-00 Basic Requirement

MW-00-01 Minimum Waste Handling Facilities

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4 Materials and Waste **MW-01 Use of Materials**

MW-01-01 Building Re-use

Extent of Application All Space Types

Objective Encourage the reuse of major elements of the existing interior spaces, to reduce waste, conserve resources and reduce environmental impacts during fit-out activities.

Credit Point(s) Attainable 6 + 3 Bonus

Credit Requirement

(a) Interior Furniture

1 to 2 credit points for at least 20% or 40% (by mass/ cost/ volume/ number of pieces) of furniture have been reused from salvaged or existing furniture.

1 additional Bonus credit point for at least 60% (by mass/ cost/ volume/ number of pieces) of furniture have been reused from salvaged or existing furniture.

(b) Interior Components

1 to 2 credit points for at least 20% or 40% (by surface area / volume) of interior components (Including walls, glazing, ceilings, doors, flooring and existing wall coverings) have been reused from salvaged or existing components.

1 additional Bonus credit point for at least 60% (by surface area / volume) of interior components (Including walls, glazing, ceilings, doors, flooring and existing wall coverings) have been reused from salvaged or existing components.

(c) Electrical Appliances

1 to 2 credit points for at least 50% or 80% (by number of pieces) of electrical appliances have been reused from salvaged or existing electrical appliances.

1 additional Bonus credit point for 100% (by number of pieces) of electrical appliances have been reused from salvaged or existing electrical appliances.

Percentage of the reuse of the above existing elements(%) should be calculated by below equation:
Reuse of Existing Elements (%) =
(∑ Existing Elements Reused / ∑ Existing Elements) x 100%

Assessment

1. Provide all of the following supporting documents:

   1.1. Outline the extent of reused major elements from the existing interior spaces;

   1.2. Include calculation with details of pre and post fit-out activities, drawings, and supporting documentation; and

   1.3. Demonstrate the percentage calculation (by mass/ cost/ volume/ number of pieces for (a) interior furniture, by surface area / volume for (b) interior components and by number of pieces for (c) electrical

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appliances) of the retained and reused portions of the existing major elements being used in the new interior spaces (equation as outlined above).

2. The unit should be consistent throughout the assessment of this credit. For surface area, only the exposed surface area should be considered in the calculation and the inner area should be excluded.

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
MW-01-01_00	BI submission form for MW-01-01
MW-01-01_01	Pre and post construction details, structural drawings that demonstrate the re-use of interior components
MW-01-01_02	Pre and post schedule of interior furniture and electrical appliances that demonstrate the re-use of the interior furniture and electrical appliances
MW-01-01_03	Calculation showing the percentage of interior furniture, interior components and electrical appliances being reused

Remarks

(a) Additional Information

None

(b) Related Credits

None

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4	**Materials and Waste**	**MW-01**	**Use of Materials**
		MW-01-02	**Modular and Standardised Design**

Extent of Application

All Space Types

Objective

Encourage the increased use of modular and standardised components in interior design in order to enhance buildability and to reduce waste.

Credit Point(s) Attainable

2

Credit Requirement

1 credit point for preparing a narrative that demonstrates a proactive approach in designing modular elements of the newly installed major elements and modules within the assessment boundary.

1 additional credit point for designing modular elements which contribute 25% or more (by mass/ cost/ surface area /volume) of the newly installed major elements and modules within the assessment boundary.

The following items should be included in the assessment (if applicable):

i) Partition;
ii) Wall;
iii) Ceiling;
iv) Door;
v) Raised floor; and
vi) Carpet tile.

Total quantity of modular design (%) of each of the above items should be calculated by below equation:

Modular Design (%) =
(∑ Modular Elements / ∑ Newly Installed Items)x 100%

Assessment

1. Provide all of the following supporting documents:

    1.1. A narrative that demonstrates a proactive approach in designing modular elements of the newly installed major elements and modules within the assessment boundary;

    1.2. Drawings or dated photo record(s) or other information to highlight the extent of application of modular and standardised design of elements and newly installed items; and

    1.3. Demonstrate that the quantity (by mass/ cost/ surface area /volume) of major elements and modules that are prescribed modular and standardised design elements and modules.

2. The unit should be consistent throughout the assessment of this credit. For surface area, only the exposed surface area should be considered in the calculation and the inner area should be excluded.

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Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
MW-01-02_00	BI submission form for MW-01-02
MW-01-02_01	A narrative, with drawings or dated photo record(s) or other information, that demonstrates a proactive approach in designing modular elements of the newly installed major elements and modules within the assessment boundary
MW-01-02_02	Calculation showing the percentage of major elements and modules that are prescribed modular and standardised design elements and modules

Remarks

(a) Additional Information

Reference format of narrative:

#	Item	Description on Adoption of Modular and Standardised Design	Supporting in Form of Drawings/ Dated Photo Records / Other Information
1	Partition	e.g. standardisation of size/ assembly method/ manufacturing method	
2	Wall		
3	Ceiling		
4	Door		
5	Raised Floor		
6	Carpet Tile		

British Standards Institution. British Standard BS 6750. Specification for Modular coordination in building (1986) provides background on the requirements for modular coordination. Use of modular and standardised components in interior design can:

i) Facilitate cooperation among the occupants, interior designer and other project team members;
ii) Allows a flexible response to the occupant's requirements and individual needs, since modular elements being produced in standard ranges of sizes can be interchanged;
iii) Buildability can be enhanced since site operations can be simplified; and
iv) Reduce waste generated due to cutting to fit.

(b) Related Credits

None

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4 Materials and Waste

MW-01 Use of Materials

MW-01-03 Prefabrication

This credit head is not applicable under BI V2.0.

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4 Materials and Waste **MW-01 Use of Materials**

MW-01-04 Design for Durability and Resilience

Extent of Application All Space Types

Objective Encourage material selection to minimise the frequency of replacement and maximise materials optimisation.

Credit Point(s) Attainable 1

Credit Requirement 1 credit point for preparing a narrative that demonstrates a proactive approach to evaluate the durability of the building materials with at least three (3) of following items.

i) Timber door set (fire rated door);
ii) Panel wall for partition;
iii) Ceramic tile (floor tiles and wall tile);
iv) Drainage uPVC pipe and fitting;
v) Paint;
vi) Close-coupled water closet suite; or
vii) Other items may be proposed at the discretion of the Applicant.

Assessment

1. Provide all of the following supporting documents:

1.1. A narrative that demonstrates a proactive approach in building material selection with suitable durability that minimises the necessary refurbishment or renewal and prevents excessive material use;

1.2. Drawings, catalogues, certificates or other information to demonstrate the quality assurance or the service life of the building materials; and

1.3. The building material should be either certified by a specified product certification scheme of a certification body with accreditation of Hong Kong Accreditation Service (HKAS) or equivalent and issued with an accredited certificate bearing a Hong Kong Certification Body Accreditation Scheme (HKCAS) accreditation symbol or a statement on the certificate or supported by supplier warranty to show the durability of the material

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
MW-01-04_00	BI submission form for MW-01-04
MW-01-04_01	A narrative, with drawings, catalogues, certificates or other information, that demonstrates a proactive approach in building material selection with suitable durability that minimises the necessary refurbishment or renewal and prevents excessive material use

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Remarks

(a) Additional Information

Hong Kong Council for Testing and Certification – Local Product Certification Schemes for Construction Materials [ONLINE]. Available at: https://www.hkctc.gov.hk/en/tcsector/ba/construction_product_cert.html [Accessed Dec 2021].

Hong Kong Housing Authority - Construction Product Certification [ONLINE]. Available at: https://www.housingauthority.gov.hk/en/business-partnerships/resources/construction-product-certification/index.html [Accessed Dec 2021].

Reference format of narrative:

#	Item	Description on Design for Durability and Resilience	Supporting documents in the form of Drawings/ Catalogues / Certificates/ Other Information
1	Timber door set (fire rated door)	e.g. Use of certified product with longer life-cycles of products can contribute positively to the LCA (Life Cycle Assessment) balance.	Certificate/ Warranty by the supplier confirming that the product has been certified by a specified product certification scheme of a certification body with accreditation of Hong Kong Accreditation Service (HKAS) and issued with an accredited certificate bearing a Hong Kong Certification Body Accreditation Scheme (HKCAS) accreditation symbol.
2	Panel wall for partition		
3	Ceramic tile (floor tile and wall tile)		
4	Drainage uPVC pipe and fitting		
5	Paint		
6	Close-coupled water closet suite		

(b) Related Credits

None

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4 Materials and Waste **MW-01 Use of Materials**

MW-01-05 Design for Maintainability

Extent of Application All Space Types

Objective Encourage specific measures to minimise the occurrence of defects and the expenditure of man-hours and materials to fulfil the maintenance needs during the lifecycle the of interior spaces.

Credit Point(s) Attainable 1

Credit Requirement 1 credit point for preparing a narrative that demonstrates a proactive approach in evaluating the maintainability of the building materials with at least three (3) of the following items.

i) Panels/ partition;
ii) Flooring;
iii) Cabinetry/ fitting;
iv) Insulation;
v) Furniture;
vi) Light fitting;
vii) Plumbing and drainage;
viii) Air terminal;
ix) Louvre; or
x) Other items may be proposed at the discretion of the Applicant.

Assessment

1. Provide all of the following supporting documents:

1.1. A narrative that demonstrates a proactive approach in building material selection and interior design with suitable maintainability to encourage design and operation approaches that facilitate easy infection and repair of defective parts to fulfil the maintenance needs during the lifecycle of the interior spaces. The following issues should be addressed:

1.1.1. Forecast maintenance;
1.1.2. Access for maintenance;
1.1.3. Minimising maintenance interventions; and
1.1.4. Enabling simple maintenance.

1.2. Drawings, catalogues, certificates or other information to demonstrate ability to accommodate the needs of maintenance.

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
MW-01-05_00	BI submission form for MW-01-05
MW-01-05_01	A narrative, with drawings, catalogues, certificates or other information, that demonstrates a proactive approach in building material selection and interior design with suitable maintainability that minimises the occurrence of defects and the expenditure of man-hours and materials to fulfil the maintenance needs during the lifecycle of the interior spaces

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(a) Additional Information

The Building and Construction Authority (BCA) - Design for Maintainability [ONLINE]. Available at: https://www1.bca.gov.sg/buildsg/facilities-management-fm/design-for-maintainability
[Accessed Dec 2021].

Reference format of narrative:

#	Item	Description on Design for Maintainability	Supporting documents in the form of Drawings/ Catalogues / Certificates/ Other Information
1	Panels/ partition		
2	Flooring		
3	Cabinetry/ fitting		
4	Insulation		
5	Furniture		
6	Light fitting		
7	Plumbing and drainage		
8	Air terminal		
9	Louvre		

(b) Related Credits

None

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4 Materials and Waste **MW-01 Use of Materials**

MW-01-06 Germ-resistance Management

Extent of Application All Space Types

Objective Encourage implementation of germ-resistance management to keep the interior spaces clean and reduce potential spread of germ.

Credit Point(s) Attainable 3

Credit Requirement

(a) Moisture Management

1 credit point for implementing measures to reduce the potential of moisture occurrence and accumulation.

(b) Anti-microbial High Touch Surface

1 credit point if all high touch surfaces within the access route of the assessment boundary, including handles/ doorknobs of entrance doors and toilets, switches of common spaces lighting and countertops of the main entrance, are coated with or comprised of or sprayed with material that is abrasion-resistant, non-leaching and antimicrobial like copper, brass and plexiglass.

(c) Anti-microbial Wall Surface

1 credit point if at least 50% of the wall surface has applied anti-microbial paint or coating.

Percentage of the application of anti-microbial wall surface (%) should be calculated by below equation:
Application of Anti-Microbial Wall Surface (%) =
(∑ Wall Surface With Anti-Microbial Paint or Coating / ∑ Wall Surface) x 100%

Assessment

(a) Moisture Management

1. Demonstrate the adoption of measures (if applicable) for moisture management.

2. The adopted measures for moisture management should be related to the following aspects:

   2.1. Control liquid water through prevention of plumbing leak and facilitate leak detection and repairing;

   2.2. Design plumbing systems to prevent condensation on cold water lines and fixtures;

   2.3. Use moisture tolerant materials;

   2.4. Design exterior walls to be sufficiently airtight to limit water vapor migration by air flow, or strategic enhancement of natural ventilation to reduce moisture content; and

   2.5. Additional or alternative measure(s) proposed by the Applicant with

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substantiation demonstrating strategies compatible with the listed strategies for achieving the credit objective.

3. Prepare a technical report detailing the following items:

   3.1. List of each adopted measures for moisture management;

   3.2. Detailed description of each adopted measures and explanation on how it could prevent condensation on cold surfaces; and

   3.3. Evidence showing the adoption of measures including drawings, catalogues, certificates, dated photo record(s) or other information, etc.

(b) Anti-microbial High Touch Surface

1. Demonstrate that all high touch surfaces within access route of the assessment boundary, including handles/ doorknobs of entrance doors and toilets, switches of common spaces, lighting and countertops of the main entrance, are coated with or comprised of or sprayed with material that is abrasion-resistant, non-leaching and antimicrobial, like copper, brass and plexiglass.

2. Prepare a technical report detailing the following items:

   2.1. Layout plan identifying the concerned high touch surfaces within the access route of the assessment boundary; and

   2.2. Evidence showing the concerned high touch surfaces within the access route of the assessment boundary are coated with or comprised of or sprayed with material that is abrasion-resistant, non-leaching and antimicrobial, like copper, brass and plexiglass. Evidence includes catalogues, valid test reports at the time of the first submission of Final Assessment of BI V2.0 certification, dated photo record(s) or other information, etc.

(c) Anti-microbial Wall Surface

1. Provide all of the following supporting documents:

   1.1. Outline the extent of wall surface with anti-microbial paint or coating;

   1.2. Demonstrate the percentage calculation of wall surface area with anti-microbial paint or coating in the new interior spaces; and

   1.3. Evidence includes catalogues, valid test reports at the time of the first submission of Final Assessment of BI V2.0 certification, dated photo record(s) or other information, etc.

2. Only the exposed surface area should be considered in the calculation and the inner area should be excluded.

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Submittals

(a) Moisture Management

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
MW-01-06a_00	BI submission form for MW-01-06a
MW-01-06a_01	A technical report on moisture management

(b) Anti-microbial High Touch Surface

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
MW-01-06b_00	BI submission form for MW-01-06b
MW-01-06b_01	A technical report on the application of anti-microbial high touch surface

(c) Anti-microbial Wall Surface

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
MW-01-06c_00	BI submission form for MW-01-06c
MW-01-06c_01	Calculation showing the percentage of wall surface area with anti-microbial paint or coating

Remarks

(a) Additional Information

United States Environmental Protection Agency - Moisture Control Guidance for Building Design, Construction and Maintenance
[ONLINE]. Available at:
https://www.epa.gov/sites/default/files/2014-08/documents/moisture-control.pdf
[Accessed Dec 2021].

(b) Related Credits

None

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4	**Materials and Waste**	**MW-02**	**Selection of Materials**
		MW-02-01	**Sustainable Forest Products**

Extent of Application

All Space Types

Objective

Encourage the use of timber from well-managed forests.

Credit Point(s) Attainable

2

Credit Requirement

<u>For projects using timber and composite timber products:</u>

1 to 2 credit points for demonstrating at least 30% or 50% (by mass/ cost/ volume/ number of pieces) of all the timber and composite timber products being used within the assessment boundary are from sustainable sources/ recycled/ reused timber.

Total quantity of sustainable forest product (%) should be calculated by below equation:
Sustainable Forest Product (%) = (∑Sustainable Sources/ Recycled Timber / ∑Forest Product Within Assessment Boundary) x 100%

<u>For projects without using timber and composite timber products:</u>

1 credit point for demonstrating that no timber and composite timber products are used within the assessment boundary.

Assessment

<u>For projects using timber and composite timber products:</u>

1. Provide supporting documents that demonstrate the percentage calculation of forest products being used within the assessment boundary are from sustainable source/ recycled composite/ reused timber. Timber products or accessories with insignificant amount and not forming part of timber doors, flooring, skirting, wall panels, ceiling systems and built-in furniture, can be ignored in the calculation for simplification. The unit may be mass/ cost/ volume/ number of pieces but should be consistent throughout the assessment of this credit.

2. The timber should conform to the requirements of sustainable forestry practice guidelines and be accredited by recognised organisations, such as the non-profit Forest Stewardship Council (FSC) [1] or the American Forest and Paper Association (AFPA) [2] or Programme for the Endorsement of Forest Certification (PEFC) [3] or “known licensed sources” [4]. The Applicant should demonstrate compliance with the specifications for timber products of the recommended certifications (e.g. FSC, AFPA, PEFE or “known licensed sources”).

3. The reuse of timber from other sites or composite timber products is acceptable. Transfer notes and dated photo record(s) should be kept and submitted to show the originating old timber source, the quantity and the date of transfer of the timber products between the despatch work site and the project site (recipient). The transfer notes should bear the detailed name and address of the work sites concerned and duly signed by both the despatch and recipient parties (i.e. site representative / stores officer in managerial position), together with company chops.

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4. In the event that the timber products are not purchased from a supplier who is an "accredited company", the following basic evidence should be provided to demonstrate the products:

    4.1. conform to sustainable forestry practice guidelines;

    4.2. be accredited by recognised organisations; and

    4.3. in compliance with the specification set down by the organisation.

5. Provided that the timber products sourced from a supplier have already been accredited by the Approval Organisations, i.e. FSC, AFPA, PEFC or other "known licensed sources" according to the respective protocol (accredited company), and the timber products purchased have been issued with the Certificate under the CoC (Chain of Custody) system, it is acceptable that the following documents as proof to demonstrate the timber products being purchased from the timber supplier and used in the project site are from a sustainable source:

    5.1. Endorsed timber product delivery schedule/ records with the reference Certificate No.;

    5.2. A copy of the CoC Certificate of the certified timber supplier;

    5.3. Dated photo record(s) of the timber products [5] [6]; and

    5.4. For timber products made from recycled timber, supporting documents quantifying the timber and composite timber products installed in the project site such as invoices plus delivery notes should be provided. Also, certificates (e.g. FSC Recycled) (if any), declaration letter or other supporting documents should be provided to show that the timber and composite timber products are made from timber recycled by recognised recyclers.

For projects without using timber and composite timber products:

1. An undertaking letter from the project owner should be provided to substantiate that no timber products are used in the project.

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Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
MW-02-01_00	BI submission form for MW-02-01
MW-02-01_01	Undertaking letter from the project owner to substantiate that no timber products are used in the project. (Substantiation for projects without using timber and composite timber products only)
MW-02-01_02	Timber product compliance certificate (Applicable to **Timber and Composite Timber Product Type*** [b] and [c] only)
MW-02-01_03	Endorsed timber product delivery schedule/ records with the reference certificate no. quantifying the timber and composite timber products installed in the project site. (Applicable to **Timber and Composite Timber Product Type*** [a], [b] and [d] only)
MW-02-01_04	Chain of Custody (CoC) flow chart (Applicable to **Timber and Composite Timber Product Type*** [c] only)
MW-02-01_05	Substantiation to support each step in the Chain of Custody (CoC) [e.g. undertaking letter, etc.] (Applicable to **Timber and Composite Timber Product Type*** [c] only)
MW-02-01_06	Supporting information showing that the timber and composite timber products are made from recycled timber. (e.g. certificate of FSC/ PEFC recycled, declaration letter, etc.) (Applicable to **Timber and Composite Timber Product Type*** [d] only)
MW-02-01_07	Transfer notes showing the transfer of timber and composite timber products from other sites to the project site (Applicable to **Timber and Composite Timber Product Type*** [e] only)
MW-02-01_08	Calculation or other supporting documents (if any) to substantiate the calculated weight or volume of timber and composite timber products, if weight or volume is used in the calculation of quantity of timber and composite timber products
MW-02-01_09	Calculation of sustainable forest product with the endorsement from the contractor.
***Timber and Composite Timber Product Types:** [a] Timber and Composite Timber Products **NOT from Sustainable Sources nor Recycled Timber** [b] **Sustainable** Timber and Composite Timber Products Sourced from **Supplier accredited by the Approval Organisations** [c] **Sustainable** Timber and Composite Timber Products Sourced from **Supplier who is NOT an accredited company** [d] Timber and Composite Timber Products made from **recycled timber**. [e] Timber and Composite Timber **Products reused from other project site(s)**.	

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Remarks

(a) Additional Information

[1] Forest Stewardship Council. [ONLINE]. Available at: http://www.fsc.org/ [Accessed Aug 2021].

[2] American Forest and Paper Association. [ONLINE]. Available at: http://www.afandpa.org/ [Accessed Aug 2021].

[3] Programme for the Endorsement of Forest Certification. [ONLINE]. Available at: https://www.pefc.org/ [Accessed Aug 2021].

[4] Architectural Services Department, General Specifications for Building 2017, Section 13, Carpentry and Joinery. [ONLINE]. Available at: https://www.archsd.gov.hk/media/publications-publicity/general-specification-for-building/general_specification_for_building_2017_edition-20191223.pdf [Accessed Aug 2021].

[5] BEAM Society Limited. [ONLINE]. Available at: https://www.beamsociety.org.hk/files/download/20191129_FAQ_MA_Attachment_a1.pdf [Accessed Aug 2021].

[6] BEAM Society Limited. [ONLINE]. Available at: https://www.beamsociety.org.hk/files/download/20191129_FAQ_MA_Attachment_a2.pdf [Accessed Aug 2021].

Buildings Department PNAP ADV-5 gives guidance for alternatives to the use of hardwoods in order to reduce the amount of tropical hardwood timber being used in building projects.

World Wildlife Fund, Guide to Responsible Purchasing of Forest Products provides guidelines, templates and implementation measures to assist organisations to develop purchasing policies and practices that help conserve forest resources.

(b) Related Credits

IDCM-00-03 Timber used for Temporary Works

The credit requires no virgin forest products being used for temporary works during construction.

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4 Materials and Waste

MW-02 Selection of Materials

MW-02-02 Recycled Materials

This credit head is not applicable under BI V2.0.

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4 Materials and Waste

MW-02 Selection of Materials

MW-02-03 Ozone Depleting Substances

This credit head is not applicable under BI V2.0.

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4 Materials and Waste **MW-02 Selection of Materials**

MW-02-04 Regional Materials

Extent of Application All Space Types

Objective Encourage the use of materials originated locally so as to reduce the environmental impacts arising from transportation.

Credit Point(s) Attainable 2

Credit Requirement 1 to 2 credit points for at least 50% (by mass/ cost/ volume) of any one (1) or two (2) of the following items which are newly installed and meet the prescribed requirements of regional materials.

i) Furniture and partition;
ii) Wall;
iii) Ceiling; or
iv) Flooring.

Requirement of regional materials:
The point of raw materials and manufacture should be located within an 800km radius of the HKSAR by road transportation; within a 1,600km radius by rail transportation; or within a 4,000km radius by sea transportation.

Total quantity of regional material (%) for each of the above items should be calculated by below equation:
Regional Material (%) = (∑Newly Installed Regional Material / ∑Newly Installed Material) x 100%

Assessment

1. Provide all of the following supporting documents:
   - 1.1. List of the materials satisfying the requirements;
   - 1.2. Quantification of the value of materials originated locally by calculating its percentage towards the total value of the materials;
   - 1.3. Supporting documents from the suppliers listing the names of the manufacturers; and
   - 1.4. Demonstrate that the point of raw materials and manufacture is located within the prescribed radius of the HKSAR.
2. The unit may be mass/ volume/ cost value but should be consistent throughout the assessment of this credit.
3. Raw materials (constituents) being used for making the claimed building materials should fulfil the assessment requirements.
4. Reused and salvaged material such as furniture may also be included. The location from which it has been salvaged may be used as the point of manufacture.
5. The point of raw materials and manufacture should be located within an 800km radius of the HKSAR by road transportation; within a 1,600km radius by rail transportation; or within a 4,000km radius by sea transportation.

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Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
MW-02-04_00	BI submission form for MW-02-04
MW-02-04_01	Estimated summary of regional materials from fit-out activities
MW-02-04_02	Summary of regional materials from fit-out activities endorsed by the contractor(s)
MW-02-04_03	Supporting documents from the suppliers listing the names of the manufacturers and the locations of the manufacturing plants
MW-02-04_04	Maps showing the point of raw materials and the manufacture, and the distance from the site

Remarks

(a) Additional Information

None

(b) Related Credits

None

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4	**Materials and Waste**	**MW-02**	**Selection of Materials**
		MW-02-05	**Use of Green Products**

Extent of Application

All Space Types

Objective

To encourage the purchase of certified green products that have low environmental impacts.

Credit Point(s) Attainable

3 + 1 Bonus

Credit Requirement

1 to 3 credit points for having at least 10%, 20% or 30% (by mass/ volume/ surface area/ cost value/ number of pieces) of certified green products endorsed by Construction Industry Council (CIC) Green Product Certification, or regionally or internationally recognised standard being applied to two (2) of the following interior non-structural components or building services components.

1 additional Bonus credit point for at least 30% (by mass/ volume/ surface area/ cost value/ number of pieces) of certified green products endorsed by Construction Industry Council (CIC) Green Product Certification, or regionally or internationally recognised standard being applied to four (4) of the following interior non-structural components or building services components.

Interior non-structural components:

i) Panel board;
ii) Ceramic tile;
iii) Plant-based fibre composite;
iv) Furniture;
v) Stone (Natural/ Artificial);
vi) Wall covering;
vii) Paint & coating;
viii) Adhesive & sealant;
ix) Block for internal partition;
x) Synthetic carpet;
xi) Thermal insulation; or
xii) Alternative element proposed by the Applicant;

Building services components

xiii) LED lighting;
xiv) Compact fluorescent lamp (CFL) bulb;
xv) Electronic ballast;
xvi) Cable & wire; or
xvii) Alternative element proposed by the Applicant.

Total quantity of green product (%) for each of the above item should be calculated by below equation:
Green Product (%) = (∑Newly Installed Green Product / ∑Newly Installed Product) x 100%

Assessment

1. Provide all of the following supporting documents:

    1.1. Demonstrate the percentage calculation (by mass/ volume/ surface area/ cost value/ number of pieces) of all the items including certified green products;

    1.2. Include a summary table listing the product type, product name/ serial no., manufacturer, certification body, calculation and reference source;

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1.3. Certificate(s) of the green products; and

1.4. Dated photo records(s).

2. Certified green products as specified in CIC Green Product Certification are deemed to be accepted in the calculation.

3. For any green products, which have been certified under other internationally recognised schemes, the Applicant should refer to the list of worldwide recognised Green Building Product Certifications and Standards under HKGBC's Eco-Product Directory (http://epdir.hkgbc.org.hk/textdisplay.php?serial=32) or provide the product's technical information with justification for BSL's consideration.

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
MW-02-05_00	BI submission form for MW-02-05
MW-02-05_01	Calculation showing the percentage of certified green products
MW-02-05_02	Layout drawing(s) showing the provision(s)
MW-02-05_03	Dated photo record(s) showing the provision(s)
MW-02-05_04	Certificate(s) of the green product(s)

Remarks

(a) Additional Information

CIC Green Product Certification [ONLINE]. Available at: http://cicgpc.hkgbc.org.hk [Accessed Dec 2021].

HKGBC's Eco-Product Directory [ONLINE]. Available at: http://epdir.hkgbc.org.hk/textdisplay.php?serial=32 [Accessed Dec 2021].

(b) Related Credits

None

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4 Materials and Waste

MW-02 Selection of Materials

MW-02-06 Life Cycle Assessment

This credit head is not applicable under BI V2.0.

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4 Materials and Waste **MW-03 Waste Reduction**

MW-03-01 Adaptability and Deconstruction

Extent of Application All Space Types

Objective Encourage the design of building interior elements and building services components that allow modifications to space layout, and to reduce waste during churning, refurbishment and deconstruction.

Credit Point(s) Attainable 2

Credit Requirement 1 credit point can be achieved for demonstrating each of the below listed characteristics:

i) Adoption of flexible spaces to suit changing needs and multi-purposes;
ii) Demonstration of how access to daylight and the proper use of artificial light that improves the occupant's energy, disposition and health can be maintained with the adaptable design;
iii) Demonstration of how access to nature and biophilic design can be maintained with the adaptable design;
iv) Accommodation of flexible / movable / convertible furniture and a variety of workstations;
v) Provision of movable partitions to maximise the layout options and accommodate a variety of uses; or
vi) Adoption of minimalist interiors to reduce carbon footprint.

Assessment

1. It is not necessary that all areas within the assessment boundary need to adopt the above characteristics. Number of flexible / movable / convertible furniture and movable partitions are not regulated. An undertaking letter from the project owner/ should be provided to substantiate that the quantity of the above provisions is sufficient in the project.

2. Prepare a technical report detailing the following items:

   2.1. List of each adopted characteristics;

   2.2. Detailed description of each adopted characteristics; and

   2.3. Evidence showing the adoption of characteristics, including drawings, catalogues, certificates, dated photo record(s) or other information, etc.

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
MW-03-01_00	BI submission form for MW-03-01
MW-03-01_01	A technical report on adaptability and deconstruction

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Remarks

(a) Additional Information

Reference on the characteristics:

For characteristic i)

Whole Building Design Guide - Design For The Changing Workplace [ONLINE]. Available at: https://www.wbdg.org/design-objectives/productive/design-changing-workplace
[Accessed Dec 2021].

For characteristic ii)

Peter Boyce, Claudia Hunter and Owen Howlett - The Benefits of Daylight through Windows [ONLINE]. Available at: https://www.researchgate.net/publication/241089667_The_Benefits_of_Daylight_through_Windows
[Accessed Dec 2021].

Whole Building Design Guide - (Day)Lighting the way to greener and healthier buildings [ONLINE]. Available at: https://www.worldgbc.org/news-media/daylighting-way-greener-and-healthier-buildings
[Accessed Dec 2021].

L. Edwards and P. Torcellini - A Literature Review of the Effects of Natural Light on Building Occupants [ONLINE]. Available at: https://www.nrel.gov/docs/fy02osti/30769.pdf
[Accessed Dec 2021].

For characteristic iii)

The Applicant may make reference to the requirements on biophilic design under HWB-01-02 Biophilic Design:

i) Potted plants or planted beds cover at least 2% of the total floor area of each floor.

For characteristic vi)

The Applicant may make reference to below criteria of minimalist interiors for elaboration:

i) Clean lines – The decor features minimal patterns or details with flat and smooth surfaces.
ii) Monochromatic colours: Uses a simple colour palette.
iii) Essentiality: Provide only the elements necessary to use comfortably in that particular space, resulting in fewer pieces of furniture.
iv) Open spaces: Adopt open floor plans.

(b) Related Credits

HWB-01-02 Biophilic Design

The credit specifies the requirements on biophilic design.

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4 Materials and Waste **MW-03 Waste Reduction**

MW-03-02 Enhanced Waste Handling Facilities

Extent of Application All Space Types

Objective Reduce waste generation at source, reduce pressure on landfill sites and help to preserve non-renewable resources by promoting recycling of waste materials.

Credit Point(s) Attainable 4 + 2 Bonus

Credit Requirement

(a) Recyclables Collection

1 to 3 credit points for demonstrating the provisions of facilities for collection, sorting, storage and disposal of any four (4), six (6) or eight (8) of the following recyclable streams within the assessment boundary or the host building.

i) Paper;
ii) Plastic (Mixed);
iii) Metal;
iv) Glass;
v) Beverage carton;
vi) Rechargeable battery;
vii) Cloth;
viii) Food waste;
ix) Cartridge;
x) Foam board;
xi) Compact fluorescent lamp (CFL) bulb, T5 tube, T8 tube and/or LED lighting; or
xii) Other recyclables may be proposed at the discretion of the Applicant.

1 additional Bonus credit point for providing recycling boxes for each type of plastic, i.e. PET & HDPE, within the assessment boundary or the host building.

(b) Quantifying Wastes

1 credit point for providing a waste audit report of the project space by the smart waste scale provided within the host building or assessment boundary to encourage waste audit and monitor waste disposal performance.

(c) Waste Treatment Equipment

1 Bonus credit point for installing an on-site waste processor such as food waste composter or reverse vending machine within the assessment boundary or the host building.

Assessment

(a) Recyclables Collection

1. Provide all of the following supporting documents:

1.1. List of recycling facilities provided within the assessment boundary or the host building;

1.2. Same type of recycling facilities in multiple locations can only be counted once. For each waste stream, provide at least one storage bin/ storage area for recycling. The size of the recycling facilities and collection

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frequency are not regulated. The facilities shall be placed in a prominent location (i.e. cannot be located in a car park or other non-occupied areas), but not necessarily within the assessment boundary; and

1.3. A waste collection firm employed by either the Applicant or property management company shall collect all materials. For the host building which provides such facilities at a prominent location, the Applicant is not required to duplicate the provision if the host building management could provide the required information for assessment.

(b) Quantifying wastes

1. Provide all of the following supporting documents:

1.1. A waste audit report of the project area;

1.2. A full description and specifications of smart waste scale provided within the assessment boundary;

1.3. The size of the smart waste scale is not regulated. The scale shall be placed within the host building or the assessment boundary; and

1.4. Smart waste scale should be capable of collecting live waste disposal data and generate insights. Digital dashboard/ mobile apps should be available to extract data for further analysis to encourage waste audit and monitor waste disposal performance.

(c) Waste Treatment Equipment

1. Provide all of the following supporting documents:

1.1. A full description and specifications of on-site waste processor being provided within the assessment boundary or the host building; and

1.2. The size of the on-site waste processor is not regulated.

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Submittals **(a) Recyclables Collection**

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
MW-03-02a_00	BI submission form for MW-03-02a
MW-03-02a_01	Drawings showing the locations of the waste handling facilities
MW-03-02a_02	Dated photo record(s) showing the provision of facilities
MW-03-02a_03	Collection organisation/ recycler information, including: 1) Company name, address and contact information; 2) Collection frequency; and Collection agreement signed by the recycling firm and the Applicant. If the Applicant adopts the host building facilities, the host building collection agreement (or an equivalent letter by the property management organisation) is required

(b) Quantifying Wastes

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
MW-03-02b_00	BI submission form for MW-03-02b
MW-03-02b_01	Drawings showing the location of the smart waste scale
MW-03-02b_02	Catalogue(s)/ information of the smart waste scale
MW-03-02b_03	Dated photo record(s) of the smart waste scale
MW-03-02b_04	Waste audit report

(c) Waste Treatment Equipment

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
MW-03-02c_00	BI submission form for MW-03-02c
MW-03-02c_01	Drawings showing the location of the waste treatment equipment
MW-03-02c_02	Catalogue(s)/ information of the waste treatment equipment
MW-03-02c_03	Dated photo record(s) of the waste treatment equipment

Remarks **(a) Additional Information**

None

(b) Related Credits

None

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4	**Materials and Waste**	**MW-04**	**Best Practice on Material Usage**
		MW-04-01	**Best Practice on Material Usage**

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5 Energy Use

An objective of BI V2.0 is to encourage thorough evaluation of the performance of the interior spaces and services system designs, and greater investments into measures that will help to improve the energy performance of the interior spaces, so as to reduce energy consumption and the associated environmental impacts, and summer peak electricity demand.

The assessment of the interior spaces 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.

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5 Energy Use **EU-00** **Basic Requirement**

EU-00-01 **Minimum Energy Performance**

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5 Energy Use **EU-01** **Energy Reduction and Control**

EU-01-01 **Low Carbon Passive Design**

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5 Energy Use **EU-01 Energy Use Reduction and Control**

EU-01-02 Reduction of CO_2 Emissions

Extent of Application All Space Types

Objective Reduce the consumption of non-renewable energy and the associated carbon dioxide (CO_2) emissions to the atmosphere.

Credit Point(s) Attainable 14

Credit Requirement Maximum 14 credit points for using energy efficient systems and controls that reduce carbon emissions from energy use by HVAC&R and/ or lighting systems.

General:

i) 1 credit point for applying energy saving reminders at common spaces/ near switches of all building services systems/ appliances;
ii) 1 credit point for arranging routine cleaning schedule for equipment/ systems to ensure operational efficiency of equipment/ systems;

HVAC&R:

iii) 1 to 5 credit points for a reduction of Coefficient of Performance (COP) by: 2%, 4%, 6%, 8% or 10% respectively (compared to the latest Building Energy Code in the same category) for split-type and window-type air conditioners;
iv) 1 credit point for appropriate zoning and thermostat distribution;
v) 2 credit points for occupancy sensors and/or programmable timers for controlling HVACR operation;
vi) 1 credit point for at least 1 ceiling or wall mounted fan for normally occupied spaces within the assessment boundary to increase air circulation hence reducing demand for air conditioning;
vii) 3 credit points for variable speed drive fan coil units or high efficiency motors or variable air volume (VAV) box for normally occupied spaces within the assessment boundary;
viii) 1 credit point for openable windows for mixed mode/natural ventilation.
ix) 2 or 4 credit points for at least 30% or 50% of total window areas with direct access to daylight are installed with solar window films (windows that are heavily shaded or do not have a direct sky view are excluded);
x) 1 credit point for installing air curtain at the main entrance of the premises;
xi) 3 credit points for installing heat recovery system;

Lighting:

xii) 1 to 5 credit points for a reduction of Lighting Power Density (LPD) by: 2%, 4%, 6%, 8% or 10% respectively (compared to the latest Building Energy Code in the same category). Decorative lighting is excluded;
xiii) 1 credit point for appropriate zoning and manual control distribution. Switches are clearly labelled and easily accessible by the occupants;
xiv) 2 credit points for daylight dimming/ separate lighting controls of all areas accessible to daylight;
xv) 2 credit points for occupancy sensors / timer controls of all public areas such as corridors, toilets, etc.;
xvi) 1 credit point for master switch (main switch) within the assessment boundary for the occupants to switch off all the lighting systems and non-essential power before leaving;
xvii) 1 credit point for applying dual circuit with a timer at retail shop front/ hotel signboards and non-essential lighting in order to have a separate control for switching off these lighting after operating hours, or no later

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than 23:00 hours;

xviii) 1 credit point for provision of task lighting for all workstations within the assessment boundary; and

Small power:

xix) 2 credit points for provision of a smart power strip or smart socket, which is capable of pre-setting a schedule or creating countdown timer lists for connected electrical appliances to automatically manage devices for at least 50% of power socket outlet (irrespective of number of gang) within the assessment boundary.

Assessment

General:

1. Provide all of the following supporting documents:

1.1. Item i – Dated photo record(s) showing application of energy saving reminders at the common spaces/ near switches of all building services systems/ appliances; and

1.2. Item ii - Routine cleaning schedule for equipment/ systems.

HVAC&R:

2. Provide all of the following supporting documents:

2.1. Item iii – Catalogues of air-conditioning equipment highlighting model and COP and dated photo record(s) of the overview and nameplate of installed air-conditioning equipment that show showing model and COP;

2.2. Item iv – MVAC drawings highlighting all thermostats and their coverage area/ zone;

2.3. Item v – Catalogues of occupancy sensors and/or programmable timers and control schematic highlighting the control logic of sensors and/ or timers;

2.4. Item vi – Catalogues and dated photo record(s) of ceiling or wall mounted fans;

2.5. Item vii – Catalogues, MVAC drawings and dated photo record(s) of variable speed drive fan coil units or high efficiency motors or variable air volume (VAV) box;

2.6. Item viii – Elevation drawings and dated photo record(s) of openable windows;

2.7. Item ix – Calculation showing the percentage of applicable total window areas with solar window film, elevation drawings highlighting extent of application of solar window films, catalogues and test report of solar window films and dated photo record(s);

2.8. Item x - Catalogues and dated photo record(s) of air curtains; and

2.9. Item xi – Catalogues and dated photo record(s) of heat recovery system.

Lighting:

3. Provide all of the following supporting documents:

3.1. Item xii - Calculation showing a reduction of LPD, supported by lighting

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layout, lighting catalogues and dated photo record(s);

3.2. Item xiii - Lighting drawings highlighting all lighting switches and their coverage area/ zone and dated photo record(s);

3.3. Item xiv – Catalogues and lighting drawings highlighting all daylight dimming/ separate lighting controls of all areas accessible to daylight, their coverage area/ zone and dated photo record(s);

3.4. Item xv – Catalogues and lighting drawings highlighting occupancy sensors / timer controls of all public spaces, such as corridors, toilets, etc., their coverage area/ zone and dated photo record(s);

3.5. Item xvi – Electrical drawings highlighting master switch (main switch) and dated photo record(s);

3.6. Item xvii – Electrical drawings highlighting dual circuit with timer and dated photo record(s); and

3.7. Item xviii – Lighting drawings highlighting all task lighting and dated photo record(s).

Small power:

4. Provide all of the following supporting documents:

4.1. Item xix – Calculation showing the percentage of power socket outlet with smart power strip or smart socket, electrical drawings power socket outlet with smart power strip or smart socket, catalogue(s) of smart power strip or smart socket and dated photo record(s).

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Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
EU-01-02_00	BI submission form for EU-01-02
EU-01-02_01	Dated photo record(s) showing application of energy saving reminders at the common spaces/ near switches of all building services systems/ appliances
EU-01-02_02	Routine cleaning schedule for equipment/ systems
EU-01-02_03	Catalogues of air-conditioning equipment highlighting model and COP and dated photo record(s) of the overview and nameplate of installed air-conditioning equipment that show model and COP
EU-01-02_04	MVAC drawings highlighting all thermostats and their coverage area/ zone
EU-01-02_05	Catalogues of occupancy sensors and/or programmable timers and control schematic highlighting the control logic of sensors and/ or timers
EU-01-02_06	Catalogue and dated photo record(s) of ceiling or wall mounted fans
EU-01-02_07	Catalogues, MVAC drawings and dated photo record(s) of variable speed drive fan coil units or high efficiency motors or variable air volume (VAV) box
EU-01-02_08	Elevation drawings and dated photo record(s) of openable windows
EU-01-02_09	Calculation showing the percentage of applicable total window areas with solar window film, elevation drawings highlighting extent of application of solar window films, catalogue and test report of solar window films and dated photo record(s)
EU-01-02_10	Catalogues and dated photo record(s) of air curtains
EU-01-02_11	Catalogues and dated photo record(s) of heat recovery system
EU-01-02_12	Calculation showing a reduction of LPD, supported by lighting layout, lighting catalogue and dated photo record(s)
EU-01-02_13	Lighting drawings highlighting all lighting switches and their coverage area/ zone and dated photo record(s)
EU-01-02_14	Catalogues and lighting drawings highlighting all daylight dimming/ separate lighting controls of all areas accessible to daylight, their coverage area/ zone and dated photo record(s)
EU-01-02_15	Catalogues and lighting drawings highlighting occupancy sensors / timer controls of all public spaces such as corridors, toilets, etc., their coverage area/ zone and dated photo record(s)
EU-01-02_16	Electrical drawings highlighting master switch (main switch) and dated photo record(s)
EU-01-02_17	Electrical drawings highlighting dual circuit with timer and dated photo record(s)
EU-01-02_18	Lighting drawings highlighting all task lighting and dated photo record(s)
EU-01-02_19	Calculation showing the percentage of power socket outlet with smart power strip or smart socket, electrical drawings power socket outlet with smart power strip or smart socket, catalogue(s) of smart power strip or smart socket and dated photo record(s)

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Remarks

(a) Additional Information

None

(b) Related Credits

None

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5 Energy Use **EU-01** **Energy Use Reduction and Control**

EU-01-03 **Peak Electricity Demand Reduction**

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5 Energy Use **EU-01** **Energy Use Reduction and Control**

EU-01-04 **Metering and Monitoring**

Extent of Application All Space Types

Objective Enable operators to measure, monitor and develop measures to improve the performance of the engineering systems within the interior spaces.

Credit Point(s) Attainable 2 + 2 Bonus

Credit Requirement

(a) Real-time monitoring system

1 credit point for providing electrical meters for lighting system to establish a real-time energy data monitoring system.

1 additional Bonus credit point for providing electrical meters for any one (1) of the following engineering systems to establish a real-time energy data monitoring system.

1 additional Bonus credit point for providing electrical meters for any two (2) of the following engineering systems to establish a real-time energy data monitoring system.

Engineering systems:

i) Air-conditioner and mechanical ventilation energy consumption;
ii) Small power energy consumption;
iii) Lift system energy consumption (if applicable);
iv) Escalator system energy consumption (if applicable);
v) Hot water system energy consumption (if applicable);
vi) Plumbing and drainage system energy consumption (if applicable); and
vii) Loads associated with server/equipment room (if applicable).

(b) Data Collection Record

1 credit point for demonstrating that the energy meters can collect and store the energy consumption data on an hourly basis for at least 1 year.

Assessment

(a) Real-time monitoring system

1. Metering Coverage

1.1. Real-time monitoring system covering the energy consumption (both electricity and gas (if applicable)) of the equipment, unit in (kWh);

1.2. Provide a real-time monitoring system for listed installations under the Applicant's control. (Allow a minimum of one single meter for each system); and

1.3. Requirements of monitoring coverage are summarised as below:

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Table EU-01-04:

System (if applicable)	Energy monitoring
Air-conditioner and mechanical ventilation - Ventilation Fans - VRV and Unitary System	(a) Electricity (kW and kWh)
Lighting system	(b) Electricity (kW and kWh)
Small power	(c) Electricity (kW and kWh)
Each Lift and Escalators	(d) Electricity (kW and kWh)
Hot water system	(e) Electricity/ Fuel (kW and kWh)
Plumbing and Drainage System	(f) Electricity (kW and kWh)
Loads associated with server/equipment room	(g) Electricity (kW and kWh)

2. Monitoring Provision Requirements (Datapoint, Sensors or Meters)

2.1. Electricity metering should comply with BS EN [1] accuracy class 1 or equivalent; and

2.2. Sensors for performance sub-metering should meet the minimum accuracy requirements in ASHRAE Guideline 13 [2] or similar equivalent.

(b) Data Collection Record

3. Interval and Recording

3.1. Monitoring record should be at intervals of one hour or less and capable to record the items as required; and

3.2. All data recorded by the sub-metering system and monitoring system should be transferred to a Building Management System (BMS) or other data collection system. The BMS or other data collection system should have sufficient capacity to store for at least 12 months.

Submittals **(a) Real-time monitoring system**

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
EU-01-04a_00	BI submission form for EU-01-04a
EU-01-04a_01	Electrical schematics highlighting all locations of metering
EU-01-04a_02	Catalogues of all metering and measurement equipment

(b) Data Collection Record

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
EU-01-04b_00	BI submission form for EU-01-04b
EU-01-04b_01	Electrical schematics highlighting BMS or data collection facilities
EU-01-04b_02	Catalogue(s) of BMS or data collection facilities

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Remarks

(a) Additional Information

[1] British Standard BS EN 62053-11:2003. Electricity metering equipment (a.c.). Particular requirements. Electromechanical meters for active energy (classes 0.5, 1 and 2)

[2] ASHRAE Guideline 13: Specifying Building Automation Systems, American Society of Heating, Refrigerating and Air-conditioning Engineers, Inc., USA. 2015.

Code of Practice for Building Energy Audit – Electrical and Mechanical Services Department HKSAR, 2018

(b) Related Credits

None

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5 Energy Use **EU-02** **Renewable and Alternative Energy Generation**

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

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5 Energy Use **EU-03** **Energy Efficient Equipment**

EU-03-01 **Air-Conditioning Units**

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5 Energy Use **EU-03** **Energy Efficient Equipment**

EU-03-02 **Clothes Drying Facilities**

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5 Energy Use **EU-03 Energy Efficient Equipment**

EU-03-03 Energy Efficient Appliances

Extent of Application All Space Types

Objective Recognise and encourage the procurement of energy-efficient equipment to ensure optimum performance and energy savings.

Credit Point(s) Attainable 3

Credit Requirement

For the assessment boundary with appliances provided by the Applicant:

1 to 3 credit points when 60%, 80% or 100% of the total quantity, for each type of electrical appliance is certified energy efficient.

For the assessment boundary without appliances provided by the Applicant:

2 credit points will be awarded if no appliances are provided within the assessment boundary by the Applicant.

Assessment

For the assessment boundary with appliances provided by the Applicant:

1. Only eligible appliances meeting the following criteria shall be included in this assessment:

    1.1. Newly purchased appliances provided by the Applicant.

    1.2. Electrical appliances covered by EMSD Energy Efficiency Labelling, including:

        1.2.1 Room Air Conditioner;
        1.2.2 Refrigerating appliance;
        1.2.3 Compact Fluorescent Lamp (CFLs);
        1.2.4 Washing machine;
        1.2.5 Dehumidifier;
        1.2.6 Televisions;
        1.2.7 Storage type electric water heater;
        1.2.8 Induction cooker;
        1.2.9 Electric rice-cooker;
        1.2.10 Electronic ballast;
        1.2.11 Light Emitting Diode (LED) lamp;
        1.2.12 Microwave oven;
        1.2.13 Photocopier;
        1.2.14 Multifunction device;
        1.2.15 Printer;
        1.2.16 LCD monitor;
        1.2.17 Fax machine;
        1.2.18 Hot/cold bottled water dispenser;
        1.2.19 Computer; and
        1.2.20 Gas cooker.

    1.3. Except for televisions and induction cookers, the appliances should achieve Grade 1 under the Mandatory Energy Efficiency Labelling Scheme [1] or Grade 1 (for appliance types with “Grading type” Energy Label)/ “Recognition Type” Energy Label under the Voluntary Energy Efficiency Labelling Scheme [2] or US’s EPA ENERGY STAR Program with ENERGY STAR label [3].

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1.4. For televisions and induction cookers, they should achieve at least Grade 2 under the Mandatory Energy Efficiency Labelling Scheme [1] or US's EPA ENERGY STAR Program with ENERGY STAR label.

Total quantity of the certified electrical appliance (%) should be calculated by below equation:
Certified Electrical Appliance (%) = (∑Newly Installed Certified Electrical Appliance / ∑Newly Installed Electrical Appliance) x 100%

For the assessment boundary without appliances provided by the Applicant:

1. An undertaking letter from the project owner should be provided to substantiate that no newly purchased appliances are provided by the Applicant.

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
EU-03-03_00	BI submission form for EU-03-03
EU-03-03_01	Undertaking letter from the project owner to substantiate that no newly purchased appliances are provided by the Applicant. (Substantiation for projects without appliances are provided by the Applicant only)
EU-03-03_02	Schedule of newly purchased appliances provided by the Applicant
EU-03-03_03	Catalogues of all electrical appliances highlighting the compliance energy efficiency labelling
EU-03-03_04	Dated photo record(s) confirming installation of complaint electrical appliances

Remarks

(a) Additional Information

[1] Mandatory Energy Efficiency Labelling Scheme [ONLINE]. Available at: https://www.emsd.gov.hk/en/energy_efficiency/mandatory_energy_efficiency_labelling_scheme/index.html
[Accessed Dec 2021].

[2] Voluntary Energy Efficiency Labelling Scheme [ONLINE]. Available at: https://www.emsd.gov.hk/en/energy_efficiency/voluntary_energy_efficiency_labelling_scheme/index.html
[Accessed Dec 2021].

[3] USEPA ENERGY STAR website [ONLINE] Available at: https://www.energystar.gov/products
[Accessed Dec 2021].

(b) Related Credits

None

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5 Energy Use **EU-03** **Energy Efficient Equipment**

EU-03-04 **Cooling System Efficiency**

This credit head is not applicable under BI V2.0.

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5 Energy Use **EU-03** **Energy Efficient Equipment**

EU-03-05 **Air Management System**

This credit head is not applicable under BI V2.0.

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5 Energy Use **EU-04** **Energy Management and Monitoring**

EU-04-01 **Best Practices on Energy Use**

This credit head is not applicable under BI V2.0.

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5 Energy Use **EU-04** **Energy Management and Monitoring**

EU-04-02 **Smart Devices**

Extent of Application All Space Types

Objective Maximise energy efficiency, optimise comfort and productivity via smart devices

Credit Point(s) Attainable 1 Bonus

Credit Requirement 1 Bonus credit point for adopting network of smart devices with at least two (2) of the following sensors, which are capable of connecting to the internet, gathering information from their environments and exchanging data with other smart devices for analysis to maximise energy efficiency, optimise comfort and productivity of the interior spaces.

Sensors for smart control:

i) Occupancy/ Motion/ light sensor for lighting control;
ii) Temperature and humidity sensor for AC control;
iii) Air quality sensor for MVAC control;
iv) Light sensor for curtain control; and
v) Others proposed by the Applicant.

Assessment 1. Provide all of the following supporting documents:

1.1. A full description and specifications of network of smart devices with sensors provided within the assessment boundary.

1.2. The smart devices with sensors should be capable of connecting to the internet, gathering information from their environments and exchanging data with other smart devices for analysis to maximise energy efficiency, optimise comfort and productivity of the interior spaces.

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
EU-04-02_00	BI submission form for EU-04-02
EU-04-02_01	Drawings showing details and location of network of smart devices with sensors
EU-04-02_02	Catalogue(s)/ information of the network of smart devices with sensors
EU-04-02_03	Dated photo record(s) showing the provision(s)

Remarks **(a) Additional Information**

None

(b) Related Credits

None

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5 Energy Use **EU-04** **Energy Management and Monitoring**

EU-04-03 **Energy Management**

Extent of Application All Space Types

Objective Encourage high level management to involve in the improvement of energy efficiency and conservation

Credit Point(s) Attainable 1

Credit Requirement 1 credit point for implementing energy management plan within the assessment boundary.

Assessment

1. Provide an energy management plan endorsed by the top management of the Applicant, including the following:
   - 1.1. High level commitment with duty of energy management team and the organisation chart;
   - 1.2. Methodology and frequency of future energy audit;
   - 1.3. Available documents for energy management; and
   - 1.4. List of all energy saving features.
2. Provide implementation records of energy management practice.
3. It is not necessary that all energy management practices as specified in the energy management plan to be implemented.

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
EU-04-03_00	BI submission form for EU-04-03
EU-04-03_01	Endorsed energy management plan
EU-04-03_02	Implementation records of energy management practice

Remarks

(a) Additional Information

None

(b) Related Credits

None

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6 Water Use

In Hong Kong, Water Supplies Department (WSD) ensures that the quality of drinking water provided to customers complies fully with the Hong Kong Drinking Water Standards, currently being the corresponding guideline values or provisional guideline values in the fourth edition of the World Health Organisation's Guidelines for Drinking-water Quality published in 2011 (WHO Guidelines).

Drinking water quality, however, can be affected by the condition of a building's inside service. To safeguard tap water quality, property owners and building managers are advised to carry out proper maintenance of inside service and regular cleaning of water storage tanks. While water quality satisfying WSD's requirement is the mandatory requirement, water conservation is another focus area under water category.

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6 Water Use

WU-00 Basic Requirement

WU-00-01 Minimum Water Saving Performance

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6 Water Use **WU-01** **Water Conservation**

WU-01-01 **Annual Water Use**

Extent of Application All Space Types

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

Credit Point(s) Attainable 3

Credit Requirement

For the assessment boundary with potable water supply:

1 to 3 credit points for achieving annual water saving of 20%, 25% or 30% or more by using water efficient flow devices with reference to BEAM Plus baseline.

Alternatively,

- *3 credit points will be awarded if all potable water devices within the assessment boundary achieve Grade 1 under the WSD's Water Efficiency Labelling Scheme (WELS) [1].*

For the assessment boundary without potable water supply:

3 credit points will be awarded if all potable water devices in host building achieve Grade 1 under the WSD's WELS.

Alternatively,

- *2 credit points will be awarded if the host building has installed aerators to restrict the water flow in basin mixers, kitchen taps and shower heads (if applicable).*

Alternatively,

- *1 credit point will be awarded if the host building has installed infrared sensor faucets to restrict the water flow in basin mixers, kitchen taps and shower heads (if applicable).*

Assessment

1. Demonstrate annual water saving by providing the following contents:

   1.1 Schedule, including the types of fixtures with the location and number of each type of fixture;

   1.2 Calculation of potable water use following the guidance below; and

   1.3 Percentage of annual potable water saving.

2. The calculation of potable water use should be based on the following methodology:

   2.1 Occupants

      2.1.1 Specify the number of the occupants, male to female ratio according to the sanitary fitment schedule in the project General Building Plan. If no sanitary fitment schedule is available, use the assumed occupancy (9m^2/person) and male to female ratio (1:1);

      2.1.2 For projects with accessible toilets, bathrooms and the like, it can be assumed that the rate of the occupants with disability (restriction

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in body movement) is 4.47% and the non-accessible toilets, bathrooms and the like are used by the remaining 95.53% of the dedicated occupants [2]; and

2.1.3 The same number of the occupants should be applied to both the baseline case and the project design case.

2.2 Operational Days

2.2.1 Specify the number of operational days per annum. Alternatively, assume full year operation (365 days); and

2.2.2 The same operational days should be applied to both the baseline case and the project design case.

2.3 Number of Use, Product Flow Rate and Duration of Use

2.3.1 Establish a baseline case for water consumption by the assumptions outlined in the following table. The calculation should only consider the listed fixtures;

Fixture Type	Flow Rate (L/min)	Operation Time (sec)	Number of Use per Occupant per day
Shower	12	300	0.1
Non-mixing Type Water Taps (shower rooms and toilets)	4	10	5
Mixing Type Water Taps (shower rooms and toilets)	7	10	5

2.3.2 Establish the project design case and identify the fixture flow rate at 5 bar;

2.3.3 If automatic controls such as proximity sensors are used in the project to reduce the operation time, product catalogues are required to substantiate the performance; and

2.3.4 The same number of uses should be applied to both the baseline case and the project design case.

3. Annual Potable Water Percentage Saving

3.1 Add up the total annual potable water use for both baseline and design. The annual potable water percentage saving can be calculated as follows:

$$1 - \frac{\text{Annual potable water use (design)}}{\text{Annual potable water use (baseline)}} \times 100\%$$

4. For the assessment boundary without potable water supply, only toilets on the same floor of the assessment boundary shall be counted.

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Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
WU-01-01_00	BI submission form for WU-01-01
WU-01-01_01	Sanitary fitting schedule and the male to female ratio **[or]** Calculation of the number of the occupants using the default occupancy density (9m^2/person) and male to female ratio (1:1)
WU-01-01_02	Plumbing layout drawing(s) showing the location and quantity of sanitary fitting
WU-01-01_03	Catalogues of each type of fixture counted in the calculation showing the specified flow rate at 5 bar
WU-01-01_04	Grade 1 WELS label of each type of fixture
WU-01-01_05	Dated photo record(s) showing each type of fixture

Remarks

(a) Additional Information

[1] Water Efficiency Labelling Scheme, Water Supplies Department. [ONLINE]. Available at:
https://www.wsd.gov.hk/en/plumbing-engineering/water-efficiency-labelling-scheme/index.html
[Accessed Dec 2021].

[2] Hong Kong Monthly Digest of Statistics (January 2015) Feature Article – Persons with Disabilities and Chronic Diseases in Hong Kong, Census and Statistics Department, Hong Kong Special Administrative Region. [ONLINE]. Available at:
http://www.statistics.gov.hk/pub/B71501FB2015XXXXB0100.pdf
[Accessed Dec 2021].

(b) Related Credits

None

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6 Water Use **WU-01** **Water Conservation**

WU-01-02 **Water Efficient Irrigation**

This credit head is not applicable under BI V2.0.

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6 Water Use **WU-01** **Water Conservation**

WU-01-03 **Water Efficient Appliances**

This credit head is not applicable under BI V2.0.

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6	**Water Use**	**WU-01**	**Water Conservation**
		WU-01-04	**Water Leakage Detection**

Extent of Application

All Space Types

Objective

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

Credit Point(s) Attainable

1

Credit Requirement

For the assessment boundary with potable water supply:

1 credit point for installing water leakage detection system in the covered pipework near all water points.

For the assessment boundary without potable water supply and with piping adjacent to the boundary:

1 credit point will be awarded for not installing built-in furniture so that seepage of water or water from the adjacent interior spaces can be easily detected.

For the assessment boundary without potable water supply and no piping adjacent to the boundary:

1 credit point for project that does not have potable water supply nor piping adjacent to the assessment boundary.

Assessment

1. Demonstrate that water leakage detection systems are installed in all covered pipework near water points.
2. Water points which consist of only non-potable water is not assessed.
3. The detection systems should have the capability to automatically alert the operator or the security guard and identify the water point(s) with leakage when leakage occurs.

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Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
WU-01-04_00	BI submission form for WU-01-04
WU-01-04_01	Layout drawing(s) highlighting the provisions of water leakage detection systems in all covered pipework near water points
WU-01-04_02	Catalogue(s) of water leakage detection system showing its automatic alert function
WU-01-04_03	Dated photo record(s) showing the installed water leakage detection system(s)
WU-01-04_04	Layout drawing(s) showing the adjacent piping system
WU-01-04_05	Dated photo record(s) showing no built-in furniture within the assessment boundary
WU-01-04_06	Declaration letter by the Applicant to confirm that the projects do not have potable water supply nor piping adjacent to the assessment boundary

Remarks

(a) Additional Information

None

(b) Related Credits

None

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6 Water Use **WU-01** **Water Conservation**

WU-01-05 **Twin Tank System**

This credit head is not applicable under BI V2.0.

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6 Water Use **WU-01** **Water Conservation**

WU-01-06 **Cooling Tower Water**

This credit head is not applicable under BI V2.0.

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6 Water Use **WU-02** **Effluent**

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

Extent of Application All Space Types

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

Credit Point(s) Attainable 1

Credit Requirement

For the assessment boundary with flushing water supply:

1 credit point for installing water efficient flushing devices with Grade 1 label under the WSD's WELS [1].

For the Assessment Boundary without Flushing Water Supply:

1 credit point will be awarded if the host building has installed dual-flush water closets and/or infrared sensor urinals.

Assessment

1. Demonstrate that water efficient flushing devices are certified with Grade 1 under WSD's WELS.
2. Demonstrate that the host building has installed dual flush water closets and/or infrared sensor urinals.
3. For the assessment boundary without flushing water supply, only toilets on the same floor of the assessment boundary shall be counted.

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
WU-02-01_00	BI submission form for WU-02-01
WU-02-01_01	Plumbing and/ or drainage layout drawing(s)
WU-02-01_02	Grade 1 WELS label of each type of fixture
WU-02-01_03	Catalogue(s) of dual flush water closets and/or infrared sensor urinals
WU-02-01_04	Dated photo record(s) of each type of fixture

Remarks

(a) Additional Information

[1] Water Efficiency Labelling Scheme, Water Supplies Department. [ONLINE]. Available at: https://www.wsd.gov.hk/en/plumbing-engineering/water-efficiency-labelling-scheme/index.html [Accessed Dec 2021].

(b) Related Credits

None

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

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

This credit head is not applicable under BI V2.0.

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6	**Water Use**	**WU-04**	**Water Management**
		WU-04-01	**Smart Water Metering**

This credit head is not applicable under BI V2.0.

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6	**Water Use**	**WU-04**	**Water Management**
		WU-04-02	**Water Saving Management**

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6 Water Use **WU-04 Water Management**

WU-04-03 Water Quality Survey

Extent of Application All Space Types

Objective Ensure the quality of potable water delivered to the occupants is satisfactory.

Credit Point(s) Attainable 1

Credit Requirement

For the assessment boundary with potable water supply:

1 credit point for demonstrating that the quality of potable water meets WSD's Hong Kong Drinking Water Standards (HKDWS) [1].

Parameter(s)	Criteria
Antimony (Sb)	≤ 20 µg/L
Cadmium (Cd)	≤ 3 µg/L
Chromium (Cr)	≤ 50 µg/L
Copper (Cu)	≤ 2000 µg/L
Lead (Pb)	≤ 10 µg/L
Nickel (Ni)	≤ 70 µg/L
Residual Chlorine	≤ 5 mg/L
E.coli	0 cfu/100 mL

For the assessment boundary without potable water supply:

1 credit point will be awarded if the host building has awarded with Quality Water Supply Scheme for Buildings – Fresh Water (Management System) by WSD [2].

Assessment

1. Demonstrate that a selection of potable water outlets is used to supply human consumption.
2. Provide details of the analysis of samples taken.
3. For the assessment boundary without potable water supply, only water consumption points on the same floor of the assessment boundary shall be counted.

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
WU-04-03_00	BI submission form for WU-04-03
WU-04-03_01	Laboratory test report(s) for each sampling location
WU-04-03_02	Plumbing layout drawing(s)
WU-04-03_03	WSD certificate of "Quality Water Supply Scheme for Buildings – Fresh Water (Management System)"

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Remarks

(a) Additional Information

[1] Enhanced Water Quality Monitoring Programme, Water Supplies Department. [ONLINE]. Available at: https://www.wsd.gov.hk/en/core-businesses/water-quality/action-plan-for-enhancing-of-drinking-water-safety/drinking-water-standards-enhanced-water-quality/index.html
[Accessed Dec 2021].

[2] Quality Water Supply Scheme for Buildings – Fresh Water (Management System), Water Supplies Department. [ONLINE]. Available at: https://www.wsd.gov.hk/en/water-safety/fresh-water-management-system-/index.html
[Accessed Dec 2021].

(b) Related Credits

None

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6 Water Use **WU-04** **Water Management**

WU-04-04 **Drinking Water Promotion**

Extent of Application All Space Types

Objective Promote regular water consumption by providing easily accessible drinking water facilities to the occupants.

Credit Point(s) Attainable 1

Credit Requirement 1 credit point for installing water dispenser that is located within a 30m walking distance of all the normally occupied spaces and in all the dining spaces (if applicable).

Assessment

1. Demonstrate the location of installed water dispenser(s).
2. Demonstrate the distance from all the normally occupied space to the water dispenser(s).
3. Water pitcher(s) are accepted as an alternative of water dispenser(s). The water in pitcher(s) must be refilled every 3 hours at the longest.

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
WU-04-04_00	BI submission form for WU-04-04
WU-04-04_01	Layout drawing(s) showing the location of installed water dispenser(s) and distance from all the normally occupied spaces to the water dispenser(s)
WU-04-04_02	Declaration letter by the Applicant to confirm the refilling schedule of water pitcher(s)
WU-04-04_03	Dated photo record(s) of water dispenser(s) and/ or water pitcher(s)

Remarks

(a) Additional Information

None

(b) Related Credits

None

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7 Health and Wellbeing

This section of BI V2.0 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 interior spaces, which have impact on the quality of working and living environments.

Given that on average people in Hong Kong spend around 85% of their time indoors on average, indoor environmental quality has a significant impact on the quality of life.

Interiors spaces should provide safe, healthy, convenient and efficient indoor spaces. Poor indoor environments can have impact on productivity and may pose health risks to the occupants. The design, management, operation and maintenance of the interior spaces should seek to provide a good quality indoor environment, with optimum use of energy and other resources.

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

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7 Health and Wellbeing **HWB-00 Basic Requirement**

HWB-00-01 Minimum Ventilation Performance

Extent of Application All Space Types

Objective Ensure that a minimum quality and quantity of outdoor air is supplied to spaces in the project in order to support the well-being and comfort of the occupants.

Credit Point(s) Attainable 1

Credit Requirement 1 credit point for demonstrating that the project space has met the requirements of corresponding air changes per hour (ACH) of air ventilation rate.

Alternatively,

- *1 credit point for demonstrating that the carbon dioxide level within the project space can comply with Good Class requirements as stipulated in IAQ Certification Scheme[1]; or*

- *1 credit point for demonstrating that the project is in compliance with the minimum ventilation rate stipulated in ASHRAE Standard 62.1-2019 [2] with respective to its designed ventilation mode.*

Assessment

1. Provide a narrative that demonstrates compliance with below minimum requirements of corresponding air changes per hour (ACH) of air ventilation rate:

Types of spaces	Air Ventilation requirement (ACH)
Work space – Offices	5
Shopping space – Retail	6
Food space – Restaurant	6
Institutional space – Elderly Homes	5
Institutional space – Clinic	6
Institutional space – Ward	6
Institutional space – Classroom	6
Institutional space – Library	6
Hotel space – Hotel	4
Leisure Entertainment Space – Function Room	8
Residential Communal space – Clubhouse (Gym)	6
Residential Communal space – Clubhouse (Lounge)	6
Residential Communal space – Function room	8

Air changes per hour (ACH) of air ventilation rate can be calculated as follows:

$$Air\ Changes\ Per\ Hour\ (ACH) = \frac{Volume\ of\ air\ flow\ in\ an\ hour\ \ (Cubic\ feet\ per\ hour)}{Volume\ of\ the\ space\ (Cubic\ feet)}$$

Alternatively,

- *Conduct air measurement to check whether the indoor carbon dioxide level conforms to IAQ Certification Scheme Good Class level. Sampling criteria, period and points should follow the latest guide on Indoor Air Quality Certification Scheme for Offices and Public Places [3]; and*

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- *Provide an IAQ report of the assessment boundary endorsed by an accredited IAQ Certificate Issuing Body (CIB) [4]; or*

- *Provide a report demonstrating compliance with the minimum ventilation rate stipulated in ASHRAE Standard 62.1-2019 in all normally occupied spaces.*

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
HWB-00-01_00	BI submission form for HWB-00-01
HWB-00-01_01	Narrative demonstrating compliance with the minimum requirements of corresponding air changes per hour of air ventilation rate
HWB-00-01_02	Layout plan showing the seating arrangement
HWB-00-01_03	HVAC Drawing
HWB-00-01_04	HVAC schedule & catalogue(s)
HWB-00-01_05	IAQ measurement report endorsed by an accredited IAQ CIB
HWB-00-01_06	Report demonstrating compliance with the minimum ventilation rate stipulated in ASHRAE Standard 62.1-2019 with respective to its designed ventilation mode in normally occupied spaces

Remarks

(a) Additional Information

[1] IAQ Certification Scheme, Indoor Air Quality Information Centre. [ONLINE]. Available at: https://www.iaq.gov.hk/en/iaq-certification-scheme.aspx [Accessed Dec 2021].

[2] American Society of Heating, Refrigerating and Air-conditioning Engineers (ASHRAE) – ANSI/ASHRAE Standard 62.1-2019. Ventilation for Acceptable Indoor Air Quality. [ONLINE] Available at: www.ashrae.org [Accessed Dec 2021]

[3] A Guide on Indoor Air Quality Certification Scheme for Offices and Public Places, Indoor Air Quality Information Centre. [ONLINE]. Available at: https://www.iaq.gov.hk/en/iaq-certification-scheme/references-and-useful-forms.aspx [Accessed Dec 2021].

[4] Certificate Issuing Body Accreditation, Indoor Air Quality Information Centre. [ONLINE]. Available at: https://www.iaq.gov.hk/en/iaq-certification-scheme/certificate-issuing-body-accreditation.aspx [Accessed Dec 2021].

(b) Related Credits

HWB-03-01 Enhanced Ventilation

The related credit awards project demonstrating enhanced ventilation performance in the normally occupied spaces.

HWB-03-05 Indoor Air Quality

Carrying out on-site indoor measurement to provide useful information of the operation of ventilation system so as to ensure a good air quality provision.

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7 Health and Wellbeing

HWB-01 Design for Green Living

HWB-01-01 Healthy and Active Living

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7	**Health and Wellbeing**	**HWB-01**	**Design for Green Living**
		HWB-01-02	**Biophilic Design**

Extent of Application

All Space Types

Objective

Encourage the building occupants to have constant interaction with living things and natural surroundings to nurture the innate human-nature connection and to address human psychological need to be around life and life-like processes.

Credit point(s) Attainable

2

Credit Requirement

1 to 2 credit points for fulfilling at least 2 or 3 of the following requirements.
List of requirements:

i) Potted plants or planted beds cover at least 1% of the total internal floor area of within the assessment boundary;
ii) Plant wall(s) cover wall area that is at least 1% of the total internal floor area of within the assessment boundary;
iii) Use of natural materials for interior design and build;
iv) Nature sound in the common spaces;
v) At least 1 water features; or
vi) Others to be proposed by the Applicant.

Alternatively,

- *1 to 2 credit points for demonstrating visual connection with nature and/ or biophilic design features within the assessment boundary with Visual Quality Score of at least 1.5 or 2.5.*

Assessment

1. Prepare a narrative showing compliance with the listed requirements.

Alternatively,

- *Visual Quality Score calculation:*

1. Prepare a report of the visual quality study of the assessment boundary by demonstrating the visual quality score of the space.

2. Visual Quality Score can be calculated by applying weighting factors (from 1 to 5) to images taken from the viewpoints.

3. Number and location of viewpoints:

3.1. A minimum of 1 viewpoint shall be placed within the selected assessment space. The assessment space chosen shall be a normally occupied space with the highest occupancy; and

3.2. The viewpoint should be appropriately located at the centre of the assessment space (for space of irregular shape, the space shall be subdivided into various notional portions for respective VQSportion calculations and the VQSportion of various portions shall be area-weighted in order to compute the overall VQS of the assessment space).

4. Number of images:

4.1. A series of images from 3 different directions at 45° interval should be taken using landscape orientation.

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4.2. Weighting factors are listed in the following table:

Weighting factor	*Representation*	*Visual connection to nature and/ or biophilic design features*
5	*Outstanding*	*Natural terrain; waterfront; extensive outdoor greenery with deciduous trees, seasonal flowers and/or native plants providing local fauna, including birds and butterflies with appropriate food sources and habitats*
4	*Excellent*	*Outdoor planting; Sky*
3	*Good*	*Indoor planting*
2	*Fair*	*Biomorphic forms & patterns; nature presented by digital medium, drawing or other visual means*
1	*Insignificant*	*No visual connection to the above*

5. Methodology:

5.1. Applicant shall produce images taken from single lens camera and specifications for camera are listed below:

Item	*Setting*
Vertical elevation of camera	*1,600mm above ground/ finished floor*
Equivalent lens focal length or focal length	*27mm*
Aspect Ratio	*3:2*

5.2. For each image, assign weighting factors from 1 to 5 to different portions of the image depending on the quality of the view;
5.3. Calculate the Visual Quality Score of the image using Area Weighting Methodology;
5.4. Repeat the process for each image; and
5.5. Calculate the average Visual Quality Score for the viewpoint.

6. Important notes:

6.1. No fisheye or image distortion before or after picture taking; and
6.2. No zooming or pan function shall be used.

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
HWB-01-02_00	BI submission form for HWB-01-02
HWB-01-02_01	Layout plan showing the provision(s)
HWB-01-02_02	Narrative showing compliance with the listed requirements with dated photo record(s)
HWB-01-02_03	Video showing natural sound implemented in common spaces
HWB-01-02_04	Specifications or catalogue(s) of all the natural materials used
HWB-01-02_05	Visual quality study report

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Remarks

(a) Additional Information

Biophilic Design Case Studies. Terrapin Bright Green. [ONLINE]. Available at: https://www.terrapinbrightgreen.com/report/biophilic-design-case-studies/ [Accessed Dec 2021].

Kaplan, R and Kaplan, S, 1989, “The Experience of Nature: A Psychological Perspective”, Cambridge, University Press: Cambridge, UK.

Kellert, S.R., Heerwagen, J., Mador, M., Eds., 2008, “Biophilic Design – The Theory, Science, and Practice of Bringing Buildings to Life”, Wiley: Hoboken, NJ, USA.

Patterns of Biophilic Design. Terrapin Bright Green. [ONLINE]. Available at: https://www.terrapinbrightgreen.com/report/14-patterns/ [Accessed Dec 2021].

Wilson, E.O. 1984, “Biophilia”, Harvard University Press: Cambridge, MA, USA

(b) Related Credits

None

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7 Health and Wellbeing **HWB-02 Inclusive Design**

HWB-02-01 Inclusive Design

Extent of Application All Space Types

Objective Encourage user-friendliness of the interior space design for people of all backgrounds and abilities.

Credit Point(s) Attainable 4

Credit Requirement

(a) Barrier Free Access (BFA) Design

1 to 2 credit points for providing at least 1 or 2 applicable enhanced provisions as stipulated in the "Recommended Design Requirements" of BFA 2008[1].

(b) Corporate Social Responsibility (CSR) Facilities

1 to 2 credit points for providing 2 or 4 of the following CSR facilities.
List of CSR facilities:

i) AED/ First-aid kits;
ii) Baby-care room or lactation room within the host building;
iii) Bicycle storage for at least 5% or more for regular occupants within the host building;
iv) Permanent physical or digital board for green building education;
v) Dedicated fitness/exercise space;
vi) Quiet or wellness room;
vii) Family restroom within the host building;
viii) Permanent aesthetic display;
ix) Dedicated Dining Spaces; or
x) Others to be proposed by the Applicant.

Assessment

(a) Barrier Free Access (BFA) Design

1. Provide a report detailing applicable enhanced provisions as stipulated in the "Recommended Design Requirements" of BFA 2008.

(b) Corporate Social Responsibility (CSR) Facilities

1. Provide a report detailing the applicable CSR facilities of the project.

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Submittals

(a) Barrier Free Access (BFA) Design

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
HWB-02-01a_00	BI submission form for HWB-02-01a
HWB-02-01a_01	Summary table listing the enhanced provisions, and their locations
HWB-02-01a_02	Drawings showing the design measures and/or amenity features
HWB-02-01a_03	Report showing justifications and details for each design measures and/or amenity features
HWB-02-01a_04	Catalogue(s)/ information of design measures provided or Dated photo record(s)

(b) Corporate Social Responsibility (CSR) Facilities

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
HWB-02-01b_00	BI submission form for HWB-02-01b
HWB-02-01b_01	Summary table listing the facilities
HWB-02-01b_02	Drawings showing the facilities and locations
HWB-02-01b_03	Dated photo record(s) of the facilities

Remarks

(a) Additional Information

[1] Design Manual - Barrier Free Access 2008, Buildings Department. [ONLINE] Available at: http://www.bd.gov.hk/english/documents/code/e_bfa2008.htm [Accessed Dec 2021].

(b) Related Credits

None

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

HWB-03-01 Enhanced Ventilation

Extent of Application All Space Types

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

Credit Point(s) Attainable 1

Credit Requirement 1 credit point for demonstrating that the space has exceeded the air changes per hour (ACH) in credit HWB-00-01 Minimum Ventilation Performance by 30%.

Alternatively,

- *1 credit point for demonstrating that the carbon dioxide level within the project space can comply with the Excellent Class requirement as stipulated in IAQ Certification Scheme [1]; or*
- *1 credit point for demonstrating the minimum ventilation rate of the space has exceeded ASHRAE 62.1-2019 [2] by 30%.*

Assessment

1. Provide a narrative demonstrating that compliance with the minimum ventilation rate exceeds the corresponding air changes per hour in HWB-00-01 Minimum Ventilation Performance by 30%.

Alternatively,

- *Conduct air measurement to check whether the indoor carbon dioxide level conforms to IAQ Certification Scheme Excellent Class level. Sampling criteria, period and points should follow the latest guide on Indoor Air Quality Certification Scheme for Offices and Public Places [3]; and*
- *Provide an IAQ report of the assessment boundary endorsed by accredited IAQ Certificate Issuing Body (CIB) [4]; or*
- *Provide a report demonstrating compliance with the minimum ventilation rate is exceeded by 30% as stipulated in ASHRAE Standard 62.1-2019 in all normally occupied spaces.*

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
HWB-03-01_00	BI submission form for HWB-03-01
HWB-03-01_01	Narrative demonstrating that compliance with minimum ventilation rate exceeds the corresponding air changes per hour in HWB-00-01 Minimum Ventilation Performance by 30%
HWB-03-01_02	Layout plan showing the seating arrangement
HWB-03-01_03	HVAC Drawing
HWB-03-01_04	HVAC schedule & catalogue(s)
HWB-03-01_05	IAQ measurement report endorsed by an accredited IAQ CIB
HWB-03-01_06	Report demonstrating compliance with the minimum ventilation rate by exceeding 30% as stipulated in ASHRAE Standard 62.1-2019 with respective to its designed ventilation mode in normally occupied spaces

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Remarks

(a) Additional Information

[1] IAQ Certification Scheme, Indoor Air Quality Information Centre. [ONLINE]. Available at: https://www.iaq.gov.hk/en/iaq-certification-scheme.aspx [Accessed Dec 2021].

[2] American Society of Heating, Refrigerating and Air-conditioning Engineers (ASHRAE) – ANSI/ASHRAE Standard 62.1-2019. Ventilation for Acceptable Indoor Air Quality. [ONLINE] Available at: www.ashrae.org [Accessed Dec 2021]

[3] A Guide on Indoor Air Quality Certification Scheme for Offices and Public Places, Indoor Air Quality Information Centre. [ONLINE]. Available at: https://www.iaq.gov.hk/en/iaq-certification-scheme/references-and-useful-forms.aspx [Accessed Dec 2021].

[4] Certificate Issuing Body Accreditation, Indoor Air Quality Information Centre. [ONLINE]. Available at: https://www.iaq.gov.hk/en/iaq-certification-scheme/certificate-issuing-body-accreditation.aspx [Accessed Dec 2021].

(b) Related Credits

HWB-00-01 Minimum Ventilation Performance

The related credit awards project demonstrating enhanced ventilation performance in the normally occupied spaces.

HWB-03-05 Indoor Air Quality

Carrying out on-site indoor measurement to provide useful information of the operation of ventilation system so as to ensure a good air quality provision.

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7 Health and Wellbeing

HWB-03 Indoor Environmental Quality

HWB-03-02 Waste Odour Control

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

HWB-03-03 Acoustics and Noise

Extent of Application All Space Types

Objective Ensure the normally occupied spaces of the building have a comfortable acoustic environment.

Credit Point(s) Attainable 3

Credit Requirement

(a) Background Noise Level

1 credit point for demonstrating background noise levels within the prescribed criteria to ensure the well-being of the occupants.

(b) Reverberation time

1 credit point for demonstrating that the reverberation time in the applicable areas meets the prescribed criteria of given types of space to ensure speech clarity.

(c) Noise isolation

1 credit point for demonstrating airborne noise isolation between spaces fulfils the prescribed criteria.

Assessment

(a) Internal Noise Level

1. Demonstrate the background noise level of the interior spaces is within below criteria by computer simulation or measurement depending on the Applicant's preference.
   - i) Work space – Offices – NR/NC 40
   - ii) Work space – Conference Rooms – NR/NC 35
   - iii) Shopping space – Retail – NR/NC 45
   - iv) Food space – Restaurant – NR/NC 45
   - v) Institutional space – Elderly Homes – NR/NC 35
   - vi) Institutional space – Clinic – NR/NC 35
   - vii) Institutional space – Ward – NR/NC 35
   - viii) Institutional space – Classroom – NR/NC 30
   - ix) Institutional space – Lecture Room – NR/NC 35
   - x) Institutional space – Library – NR/NC 30
   - xi) Hotel space – Hotel – NR/NC 35
   - xii) Leisure Entertainment Space – Function Room – NR/NC 35
   - xiii) Residential Communal space – Clubhouse (Gym) – NR/NC 35
   - xiv) Residential Communal space – Clubhouse (Lounge) – NR/NC 40
   - xv) Residential Communal space – Function room – NR/NC 35

   For on-site measurement, the measurement should be based on an equivalent continuous sound level of 5 minutes [L_{eq} (5mins)] with the HVAC&R system operating under normal condition.

(b) Reverberation time

1. Demonstrate the mid-frequency reverberation time of the interior spaces is within below criteria by computer simulation or measurement depending on the Applicant's preference.

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The average reverberation time for mid frequencies (500Hz, 1kHz and 2kHz) shall not exceed:

i) Work space – Offices – 0.6s
ii) Work space – Conference Rooms – 0.6s
iii) Shopping space – Retail – 1s
iv) Food space – Restaurant – 1s
v) Institutional space – Elderly Homes – 0.6s
vi) Institutional space – Clinic – 0.8s
vii) Institutional space – Ward – 0.6s
viii) Institutional space – Classroom – 0.6s
ix) Institutional space – Lecture Room – 1s
x) Institutional space – Library – 1s
xi) Hotel space – Hotel – 0.4 to 0.6s
xii) Leisure Entertainment Space – Function Room – 1.5s
xiii) Residential Communal space – Clubhouse (Gym) – 2s
xiv) Residential Communal space – Clubhouse (Lounge) – 0.6s
xv) Residential Communal space – Function room – 1.5s

(c) Noise isolation

1. Demonstrate airborne noise isolation between spaces fulfilling the prescribed criteria

   Compliance should be demonstrated by computer simulation or measurements depending on the Applicant's preference. The performance of the weighted Sound Reduction Index (SRI) or Level Difference should fulfil the requirements as stated in below table.

Type of Premises	Weighted SRI	Level Difference
Between offices/ conference rooms/ retail shops	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 bedroom (same unit)	R_w 44	$D_{nT,w}$ 38

Note:
Measuring equipment shall conform to the accuracy requirements given by IEC 61672-1 [1] Class 1 requirements, or equivalent.

The assessment should take into account noise from building services equipment under normal operation mode.

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Submittals

(a) Internal Noise Level

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
HWB-03-03a_00	BI submission form for HWB-03-03a
HWB-03-03a_01	Layout plan
HWB-03-03a_02	Measurement report for internal noise level
HWB-03-03a_03	Calibration certificate for all sound level meters
HWB-03-03a_04	Simulation report for internal noise level

(b) Reverberation time

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
HWB-03-03b_00	BI submission form for HWB-03-03b
HWB-03-03b_01	Layout plan
HWB-03-03b_02	Measurement report for reverberation time
HWB-03-03b_03	Calibration certificate for all sound level meters
HWB-03-03b_04	Simulation report for reverberation time

(c) Noise isolation

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
HWB-03-03c_00	BI submission form for HWB-03-03c
HWB-03-03c_01	Layout plan
HWB-03-03c_02	Schedule of the rooms within the assessment boundary
HWB-03-03c_03	Measurement report for noise isolation
HWB-03-03c_04	Calibration certificate for all sound level meters
HWB-03-03c_05	Simulation report for noise isolation
HWB-03-03c_06	Construction details of the partition walls

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Remarks

(a) Additional Information

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

Acoustic windows or other attenuation may contribute to mitigate background noise problem

ASTM International. Designation: E 1007 – 97. Standard test method for field measurement of tapping machine impact sound transmission through floorceiling assemblies and associated support structures

Environmental Protection Department - Innovative Noise Mitigation Designs and Measures - Acoustic Window. [ONLINE]. Available at: http://www.epd.gov.hk/epd/Innovative/greeny/eng/acoustic_window.html [Accessed Dec 2021].

International Organization for Standardization – ISO 3382:2009 - Acoustics - Measurement of room acoustic parameters.
International Electrotechnical Commission. IEC 61672-1:2013 Electroacoustic – Sound Level meters.

International Organization for Standardization. ISO 10140-1, Acoustics — Laboratory measurement of sound insulation of building elements — Part 1: Application rules for specific products

International Organization for Standardization. ISO 10140-3, Acoustics — Laboratory measurement of sound insulation of building elements — Part 3: Measurement of impact sound insulation

International Organization for Standardization. ISO 10140-5, Acoustics — Laboratory measurement of sound insulation of building elements — Part 5: Requirements for test facilities and equipment

International Organization for Standardization. ISO 140-7. Acoustics - Measurement of sound insulation in buildings and of building elements. Part 7: Field measurements of impact sound insulation of floors

Labour Department. Guidance Notes on Factories and Industrial Undertakings (Noise at Work) Regulation. [ONLINE] Available at: https://www.labour.gov.hk/eng/public/os/C/FIUNR.pdf [Accessed Dec 2021].

(b) Related Credits

None

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7 Health and Wellbeing

HWB-03 Indoor Environmental Quality

HWB-03-04 Indoor Vibration

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7	**Health and Wellbeing**	**HWB-03**	**Indoor Environmental Quality**
		HWB-03-05	**Indoor Air Quality**

Extent of Application

All Space Types

Objective

Demonstrate that airborne contaminants do not give rise to unacceptable levels of indoor air pollution in the normally occupied spaces and monitor indoor air quality issues continuously.

Credit Point(s) Attainable

6 + 3 Bonus

Credit Requirement

(a) Design for good IAQ

1 credit point for providing air treatment methods, i.e. sizable standalone air purifier or independent exhaust system to indoor pollution source areas, such as photocopy rooms / kitchen / bathrooms / locations where significant indoor pollutant is generated.

1 credit point for demonstrating that the fresh air louvre is at least 15m from exhaust air louvre.

Alternatively,

- *1 credit point for providing sizable standalone air purifier to normally occupied spaces.*

1 Bonus credit point if all air handling units serving the assessment boundary are equipped with UV-C lighting for air-stream disinfection.

(b) IAQ Measurement

2 credit points for submitting an IAQ Certification Scheme [1] (Good Class) report of the assessment boundary endorsed by an accredited IAQ Certificate Issuing Body (CIB) [2].

1 additional Bonus credit point for submitting an IAQ Certification Scheme (Excellent Class) report of the assessment boundary endorsed by an accredited IAQ Certificate Issuing Body (CIB).

(c) Continuous IAQ Monitoring

1 to 2 credit points for installing a real-time monitor for every 500m2 and at least 1 per floor to measure at least 2 or 4 of the following monitored parameters in a normally occupied or common space within the assessment boundary:

i) PM2.5 or PM10;
ii) Carbon dioxide;
iii) Carbon monoxide;
iv) Ozone;
v) Nitrogen dioxide;
vi) Total VOCs: or
vii) Formaldehyde.

Measurements are taken at an interval of no longer than 10 minutes for particulate matter and carbon dioxide and no longer than 1 hour for other pollutants.

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1 additional Bonus credit point for setting up a notification system to inform the occupants if any of the above monitored parameters fail to meet the IAQ (Good Class) requirements of IAQ certification scheme.

Assessment

(a) Design for good IAQ

1. Provide a narrative demonstrating compliance with the separation distance between fresh air louvre and exhaust air louvre.

2. Prepare a schedule of air treatment methods being applied to the assessment boundary.

3. Specify the air treatment methods being used and the corresponding indoor air pollutants that have been tackled.

4. Demonstrate that all air handling units serving the assessment boundary are equipped with UV-C lighting.

(b) IAQ Measurement

1. Submit a report endorsed by an accredited IAQ Certificate Issuing Body covering the assessment boundary.

(c) Continuous IAQ Monitoring

1. Provide a narrative demonstrating compliance with the credit requirements.

2. Demonstrate the IAQ notification system for the assessment boundary.

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Submittals

(a) Design for good IAQ

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
HWB-03-05a_00	BI submission form for HWB-03-05a
HWB-03-05a_01	HVAC schedule
HWB-03-05a_02	HVAC drawings showing the location of the fresh air louvre and exhaust air louvre
HWB-03-05a_03	Narrative demonstrating compliance with the separation distance between fresh air louvre and exhaust air louvre
HWB-03-05a_04	Narrative demonstrating the compliance with the appropriate use and area coverage of air purifier used
HWB-03-05a_05	Catalogue(s) of air purifiers being used
HWB-03-05a_06	Schedule of air treatment methods being used and corresponding indoor air pollutants that have been tackled
HWB-03-05a_07	Catalogue(s) of all the air treatment methods being used
HWB-03-05a_08	Specification of UV-C lighting
HWB-03-05a_09	Dated photo record(s) of all air handling units serving the assessment boundary are equipped with UV-C lighting

(b) IAQ Measurement

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
HWB-03-05b_00	BI submission form for HWB-03-05b
HWB-03-05b_01	IAQ measurement report endorsed by an accredited IAQ CIB

(c) Continuous IAQ Monitoring

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
HWB-03-05c_00	BI submission form for HWB-03-05c
HWB-03-05c_01	Layout plan with the locations of all IAQ monitors within the assessment boundary
HWB-03-05c_02	Specification of IAQ monitors used
HWB-03-05c_03	Dated photo record(s) of all the IAQ monitors within the assessment boundary
HWB-03-05c_04	Narrative showing the communication protocol between the notification system and the occupants

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Remarks

(a) Additional Information

[1] IAQ Certification Scheme, Indoor Air Quality Information Centre. [ONLINE]. Available at: https://www.iaq.gov.hk/en/iaq-certification-scheme.aspx [Accessed Dec 2021].

[2] Certificate Issuing Body Accreditation, Indoor Air Quality Information Centre. [ONLINE]. Available at: https://www.iaq.gov.hk/en/iaq-certification-scheme/certificate-issuing-body-accreditation.aspx [Accessed Dec 2021].

(b) Related Credits

HWB-00-01 Minimum Ventilation Performance

The related credit awards project demonstrating a minimum supply of outdoor air to the normally occupied spaces.

HWB-03-01 Enhanced Ventilation

The related credit awards project that demonstrates enhanced ventilation performance in the normally occupied spaces.

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

HWB-03-06 Thermal Comfort

Extent of Application All Space Types

Objective Ensure that the specified thermal comfort conditions can be achieved under conditions of normal occupancy

Credit Point(s) Attainable 2

Credit Requirement 1 credit point for demonstrating that the assessment boundary meets the 80% acceptability limit on any one day during the selected hottest month from reference weather data file. The determination of the 80% acceptability limit should refer to ASHRAE 55-2020 [1]. The results shall demonstrate compliance with the prescribed design criteria within the prescribed limits, for a minimum of 80% of the prescribed locations.

1 credit point for providing thermal zones with the maximum size as 60m^2 or one per 10 occupants, whichever is larger.

Assessment

1. Submit a Thermal Comfort Report demonstrating compliance with the assessment requirements. The report should include:
    1.1. Interior layout;
    1.2. Simulation assumption;
    1.3. HVAC equipment schedule;
    1.4. List of installed solar control features, e.g. glazing, internal blinds; and
    1.5. Results of simulations and calculations for thermal comfort that meet the requirements.
2. Provide a narrative to demonstrate that the thermal zones setting can meet the requirements.

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
HWB-03-06_00	BI submission form for HWB-03-06
HWB-03-06_01	Thermal comfort report
HWB-03-06_02	Report of thermal zones setting compliance
HWB-03-06_03	Layout plan showing the seating arrangement
HWB-03-06_04	HVAC drawings
HWB-03-06_05	HVAC schedule
HWB-03-06_06	HVAC specification

Remarks

(a) Additional Information

[1] American Society of Heating Refrigeration and Air Conditioning Engineers – ANSI/ASHRAE Standard 55-2020 Thermal Environmental Conditions for Human Occupancy.

(b) Related Credits

None

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

HWB-03-07 Artificial Lighting

Extent of Application All Space Types

Objective Promote indoor lighting design which is comfortable for occupants' indoor activities.

Credit Point(s) Attainable 3

Credit Requirement

(a) Colour Rendering Index

1 credit point for all electric lightings with Colour Rendering Index (CRI) of 80 or above within the assessment boundary.

(b) Unified Glare Rating

1 credit point for demonstrating that the following Unified Glare Rating (UGR) requirements with reference to BSI Light and lighting – Lighting of work places [1] can be achieved.

UGR Value	Application
16	Technical drawing room
19	Office, Conference room, Classroom, Lecture hall, Ward, Laboratory Library, Hotel, Clinic
22	Common space, Cafeterias & restaurant, Retail space, Industrial space for fine work, Gymnasium, Staff room
25	Average industrial work, Circulation space and corridor
28	Heavy industrial work

(c) Light dimming

1 credit point for having multizone control systems with dimming function that enable the occupants to adjust the lighting to meet their needs and preferences.

Assessment

(a) Colour Rendering Index

1. Demonstrate compliance with the CRI either product specification, or by modelling.

(b) Unified Glare Rating

1. Demonstrate compliance with the UGR limit either by measurements that use a standardised measurement protocol appropriate to the parameter being assessed, or by modelling.

(c) Light dimming

1. Demonstrate that the lighting system has multizone control systems with dimming function of the lighting.

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Submittals

(a) Colour Rendering Index

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
HWB-03-07a_00	BI submission form for HWB-03-07a
HWB-03-07a_01	Lighting layout plan
HWB-03-07a_02	Light fitting schedule
HWB-03-07a_03	Catalogue(s) or other supporting documents showing the colour rendering index of the lighting system
HWB-03-07a_04	Modelling report

(b) Unified Glare Rating

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
HWB-03-07b_00	BI submission form for HWB-03-07b
HWB-03-07b_01	Lighting layout plan
HWB-03-07b_02	Light fitting schedule
HWB-03-07b_03	Catalogue(s) or other supporting documents showing the unified glare rating of the light fitting
HWB-03-07b_04	Measurement report
HWB-03-07b_05	Modelling report

(c) Light dimming

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
HWB-03-07c_00	BI submission form for HWB-03-07c
HWB-03-07c_01	Lighting layout plan showing multi-zoning control of the light
HWB-03-07c_02	Light fitting schedule
HWB-03-07c_03	Catalogue(s) or other supporting documents of the light dimming system
HWB-03-07c_04	Dated photo record(s) showing the light dimming system

Remarks

(a) Additional Information

BS EN 12464-1:2011 Light and lighting – Lighting of work places Part 1: Indoor work places, BSI Standard Publication.

(b) Related Credits

None

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

HWB-03-08 Daylight

Extent of Application All Space Types

Objective Achieve satisfactory daylight performance in normally occupied indoor spaces by considering the sufficiency of daylight illuminance and the potential risk of excessive sunlight penetration

Credit Point(s) Attainable 1 + 2 Bonus

Credit Requirement

(a) Glare Control

1 credit point for providing envelope glazing shading or blinds that are controllable by the occupants or can be set to prevent glare automatically.

(b) Daylighting Exposure

2 Bonus credit points for demonstrating at least 55% of the total area of the studied normally occupied spaces achieve spatial Daylight Autonomy$_{300/50\%}$ ($sDA_{300/50\%}$) and no more than 10% of the same area receive Annual Sunlight Exposure$_{1000,250}$ ($ASE_{1000, 250}$).

Assessment

(a) Glare Control

1. Provide a report demonstrating the compliance with the credit requirement within the assessment boundary.

(b) Daylighting Exposure

1. Conduct simulations to show that at least 55% of the total area of the normally occupied spaces can receive at least 300 lux of sunlight for at least 50% of operating hours each year and no more than 10% of the same area can receive more than 1,000 lux for more than 250 hours each year.

2. Follow IES LM-83-12 Approved Method: IES Spatial Daylight Autonomy (sDA) and Annual Sunlight Exposure (ASE). Annual sky file referencing a local climate file, such as an EnergyPlus weather format data file (*.epw) [1], should be used for the sky model. Surrounding buildings and terrain included in the model should be based on the GIS information from Lands Department [2]. The following simplifications are allowed:

   2.1. The presence of trees can be ignored;

   2.2. The overall external reflectance of the building can be assumed to be 0.2;

   2.3. If furniture layout is not known by the time of design, it can be assumed that no furniture is in the space or a typical furniture layout can be applied; and

   2.4. Internal doors within a unit are assumed to be fully opened.

3. Submit a Daylight Analysis Report demonstrating compliance with the credit requirement. The report shall include:

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3.1. Scale drawing(s) depicting the building layout;

3.2. Screen captures of the 3D model, including the project building, surrounding buildings and terrain; and

3.3. Simulation assumption and results.

Submittals

(a) Glare Control

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
HWB-03-08a_00	BI submission form for HWB-03-08a
HWB-03-08a_01	Layout plan showing the glazing location
HWB-03-08a_02	Catalogue(s) or specification of the envelope glazing shadings or blinds
HWB-03-08a_03	Dated photo record(s) showing the glazing shading or blinds

(b) Daylighting Exposure

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
HWB-03-08b_00	BI submission form for HWB-03-08b
HWB-03-08b_01	Daylight simulation report (if applicable)
HWB-03-08b_02	Lux measurement report
HWB-03-08b_03	Valid calibration certificate of the lux meter

Remarks

(a) Additional Information

[1] Weather Data by Region - Standard Hong Kong weather data file, EnergyPlus. [ONLINE] Available at: https://energyplus.net/weather-region/asia_wmo_region_2/CHN%20%20. [Accessed Dec 2021].

[2] Lands Department - Survey and Mapping Office - GIS Projects Section. 2017. Survey and Mapping Office - GIS Projects Section. [ONLINE] Available at: https://www.landsd.gov.hk/en/survey-mapping/mapping.html. [Accessed Dec 2021].

(b) Related Credits

None

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7 Health and Wellbeing

HWB-03 Indoor Environmental Quality

HWB-03-09 Biological Contamination

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7	**Health and Wellbeing**	**HWB-04**	**Good Hygiene Design**
		HWB-04-01	**Touchless Environment**

Extent of Application

All Space Types

Objective

Reduce the exposure to microbes through touchless design.

Credit point(s) Attainable

1 + 5 BONUS

Credit Requirement

1 credit point if all the waste receptacles within the assessment boundary are covered with lids and equipped with hands-free operation.

1 Bonus credit point if at least 50% of the main doors of entrances/exits can be automatically opened and all door switches are touchless.

1 Bonus credit point if toilet doors can be hands-free opened.

1 Bonus credit point if all the water dispensers are equipped with hands-free operation.

2 Bonus credit points if all dual flush WCs are equipped with hands-free operation.

Assessment

1. Provide a narrative demonstrating that waste receptacles within the assessment boundary are covered with lids and equipped with hands-free operation.
2. Provide a narrative demonstrating that the percentage of automatically opened main doors and touchless switches can fulfil the credit requirements.
3. Provide a narrative demonstrating that the toilet doors are hands-free operation.
4. Provide a narrative demonstrating that all the water dispensers are equipped with hands-free operation.
5. Provide a narrative demonstrating that all dual flush WCs are equipped with hands-free operation.

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Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
HWB-04-01_00	BI submission form for HWB-04-01
HWB-04-01_01	Layout plan with the locations of the items applied
HWB-04-01_02	Specification of waste receptacles within the assessment boundary
HWB-04-01_03	Dated photo record(s) of all waste receptacles within the assessment boundary
HWB-04-01_04	Dated photo record(s) of toilet doors with hands-free operation
HWB-04-01_05	Specification of all the water dispensers within the assessment boundary
HWB-04-01_06	Dated photo record(s) of all the water dispensers within the assessment boundary
HWB-04-01_07	Specification of the dual flush WCs
HWB-04-01_08	Dated photo record(s) of dual flush WCs.

Remarks

(a) Additional Information

None

(b) Related Credits

None

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7 Health and Wellbeing **HWB-04 Good Hygiene Design**

HWB-04-02 Healthy Entrance

Extent of Application All Space Types

Objective Minimise the introduction of pollutants into indoor air through appropriate entrance design.

Credit point(s) Attainable 4 Bonus

Credit Requirement 1 Bonus credit point if a healthy entrance is set up with a body temperature detector and alcohol hand rubs are provided at the entrance.

1 additional Bonus credit point if disinfectant mats are provided at the entrance.

2 additional Bonus credit points if automatic disinfection station for sanitising spray is provided next to the entrance.

Assessment

1. Provide a narrative demonstrating compliance with the credit requirements. The report should include:

    1.1. Layout plan with the location of body temperature detector, alcohol hand rubs, disinfectant mats and automatic disinfection station (if applicable);

    1.2. Specification of the body temperature detector, alcohol hand rubs and automatic disinfection station (if applicable); and

    1.3. Dated photo record(s).

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
HWB-04-02_00	BI submission form for HWB-04-02
HWB-04-02_01	Report for the healthy entrance set up

Remarks

(a) Additional Information

None

(b) Related Credits

None

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8 Innovations and Additions

BEAM encourages innovative and/ or new techniques that are yet to be found in the mainstream application in Hong Kong addressing sustainability objectives for the interior spaces.

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 Bonus credit point(s).

The Applicant shall be solely responsible to submit qualitative and/or quantitative evidence for 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.

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8 Innovations and Additions

IA-01 Innovations and Additions

IA-01-01 Innovations and Additions

Extent of Application

All Space Types

Objective

Encourage innovative and/ or new techniques/ practices/ design that are yet to be found in the mainstream application in Hong Kong addressing sustainability objectives for the interior spaces.

Credit Point(s) Attainable

Maximum 10 Bonus credit points for IA.

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) that have multiple aspects achievement; or (4) performance enhancement; and the associated benefits in addressing sustainability objectives for the interior spaces:

    1.1. Identify the sustainability objectives addressed by the proposed innovative applications;

    1.2. Detail the methods and criteria that evaluate the benefits and effectiveness of the applications (quantifiable performance indicators are to be proposed if applicable);

    1.3. Justify the number of Bonus credit points for the proposed applications;

    1.4. Provide evidence of the implementation of the applications; and

    1.5. Evaluate preliminary achievements and propose suggestion for improvement of the applications.

The assessor will refer the proposal to the BSL Assessment Sub-Committee who will consider each application on its merits.

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated in the leftmost column below.*	
IA-01-01_00	BI submission form for IA-01-01
IA-01-01_01	Report on the objectives, evaluating method and criteria, and proposed number of Bonus credit points for the innovative techniques
IA-01-01_02	Report on the evidence of implementation and evaluation of preliminary achievements / proposed improvements for the innovative techniques

Remarks

(a) Additional Information

None

(b) Related Credits

None

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9 Appendices 9.1 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 to 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.

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 9.2 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 9.2 for examples of not normally occupied spaces.

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Regional Materials

Materials which are extracted and manufactured within an 800km radius of the HKSAR 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 9.2 for examples of unoccupied spaces.

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9 Appendices 9.2 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 IEQ 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

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