

強制驗樓計劃

**Mandatory Building Inspection Scheme
(MBIS)**

&

強制驗窗計劃

**Mandatory Window Inspection Scheme
(MWIS)**



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Purpose

"Prevention is better than cure"

If owners can regularly inspect their buildings, identify problems at an early stage and carry out remedial works timely, accidents can be avoided.



Legislation

- **Buildings (Amendment) Ordinance 2011**
[B(A)O 2011]
 - **introducing MBIS & MWIS**

- **Building (Inspection and Repair) Regulation [B(I&R)R]**
 - **setting the scopes, standards and procedural requirements for carrying out prescribed building/window inspection and repair**

- **Building (Administration) (Amendment) Regulation 2011**
 - **establishing a new inspectors' register under the BO**

B(A)O 2011

MBIS (強制驗樓計劃)

- applies to private buildings* aged 30 years or above
- owners are required to appoint **registered inspector (RI)** to carry out prescribed building inspection and supervise prescribed repair in every 10 years

MWIS (強制驗窗計劃)

- applies to private buildings* aged 10 years or above
- owners are required to appoint **qualified person (QP)** to carry out prescribed window inspection and supervise prescribed repair in every 5 years

* except domestic building not exceeding 3 storeys in height

B(A)O 2011

“Prescribed inspection”

means an examination or assessment of a building as prescribed in the B(I&R)R

“Prescribed Repair”

means a repair or testing of a building as prescribed in the B(I&R)R

B(A)O 2011

Scope of Prescribed Inspection



Prescribed inspection under MBIS covers the following elements of a building:

- **Common parts**
- **External walls**
- **Projections**
- **Signboards**

Covering the following building elements:

1. External elements and other physical elements;
2. Structural elements;
3. Fire safety elements;
4. Drainage system; and
5. Identification of unauthorized building works in common parts and external walls

1. Common Parts

- **Building structures** including transfer structures, cantilevered structures and exposed pile caps.
- **Fire safety provisions** including:
 - (a) means of escape;
 - (b) means of access for fire fighting and rescue; and
 - (c) fire resisting construction.
- **Common drain pipes of aboveground and underground drainage systems**, including any associated fixings.
- **Fixtures and installations** including metal gates, fence walls, protective barriers, parapets, balustrades and skylights.

2. External walls

- **Building structures** including transfer structures and cantilevered structures.
- **Non-structural items** including fins, grilles and metal louvers.
- **Curtain walls**
- **Appendages, architectural projections, and fixtures and installations** (including metal gates, protective barriers, parapets and balustrades).

B(I&R)R

3. **Projection**

- a balcony
- a verandah
- a planter box
- a drying rack
- a window canopy
- any supporting structure for a building service installation (excluding any drainage system)
- any pipe or duct that is associated with the building service installation mentioned above

4. Signboard

- A signboard erected on a building including the display surfaces, fixings and supporting structures of the signboard

Requirements of Prescribed Inspection

RI shall carry out an examination or assessment of a building under MBIS to :

- **ascertain whether a building is safe or liable to become dangerous, or has been rendered dangerous;**
- **identify any defect or deficiency of a building; and**
- **make proposal for any prescribed repair**

B(I&R)R

Standard of Works

- **Shown in the approved plans of the building;**
- **Shown in any plan submitted to the BA under the Building (Minor Works) Regulation;**
- **Standard of improvement works completed in accordance with the Fire Safety (Commercial Premises) Ordinance or the Fire Safety (Buildings) Ordinance;**
- **Standard of building design and construction prevalent at the time of construction of the building.**

If more than one standard specified is applicable to a building, reference is to be made to the latest of the applicable standards.

Scope of Prescribed Repair

Covers all defective or deficient items identified in the prescribed inspection

Requirements of Prescribed Repair

- To render the building safe after the repair
- A testing to:
 - a) verify the findings of prescribed inspection; or
 - b) prove the building is safe or has been rendered safe
- Standard of works – same as for prescribed inspection

Selection of target buildings for MBIS and MWIS

Annual Target - **2,000** MBIS buildings and **5,800** MWIS buildings (of which 2,000 are synchronized with MBIS buildings) - target buildings to be selected at quarterly intervals

Selection Panel comprising representatives from:

- professional bodies (HKIA, HKIE, HKIS)
- relevant non-governmental organizations (HKHS)
- property management professionals (HKAPMC)
- District Councils
- relevant government departments (HAD)

Time Frame of MBIS Notice

- **Pre-notice Advisory Letter**
 - 6 months advance notice to building owners before issuance of MBIS Notice

- **MBIS Notice**
 - 3 months for appointment of RI
 - 3 months for completion of prescribed inspection
 - 6 months for completion of prescribed repair
(extra 3 months allowed for building without OC)

Registered Inspector (RI)

(註冊檢驗人員)

- A person whose name is in the **inspectors' register** under the BO. They include:
 - **Authorized Persons**
 - **Registered Structural Engineers**
 - **Registered Architects**
 - **Registered Professional Engineers**
(Building, Building Services (Building), Civil, Materials (Building) & Structural)
 - **Registered Professional Surveyors**
(Building Surveying & Quantity Surveying)

Duties of RI

Inspection stage

- Carry out the prescribed inspection personally
- Comply with the BO
- Notify BA of any case of emergency
- Record and notify BA any unauthorized building works in the common parts and external walls of the building

Duties of RI

Detailed Investigation (DI)

- (a) Serious defect constituting structural instability or serious health hazard; or
- (b) Extent or cause of a defect cannot be ascertained

The RI must:

- Notify the BA in writing
- Submit to the BA a proposal of the DI for endorsement
- Arrange for the DI in accordance with the endorsed proposal

(Remark : The RI may engage and supervise a specialist to carry out a DI)

Duties of RI

Repair stage

- Provide proper supervision of the carrying out of the prescribed repair.
- Ensure the repair materials to be used:
 - (i) are not defective and comply with the BO; and
 - (ii) have been mixed, prepared, applied, used, erected, constructed, placed or fixed in the manner required for such materials under the BO
- Ensure the building is safe or has been rendered safe.
- Comply with the BO
- Notify the BA of any case of emergency

Responsibilities of RI for submission of documents to the BA

- **Notification of appointment of RI** in the specified form within 7 days after the date of appointment
- Submissions within 7 days after **completion of prescribed inspection**
 - (i) Inspection report; and
 - (ii) Certificate in the specified form
- Submissions within 14 days after **completion of prescribed repair**
 - (i) Completion report;
 - (ii) Certificate in the specified form; and
 - (iii) Certificate in the specified form certifying that the RI is not a partner, director, or authorized signatory of the registered contractor appointed to carry out the prescribed repair

(BA to keep record and carry out audit check)

Qualified Person (QP) (合資格人士)

A person whose name is in one of the registers under the BO. They include:

- **Authorized Persons' Register**
- **Structural Engineers' Register**
- **Inspectors' Register**
- **General Building Contractors' Register**
- **Minor Works Contractors' Register (registered for the class, type and item of minor works in respect of windows)**

Duties of QP

Inspection stage

- Carry out the prescribed inspection personally*
- Comply with the BO
- Notify BA of any case of emergency

* If the QP appointed is a **not a natural person**, a **representative** of the QP

Duties of QP

Repair stage

- Provide proper supervision of the carrying out of the prescribed repair
- Ensure the repair materials to be used:
 - (i) are not defective and comply with the BO; and
 - (ii) have been mixed, prepared, applied, used, erected, constructed, placed or fixed in the manner required for such materials under the BO
- Ensure the windows are safe or have been rendered safe.
- Comply with the BO
- Notify the BA of any case of emergency

Remark : QP who is a RGBC or RMWC may also act as the contractor for the prescribed repair

Duties of Registered Contractor

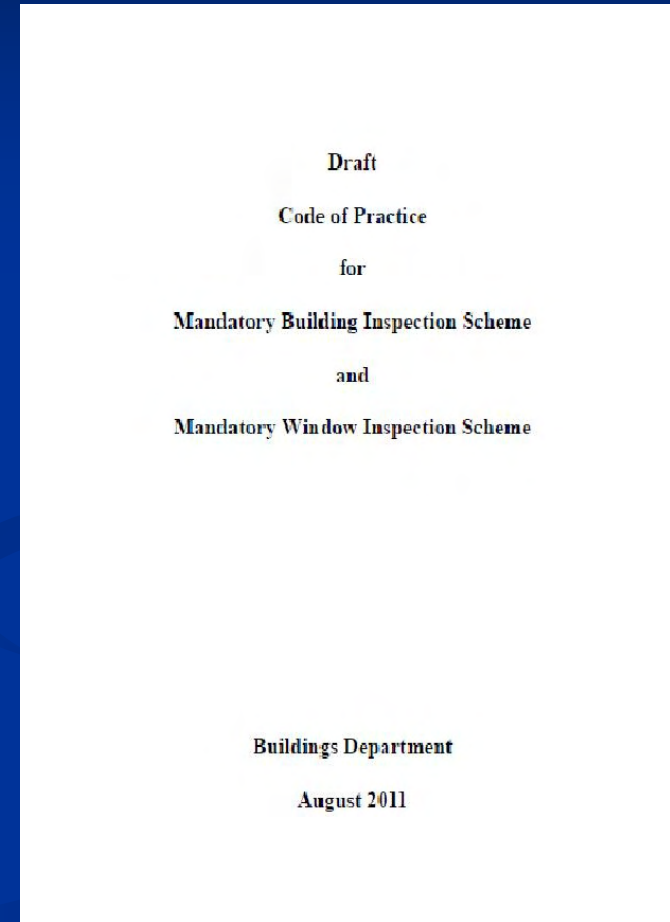
- The registered contractor (RC) appointed to carry out the necessary **rectification and repair works** under the MBIS (a **RGBC** or **RMWC**) who are qualified to carry out the rectification and repair works whose names are under the registers kept by the BA.
- RMWCs are qualified to carry out minor works belonging to the class, type and item for which they are registered.
- A RGBC or RMWC appointed to carry out a prescribed repair must ensure the part of the building for which the contractor is appointed to carry out the prescribed repair has been **rendered safe** .

Code of Practice for MBIS and MWIS (CoP) (強制驗樓計劃及強制驗窗計劃 作業守則)

☞ Specifies the details of **technical standard and procedural requirements** for

- ◆ the **RI / QP** to carry out prescribed inspection and to supervise the necessary prescribed repair of buildings and windows;
- ◆ the **RC** to carry out the necessary repair works; and

☞ Provides guidance on the requirement of compliance



Draft CoP
BD Website : <http://www.bd.gov.hk>

CoP for MBIS part

- **Duties of RI / RC**
- **Inspection and Assessment**
 - External elements and other physical elements
 - Structural elements
 - Fire Safety Elements
 - Drainage System
 - Unauthorized Building Works (UBW)
- **Detailed Investigation**
 - Structural elements
 - Drainage system
- **Rectification and Repair**
 - Methods ; proof tests ; regular maintenance
- **Supervision and Control**
 - RI's representative to supervise repair works;
RC's continuous supervision
- **Reporting**
 - Inspection Report and Completion Report

CoP for MWIS part

➤ Duties of QP / RC

➤ Inspection

- Rivets & screws, hinges, sliding tracks, glass panels, sealant & putty, frames etc.

➤ Repair

- 4-bar hinges, rivets & screws, regular maintenance

➤ Supervision and Control

- Safety and security measures

CoP

Example: Structural Elements

- Visual inspection or by other non-destructive methods: RI to keep daily inspection records
- Inspection and Assessment
 - ↗ **Scope:**
Structural elements on the external walls and in the common parts of the main building and all other ancillary buildings structures (such as elevated driveways, bridging structures, club house and etc)

Form 3
Structural Elements

Building Address:		Report Page No:	
MBIS Notice No.	Name of Registered Inspector:	Date of Inspection:	
Time:	Weather Condition:		

Inspection of Structural Elements

Location	Element	Defect Type *	Follow-up Actions Required			Photo No.	Remarks
			DI	Repair	Others		
4/F staircase	Beam	3		✓		001	
Swimming pool filtration plant room	Wall	4		✓		002	
3/F Flat 1 toilet	Slabs and beams	2, 4	✓			003	Serious spalling and reinforcement corrosion noted

Legend: DI – Detailed Investigation

***Defect Types:**

1. Dampness	6. Exposed reinforcement
2. Rust stains/Corrosion of reinforcement, structural steel or bolts	7. Voids and honeycombing
3. Cracks	8. Deformation or displacement
4. Spalling	9. Others (please specify)
5. Delamination	

Example: Columns / Walls / Beams / Slabs

✧ **Inspection requirement :**

The following defects, and any other defects that the RI considers having safety concern, shall be identified :

- Dampness;
- Rust stains or corrosion of reinforcement;
- Cracks or signs of distress;
- **Spalling;**
- Delamination;
- Exposed reinforcement;
- Void and honey combing;
- Deformation or displacement; and
- Abnormal separation of the building from adjoining buildings.

➤ Detailed Investigation

- **RI to engage suitable specialist to conduct tests for DI – destructive and non-destructive tests.**
- **Notification to BA and BA’s endorsement required.**
- **Types of defects – serious flexural cracks, diagonal cracks, cracking/crushing of columns, tensile cracks at hanging structures, serious structural cracks, excessive deformation, extensive spalling or serious corrosion of reinforced concrete and etc.**
- **Concrete condition – hammer-tapping, carbonation test, test on chloride & cement content, rebound hammer test, crack survey and etc.**
- **Reinforcement Condition – Covermeter survey, measurement of section loss, electrochemical (half-cell) potential measurement and etc.**
- **Structural assessment & follow-up action.**

➤ Rectification and Repair

Repair Methods and proof tests for the following items :

- Reinforced Concrete, such as **spalling** and cracks
- Structural Steel
- Masonry and Brickworks
- Regular Maintenance

➤ *Example: Spalling*

- Patch repair
- Recasting
- Hammer tapping test / Pull off test / Rebound hammer test

CoP

Example: Fire Safety Elements

- RI to keep daily inspection records: Rectification work to a standard not inferior to original approved design: upgraded standard under FS(CP)O or FS(B)O.

➤ Inspection and assessment

📌 Scope:

All fire safety provisions in the common parts and external walls of a building. These includes:

- Means of Escape;
- Means of access for fire fighting and rescue; and
- **Fire Resisting Construction (FRC).**

Form 4
Fire Safety Elements

Building address:			Report Page No:				
MBIS Notice No.:		Name of Registered Inspector:		Date of Inspection:			
Time:		Weather Condition:					
Inspection of Fire Safety Elements							
Location	Element	Defects Type*	UBW Type**	Follow Up Action Required		Photo No.	Remarks
				Repair/ Reinstatement	others		
1st floor, Flat A	door	7	-	✓	-	4	
Staircase no. 2, 11 th floor	wall	8	-	✓	-	6	
21 st floor, staircase no. 1	door	3		✓		12	
Roof			F	-	✓	18	Report to BA immediately

Legend:

<p>* Defect Type</p> <ol style="list-style-type: none"> 1 Staircase enclosure or protected lobby doors removed 2 Defective balustrades and handrails in staircases and escape routes 3 Wrong swinging direction of doors 4 Change in provision of fireman's lift 5 Blocked access to and within building, or inadequate emergency vehicular access 6 Inadequate fire fighting lift lobby 7 Doors/seals/materials with inadequate fire resisting construction 8 Openings or building services breaching the integrity of fire resisting construction 9 Defective or missing signs 10 Inadequate lighting 	<p>** UBW Type</p> <ol style="list-style-type: none"> A Door openings from cocklofts to exit staircase; B Unprotected openings in exit staircase or compartment walls, floors and ceilings; C Structures on refuge floors; D Alteration to escape routes; E Doors, gates or roller shutters obstructing escape routes; F Inadequate fire resistance of fire door; G Structures on main or flat roofs resulting in inadequate means of escape; H Change in fire construction materials; I Insufficient number of exits; and J Structures blocking exits. <p>*** Unauthorized Change in Use</p> <ol style="list-style-type: none"> K Change in use for storage of hazardous materials; and L Change in use resulting in exceeding the approved capacity of a room or storey.
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Example: Fire Resisting Construction (FRC)

✧ **Inspection Requirements :**

The following defects or deficiencies shall be identified :

- Defective or dilapidated materials resulting in inadequate fire resisting construction;
- Ventilation ducts or other building services passing through compartment walls or floors breaching the requirements of fire resisting construction;
- Broken hinges or glass panels in fire doors;
- Defective or non-provision of self-closing mechanism in fire doors;
- Broken or dilapidated fire doors or fire resisting glazing;
- Inadequate fire resistance of fire door or glazing;
- Non-emergency services such as electric wires, cables and meters in the escape staircases and lobbies, without adequate fire protection;
- Damaged staircase enclosure such as walls, windows and doors including those for the protected lobby; and etc.

➤ Rectification and Repair

For FRC, the RI should consider the following rectification and repair methods and any other methods suitable and necessary in the circumstances of the building under repair:

- Defective or dilapidated materials with inadequate fire resistance shall be repaired, replaced or reinstated;
- Defective fire doors including self-closing devices, hinges and wire mesh glass panels shall be replaced;
- Ventilation ducts shall be provided with shutters when passing through fire compartments;
- Non-emergency services in the escape staircases and lobbies shall be properly fire protected; etc.

➤ Regular Maintenance

B(A)(A)R 2011

**Registration of
Registered Inspectors (RI)
for MBIS**

Registered Inspectors (RI)

Qualification

- **Authorized Persons (APs)**
- **Registered Structural Engineers (RSEs)**
- **Registered Architects (RAs)**
- **Registered Professional Engineers (RPEs)**
(Building, Building Services (Building), Civil, Materials (Building)
& Structural)
- **Registered Professional Surveyors (RPSs)**
(Building Surveying & Quantity Surveying)

Registered Inspectors (RI)

Experience

➤ AP/RSE

Have experience gained in Hong Kong as an AP, RSE, RA, RPE or RPS in any building repair and maintenance project within the 7 years preceding the date of application

(Note: AP/RSE may be included in the inspectors' register without recommendation by an Inspectors Registration Committee (IRC))

Registered Inspectors (RI)

Experience

➤ AP/RSE

➤ Scope of Project

- ✓ comprehensive inspection and repair of an entire building
- ✓ focused on building safety inspection, preparation of repairs or remedial works proposal and supervision of the necessary repairs or remedial works

Registered Inspectors (RI)

Experience

- **RA, RPE (Building & Structural) and RPS (Building Surveying)**
 - ✓ Practical experience in building construction, repair and maintenance gained in Hong Kong
 - ✓ For a period or periods in aggregate of not less than 1 year
 - ✓ Within the 3 years preceding the date of application

Registered Inspectors (RI)

Experience

- **RPE (Civil, Building Services (Building) & Materials (Building))**
- **RPS (Quantity Surveying)**
 - ✓ Practical experience in building construction, repair and maintenance gained in Hong Kong
 - ✓ For a period or periods in aggregate of not less than 3 years
 - ✓ At least 1 year falls within the 3 years preceding the date of application

Registered Inspectors (RI)

Professional Interview

➤ Inspectors Registration Committee (IRC)

- Assist the BA in considering applications for inclusion in the inspectors' register
- Examine the qualifications and experience of the applicants
- Conduct professional interviews with the applicants

Registered Inspectors (RI)

Application

- Form BA 1
- Prescribed Application Fee

Registered Inspectors (RI)

Application

AP/RSE

- Documents to substantiate the current registration with the Architects/Engineers/Surveyors Registration Board
- Documents to substantiate the current registration under the BO as an AP/RSE
- Account of practical experience gained in Hong Kong including building repair and maintenance

Registered Inspectors (RI)

Application

RA/RPE/RPS

- Copy of certificate of the academic and professional qualification indicated on Form BA1
- Documents to substantiate the first and current registration with the Architects/Engineers/Surveyors Registration Board
- Account of practical experience gained in Hong Kong including building construction, repair and maintenance

Registered Inspectors (RI)

Prescribed Application Fees

B. Registered Inspectors:	
(a) (i) For each application for inclusion of name in each list of the inspectors' register by a person referred to in section 3(7AA).	\$900
(ii) For each application for inclusion of name in each list of the inspectors' register other than that referred to in subparagraph (i).	\$3,850
(iii) For each inclusion of name in each list of the inspectors' register.	\$1,360 for inclusion for a period of 5 years.
(b) For each application for retention of name in each list of the inspectors' register.	\$1,180 for retention for a period of 5 years.
(c) For each application for restoration of name in each list of the inspectors' register.	\$1,370 for restoration for a period of 5 years.

Registered Inspectors (RI)

Reference

- **BD Website: www.bd.gov.hk**
 - **PNAP APP-7**
 - **Form BA1**
 - **Advisory Notes**
 - **Schedule of Fees and Charges**

Registered Inspectors (RI)

Enquiry

- **By mail: Registration Unit of the Buildings Department, Room 2118, 21/F, Pioneer Centre, 750 Nathan Road, Kowloon**
- **By fax: 2625 0437**
- **By email: enquiry@bd.gov.hk**
- **By phone: 2626 1616**

Legal Liabilities of Owners/ Owners' Corporations

According to the B(A)O 2011, if without reasonable excuse do not comply with a statutory notice, BA may:

- initiate **prosecution** proceedings against the owners;
- also arrange for the required inspection and repair works to be carried out **by government consultant and contractor** , and
- then **recover the cost** of inspection and repair works from the owners, **plus a surcharge** of not exceeding 20% of the cost.

Offence (I)

	Content	Fine/imprisonment
MBIS	do not comply with a statutory notice for mandatory building inspection without any reasonable excuse	<ul style="list-style-type: none"> ■ A fine of \$50 000; ■ A fine of \$5 000 / day; and ■ imprisonment for 1 year ■ The BD may also arrange for the required inspection and repair works to be carried out by its consultant and contractor , and then recover the cost of inspection and repair works from the owners, together with a surcharge of not exceeding 20% of the cost
MWIS	do not comply with a statutory notice for mandatory window inspection without any reasonable excuse	<p>Initially</p> <ul style="list-style-type: none"> ■ penalty notice for a fixed fine of \$1,500 <p>Repeated Offenders:</p> <ul style="list-style-type: none"> ■ \$25 000 ■ A fine of \$2 000/day ■ imprisonment for 3 months ■ The BD may also arrange for the required inspection and repair works to be carried out by its consultant and contractor , and then recover the cost of inspection and repair works from the owners, together with a surcharge of not exceeding 20% of the cost

Offence (II)

Content	Fine/imprisonment
<ul style="list-style-type: none"> ■ a) obstruct a person employed or engaged by the owners' corporation in the carrying out of any inspection, investigation, works or other action that is required for the purpose of complying with the order or notice; or ■ (b) refuse to allow a person employed or engaged by the owners' corporation access to or the use of any premises, which is reasonably necessary for the carrying out of any inspection, investigation, works or other action that is required for the purpose of complying with the order or notice. 	<ul style="list-style-type: none"> ■ A fine of \$10 000 ■ Imprisonment of 6 months
<ul style="list-style-type: none"> ■ Refuse to contribute to the cost of the inspection, investigation, works or other action that is required for the purpose of complying with the notice. 	<ul style="list-style-type: none"> ■ A fine of \$25 000

Assistance for Owners

- 🔥 **Owners may contact the BD on matters regarding the enforcement of the statutory notices.**
- 🔥 **A one-stop contact point will be provided for contacting the HKHS/URA for the provision of the technical and financial assistance.**
- 🔥 **Eligible owners may obtain various forms of assistance and support from the HKHS/URA and the Government at different stages of the two mandatory inspection schemes:**

Organization Stage

- **Briefing sessions** to assist building owners to comply with the statutory notices. (BD/HAD/HKHS/URA/ICAC)
- Technical advice in respect of **appointment of RIs, QPs and RCs**. (HKHS/URA/ICAC)
- Assistance to building owners to **form OCs**. (HAD/HKHS/URA).
- A **subsidy** of up to \$3,000 **per OC to be formed** and technical assistance for OC formation. (HKHS/URA)

Inspection/Repair Stage

- **Subsidy on the cost of appointment of RIs for the first building inspection**, subject to a cap. (HKHS/URA) (remark: The inspection cost does not include the repair cost)
- **Technical advisory services**, and where necessary, referral to relevant professionals for advice. (HKHS/URA)
- **The one-stop Integrated Building Maintenance Assistance Scheme (IBMAS)** providing financial assistance and technical support. (HKHS/URA)

Inspection/Repair Stage

Various type of grant / loan under IBMAS

- a. Common Area Repair Works Subsidy – (HKHS/URA)**
- b. Common Area Repair Works Interest -free Loan– (HKHS/URA)**
- c. Home Renovation Interest-free Loan – (HKHS/URA)**
- d. Building Safety Loan Scheme – (BD)**
- e. Building Maintenance Grant Scheme for Elderly Owners (Government fund administered by HKHS)**

For details, please call 3188 1188.

After Repair

- After repair works under the IBMAS, a subsidy of 50% of the insurance premium for the public liability insurance/third party risks insurance for the common parts of the building of up to \$ 6,000 per annum for 3 consecutive years is provided to eligible buildings with repair completed. (HKHS/URA)

Voluntary Building Assessment Scheme (VBAS)

- **The HKHS will launch the Voluntary Building Assessment Scheme (VBAS) to give positive recognition to well-managed and properly maintained buildings.**
- **Buildings certified by the VBAS will be recognized by the BD for having fulfilled the requirements under the MBIS and MWIS (in respect of windows in common parts only) within the respective inspection cycles.**
- **The HKHS aims to start receiving applications from building owners for participating in the VBAS in the second quarter of 2012.**
- **For details, please call 8108 0108.**

Implementation Timetable

- Registration of RIs has commenced on **30 December 2011**
- Full implementation of the MBIS and MWIS will commence in the **2nd quarter of 2012**

Enquiry

Any enquiry about the schemes and complaint about malpractices of RIs and QPs in the carrying out of the prescribed inspection and prescribed repair may be addressed to the Buildings Department:

- **Mailing address:** Mandatory Building Inspection Division, Buildings Department, 12/F, Pioneer Centre, 750 Nathan Road, Mongkok, Kowloon
- **Hotline:** 2626 1616
- **Webpage:** <http://www.bd.gov.hk>

Thank you