

6 March 2017

To: All Authorized Persons
Registered Structural Engineers
Registered Inspectors
Registered General Building Contractors
Registered Minor Works Contractors

Dear Sir/Madam,

**Code of Practice for the Mandatory Building Inspection Scheme and
the Mandatory Window Inspection Scheme 2012
Amendments**

Since the publication of the Code of Practice for the Mandatory Building Inspection Scheme and the Mandatory Window Inspection Scheme 2012 (the Code) in December 2012, the Code has been kept under regular review.

Certain amendments and clarifications to the Code at Annex became necessary. They are promulgated with immediate effect from the date of this letter and have been uploaded to the website of the Buildings Department at www.bd.gov.hk.

The amendments include the following major issues:

- (i) clarifying the inspection requirements for cantilevered slab canopies;
- (ii) clarifying the supervision requirements of Registered Inspector (RI) for repair works; and
- (iii) providing a representative of RI for Level 2 supervision of repair works.

Yours faithfully,



(CHOW Kim-ping)

Assistant Director/ Mandatory Building Inspection
for Building Authority

**Amendments to the Code of Practice for
the Mandatory Building Inspection Scheme and the Mandatory Window Inspection Scheme 2012
6 March 2017**

Item	Clause	2012 Original Version	2017 Amendments	Remarks
1	Part C of Section 3.3.2	<p>(C) Cladding The following defects, and any other defects that the RI considers having safety concern, shall be identified:</p> <p>(a) Displacement of cladding panels; (b) Cracked or loose cladding panels; (c) Defective sealing joints; (d) Stains; and (e) Corrosion of fixing anchors or metal frames.</p> <p>Inspection of fixing anchors and concealed metal frames is not required unless obvious defects or signs of corrosion are identified from external inspection.</p>	<p>(C) Cladding The following defects, and any other defects that the RI considers having safety concern, must be identified:</p> <p>(a) Displacement of cladding panels; (b) Cracked or loose cladding panels; (c) Defective sealing joints; (d) Rust stains; and (e) Corrosion of fixing anchors or metal frames.</p> <p>Inspection of fixing anchors and concealed metal frames is not required unless obvious defects or signs of corrosion are identified from external inspection.</p>	<p>■ Textual refinement.</p>
2	Part A of Section 3.4.2	<p>(A) General Structural elements shall be inspected visually and/or by other non-destructive methods such as hammer-tapping, cover meter survey, crack width measurement or other feasible means, where appropriate, from ground level and other available vantage points and openings.</p> <p>For cantilevered slab canopy projecting over street, inspection by opening up the concrete cover at suitable locations at the root of the canopy immediately adjoining the parent structure should be conducted to assess the degree of corrosion of the existing main reinforcement. The RI shall exercise his professional judgment to select sufficient</p>	<p>(A) General Structural elements must be inspected visually and/or by other non-destructive methods such as hammer-tapping, cover meter survey, crack width measurement or other feasible means, where appropriate, from ground level and other available vantage points and openings.</p> <p>↓</p>	<p>■ 2nd paragraph was deleted and moved to Part B of the same Section;</p> <p>■ Textual refinement.</p>

Legends:

New/revised phrases

↓ Deleted phrases

Item	Clause	2012 Original Version	2017 Amendments	Remarks
		<p>opening up locations with at least 2 numbers for each discrete canopy of a building under inspection or 1 number for every 10m along the length of the canopy, whichever is the greater.</p> <p>The RI shall keep daily inspection records, in which details including the time and date of inspections, locations and items or parts of buildings that have been inspected etc. should be recorded. These daily inspection records shall be submitted to the BD upon completion of the inspection.</p> <p>The following defects or phenomena, and any other defects that the RI considers having safety concern, shall be identified:</p> <ul style="list-style-type: none"> (a) Dampness; (b) Rust stains or corrosion of reinforcement; (c) Cracks or signs of distress; (d) Spalling; (e) Delamination; (f) Exposed reinforcement; (g) Voids and honeycombing; (h) Deformation or displacement; and 	<p>The RI must keep daily inspection records, in which details including the time and date of inspections, locations and items or parts of buildings that have been inspected etc. should be recorded. These daily inspection records must be submitted to the BD upon completion of the inspection.</p> <p>The following defects or phenomena, and any other defects that the RI considers having safety concern, must be identified:</p> <ul style="list-style-type: none"> (a) Dampness; (b) Rust stains or corrosion of reinforcement; (c) Cracks or signs of distress; (d) Spalling of concrete; (e) Delamination; (f) Exposed reinforcement; (g) Voids and honeycombing in concrete; (h) Deformation or displacement; and 	
3	3rd paragraph of Part B of Section 3.4.2	<p>For cantilevered slab canopy, apart from the items in paragraph (A) above, the RI shall look out for any water ponding, defective drains, signs of water seepage, existence of UBW erected on and/or attached to the soffit of the canopy.</p>	<p>For cantilevered slab canopy, apart from the items in paragraph (A) above, the RI must look out for any water ponding, defective drains, signs of water seepage, existence of UBW erected on and/or attached to the soffit of the canopy.</p> <p>For cantilevered slab canopy projecting over street, the RI must also conduct the following investigation and take into account the information obtained on site to conduct assessment in accordance with section 4.3.3, 4.3.4 to ascertain the safety level of the canopy:</p> <p>(a) opening up the concrete cover at suitable</p>	<p>■ To clarify the inspection and investigation requirements for cantilevered slab canopy projecting over street. RI must carry out inspection and investigation such as opening-up and coring and then conduct structural assessment to ascertain the safety level of the canopy.</p>

Legends:

New/revised phrases

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Item	Clause	2012 Original Version	2017 Amendments	Remarks
			<p>locations at the root of the canopy immediately adjoining the parent structure must be conducted to assess the degree of corrosion of the existing main reinforcement;</p> <p>(b) coring at appropriate locations must be carried out to measure the actual slab thickness, compressive strength and carbonation of concrete;</p> <p>(c) at the open-up locations, the layout of the existing reinforcement, including the bar diameter, bar spacing, the thickness of concrete cover, and the thickness of screeding and waterproofing on the canopy must be measured; and</p> <p>(d) the span length of the cantilevered slab canopy, dimensions of any parapet wall, downturn and/or architectural features, etc must be measured.</p> <p>The RI must exercise his professional judgment to select sufficient opening up and coring locations with at least 2 numbers for each discrete canopy of a building under inspection or 1 number for every 6m along the length of the canopy, whichever is the greater.</p>	
4	2 nd paragraph of Part A of Section 3.6.2	For concealed drain pipes laid within common vertical pipe ducts located inside individual private premises, inspection may be made by gaining access from the individual private premises at least every 3 floors and at pipe duct outlet to assess the overall condition of the pipes and sign of seepage.	For common exposed drain pipes / drain pipes laid within common vertical pipe ducts located inside individual private premises, inspection may be made by gaining access from the individual private premises at least every 3 floors and at pipe duct outlet to assess the overall condition of the pipes and sign of seepage.	<p>■ To clarify the inspection requirements for the exposed drain pipes located inside private premises are the same as those concealed.</p>

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Item	Clause	2012 Original Version	2017 Amendments	Remarks
5	5 th paragraph of Part A of Section 3.6.2	The following defects or deficiencies, and any other defects or deficiencies that the RI considers as affecting the sanitary condition of the building under inspection or affecting public health, shall be identified: (a) Corrosion, leakage, deformation, displacement, damage and blockage of drain pipes and traps including underground drains;	The following defects or deficiencies, and any other defects or deficiencies that the RI considers as affecting the sanitary condition of the building under inspection or affecting public health, must be identified: (a) Corrosion, leakage, deformation, displacement, damage and blockage of drain pipes and traps including underground drains and misconnected common drains ;	■ To include misconnected common drains affecting sanitary condition or affecting public health as drainage defects.
6	5 th paragraph of Section 3.6.3	The RI shall provide appropriate proposals for the rectification and repair works in the Inspection Report, based on the inspection findings, including any detailed investigation and professional judgement.	The RI must provide appropriate proposals for the rectification and repair of the defective or insanitary condition identified in the Inspection Report, based on the inspection findings, including any detailed investigation and professional judgement.	■ To elaborate the requirements.
7	4 th paragraph of Section 3.7.3	If emergency in relation to building safety is revealed during the building inspection, the RI shall notify the BA and alert the owners and occupants immediately.	If emergency in relation to building safety is revealed during the building inspection, the RI must notify the BA and alert the owners and occupants immediately. The RI should also advise the owners to remove all the UBW identified.	■ To elaborate RI's follow-up action on UBW.
8	Section 5.6.2	For underground drains, the RI should consider the following repair methods and any other methods suitable and necessary in the circumstances of the building under repair: (a) Defective sections shall be replaced or repaired by using resin drain liner or other feasible means;	For underground drains, the RI should consider the following repair methods and any other methods suitable and necessary in the circumstances of the building under repair: (a) Defective sections must be replaced or repaired by using resin drain liner or other feasible means. Misconnected common drain affecting sanitary condition of the building or affecting public health must be rectified to alleviate the health and environmental nuisance ;	■ To include misconnected common drains affecting sanitary condition or affecting public health as drainage defects.

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 New/revised phrases

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Item	Clause	2012 Original Version	2017 Amendments	Remarks
9	Section 6.4	<p>The RI shall examine and supervise all the rectification and repair works carried out by the RC at such frequency and extent as he considers appropriate to ensure that the works are prepared, carried out and completed to the required standards.</p> <p>Defects and deficiencies mentioned in the Inspection Report and those identified during the repair stage shall be repaired or rectified. The RI shall supervise and examine the preparation, rectification and repair works to ensure that the works meet the minimum technical standards required. The RI may designate a person as his representative to provide supervision to the repair of the building elements at the stages of the repair works specified in Appendix VI. The qualification and experience required of the person shall be at least a certificate or diploma holder in the field of construction including architecture, building studies, engineering and surveying with minimum total relevant working experience of 2 years.</p> <p>If the building owners appoint the same RI to carry out both the building inspection and supervision of building repair works, the RI may include the particulars, qualifications and experience of the RI's representative in the repair proposal of the Inspection Report for submission to the BA.</p> <p>The RI shall notify the BA in writing of any appointment or change of his representative and provide the BA with the particulars, qualifications and experience of his representative in accordance with the requirements stipulated in the B(I&R)R. The RI shall assume the overall responsibility for the supervision of the prescribed repair works carried out by the RC, even when part of the supervision is</p>	<p>The RI must examine and supervise all the rectification and repair works carried out by the RC at such frequency and extent as he considers appropriate but not less than that specified in Appendix VI to ensure that the works are prepared, carried out and completed to the required standards.</p> <p>Defects and deficiencies mentioned in the Inspection Report and those identified during the repair stage must be repaired or rectified. The RI must supervise and examine the preparation, rectification and repair works to ensure that the works meet the minimum technical standards required. The RI may set up his own supervision team to provide supervision to the repair of the building elements at the stages of the repair works specified in Appendix VI. The RI must ensure that his supervision team is with adequate manpower, qualification and experience to match the progress of works.</p> <p>If the building owners appoint the same RI to carry out both the building inspection and supervision of building repair works, the RI may include the particulars, qualifications and experience of the RI's supervision team in the repair proposal of the Inspection Report for submission to the BA.</p> <p>The RI must notify the BA in writing of any appointment or change of his supervision team, not less than 7 days before making the appointment or within 7 days after the date of change, and provide the BA with the particulars, qualifications and experience of his supervision team in accordance with the requirements stipulated in the B(I&R)R. The RI must assume the overall responsibility for the supervision of the repair</p>	<p>■ To clarify the minimum supervision requirements of RI and his supervision team.</p>

Legends:


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Item	Clause	2012 Original Version	2017 Amendments	Remarks
		<p>performed by his representative.</p> <p>Supervision requirements of some typical rectification/ repair works and proof tests to be provided by the RI and his representatives are listed in Appendix VI. For rectification/ repair works and proof test that are not covered in Appendix VI, the RI shall examine and supervise and repair works and proof tests at such frequency and extent as he considers appropriate in fulfilling his duties as an RI.</p> <p>For rectification/repair works that fall within Class I minor works, supervision should also be made in accordance with the requirements of the Technical Memorandum for Supervision Plans and Code of Practice for Site Supervision as necessary.</p> <p>The RI shall inspect the entire rectification and repair works of the building upon the completion of works by the RC prior to his submission of the certificate of completion to the BA.</p>	<p>works carried out by the RC, even when part of the supervision is performed by his supervision team.</p> <p>↓</p> <p>For rectification/repair works that fall within Class I minor works, supervision should also be made in accordance with the requirements of the Technical Memorandum for Supervision Plans and Code of Practice for Site Supervision as necessary.</p> <p>The RI and his supervision team must inspect the entire rectification and repair works of the building upon the completion of works by the RC prior to his submission of the certificate of completion to the BA.</p>	

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Item	Clause	2012 Original Version	2017 Amendments	Remarks
10	2 nd and 3 rd paragraphs of Section 10	<p>Components of window elements shall be inspected from the interior of the subject building as far as practicable. Areas for attention in inspection and assessment of window are given in section 10.1 below.</p> <p>If emergency in relation to window safety is revealed during the inspection of windows, the QP shall advise the owners and occupants to take appropriate remedial action immediately and notify the BA.</p>	<p>Components of window elements must be inspected from the interior of the subject building as far as practicable. Areas for attention in inspection and assessment of window are given in section 10.1 below.</p> <p>Care must be taken during window inspection to prevent windows from falling off the external wall. If necessary, the windows must be temporarily secured by appropriate means such as safety rope.</p> <p>If emergency in relation to window safety is revealed during the inspection of windows, the QP must advise the owners and occupants to take appropriate remedial action immediately and notify the BA.</p>	<ul style="list-style-type: none"> ■ To remind QP to take precautionary measures in carrying out window inspection.
11	2 nd paragraph of Section 11	<p>All defective window components affecting window safety shall be repaired or replaced. The renewed components shall be of such material and size not inferior to that of the original design. Under normal circumstances, replacement of the whole window is not necessary if the window can be rendered safe by suitable repair.</p>	<p>All defective window components affecting window safety must be repaired or replaced. Defective or corroded screws, rivets and broken/cracked glass panes must be replaced. The renewed components must be of such material and size not inferior to that of the original design. Under normal circumstances, replacement of the whole window is not necessary if the window can be rendered safe by suitable repair.</p>	<ul style="list-style-type: none"> ■ To provide more examples/scenarios for replacement of window components.
12	Appendix VI	As per Appendix VI in 2012 Version	Replacement of Appendix VI (2017 Version) (5 pages)	<ul style="list-style-type: none"> ■ To clarify the minimum supervision requirements of RI and his supervision team; ■ To allow a representative of RI to carry out level 2 supervision on behalf of RI.

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Item	Clause	2012 Original Version	2017 Amendments	Remarks
13	Item (f) under title “Rectification and Repair Works “ in Appendix VIII	(f) Summary of all rectification and repair works supervised by RI’s Representative .	(f) Summary of all rectification and repair works supervised by RI’s supervision team, including the date of inspection; items inspected; and inspection results.	■ To clarify the requirements on record of supervision in the completion report.
14	“Form 5 – Drainage System” under Appendix XI	As per “Form 5 – Drainage System” under Appendix XI in 2012 Version	Replacement of “Form 5 – Drainage System” under Appendix XI (2017 Version) (1 page)	■ To update to the amendments made above.

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Minimum Supervision Requirements of RI

The RI must ensure that repair is carried out in accordance with the repair proposal.

The RI may appoint a Level 1 representative and a Level 2 representative to form a supervision team to supervise the rectification/repair works and proof tests on his behalf. However, the RI must carry out the first inspection to rectification/repair works and proof tests that are specified for Level 2 Supervision in Table 3. The minimum qualifications and experience required for Level 1 and Level 2 representative are set out in Table 1. The RI has the overall responsibility and accountability for his supervision team. The representative is directly accountable to the RI.

The minimum requirements on the frequency of inspection and level of supervision to various typical rectification/repair works and proof tests are set out in Table 2 and Table 3 respectively. For rectification/repair works and proof test that are not covered in the table, the RI and his supervision team must examine and supervise the repair works and proof tests at such frequency and extent as the RI considers appropriate in fulfilling his duties as a RI.

Table 1 – Minimum qualifications and experience for RI's Level 1 and Level 2 Representative

RI's Representative	Minimum qualifications and experience
Level 1 Representative	Equivalent to the technically competent person (TCP) of grade T1 for Building Works or Class I Minor Works, as stipulated in the Code of Practice for Site Supervision.
Level 2 Representative	<p>(a) Equivalent to the TCP of grade T3 for Building Works or Class I Minor Works, as stipulated in the Code of Practice for Site Supervision; or</p> <p>(b) Passed specified top-up course with minimum total relevant working experience of 5 years.</p>

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Table 2 – Minimum Frequency of Inspection

RI or RI's Representative	Minimum Frequency of Inspection ^{Note}
RI	First inspection to rectification/repair works and proof tests that are specified for Level 2 Supervision
Level 2 Representative	Fortnightly Inspection
Level 1 Representative	Fortnightly Inspection

Note:

Level 2 Representative may take up the responsibilities of Level 1 Representative but their inspection frequency cannot be combined.

Table 3 – Minimum supervision requirements for typical stages of work

Building Elements	Level of Supervision
External Elements	
Preparation	
(a) Verifying hacking of loose finishes and preparation of bedding	1
(b) Examining substrate prior to laying tile finishes	2
(c) Checking location, alignment and size of drill holes for new anchor bolts	1
Repair	
(a) Examining first trial bedding mortar	2
(b) Checking dimensions of replaced cladding panels and curtain wall elements	1
(c) Supervising installation of new anchor bolts	1
(d) Supervising installation of cladding panels	1

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Building Elements	Level of Supervision
External Elements	
(e) Supervising application of structural sealant for curtain wall works	1
Proof Test	
(a) Supervising hammer-tapping	1
(b) Conducting pull-off tests	2

Building Elements	Level of Supervision
Structural Elements	
Preparation	
(a) Verifying hacking of damaged, loose, hollow sounding concrete, spalling and honeycomb	1
(b) Supervising opening up of concrete for cracks	1
(c) Checking spacing between sound concrete and exposed reinforcement	1
(d) Checking removal of rust and mill scale	1
Concrete Repair	
(a) Checking new replacing reinforcement	1
(b) Examining reinforcement and sound concrete prior to application of bond coat and repair mortar	2
(c) Supervising application of bond coat and repair mortar	1
(d) Supervising resin injection for cracks	1
Recasting	
(a) Checking formwork and falsework	1
(b) Supervising concrete mixing	1

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Building Elements	Level of Supervision
Structural Elements	
(c) Examining reinforcement prior to concreting	2
(d) Supervising concrete compaction and curing	1
Structural Steel Repair	
(a) Checking corrosion protection to steel elements and their connections	1
(b) Supervising replacement of structural members including provision of temporary supports	2
(c) Checking welded joints of structural members	1
Proof Test	
(a) Supervising hammer-tapping	1
(b) Conducting pull-off test	2
(c) Conducting rebound hammer tests, repair mortar compressive strength and bond strength tests, and concrete cube tests	1
(d) Conducting strength tests on new reinforcement and structural steel wherever necessary	1
(e) Conducting non-destructive testing of welds	2

Building Elements	Level of Supervision
Fire Safety Elements	
Rectification and Repair	
(a) Supervising application of fire resisting materials including measurement of coat thickness	1
(b) Supervising repair or rectification of fire safety elements such as elements of construction, walls, fixed light, doors, fire shutters.	1

Legends:



New/revised phrases



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Building Elements	Level of Supervision
Drainage System	
Preparation	
(a) Checking alignment, fall and sub-grade material prior to laying underground drain pipes	1
Rectification and Repair	
(a) Checking fixings for brackets and connections	1
(b) Checking connection of pipes and connections to last manhole prior to backfilling	1
Proof Test	
(a) Supervising ball tests, air tests, water tests and smoke tests	1
(b) Conducting CCTV survey	2

Notes:

Level 1 supervision – may be performed by RI's Level 1 representative, RI's Level 2 representative or RI.

Level 2 supervision – may be performed by the RI's Level 2 representative or RI. The RI however must carry out the first inspection to rectification/repair works and proof tests that are specified for Level 2 supervision.

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Form 5 – Drainage System

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

Location	Element	Defect Type*	Type of Unauthorised drainage works**	Follow-up Actions Required			Photo No.	Remarks
				DI	Repair	Others		
External wall facing XX Road	Surface water pipes	1			✓		5	
Kitchen at 2/F Restaurant	Additional pipe		A	✓			8	Suspected unauthorised waste pipe connected to surface water system
5/F Flat B	Pipes within common pipe duct	1			✓		12	
8/F Flat B	ditto	1			✓		13	
Podium right below flat B	Pipe outlet	1			✓		14	
G/F rear lane	Surface channel	2			✓		26	Cracked and broken corner
G/F yard	Underground manhole	7			✓			Misconnected common drain must be rectified

Legend:

*** Defects**

- 1 Corrosion, leakage, deformation, displacement or surface damage of pipe
- 2 Damage of manhole or broken of surface channel, gullies and catch pits
- 3 Blockage of pipe, manhole, surface channel, gullies or catch pits
- 4 Corrosion, loosening or breaking of metal brackets
- 5 Missing grating of ventilating pipe
- 6 Deterioration of mica flap in fresh air inlet
- 7 Misconnected common drain affecting sanitary condition of building or affecting public health
- 8 Others (please specify)

**** Unauthorised drainage works**

- A Expedient connection of foul or waste water to surface water drainage system
- B Discharge of foul or waste water to external of building or open areas
- C Discharge of untreated trade effluent into drainage system
- D Discharge of untreated trade effluent to external of building or open space
- E Others (please specify)

Legends:

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