

Annex 1 - FRAMEWORK FOR RISK-BASED INSPECTION

RISK FACTOR	LOW RISK	MEDIUM RISK	HIGH RISK														
Building classification	Minor Building Works	Major Building Works	Major Building Works														
Type of Building Works	All building works mentioned in Fourth Schedule (non-AC projects)	All building works except works mentioned in Fourth Schedule (AC projects)	High-rise Building## Complex Structures**		Geotechnical Building Works (GBW)												
Project Value #	not exceeding \$7.5 M	more than \$7.5 M															
QP Supervision	QP(ST)	QP(ST)*	QP(ST)* and QP(Geo)*														
	Site Supervision Plan <ul style="list-style-type: none"> Project value up to \$75 mil – at least once per month Project value > \$75 mil – at least twice per month To submit Annex 4 : Form: BE-CSW during permit application																
Site Supervisors Requirements	Resident Technical Officer (RTO)	<table border="1"> <tr> <td>Project Cost</td> <td>> \$7.5 – \$15 M</td> <td>> \$15 –\$30 M</td> <td>> \$30 – \$75 M</td> <td>> \$75 – \$150 M</td> <td>> \$150 M</td> </tr> <tr> <td>Site Supervisors</td> <td>1 RTO</td> <td>1 RE</td> <td>1 RE + 1 RTO</td> <td>1 RE + 2 RTO</td> <td>2 RE + 3RTO</td> </tr> </table>				Project Cost	> \$7.5 – \$15 M	> \$15 –\$30 M	> \$30 – \$75 M	> \$75 – \$150 M	> \$150 M	Site Supervisors	1 RTO	1 RE	1 RE + 1 RTO	1 RE + 2 RTO	2 RE + 3RTO
		Project Cost	> \$7.5 – \$15 M	> \$15 –\$30 M	> \$30 – \$75 M	> \$75 – \$150 M	> \$150 M										
Site Supervisors	1 RTO	1 RE	1 RE + 1 RTO	1 RE + 2 RTO	2 RE + 3RTO												
Supervision requirements	Immediate supervision for <ul style="list-style-type: none"> concreting piling pre-stressing tightening of high-friction grip bolts the construction of ERSS 	<ul style="list-style-type: none"> full time supervision for structural elements of all building works Exc_non-GBW_Annex C-1 and ERSS_Annex E forms for non-GBW works 	<ul style="list-style-type: none"> QP's inspection before or during execution of complex structures full time supervision for structural elements of all building works Certificate of Supervision on Pile Load Test (Annex B) Certificate of Supervision on Piling Works in two stages [50% and 100% (Annex C)] Building settlement monitoring plan & settlement limit (Annex D) Exc_non-GBW_Annex C-1 and ERSS_Annex E forms for non-GBW works 	<ul style="list-style-type: none"> full time supervision for structural elements of all building works checklist for Supervision of Tunnelling works Exc_GBW_Annex C-1 and ERSS_GBW_Annex E forms for GBW works Supervision duties under Eighth Schedule, Part 2 of BC Regulations													
Supervision Checklist	Minimum level of immediate supervision (refer to Annex 7)	<ul style="list-style-type: none"> Concreting works Post-tensioning works Safety Barriers Foundation works (Bored Piles) Foundation works (Displacement Piles) Structural Steelworks Mass Engineered Timber Reinforcement Demolition 	<ul style="list-style-type: none"> Precast components Curtainwall & Cladding (Stick System) Curtainwall & Cladding (Unitised System) PPVC (Steel) PPVC (Concrete) Post-Installed Anchors/Rebars ERSS Tunnelling works (for GBW) 														

Note:

* For major building works, the QP(ST) shall not be the officer, employee or partner of the developer or builder.

** For buildings fall under complex structures, refer to Annex A (criteria for complex building) of circular dated 2nd June 2014

For project values more than \$7.5 M, refer to Building Control Regulations 24

For buildings more than 10 storeys

FOURTH SCHEDULE

Regulation 12

MINOR BUILDING WORKS NOT REQUIRING CERTIFICATE OF ACCREDITED CHECKER

1. Building works for or in connection with —

- (a) detached houses, semi-detached houses, terraced or linked houses for residential purposes not exceeding 3 storeys involving only structures that are not the subject of sub-paragraphs (b) to (k);
[S 665/2013 wef 28/10/2013]
- (b) detached substations not exceeding 2 storeys, detached bin centres, detached guard houses and the like; and
[S 54/2008 wef 15/02/2008]
- (c) retaining walls and earth stabilising structures not exceeding a visible height of 4 metres;
[S 54/2008 wef 15/02/2008]
- (d) shophouses not exceeding 2 storeys (where attic or basement floor exceeding an area of 100 square metres shall be considered as a storey);
[S 54/2008 wef 15/02/2008]
- (e) single storey buildings, sheds, covered walkways and the like where the span of beams or roof trusses is not more than 15 metres or the span of any cantilever is not more than 6 metres;
[S 665/2013 wef 28/10/2013]
- (f) underground tank, swimming pool and the like not exceeding a depth of 4 metres;
[S 54/2008 wef 15/02/2008]
- (g) *[Deleted by S 665/2013 wef 28/10/2013]*
- (h) box culverts, canal crossings or bridges with spans not exceeding 5 metres;
[S 54/2008 wef 15/02/2008]
[S 665/2013 wef 28/10/2013]
- (i) chimneys, lighting masts and the like not exceeding 20 metres in height;
[S 54/2008 wef 15/02/2008]
- (j) foundation for steel tank, equipment and the like not exceeding 20 metres in height;
[S 665/2013 wef 28/10/2013]
- (k) gantry cranes that are independently supported, where the span between supports does not exceed 6 metres; and
[S 665/2013 wef 28/10/2013]
- (l) demolition of any building or structure.
[S 665/2013 wef 28/10/2013]

2. Structural works consisting of repairs, alterations and additions to an existing building which do not materially affect the key structural elements of the building.

[S 54/2008 wef 15/02/2008]

Definition of "geotechnical building works" (extracted from Building Control Act)

“geotechnical building works” means any of the following building works:

- (a) any excavation or other building works to make —
 - (i) a tunnel with a diameter, width or height of more than 2 metres; or
 - (ii) a caisson, cofferdam, trench, ditch, shaft or well with a depth of more than 6 metres;
- (b) any building works for constructing, altering or repairing any earth retaining structure in or for a trench, ditch, shaft or well with a depth or height of more than 6 metres;
- (c) any earthworks or other building works for constructing or stabilising a slope with a height of more than 6 metres (measured as the vertical distance between the highest level and lowest level of the slope);
- (d) such type of foundation works as the Minister may prescribe in the building regulations for buildings of 30 storeys or more;

[Act 22 of 2012 wef 01/12/2012]

<i>QP's Inspection on Critical Works</i> <i>(to be submitted together with permit application form)</i>														
Commissioner of Building Control Building and Construction Authority 52 Jurong Gateway Road, #12-01 Singapore 608550 Fax: 63342561														
Project Reference No: _____ Project Title: _____ _____ _____ _____														
1. I have studied and prepared the Supervision Plan for the above-mentioned project and confirmed that the following execution works are critical which require QP's inspection before or during the works.														
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="padding: 5px;">Description of critical works, which include all complex structures defined in circular dated 2 June 2014</th> <th style="padding: 5px;">QP's inspection (before or during the execution of works?)</th> <th style="padding: 5px;">Tentative Execution Date*</th> </tr> </thead> <tbody> <tr><td style="height: 20px;"> </td><td> </td><td> </td></tr> <tr><td style="height: 20px;"> </td><td> </td><td> </td></tr> <tr><td style="height: 20px;"> </td><td> </td><td> </td></tr> </tbody> </table>	Description of critical works, which include all complex structures defined in circular dated 2 June 2014	QP's inspection (before or during the execution of works?)	Tentative Execution Date*											
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(*to attach construction program if available)														
2. I shall notify Commissioner of Building Control (CBC) at least 2 weeks before the actual execution of critical works listed above.														
_____ Name & Signature of QP(Supervision)	_____ Date													

For reference only

Notification to CBC on Critical Works To Be Carried Out

(QP shall submit to BCA 2 weeks before the execution of critical works)

Commissioner of Building Control
Building and Construction Authority
52 Jurong Gateway Road, #12-01
Singapore 608550
Fax: 63342561

We wish to inform you that we will be carrying out critical works on _____

_____ at _____

(location of the critical works e.g storey, (ridge) on _____ (date). The critical

works were approved under ST _____

The building works is for the (Project Title):

For reference only

I will carry out the following works:

- Supervise the execution of critical works by ensuring that the works are carried out in accordance with the approved plan and technical documents (e.g method statements, material tests, codes of practice)
- Inspect the site and brief the builder and supervision team prior to execution of critical works.

Yours faithfully

(Signature)

Name of Qualified Person: _____

Date: _____

For reference only

Annex 7 – Minimum Level of Immediate Supervision

Type of Critical Structural Works	Sub-Classification of Works	Min Level of Supervision
Demolition Works	For all type of building regardless of number of floor storeys	Throughout the process
Piling Works	All types of piles	Throughout the process
	Load tests	Start & End of process
ERSS Works	Soil removal	Throughout the process
	Installation of all strutting elements	Throughout the process
	Instrumentation monitoring	To be present when taking readings
Concreting works	Erection of formwork & false works	Inspection before laying reinforcement
	Laying of steel reinforcement	Inspection before concreting
	Concreting	Throughout the process
	Pre-stressing	Throughout tendon stressing and locking
	Precast	Placing of precast units and grouting of joints
	Formwork removal	Inspection of Structural Elements

Type of Critical Structural Works	Sub-Classification of Works	Min Level of Supervision
Steel Works	Verification of steel elements	All elements
	Connections (steel-to-steel & steel-to-concrete)	Every connection
Timber Works	Verification of timber elements	All elements
	Connections	Every connection
Cladding Fixings	Pre-installed fixings	Start & before concreting
	Post-installed fixings	100% of total fixing points
Barriers	Glass, aluminium and Steel	Every connection

For reference only