

Our Ref : APPBCA-2014-10

Building Engineering Division (#05-00)

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14 August 2014

See **Distribution**

Dear Sir/Madam

**CHANGES TO ANNEX C IN ADVISORY NOTE 1/09 FOR EARTH RETAINING OR STABILISING STRUCTURES (ERSS)**

**Objective**

BCA has carried out a review on the form Exc\_UBW\_Annex C (which is provided under Advisory Note 1/09 issued on 2 April 2009) in order to streamline the processes for site inspection and construction controls. This circular is to inform you of the changes to form Exc\_UBW\_Annex C "Site Inspection & Approval Records" in Advisory Note 1/09, which have been worked out in consultation with the industry.

**Changes**

2 The existing form Exc\_UBW\_Annex C and Exc\_erss\_Annex C will be superceded and withdrawn. It will be replaced by two new forms, namely:

- a) Exc\_GBW\_AnnexC-1, which is for projects where there are Geotechnical Building Works (GBW); and
- b) Exc\_Non-GBW\_AnnexC-1, which is for projects where excavation works do not fall under GBW.

3 Each of the new forms is divided into four sections (A to D), and each section is to be completed by different parties, namely Builder, QP(S)s, QP(D)s and ACs. The accompanying Flowchart\_AnnexC shows the processes involved and how the forms are to be used.

4 As the forms Exc\_GBW\_AnnexC-1 and Exc\_Non-GBW\_AnnexC-1 help to streamline the processes for site inspection and construction controls, we encourage project parties to make use of them with immediate effect.

**For clarification**

5 Please contact Dr Poh Teoh Yaw or Miss Tung Qiao Yue at Tel 1800-3425222 or email [bca\\_enquiry@bca.gov.sg](mailto:bca_enquiry@bca.gov.sg), if you need any clarification. Thank you.

Yours faithfully

  
YANG KIN SENG  
DIRECTOR  
BUILDING ENGINEERING DIVISION  
For COMMISSIONER OF BUILDING CONTROL

## SITE INSPECTION &amp; APPROVAL RECORDS

Project Ref.: \_\_\_\_\_ Project Name: \_\_\_\_\_

This report is to be prepared and certified for ERSS **before the construction proceeds to the next strut level or critical construction stage, as stipulated in the approved plans.** The accompanying Flowchart\_AnnexC shows the process and use of this form. The QP(S) / QP (Geo)(S) is required to keep a copy of each of these completed reports on site.

Location/Section: \_\_\_\_\_

Section A: To be completed and certified by Builder		Section B1: To be completed by QP(S) & QP(Geo)(S)	
Please tick the applicable box on current construction stage	Declaration of Builder	Date of inspection	Status and Comments (Report any deviations from approved plans.)
<input type="checkbox"/> Completion of installation of embedded walls, piling or kingpost, or ground improvement  <input type="checkbox"/> At strut/support level no: _____ <input type="checkbox"/> At final excavation level <input type="checkbox"/> Removal of strut/support no: _____ / removal of wall <input type="checkbox"/> others, pls specify: _____	I confirm that the ERSS have been constructed according to the approved plans and hereby seek QP(S)'s approval before proceeding with the next construction stage.  Name & Signature of Technical Controller for & on behalf of the builder  Name, UEN, stamp & signature of builder Date: _____	By QP(S) on _____  By QP(GEO)(S) on _____	
<b>Section B2: To be completed and certified by QP(S) and QP(Geo)(S)</b> We have inspected the site and its neighbouring areas, and assessed the performance of constructed ERSS, results of instrumentation and monitoring readings, and the actual ground conditions. We are satisfied that the ERSS is safe for the works to proceed to the next construction stage, - (please tick only one of the boxes below) <input type="checkbox"/> We are satisfied that the constructed ERSS is fully in accordance with the approved plans. We hereby grant approval for the builder to proceed to the next construction stage. We have submitted a copy of this form to QP(D), QP(D)(Geo), AC and AC(Geo) together with a copy of instrumentation and monitoring results, relevant as-built information of ERSS and actual ground condition encountered at site. (Sections C & D are not applicable) <input type="checkbox"/> There are changes to the approved plan, which in our opinion <b>do not require a re-design of ERSS.</b> We hereby grant approval to the builder to proceed to the next construction stage subject to confirmation by QP(D)s and AC(s). (Sections C and D to be completed by QP(D) (ST & Geo) and AC (ST & Geo) )			
Name, stamp & signature of QP(S) Date: _____		Name, stamp & signature of QP(Geo)(S)** Date: _____	
<b>Section C: When applicable, to be completed and certified by QP(D) and QP(GEO)(D), with assessment report appended</b> We have assessed and reviewed the adequacy of the as-installed key structural elements of the Geotechnical Building Works (GBW), results of instrumentation and monitoring readings, actual ground conditions and the changes highlighted by the QP(S) and QP(Geo)(S), and conclude that – (please tick only one of the boxes below) <input type="checkbox"/> <b>The changes <u>do not</u> require a re-design of the ERSS.</b> ERSS works to the next construction stage can proceed. <input type="checkbox"/> Amendment submission to BCA is required before ERSS works to the next construction stage can proceed, and no excavation is permitted.			
Name, stamp & signature of QP(D) Date: _____		Name, stamp & signature of QP(Geo)(D)** Date: _____	
<b>Section D: When applicable, to be completed and certified by the AC and AC(Geo)</b> We have reviewed the adequacy of the as-installed key structural elements of the GBW, including results of instrumentation and monitoring readings, and actual ground conditions and the QP(D) and QP(Geo)(D)'s assessment report and concluded that – (please tick only one of the boxes below) <input type="checkbox"/> <b>The changes <u>do not</u> require a re-design of the ERSS.</b> We agree to permit the builder to proceed ERSS works to the next construction stage. <input type="checkbox"/> Amendment submission to BCA is required before ERSS works to the next construction stage can proceed, and no excavation is permitted.			
Name, stamp & signature of AC Date: _____		Name, stamp & signature of AC(Geo)** Date: _____	

\*\*For geotechnical aspects of the GBW

## SITE INSPECTION &amp; APPROVAL RECORDS

Project Ref.: \_\_\_\_\_ Project Name: \_\_\_\_\_

This report is to be prepared and certified for ERSS **before the construction proceeds to the next strut level or critical construction stage, as stipulated in the approved plans.** The accompanying Flowchart\_AnnexC shows the process and use of this form. The QP(S)(ST) is required to keep a copy of each of these completed reports on site.

Location/Section: \_\_\_\_\_

Section A: To be completed and certified by Builder		Section B1: To be completed by QP(S)	
Please tick the applicable box on critical construction stage	Declaration of Builder	Date of inspection	Status and Comments (Report any deviations from approved plans.)
<input type="checkbox"/> Completion of installation of embedded walls, piling or kingpost, or ground improvement  <input type="checkbox"/> At strut/support level no: _____ <input type="checkbox"/> At final excavation level <input type="checkbox"/> Removal of strut/support no: _____ / removal of wall <input type="checkbox"/> others, pls specify: _____	I confirm that the ERSS have been constructed according to the approved plans and hereby seek QP(S)s' approval before proceeding with the next construction stage.  _____ Name & Signature of Technical Controller for & on behalf of the builder  _____ Name, UEN, stamp & signature of builder Date: _____	By QP(S) on _____	
<b>Section B2: To be completed and certified by QP(S)</b>			
I have inspected the site and its neighbouring areas, and assessed the performance of constructed ERSS, results of instrumentation and monitoring readings, and the actual ground conditions. I am satisfied that the ERSS is safe for the works to proceed to the next construction stage, - (please tick only one of the boxes below)			
<input type="checkbox"/> I am satisfied that the constructed ERSS is fully in accordance with the approved plans. I hereby grant approval for the builder to proceed to the next construction stage. I have submitted a copy of this form to QP(D), and AC together with a copy of instrumentation and monitoring results, relevant as-built information of ERSS and actual ground condition encountered at site. (Sections C & D are not applicable)			
<input type="checkbox"/> There are changes to the approved plan, which in my opinion <b>do not require a re-design of ERSS</b> . I hereby grant approval to the builder to proceed to the next construction stage subject to confirmation by QP(D) and AC. (Sections C and D to be completed by QP(D) and AC)			
_____ <b>Name, stamp &amp; signature of QP(S)</b> <b>Date:</b> _____			
<b>Section C: When applicable, to be completed and certified by QP(D), with assessment report appended</b>			
I have assessed and reviewed the adequacy of the as-installed key structural elements of the ERSS, results of instrumentation and monitoring readings, actual ground conditions and the changes highlighted by the QP(S) and conclude that – (please tick only one of the boxes below)			
<input type="checkbox"/> <b>The changes <u>do not</u> require a re-design of the ERSS.</b> ERSS works to the next construction stage can proceed.			
<input type="checkbox"/> Amendment submission to BCA is required before ERSS works to the next construction stage can proceed, and no excavation is permitted.			
_____ <b>Name, stamp &amp; signature of QP(D)</b> <b>Date:</b> _____			
<b>Section D: When applicable, to be completed and certified by the AC</b>			
I have reviewed the adequacy of as-installed key structural elements of the ERSS, results of instrumentation and monitoring readings and actual ground conditions and the QP(D)'s assessment report and concluded that – (please tick only one of the boxes below)			
<input type="checkbox"/> <b>The changes <u>do not</u> require a re-design of the ERSS.</b> I agree to permit the builder to proceed ERSS works to the next construction stage.			
<input type="checkbox"/> Amendment submission to BCA is required before ERSS works to the next construction stage can proceed, and no excavation is permitted.			
_____ <b>Name, stamp &amp; signature of AC</b> <b>Date:</b> _____			

### Flowchart for ERSS Annex C

(If ERSS is GBW use form Exc\_GBW\_AnnexC; if ERSS is non-GBW, use form Exc\_Non-GBW\_AnnexC)

Section A

Technical Controller of Builder confirms and certifies that the ERSS is constructed according to the approved plans, and seek QP(S)'s approval to proceed to the next construction stage.

Section B1  
and B2

QP(S) and QP(GEO)(S)\* inspect the site, and assess the performance of the ERSS, monitoring results and ground conditions (Section B1 & B2).

No

Changes?

Yes

Re-design  
ERSS?

Yes

**Decision Point**

QP(S) &  
QP(GEO)(S)\*

No

QP(S) and QP(GEO)(S)\* check first box of Section B, and certify performance.

Builder may proceed to the next construction stage.

QP(S) and QP(GEO)(S)\* check second box of Section B, and certify performance.

Form is routed to QP(D)s, and Section C of Annex C to be filled up.

Amendment  
submission to  
BCA required

Section C

QP(D) and QP(GEO)(D)\* assess the as-installed key structural elements, monitoring results and ground conditions

No

Re-design  
ERSS?

Yes

**Decision Point**

QP(D) and  
QP(GEO)(D)\*

QP(D) and QP(GEO)(D)\* check first box of Section C, certify performance in accordance to design, and append assessment report.

Form is routed to AC and AC(GEO)\*. Section D of Annex C to be filled up.

QP(D) and QP(GEO)(D)\* check second box of Section C, certify performance in accordance to design, and append assessment report.

Form routed to AC and AC(GEO)\*. Section D of Annex C to be filled up.

Amendment  
submission to  
BCA required

Section D

AC and AC(GEO)\* review the adequacy of the as-installed key structural elements, monitoring results, ground conditions and QPs assessment report.

AC and AC(GEO)\* review adequacy of the as-installed key structural elements, monitoring results, ground conditions and QPs assessment report.

No

Re-design  
ERSS?

Yes

**Decision Point**

AC and  
AC(GEO)\*

AC and AC(GEO)\* check first box of Section D, and certify adequacy of design.

When the form is complete, builder may proceed to the next construction stage.

AC and AC(GEO)\* check second box of Section D, and certify adequacy of design.

**Amendment submission to BCA is required before ERSS works to the next construction stage can proceed.**

\* For GBW projects



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