

Ref: BD \_\_\_\_\_

Address: \_\_\_\_\_

Appendix \_\_\_\_\_ to approval dated \_\_\_\_\_

## **Precast Concrete Works**

In giving this approval of plans, I hereby impose the following conditions under item 6 in section 17(1) of the Buildings Ordinance (BO):

- (a) Sampling and testing of steel reinforcing bars should be carried out in accordance with CS2:2012. Testing should be carried out by a laboratory\* accredited under the Hong Kong Laboratory Accreditation Scheme (HOKLAS) for the particular test concerned. Test results<sup>@</sup> should be submitted within 60 days of the delivery of the steel reinforcing bars to the site where precast concrete elements are fabricated. The test reports should be appended with a statement signed by the registered structural engineer (RSE) to confirm the following:
  - (i) All steel reinforcing bars used for the construction and the test specimens covered by the test reports are in accordance with the types and grades of steel shown in the approved plans.
  - (ii) Sampling and testing of steel reinforcing bars used have been carried out in accordance with CS2:2012.
  - (iii) The acceptance criteria appropriate to each type and grade of steel reinforcing bars used have been complied with.
  - (iv) All steel reinforcing bars tests have been carried out by a laboratory\* accredited under the HOKLAS.
- (b) Sampling of concrete and compression testing of concrete test cubes should be carried out in accordance with the methods specified in CS1:2010. Testing should be carried out by a laboratory\* accredited under the HOKLAS for the particular test concerned. Test results<sup>@</sup> should be submitted within 21 days after testing. The test reports should be appended with a summary which contains information on locations of concerned structural elements, concrete grades and dates of cast. The summary should also include previous summary information of concrete cube test reports in chronological order. The test reports should also be appended with a statement signed by the RSE to confirm the following:
  - (i) All concrete used for the construction and concrete cubes covered by the test reports are in accordance with the concrete grades shown in the approved plans.

- (ii) Concrete cube sizes, rates of sampling fresh concrete for testing and acceptance criteria for compressive strength set out in clause 10.3.4.2 of the Code of Practice (CoP) for Structural Use of Concrete 2013 have been complied with.
- (iii) All concrete cube tests have been carried out by a laboratory\* accredited under the HOKLAS in accordance with the methods specified in CS1:2010.
- (c) Concrete should be obtained from concrete suppliers certified under the Quality Scheme for the Production and Supply of Concrete (QSPSC). The certificates of QSPSC, including (i) the certificate of the concrete supplier; and (ii) the certificate of product conformity from the supplying batching plant, issued by the Hong Kong Quality Assurance Agency, should be submitted together with the first batch of concrete cube test results within 21 days after testing. For those exception project%, the concrete of which may not be from concrete suppliers under QSPSC, the required documents to prove that the concrete supplier is operating under an approved quality system should be submitted at least one week prior to the commencement of reinforced concrete works.

2. The following conditions in respect of qualified supervision of works are imposed under item 6 in section 17(1) of the BO:

- (a) Qualified site supervision of the precast concrete works, including fabrication, erection and examination of the precast concrete elements and sampling of concrete and steel reinforcing bars and making and curing of test cubes, by RSE, registered contractor (RC) and experienced and competent persons as defined in 2(b) and 2(c), should be provided to ensure that the works are carried out in accordance with the plans approved and that the required standards are complied with.
- (b) The RSE should assign a quality control supervisor (QCS) to supervise the precast concrete production works in the precasting factory or at the site where precast concrete elements are fabricated in accordance with the requirements for precast concrete works stipulated in the Practice Note for Authorized Persons, Registered Structural Engineers and Registered Geotechnical Engineers (PNAP) APP-143, determine the necessary frequency of inspection by the QCS which should not be less than once a week, and devise inspection check lists. The minimum qualifications and experience of the QCS are to be the same as the technically competent person (TCP) of grade T3 under the RSE's stream, as stipulated in the CoP for Site Supervision 2009 (2021 Edition).
- (c) The RC should assign a quality control co-ordinator (QCC) to provide continuous supervision of the precast concrete production works in the precasting factory or at the site where precast concrete elements are fabricated and devise inspection check lists. The minimum qualifications and experience of the QCC are to be the same as the TCP of grade T1 under the RC's stream, as stipulated in the CoP for Site Supervision 2009 (2021 Edition).

(d) The names and qualifications of the QCS and QCC assigned by the RSE and the RC respectively should be recorded in their respective inspection log books\*\*. The date, time and details of precast concrete production, inspection, auditing and testing should be recorded in the log books by the QCS and QCC. The log books should be kept in the precasting factory or at the site where precast concrete elements are fabricated and a copy of which should be kept at the building site office and, when required, produced to officers of the Buildings Department (BD) for inspection.

3. Under regulation 10 of the Building (Administration) Regulations (B(A)R), one copy of the detailed method statement including the design, drawings and installation procedures for the temporary support works for erection of the precast concrete elements duly signed by the RSE should be submitted to BD for record at least one week prior to erection of the temporary support works.

4. Where precast concrete elements are manufactured by a precasting factory, the following condition is imposed under item 6 in section 17(1) of the BO:

(a) Precast concrete elements should be manufactured by a precasting factory with ISO 9001 quality assurance certification.

5. Where precast concrete elements are manufactured by a precasting factory, the following documents should be submitted under regulation 10 of the B(A)R:

(a) A copy of the quality assurance scheme of the manufacturer should be submitted at least 14 days before the commencement of the production works in the precasting factory. Such submission should be prepared in accordance with PNAP APP-143 and appended with a statement signed by the RSE to confirm that the scheme has adequate provisions in ensuring the quality of the precast concrete elements is in compliance with the provisions of the BO and in accordance with the plans approved.

(b) A copy of precast concrete supervision plan\*\* containing the names and qualifications of the QCS and QCC assigned by the RSE and the RC respectively and their supervision frequencies in accordance with PNAP APP-143 should be submitted at least 14 days before the commencement of the production works in the precasting factory and should be recorded in their respective inspection log books.

(c) A copy of the RSE's quality audit reports\*\* of the precasting factory, or on-site audit reports on the quality of the precast concrete elements delivered to the building site, and a copy of the Authorized Signatory (AS)'s quality audit reports of the precasting factory duly endorsed by the RSE and AS respectively should be submitted to the BD within 14 days after completion of the quality audit checks. The quality audit reports by the RSE and AS should respectively cover the qualified supervision by the QCS and QCC, and should be prepared in accordance with PNAP APP-143.

6. Where the RSE adopts the alternative arrangement for the monthly quality audit checks at the precasting factory as stated in PNAP APP-143, the RSE is required to submit

written notification to BD at least one month before the commencement of the production works in the precasting factory.

- \* A Directory of Accredited Laboratories in Hong Kong is obtainable from the Hong Kong Accreditation Service (HKAS) Executive, Innovation and Technology Commission.

A laboratory's accreditation for an individual test or calibration may be granted, modified or withdrawn at any time. Up-to-date information on accredited laboratories and their scopes of accreditation are available on the internet at the HKAS website at <http://www.itc.gov.hk/hkas/>.

- @ The test carried out by an accredited laboratory should be within its scope of accreditation. To ensure this, test results should be reported on a HOKLAS Endorsed Certificate or equivalent Certificate/Report issued from other laboratory accreditation bodies which have reached mutual recognition agreements/arrangements with the HOKLAS.

*Laboratory/Organisation/Testing Agency for carrying out the test(s) should be independent of the Registered General Building Contractor (RGBC)/Registered Specialist Contractor (RSC).*

- % Pursuant to clause 11.7.1 of the CoP for Structural Use of Concrete 2013, exceptional projects include those located at remote areas (such as outlying islands) or where the volume of concrete involved is less than 50 m<sup>3</sup>. For these exceptional projects, the concrete should be obtained from a supplier operating under an approved quality system.

- \*\* For the Personal Data contained in the documents/reports mentioned in this Appendix

#### Purposes of Collection

- (i) The personal data provided will be used by the BD for the following purposes:
  - (a) activities relating to the processing of the submission;
  - (b) activities relating to works specified in this appendix; and
  - (c) facilitating communication between the BD and the related personnel.

#### Classes of Transferees

- (ii) The personal data provided may be disclosed to:
  - (a) other Government departments, bureaux & relevant organisations for the purposes mentioned in paragraph (i) above; and
  - (b) any person for the purpose mentioned in paragraph (i)(b) above.

#### Access to Personal Data

- (iii) Data subject has a right of access and correction with respect to personal data as provided for in sections 18 and 22 and principle 6 of Schedule 1 of the Personal Data (Privacy) Ordinance. Data subject's right of access includes the right to obtain a copy of his/her personal data provided by authorized person (AP)/RSE's submission.

#### Responsibility of AP/RSE

- (iv) AP/RSE should be responsible for disseminating of the above information to the relevant data subjects.