

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:

- (a) Sampling and testing of steel reinforcing bars should be carried out in accordance with CS2:2012<sup>#</sup>/Practice Note for Authorized Persons, Registered Structural Engineers and Registered Geotechnical Engineers (PNAP) APP-45 for compliance with CS2:1995<sup>#</sup>. 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 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<sup>#</sup>/PNAP APP-45 for compliance with CS2:1995<sup>#</sup>.
  - (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 Registered Structural Engineer 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 Building (Construction) Regulations 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 except for those exceptional projects permitted under clause 11.7.1 of the Code of Practice for Structural Use of Concrete 2013 where documents should be submitted by the Registered Structural Engineer at least one week prior to commencement of the works to prove that the concrete supplier is operating under an approved quality system.

2. Under Building (Administration) Regulation 10, two copies 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 Registered Structural Engineer should be submitted to this Department for record at least one week prior to erection of the temporary support works.

3. Where precast concrete elements are manufactured by a factory, the following conditions are imposed under item 6 in section 17(1) of the Buildings Ordinance:

(a) Precast concrete elements should be manufactured by a factory with ISO 9000 quality assurance certification.

(b) Qualified site supervision of the precast concrete works, including fabrication, erection and examination of the precast concrete elements and of the sampling of concrete and making and curing of test cubes should be provided in accordance with the PNAP APP-143, to ensure that the works are carried out in accordance with the plans approved and that the required standards are complied with.

(c) The names and qualifications of the supervisory personnel representing the Registered Structural Engineer and Registered General Building Contractor in the factory manufacturing the precast concrete elements should be entered into an inspection log book. The date, time and details of precast concrete production, inspection, auditing and testing should be clearly recorded. The log book should be kept in the factory and a copy of it should be kept on site for inspection by representatives of the Buildings Department.

4. Where precast concrete elements are manufactured by a factory, the following documents should be submitted under Building (Administration) Regulation 10:

(a) A copy of the quality assurance scheme of the manufacturer should be submitted prior to the application for consent to the commencement of the precast concrete works. Such submission should be prepared in accordance

with PNAP APP-143 and appended with a statement signed by the Registered Structural Engineer to confirm that the scheme has adequate provisions in ensuring the quality of production.

- (b) A copy of Registered Structural Engineer's audit reports of the precast concrete 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's audit reports of the precast concrete factory duly endorsed by the Registered Structural Engineer should be submitted within 60 days of the delivery of the precast concrete elements to the site. These reports should be prepared in accordance with PNAP APP-143.

# Delete wherever inapplicable

\* 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.info.gov.hk/itc/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.