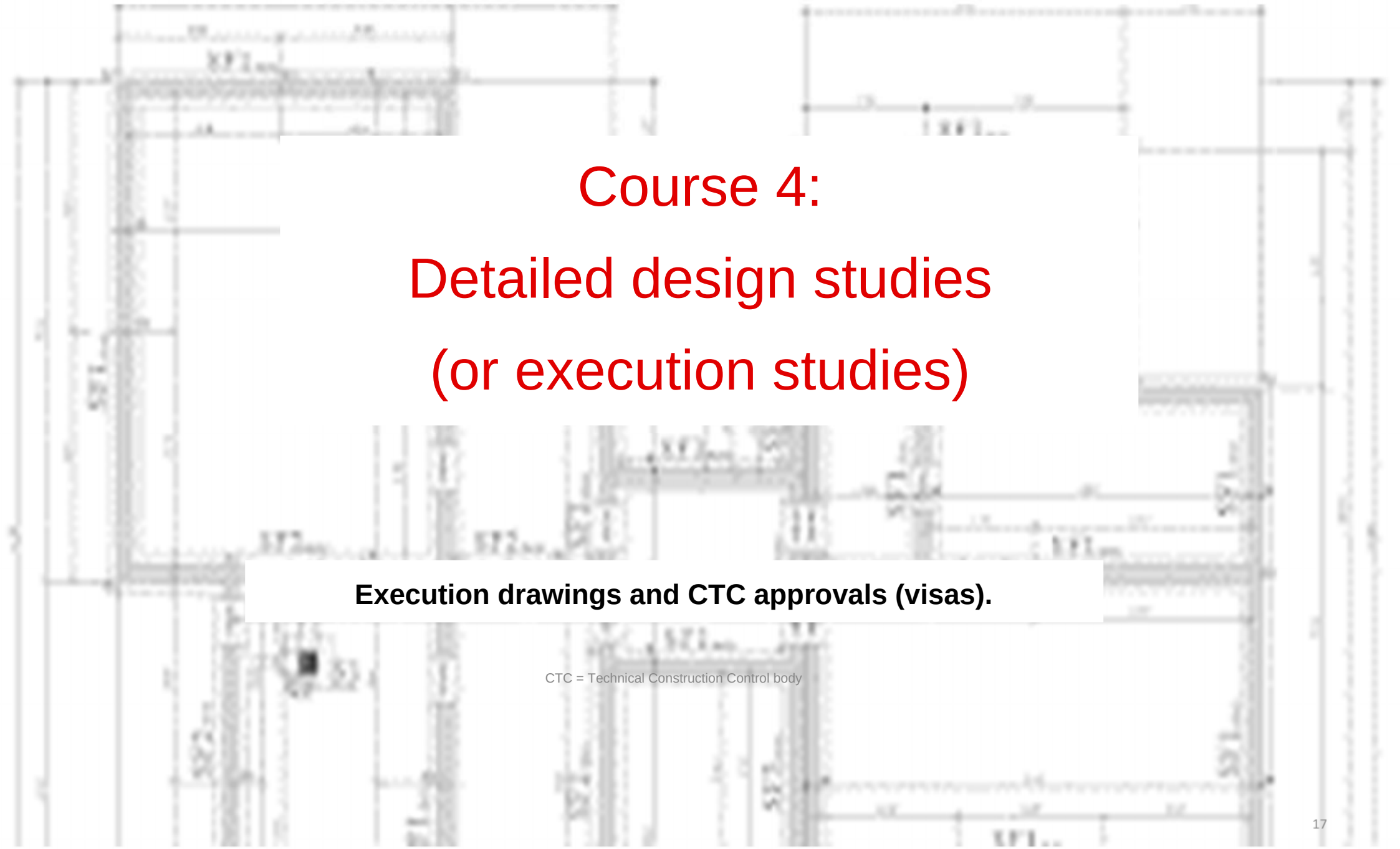


# Course 4:

# Detailed design studies

# (or execution studies)

**Execution drawings and CTC approvals (visas).**

CTC = Technical Construction Control body

# Course 4: THE EXECUTION FILE

Constitutes the descriptive, explanatory and justificatory study of the technical provisions proposed, comprising the technical file of the structure or structures divided into lots and sections.

This study comprises:

- **Written documents:**
- **Graphic documents**
- **Annex documents**

# Course 4

## – Written documents

- Technical specifications (cahiers des prescriptions techniques),
- Overall and per-lot descriptive estimate (devis descriptif),
- Overall and per-lot bill of quantities and cost estimate, with summary table,
- Provisional works execution schedule, all trades.

# Course 4:

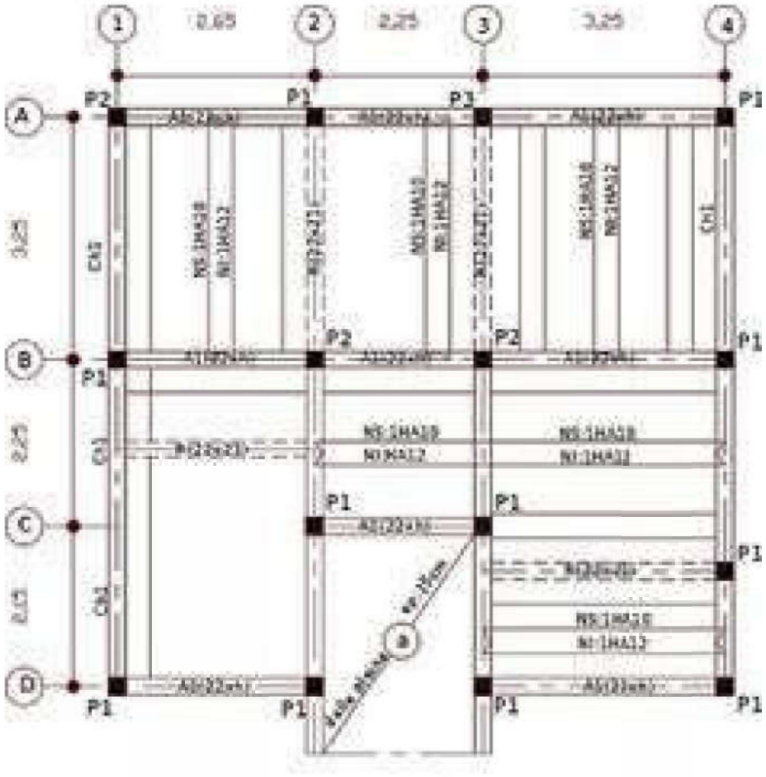
## – Graphic documents:

- Location plan,
- Topographic surveys of the site,
- Earthworks (grading) plan with side elevation and longitudinal and cross profiles (1/50),
- Site plan and external works plan (1/200),
- Setting-out plan with precise indication of the various levels and the design foundation levels, the layout of pipes and ducts, various connections, roads, surroundings and planting (1/200),

# Course 4:

## – Graphic documents (continued)

- Plans of each level showing the provisions (sleeves) for the passage of pipes and various supply or drainage lines, as well as the various appliances whose installation is planned (1/50),
- Foundation plans (1/50),
- Roof plans with slopes (1/50),
- Facade elevations (1/50),
- Cross and longitudinal sections (1/50),



Formwork plan

# Course 4:

## – Graphic documents (continued)

- Plans of circulation areas and parking (1/200),
- Plans of external works, retaining walls, circulation, pedestrian paths, terraces, gardens, fencing and other street furniture,
- Plans and profiles of storm-water and wastewater drainage, with indication of pipe layout (1/100),
- Planting plans of green spaces, with indication of plant species,
- Plans of manholes and connections (1/20).

Like any other document falling within the limits of this mission, and necessary for a better appreciation of the design and operation of the project.

# Course 4:

## – Annex documents:

- Detail drawings of all lots with the supporting calculation note, including those for roads and various networks, with connection details to the external networks, in particular:
- Water distribution plans specifying the location of fire hydrants, possibly with the water tanks (1/50),

# Course 4:

## Annex documents (continued):

- General plans of electrical distribution showing cable sections, main networks and appliance locations,
- Characteristics of the distribution boards and protection devices, as well as those of the transformer,
- Where applicable, plans for gas supply, heating, air conditioning, telephone installations and public-address systems,
- Detail plans of interior and exterior joinery, ironwork, sanitary fittings, and repetitive or special elements.

# Chapter III

# Project management (MOE).

## Course 5 : Definitions and functions of the project manager (maitre d'oeuvre).

The inter-ministerial order of 15 May 1998 on the terms of exercise and remuneration of building project management sets its terms and defines the various building project management operations, their content, the specific rules for the award and execution of the related contracts, as well as the method and conditions of remuneration applicable to them.

**WHAT CONCERNS THE STUDIES OR THE FIXED PART:**

- Sketch,
- Preliminary design,
- Execution design.

**WHAT CONCERNS ASSISTANCE:**

- Preparation of the building permit file,
- Preparation of the tender file (D.A.O.) (specifications for the works, works estimate),
- Choice of the contractor,
- Finalisation of the contract,
- Monitoring and control of the execution of the works,
- Presentation of settlement proposals, including those linked to the application of the clauses on updating, price revision, late-payment interest and delay penalties.

## **Course 6:** Regulatory framework of project management

Study of the main texts of the Algerian regulations and the content of the project manager's missions.

## Course 6: Study of the main texts of the Algerian regulations, content of the project management missions.

The constituent missions of building project management are the following:

- **E**tude (Study: Sketch, Preliminary design, Execution design)
- **A**ssistance in the choice of the Contractor,
- **S**uivi et contrôle (Monitoring and control of the execution of the works),
- **P**résentation des propositions de règlement (Presentation of settlement proposals).

The exercise of these missions may also include any other service necessary for the proper execution of the project, as set out in the project management contract.

# Course 6 (cont.): The "Assistance in the choice of the contractor" mission

Consists, at the request of the Project Owner, in:

- **P**reparing the consultation or call-for-tenders file,
- **A**ssisting the Project Owner in the analysis and evaluation of the tender or tenders,
- **A**ssisting the Project Owner in the negotiations,
- **A**ssisting the Project Owner in drafting and finalising the contract to be concluded with the Contractor.

In all cases, the receipt of tenders is carried out by the Project Owner, under the conditions provided by the regulations in force.

## Course 6 (cont.): THE "MONITORING AND CONTROL OF THE EXECUTION OF THE WORKS" MISSION

### Consists in:

- **F**orcing the Contractor to comply with the clauses of the contract,
- **A**ssuring permanent monitoring of the execution of the works and coordinating all interventions in accordance with the general execution schedules,
- **P**rogramming and chairing the site meetings, of which it draws up the minutes,
- **P**roposing to the Project Owner, where necessary, adaptations to the project and, once the latter has agreed, notifying them to the Contractor,
- **R**esolving the difficulties encountered on site and the problems raised by the Contractor that fall within the competence of the project manager,

## Course 6 (cont.): THE "MONITORING AND CONTROL OF THE EXECUTION OF THE WORKS" MISSION

- **R**edacting the service orders and notifying them to the Contractor after they have been countersigned by the Project Owner,
- **E**stablishing, jointly with the Contractor, the statements of work done (attachments) and submitting them in writing to the Project Owner,
- **A**ssisting the Project Owner at provisional acceptance by formulating the reservations to be noted and recorded in the minutes drawn up for that purpose. These reservations relate in particular to defects, imperfections or any other deficiency noted, as well as to the non-execution of services provided for in the contract.

## Course 6 (cont.): THE "MONITORING AND CONTROL OF THE EXECUTION OF THE WORKS" MISSION

- **V**eiling that the reservations are lifted and proposing to the Project Owner final acceptance, sanctioned by joint minutes countersigned by the Contractor, the project manager and the Project Owner,
- **P**roposing to the Project Owner the release of the guarantee bonds and, where applicable, the refund of the retention money to the Contractor,
- **P**roceeding with the preparation of the as-built plans in liaison with the Contractor, and handing to the Project Owner at provisional acceptance a complete set of plans accompanied by three (03) complete reproducible prints.

# Course 6 (cont.): The "Presentation of settlement proposals" mission

Consists for the project manager in:

- **E**stablishing the statements of work done on the basis of the contractual documents and the attachments, countersigning them after approval by the Contractor and presenting them to the Project Owner for payment,
- Establishing the interim statements and the general and final statement on the basis of the statements previously drawn up,
- Examining the Contractor's possible claims within the framework of the execution of its contract and submitting them to the Project Owner for decision,
- Assisting the Project Owner in applying the financial clauses of the contract, in particular price revisions and penalties.

**Designer:**

- Analyses the programme,
- Conceives and develops the various phases of the architectural and technical design file,
- Estimates the provisional cost of the project as well as the deadlines,
- Commits to the Project Owner's objectives (cost, time and quality),
- Sees to the obtaining of the building permit and the approval of the various bodies (technical control, hydraulics, PTT, civil protection, SONALGAZ...),
- Draws up the consultation files for the contractors,
- Prepares the contracts and agreements.

**Site works supervisor:**

- Checks the site installation,
- Ensures the monitoring and control of the execution,
- Draws up the statements of work done,
- Monitors the application of site safety rules,
- Ensures compliance with the contractual schedule of the works,
- Ensures the quality of the structure.

**Controller:**

- Draws up the programmes of the various tests and trials,
- Prepares the acceptance of the structure,
- Prepares the transfer of the structure between the builder and the Project Owner.

# CHAPTER IV

# Quantity surveying and construction economics

Introduction to the art of quantity surveying (métré), basic notions of quantity calculation (with examples and application exercises) ...