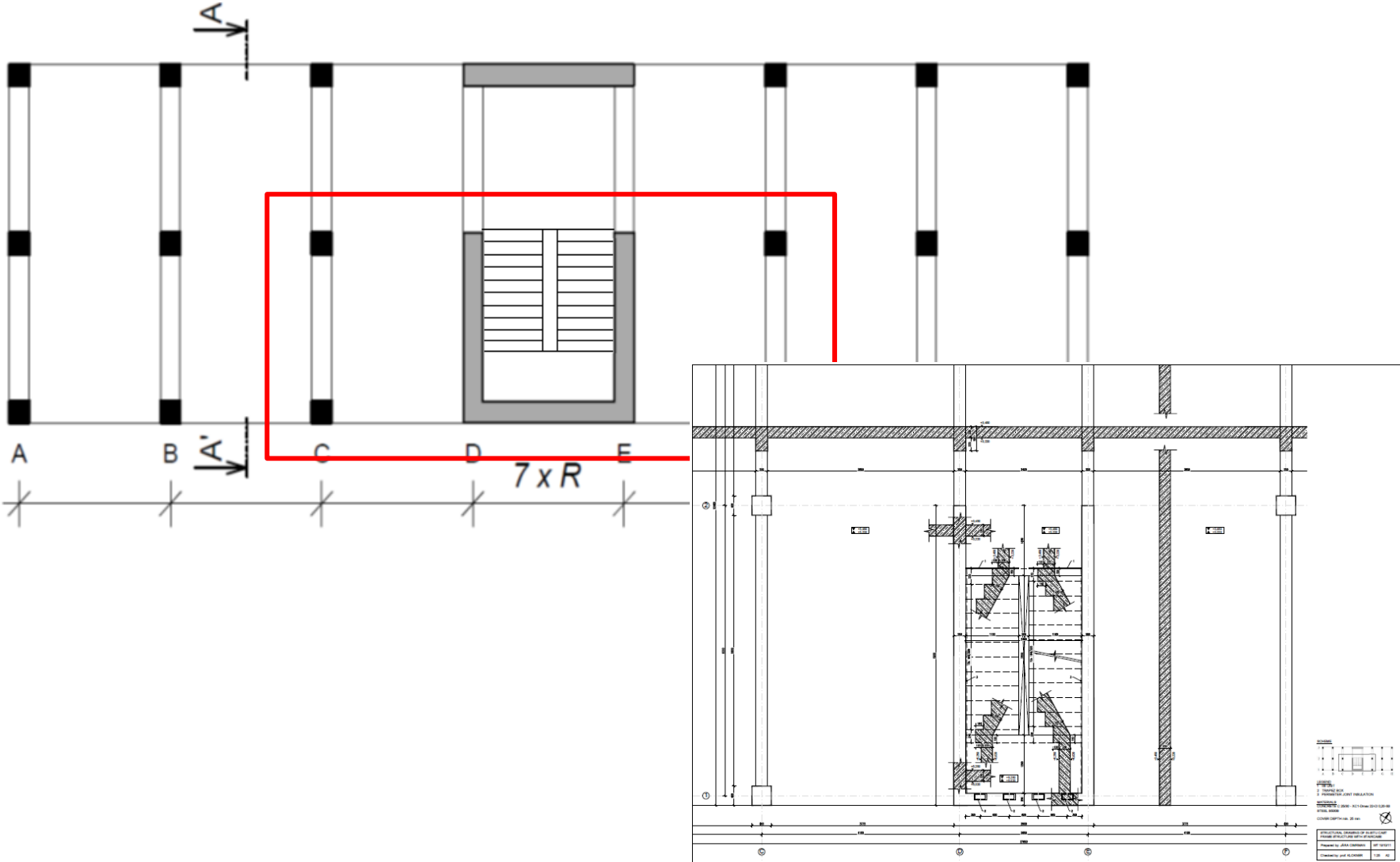


6th task: Structural drawing



Structural drawing

- Draw structural drawing of a part of the **structure from 1st task with the staircase from 5th task**
- Hand made or CAD – your choice
- Use **1:25 scale** (usually you use 1:50 or 1:100 scale for global structural drawings, but we use we use 1:25 because of the staircase details)
- If the drawing is bigger than A3, you can draw it on more papers and connect them with adhesive tape

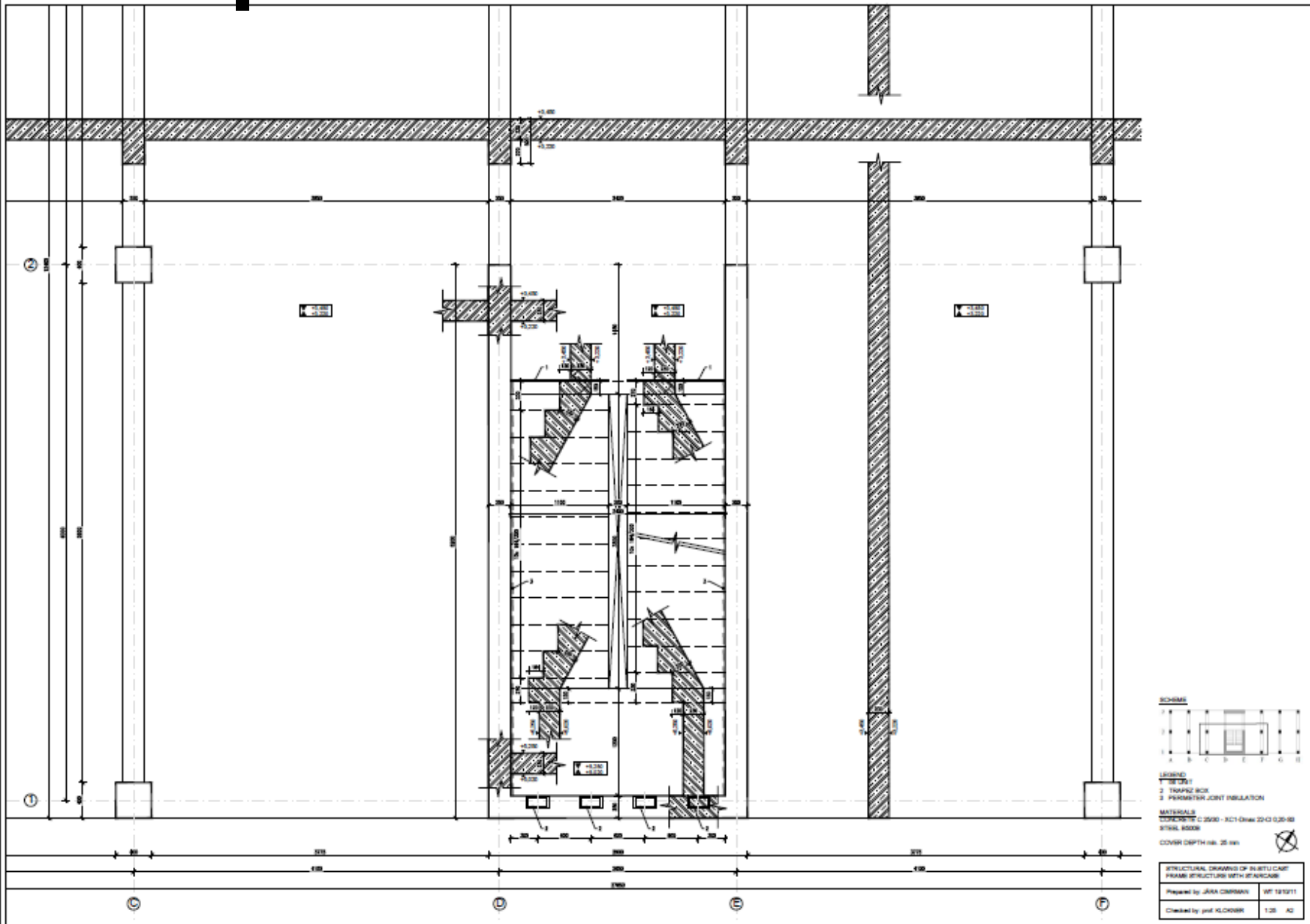
What is structural drawing?

- Similar to a simple floor plan of the structure.
- We draw **edges that you can see if you look into the formwork** (e.g. edge of slab, edge of beam) of the ceiling structure and outline of the **vertical load-bearing supports**.
- We also draw **all of the elements that should be inserted into the formwork before concreting** (anchors, sound and thermal insulation elements etc.) **EXCEPT** the reinforcement (reinforcement has its own drawing).

Contents of structural drawing

- **Structural grid** with numbering
- **Plan** of the structure
- **Cross-sections** describing **all different details** in the structure (workers on the construction site use the drawing to prepare the formwork)
- Legend of materials
- List of special elements (anchors, insulation...)
- List of precast elements (if they are present in the structure)
- Notes (as little as possible)
- Drawing title

Example – homework



Line types

- Edges of horizontal structures (beams, slabs, openings) – thin (0.2 mm) solid line
- Edges above the main formwork (steps) – thin dashed line
- **Edges of vertical load bearing structures – bold (0.3 mm) solid line**
- Axes – thin dashdot line
- **Edges in section – bold solid line**
- Hatches – thin line
- Dimensions – very thin (0.1 mm) solid line (height of the letters and numbers at least 2 mm on the paper)

Dimensions

- **Dimensions and positions** of all the elements and edges **must be clearly specified**
- Total dimensions of the building – outside the structure
- Structural grid dimensions – outside the structure
- Dimensions of vertical load bearing structures – outside the structure if possible
- Dimensions of beams, openings – inside the structure
- Dimensions of elements (e.g. beam, slab) – in the cross-sections
- Ground elevations – plan and sections

Example – homework

