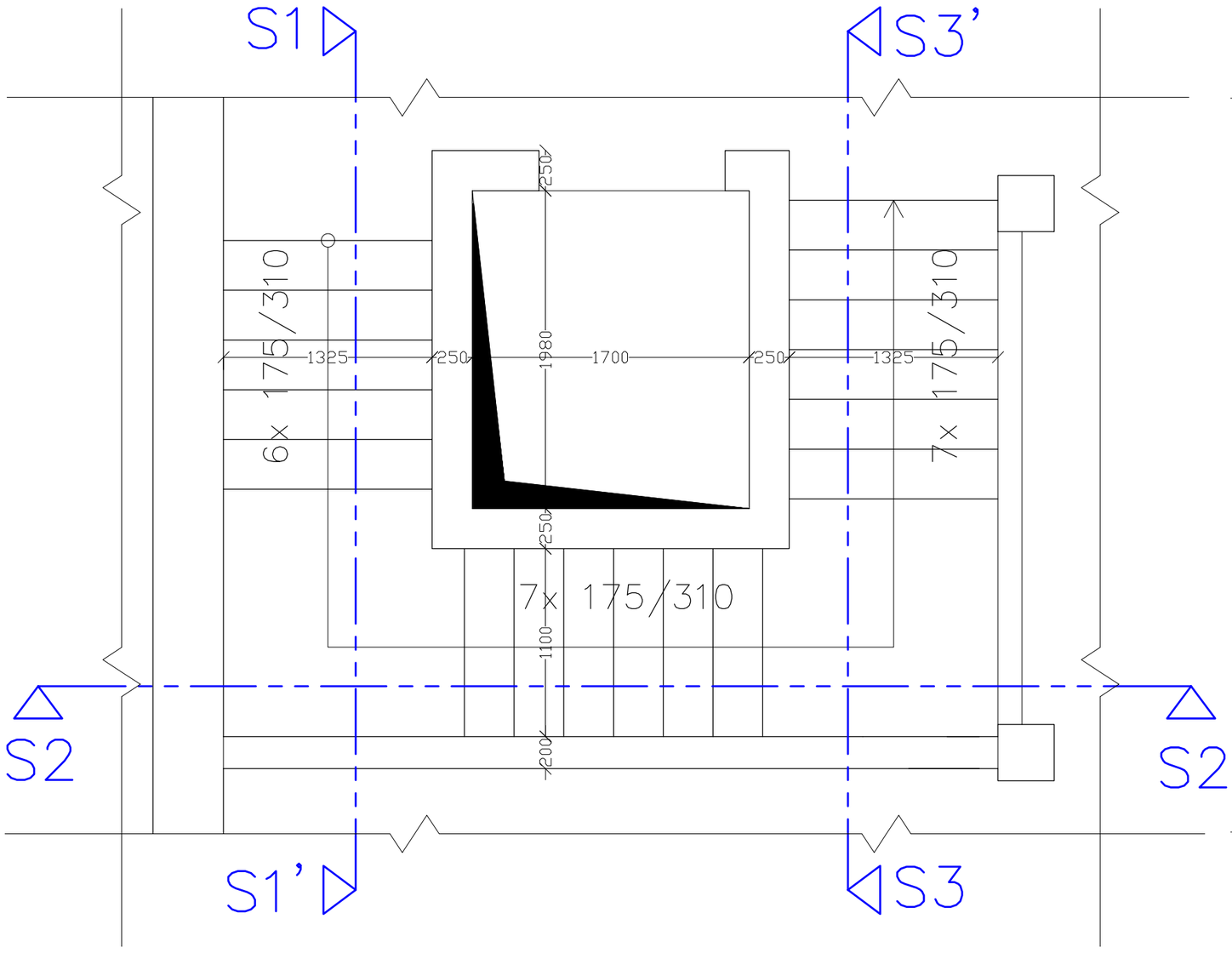
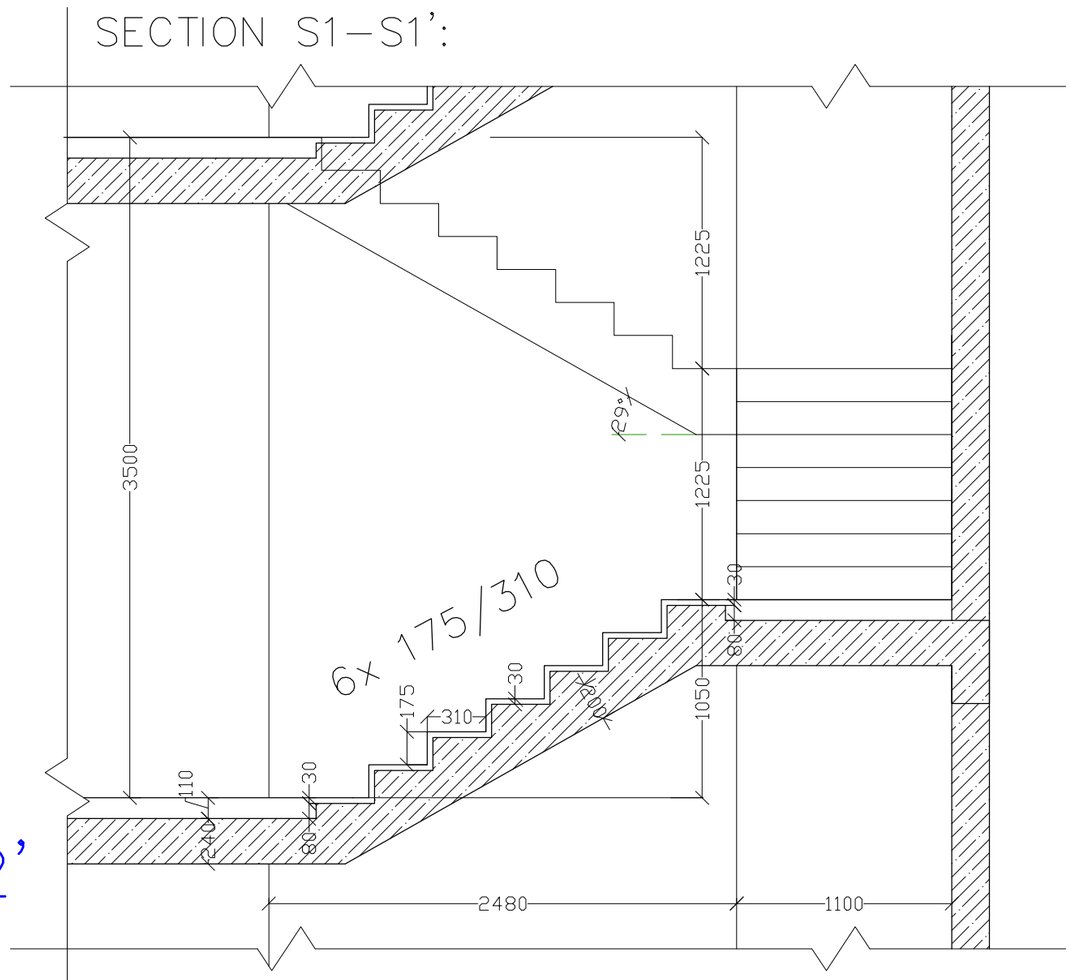



SECTION S1–S1':

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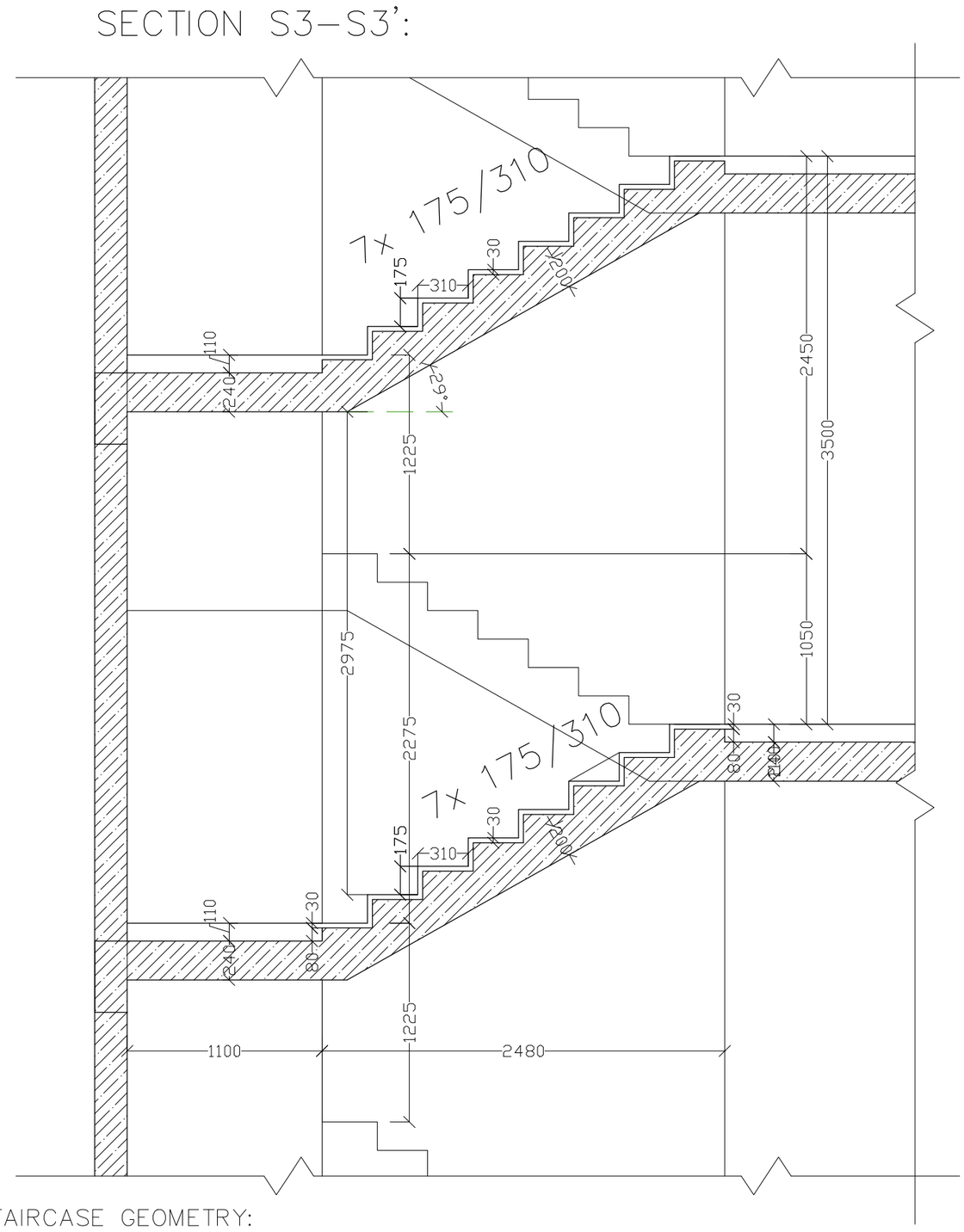
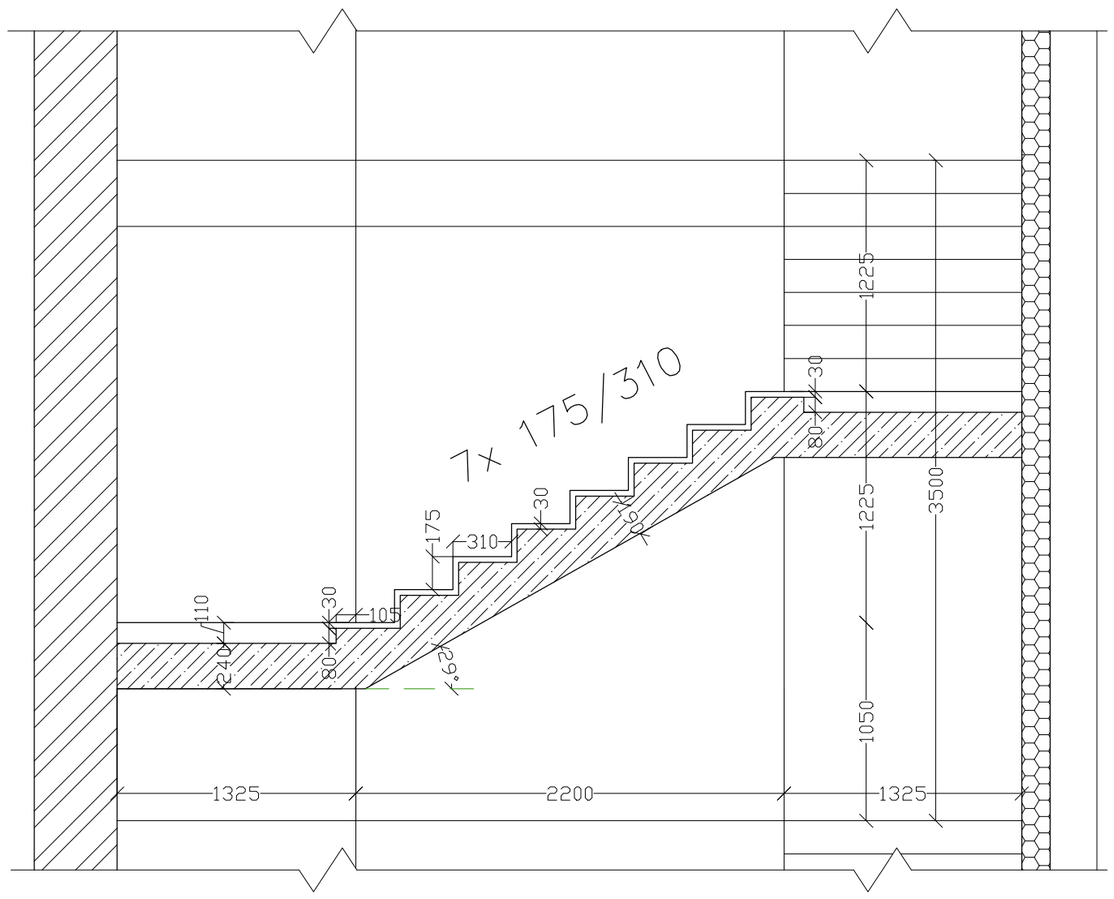



SECTION S2–S2':




STAIRCASE GEOMETRY:

Height of the floor: $h_k = 3500$ mm
Depth of the main slab: $h_s = 240$ mm
Depth of floor structure: $h_f = 110$ mm
Thickness of cladding: $h_c = 30$ mm

Ideal height of a step is 170 mm –> 3500 mm/170 mm = 20,59
I assumed 20 as total number of steps in each floor
3500 mm/20 = 175 mm = h
b > 630 – 2h = 630 – 2*175 = 280 mm
I assumed 310 mm as width of one step, b=310 mm.

1st flight: 6 steps 175/310
2nd flight: 7 steps 175/310
3rd flight: 7 steps 175/310

Slope of the staircase is $\alpha$ = arctan (175/310) = 29,4°.

Head clearance of the staircase should be more than $1500+750/\cos\alpha = 1500+750/\cos 29{,}4° = 2361$ mm.
Head clearance of the staircase is $h_1 = h_k - h_s - h_f - h = 3500-240-110-175 = 2975$ mm > 2361 mm.

Perpendicular clearance of the staircase should be more than $750+1500*\cos\alpha = 750+1500*\cos 29{,}4° = 2056$ mm.
Perpendicular clearance of the staircase is $h_2 = h_1 * \cos\alpha = 2975*\cos 29{,}4° = 2591$ mm > 2056 mm.

MATERIALS:

CONCRETE C30/37
MASONRY HELUZ 44 Burnt

COVER DEPTH MIN. 20 MM

| PROGRAMME | DEPARTMENT | NAME |
|---|---|---|
| D–39 | K 133 | Sabina Adámková |
| YEAR | CHECKED BY | |
| 2017/2018 | Ing. Iva Broukalová, Ph.D. | |
| DRAWING: STAIRCASE GEOMETRY<br>Plan and sections | | |

| | |
|---|---|
| FORMATE | A2 |
| SCALE | 1: 30 |
| DATE | 10.1.2018 |