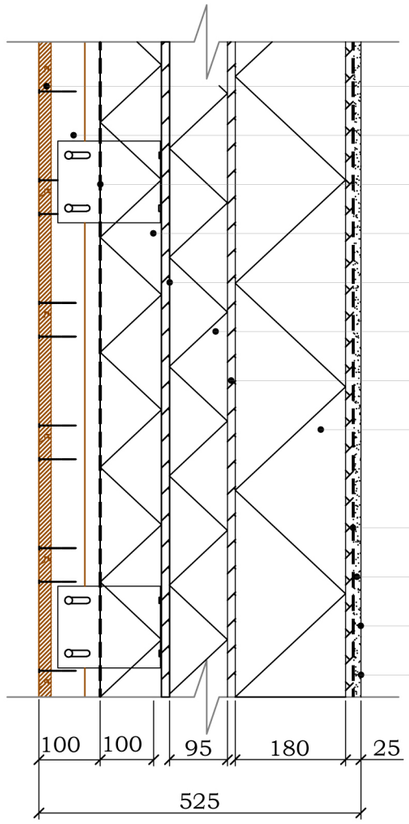
ANNEX 3
STRUCTURAL DESIGN

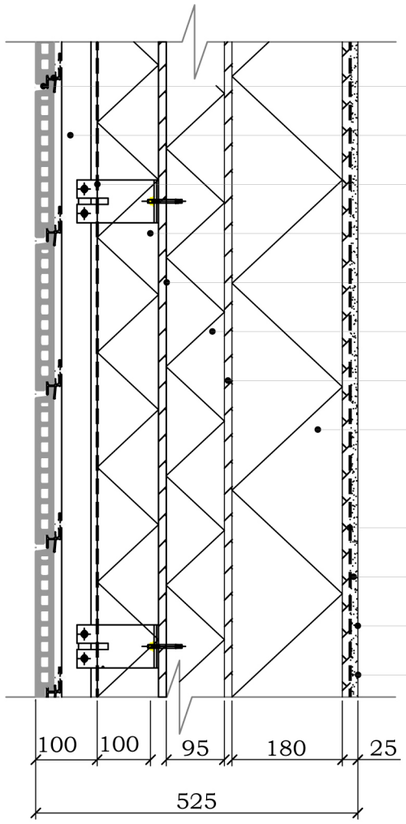
SP - 01 Foundation plan
SP - 02 Structural basement plan
SP - 03 Structural ground floor plan
SP - 04 Structural first floor plan
SP - 05 Structural second floor plan
SP - 06 Structural third floor plan
SP - 07 Structural fourth floor plan
SP - 08 Structural fifth floor plan
SP - 09 Structural sixth floor plan

Course name: Architectural engineering		Timber in the city	Specification
Galina Ivanova Yanina Morozova Tatjana Somova	781019 782942 780521		Date: 25/11/13

A3



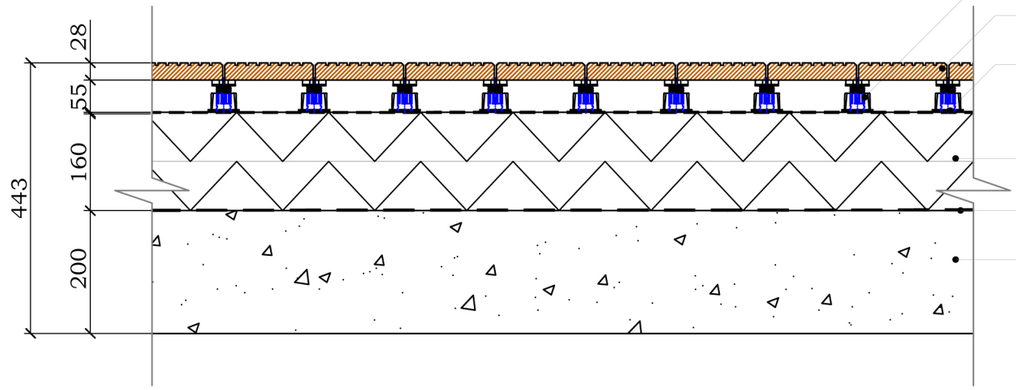
timber cladding	(ρ=300kg/m³, λ=0,10W/mK)
timber batten	(ρ=500kg/m³, λ=0,13W/mK)
TYVEK wind barrier	
polyurethane	(ρ=50kg/m³, λ=0,030W/mK)
plasterboard	(ρ=1500kg/m³, λ=0,16W/mK)
cork	(ρ=110kg/m³, λ=0,038W/mK)
plasterboard	(ρ=1500kg/m³, λ=0,16W/mK)
timber frame	(ρ=500kg/m³, λ=0,13W/mK)
fiber wood insulation	(ρ=50kg/m³, λ=0,038W/mK)
reinforcing panel	(ρ=1500kg/m³, λ=0,16W/mK)
vapor barrier	
plasterboard	(ρ=1500kg/m³, λ=0,16W/mK)
painting	



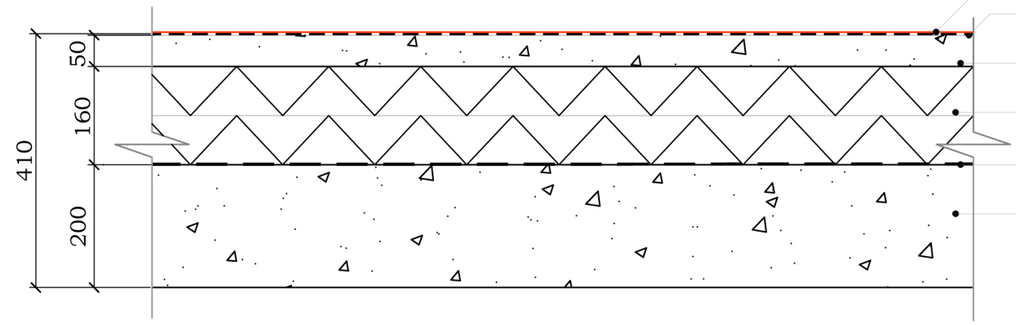
terracotta tiles	(ρ=2000kg/m³, λ=0,52W/mK)
extruded aluminum profile	
TYVEK wind barrier	
polyurethane	(ρ=50kg/m³, λ=0,030W/mK)
plasterboard	(ρ=1500kg/m³, λ=0,16W/mK)
cork	(ρ=110kg/m³, λ=0,038W/mK)
plasterboard	(ρ=1500kg/m³, λ=0,16W/mK)
timber frame	(ρ=500kg/m³, λ=0,13W/mK)
fiber wood insulation	(ρ=50kg/m³, λ=0,038W/mK)
reinforcing panel	(ρ=1500kg/m³, λ=0,16W/mK)
vapor barrier	
plasterboard	(ρ=1500kg/m³, λ=0,16W/mK)
painting	

Course name: Architectural engineering		Timber in the city	
Galina Ivanova Yanina Morozova Tatjana Somova	781019 782942 780521	Wall details	
		Date: 25/11/13	ID. no. : SD 01 Scale: 1 : 10

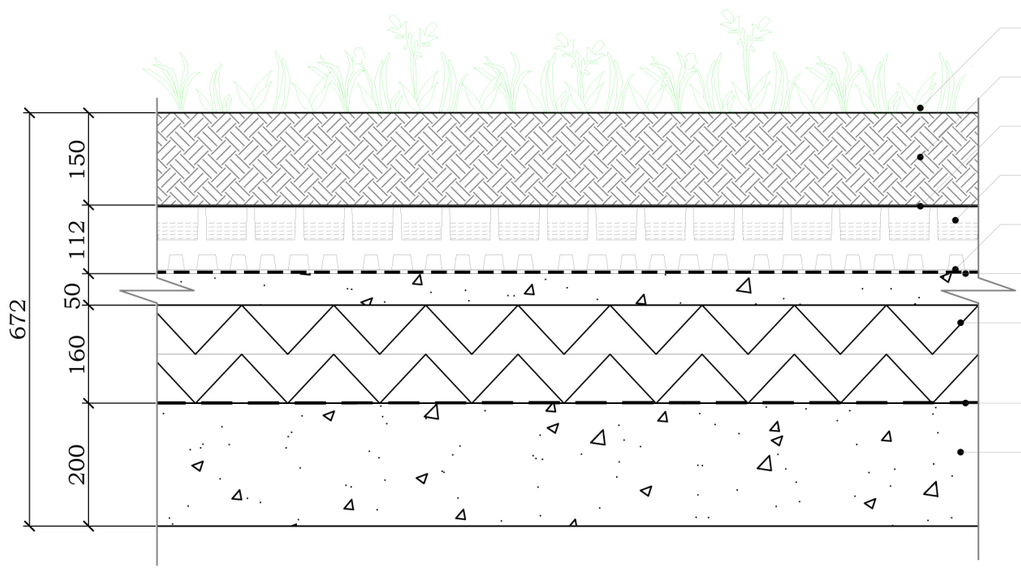
A3



adjustable paving support
timber decking tiles (ρ=1000kg/m³, λ=0,24W/mK)
waterproof membrane
expanded polystyrene (ρ=10kg/m³, λ=0,034W/mK)
waterproof membrane
concrete slab



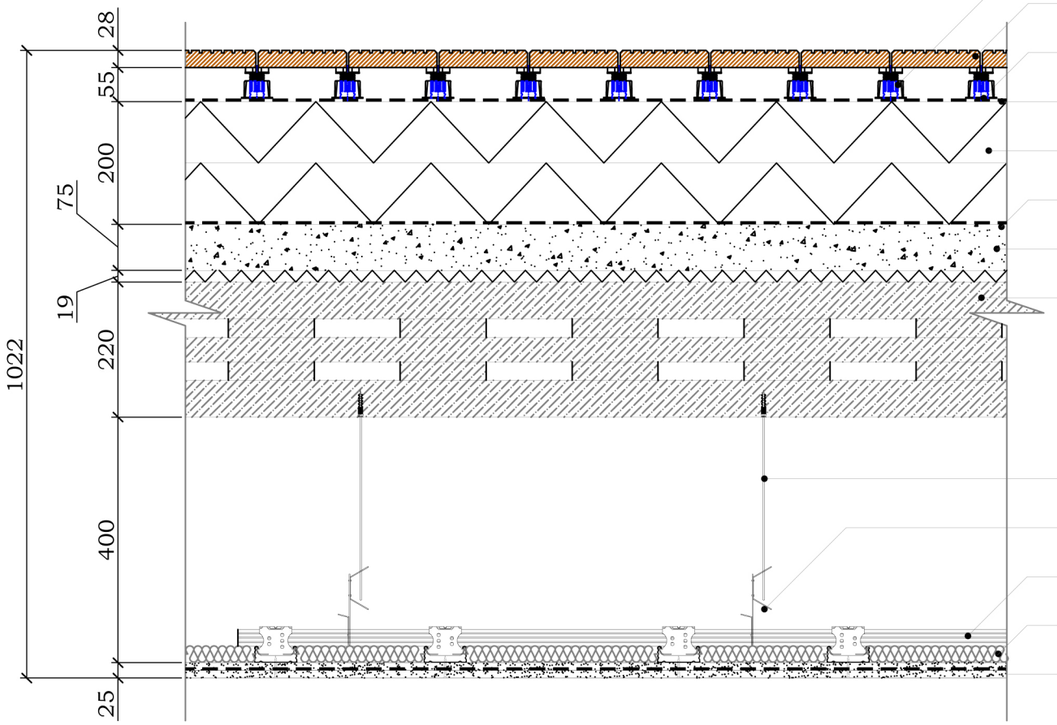
chemical resistant urethane topcoat
proprietary epoxy basecoat
concrete topping (ρ=2500kg/m³, λ=2,00W/mK)
expanded polystyrene (ρ=10kg/m³, λ=0,034W/mK)
waterproof membrane
concrete slab



sedum and other plants
soil (ρ=200kg/m³)
filter fabrics
rainwater storage
separating mat
waterproof membrane
expanded polystyrene (ρ=10kg/m³, λ=0,034W/mK)
waterproof membrane
concrete slab

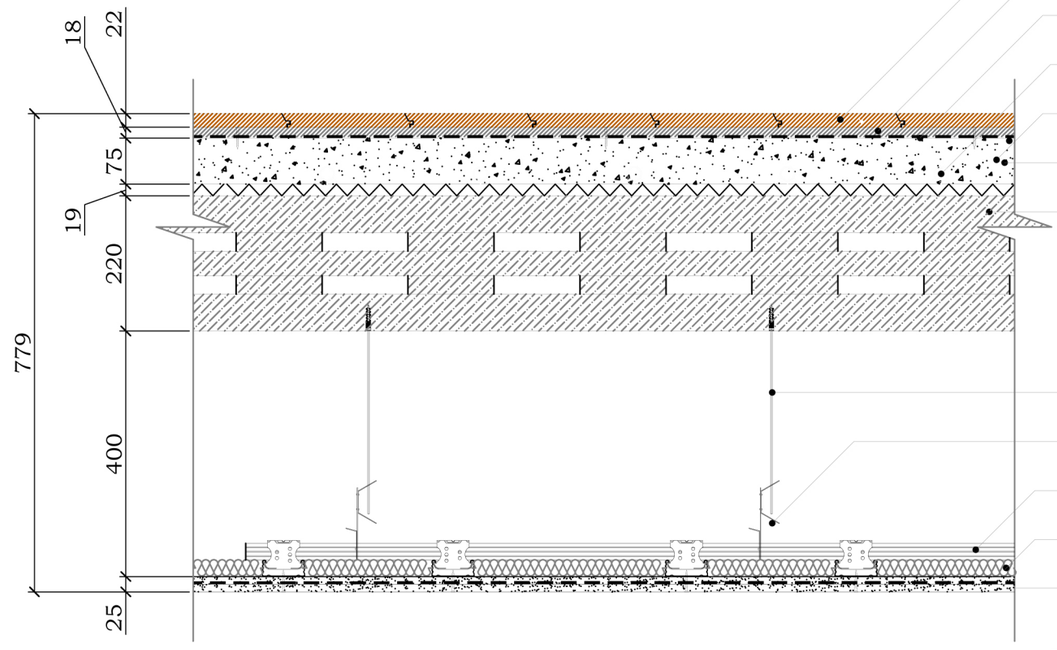
Course name: Architectural engineering		Timber in the city	Concrete slabs
Galina Ivanova Yanina Morozova Tatjana Somova	781019 782942 780521		Date: 25/11/13 ID. no. : SD 02 Scale: 1 : 10

A3



adjustable paving support
timber decking tiles (ρ=1000kg/m³, λ=0,24W/mK)
waterproof membrane
underlayer
expanded polystyrene (ρ=10kg/m³, λ=0,034W/mK)
concrete topping (ρ=2500kg/m³, λ=2,00W/mK)
rigid insulation (ρ=20kg/m³, λ=0,034W/mK)
CLT panel (3 layers) (ρ=520kg/m³, λ=0,18W/mK)

wire
anchor
C channel
mineral wool (ρ=30kg/m³, λ=0,035W/mK)
plasterboard (ρ=1500kg/m³, λ=0,16W/mK)
wooden flooring (ρ=300kg/m³, λ=0,10W/mK)
plywood (ρ=300kg/m³, λ=0,10W/mK)

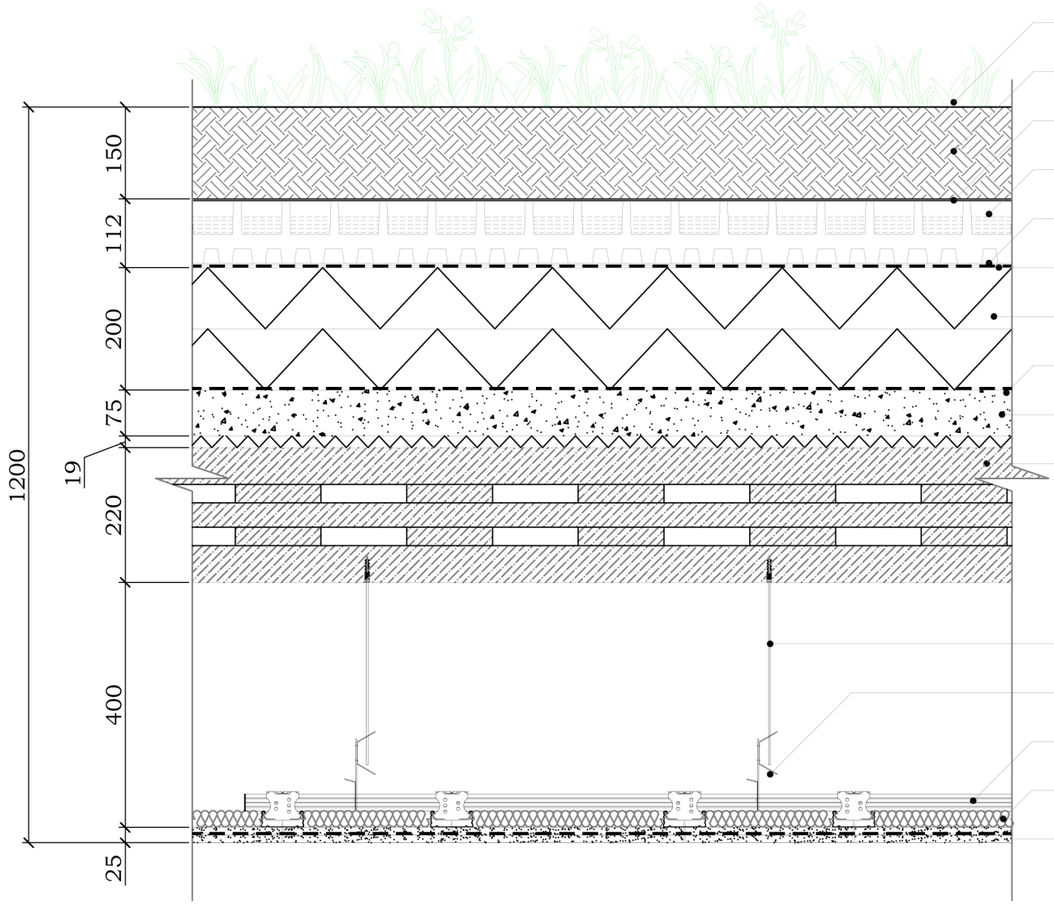


plastic barrier
PEX heating pipes
concrete topping (ρ=2500kg/m³, λ=2,00W/mK)
rigid insulation (ρ=20kg/m³, λ=0,034W/mK)
CLT panel (3 layers) (ρ=520kg/m³, λ=0,18W/mK)

wire
anchor
C channel
mineral wool (ρ=30kg/m³, λ=0,035W/mK)
plasterboard (ρ=1500kg/m³, λ=0,16W/mK)

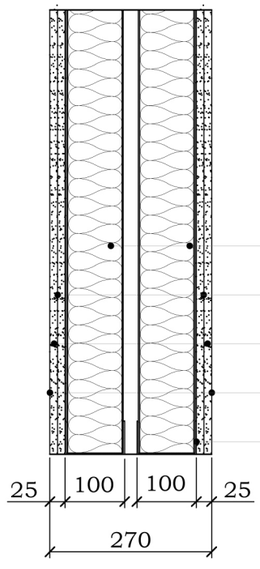
Course name: Architectural engineering		Timber in the city	CLT slabs
Galina Ivanova Yanina Morozova Tatjana Somova	781019 782942 780521		Date: 25/11/13 ID. no. : SD 03 Scale: 1 : 10

A3



sedum and other plants
soil (ρ=200kg/m³)
filter fabrics
rainwater storage
separating mat
waterproof membrane
expanded polystyrene (ρ=10kg/m³, λ=0,034W/mK)
concrete topping (ρ=2500kg/m³, λ=2,00W/mK)
rigid insulation (ρ=20kg/m³, λ=0,034W/mK)
CLT panel (3 layers) (ρ=520kg/m³, λ=0,18W/mK)

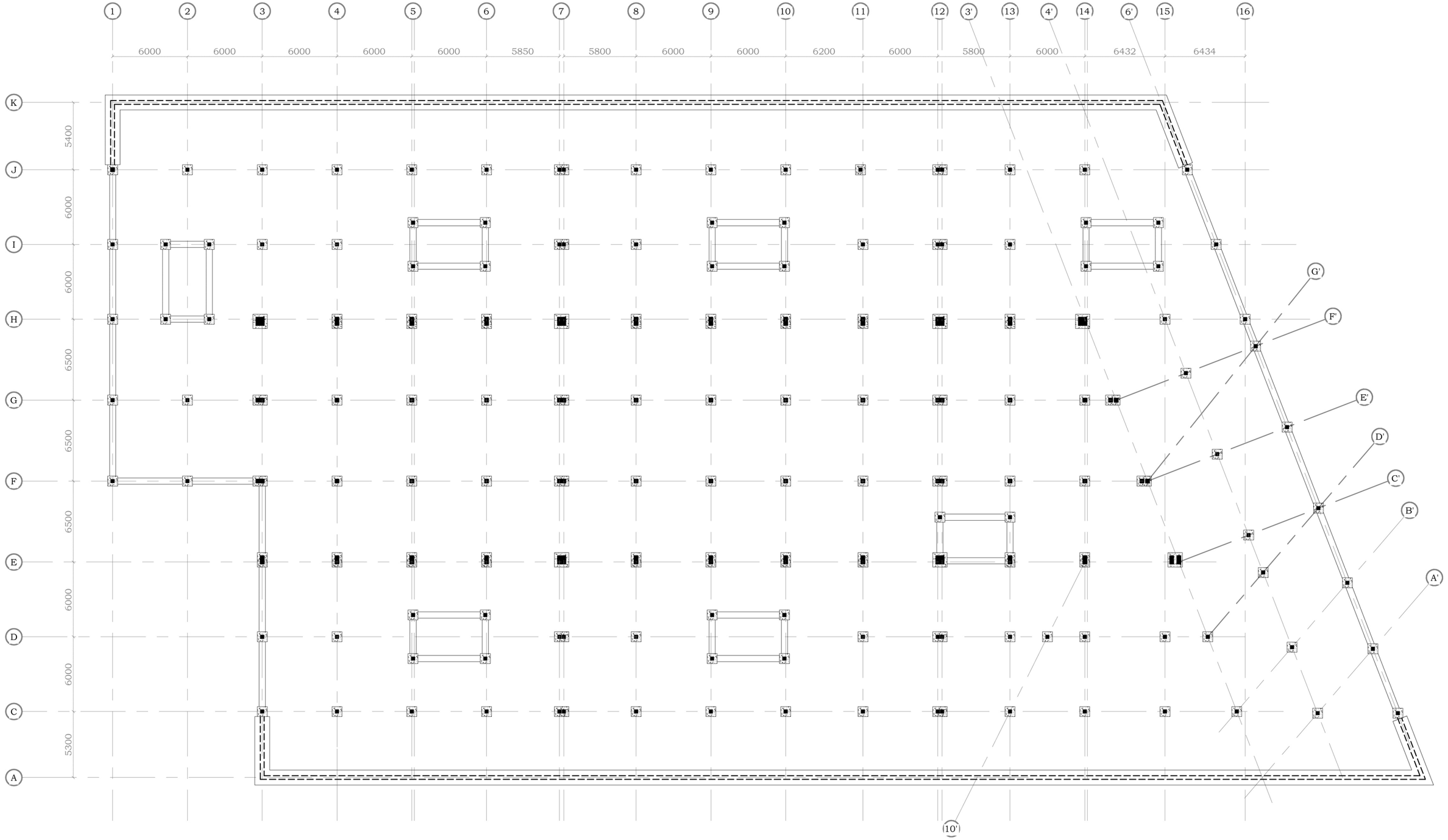
wire
anchor
C channel
mineral wool (ρ=30kg/m³, λ=0,035W/mK)
plasterboard (ρ=1500kg/m³, λ=0,16W/mK)



mineral wool
vapor barrier
plasterboard
painting
Knauf CW100x50x0,6 profile

Course name: Architectural engineering		Timber in the city	CLT slab, partition
Galina Ivanova Yanina Morozova Tatjana Somova	781019 782942 780521		Date: 25/11/13 ID. no. : SD 04 Scale: 1 : 50

A3

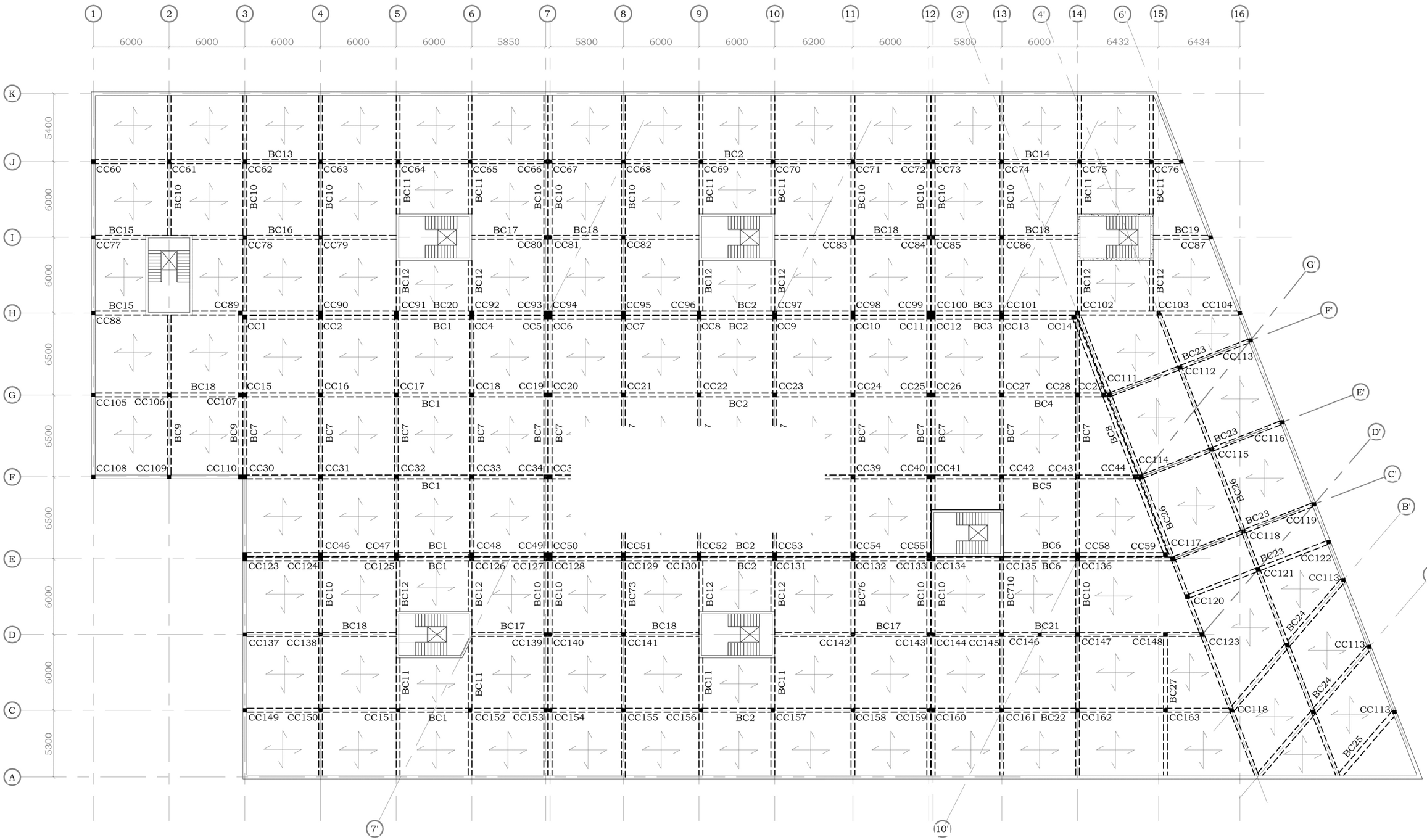


Comments:

- ▪ - 300x300 reinforced concrete pile;
- ▨ - reinforced concrete pile cap;
- ▭ - reinforced concrete grade beam to support reinforced concrete walls;
- ▭ - spread footing to support reinfor- ced concrete core.

Course name: Architectural enginering		Timber in the city	Foundation plan
Galina Ivanova Yanina Morozova Tatjana Somova	781019 782942 780521		Date: 25/11/13
			ID. no. : SP 01 Scale: 1 : 300

A3



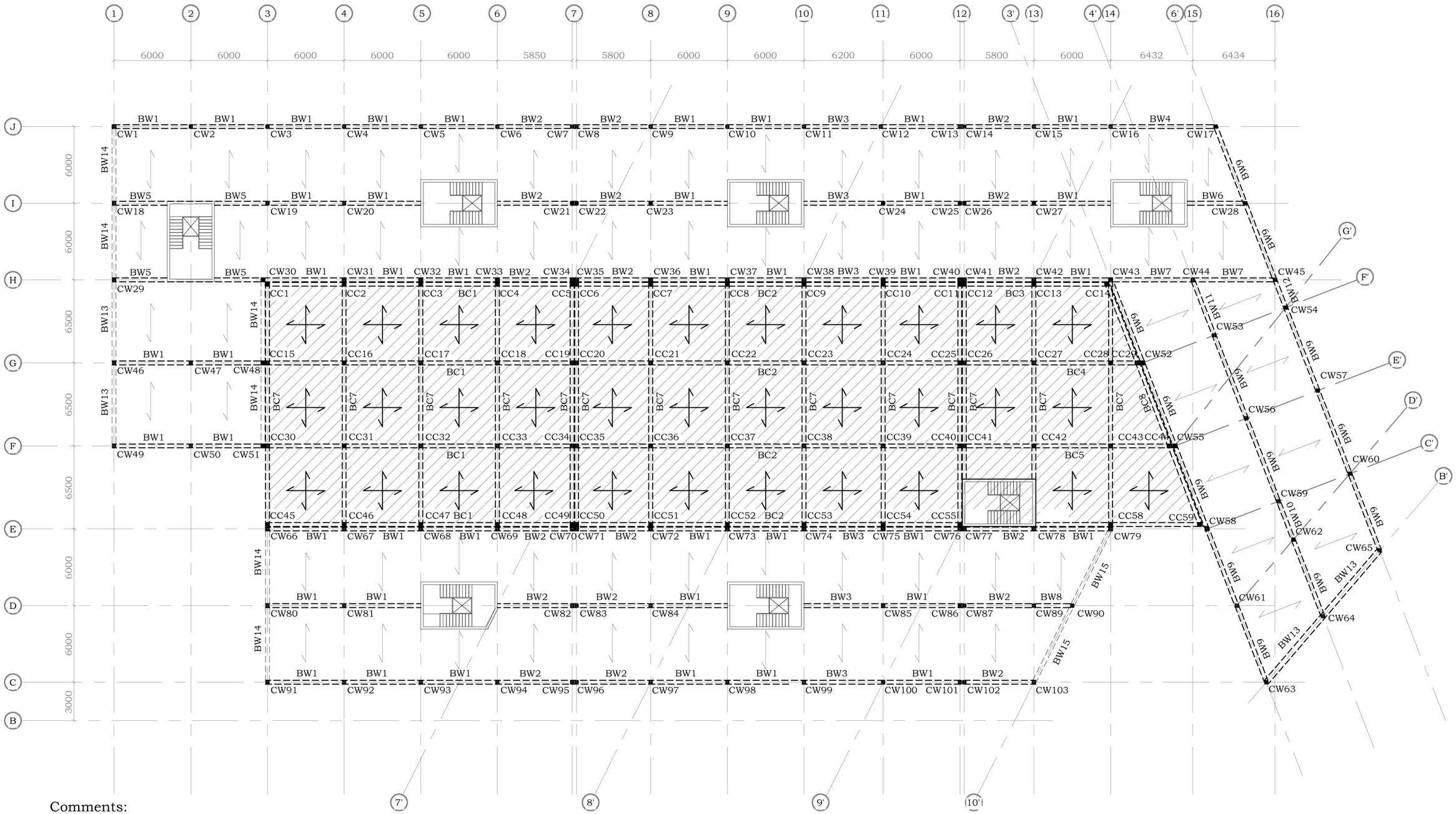
Comments:
CC1 - CC163 - reinforced concrete columns;
BC1 - BC27 - reinforced concrete beams;

- reinforced concrete slab spanning in two directions;

- reinforced concrete retaining wall.

Course name: Architectural enginering		Timber in the city	Basement structural plan
Galina Ivanova Yanina Morozova Tatjana Somova	781019 782942 780521		Date: 25/11/13 ID. no. : SP 02 Scale: 1 : 300

A3



Comments:

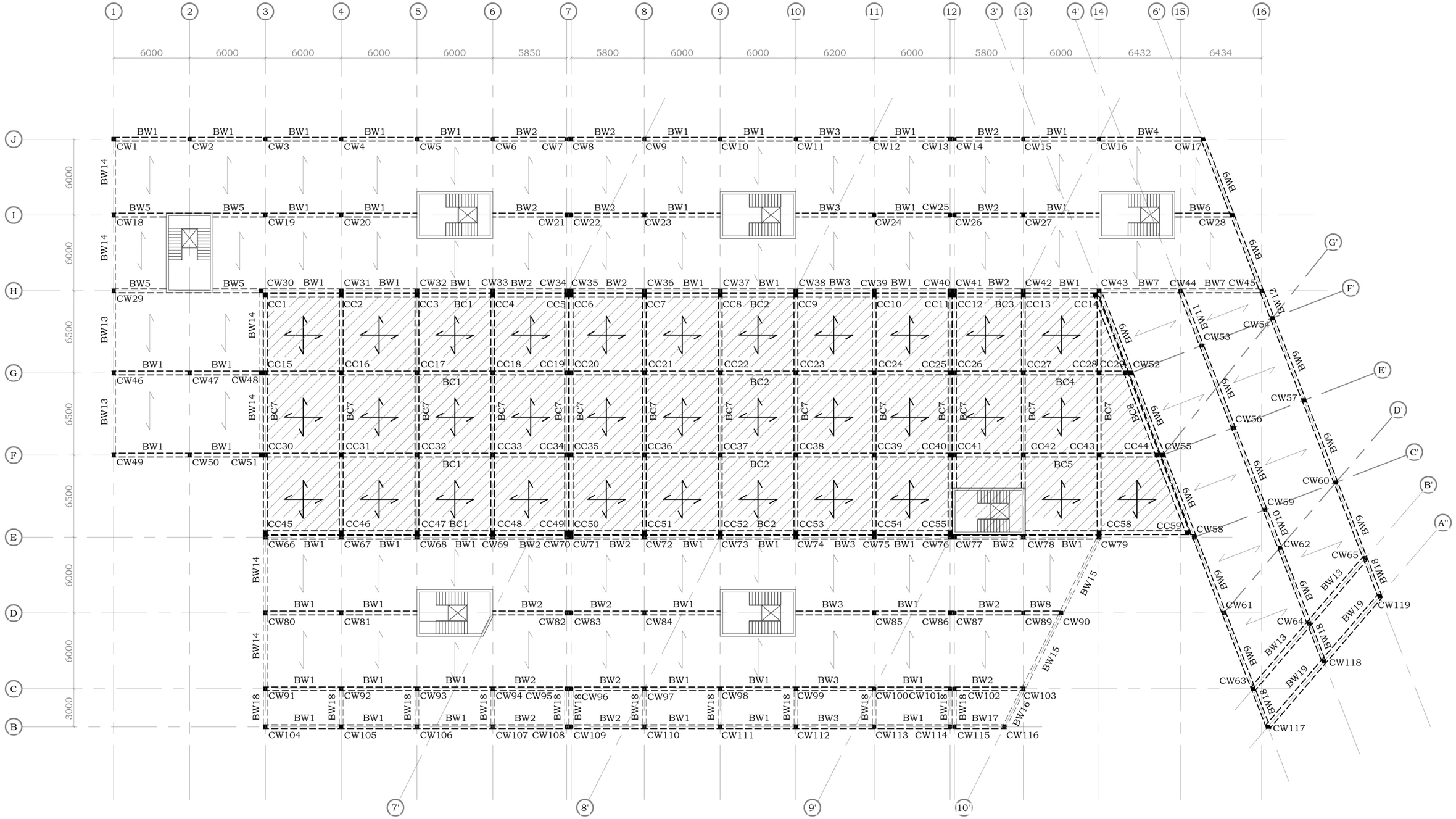
CC1 - CC59 - reinforced concrete columns;
CW1 - CW130 - glulam columns;
BC1 - BC8 - reinforced concrete beams;
BW1 - BW25 - glulam beams;

- reinforced concrete slab spanning in two directions;

- cross laminated timber slab spanning in one direction.

Course name: Architectural enginering		Timber in the city	Ground-floor structural plan
Galina Ivanova	781019		
Yanina Morozova	782942		
Tatjana Somova	780521		
		Date: 25/11/13	ID. no. : SP 03 Scale: 1 : 300

A3



Comments:

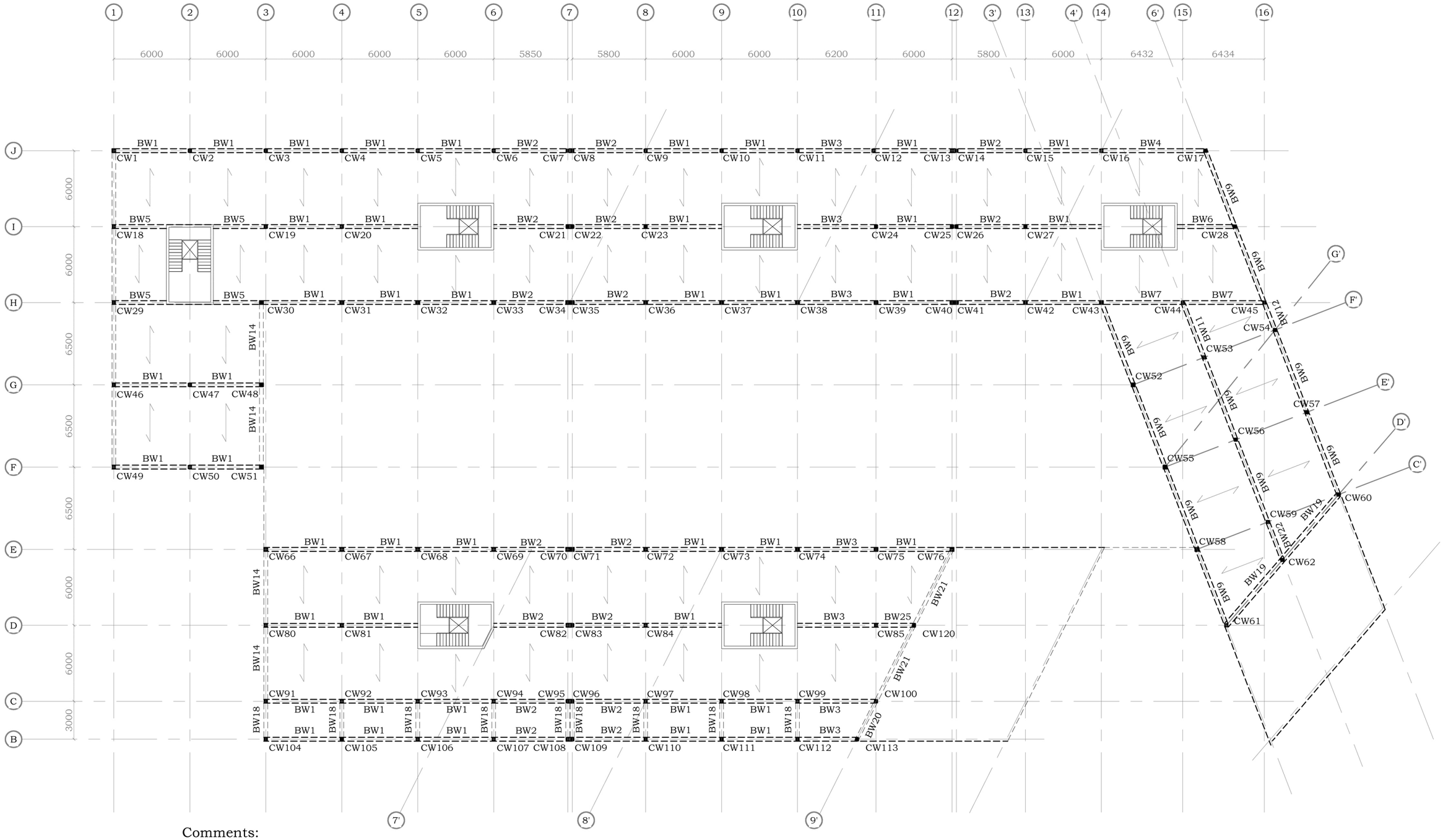
CC1 - CC112 - reinforced concrete columns;
CW1 - CW130 - glulam columns;
BC1 - BC19 - reinforced concrete beams;
BW1 - BW25 - glulam beams;

- reinforced concrete slab spanning in two directions;

- cross laminated timber slab spanning in one direction.

Course name: Architectural enginering		Timber in the city	First floor structural plan
Galina Ivanova Yanina Morozova Tatjana Somova	781019 782942 780521		Date: 25/11/13 · ID. no. : SP 04 · Scale: 1 : 300

A3



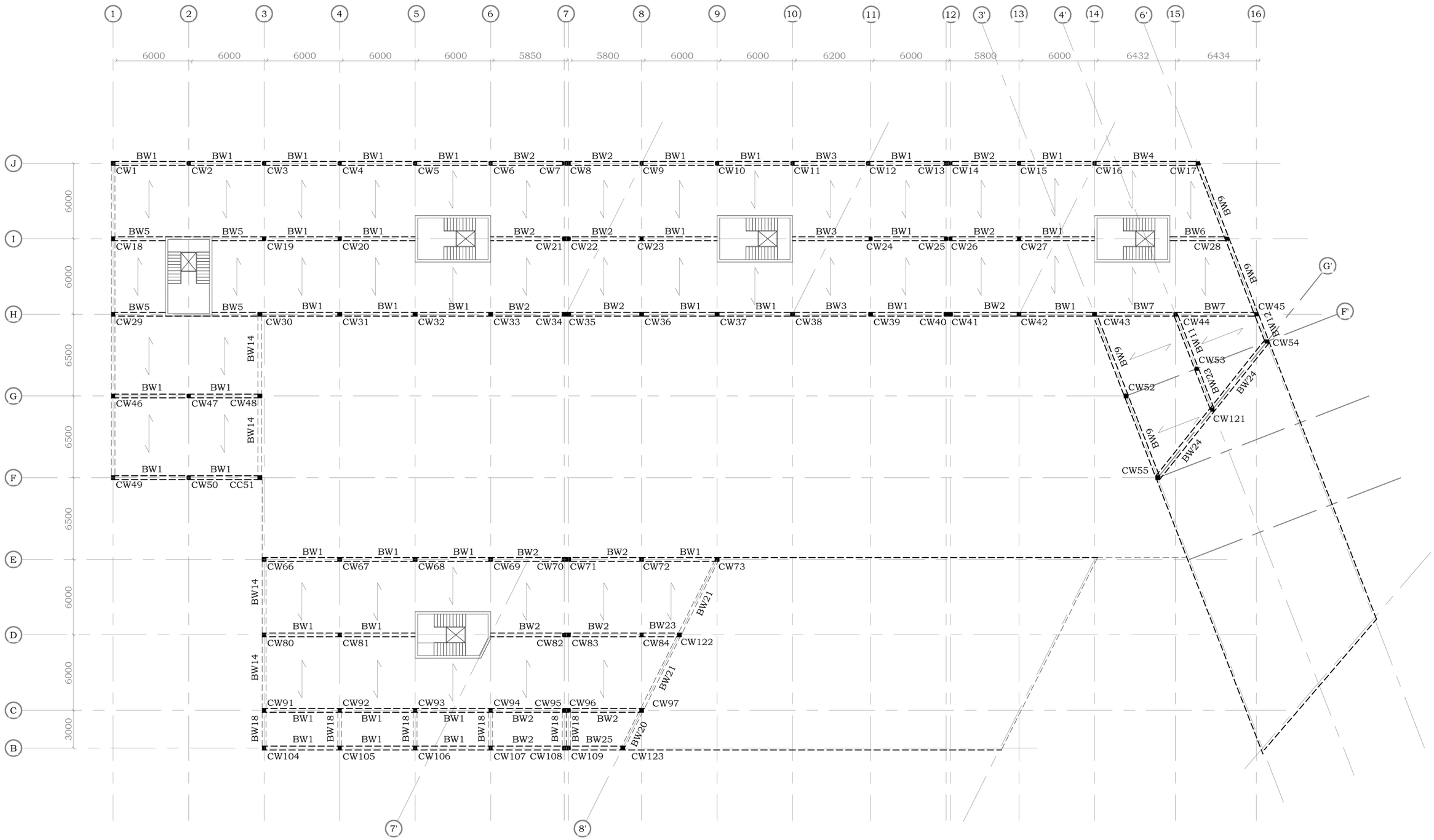
Comments:

CW1 - CW130 - glulam columns;
BW1 - BW24 - glulam beams;

- cross laminated timber slab spanning in one direction.

Course name: Architectural enginering		Timber in the city	Second floor structural plan
Galina Ivanova Yanina Morozova Tatjana Somova	781019 782942 780521		Date: 25/11/13
			ID. no. : SP 05 Scale: 1 : 300

A3



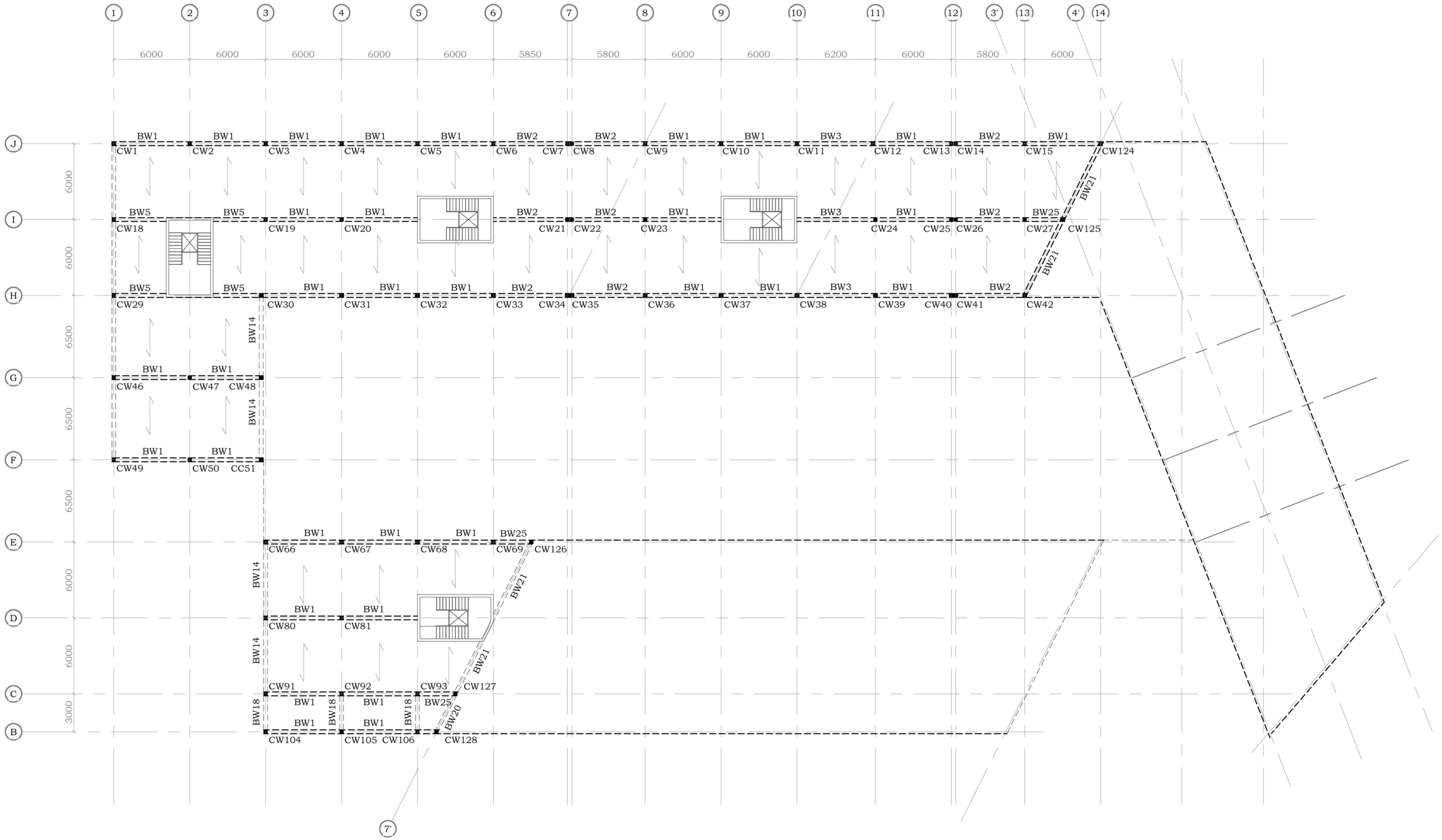
Comments:

CW1 - CW130 - glulam columns;
BW1 - BW24 - glulam beams;

- cross laminated timber slab spanning in one direction.

Course name: Architectural enginering		Timber in the city	Third floor structural plan
Galina Ivanova	781019		
Yanina Morozova	782942		
Tatjana Somova	780521		
		Date: 25/11/13	ID. no. : SP 06
			Scale: 1 : 300

A3



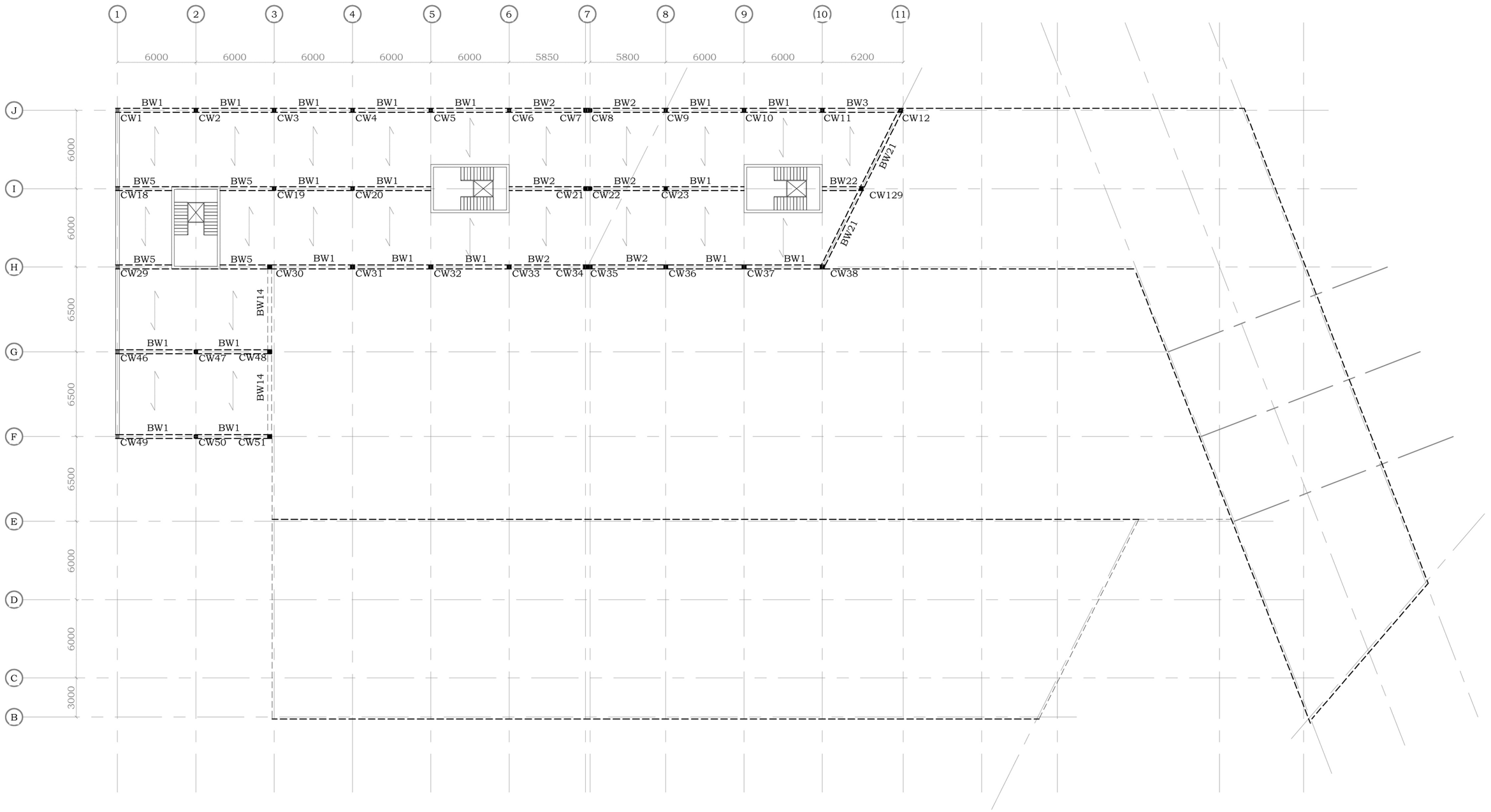
Comments:

CW1 - CW130 - glulam columns;
BW1 - BW24 - glulam beams;

- cross laminated timber slab spanning in one direction.

Course name: Architectural enginering		Timber in the city	Fourth floor structural plan
Galina Ivanova	781019		
Yanina Morozova	782942		
Tatjana Somova	780521	Date: 25/11/13	ID. no. : SP 07 Scale: 1 : 300

A3



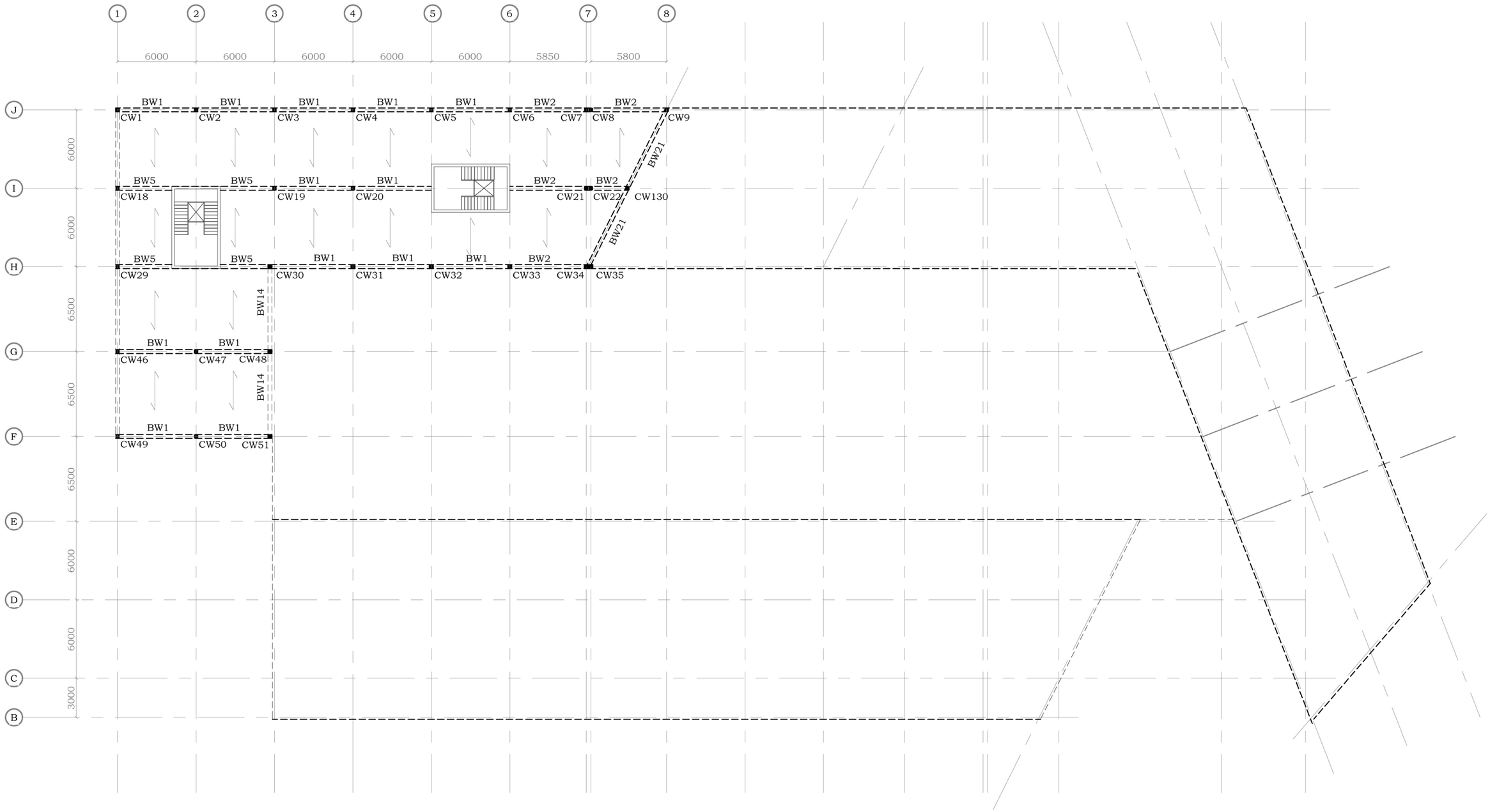
Comments:

CW1 - CW130 - glulam columns;
BW1 - BW24 - glulam beams;

- cross laminated timber slab spanning in one direction.

Course name: Architectural enginering		Timber in the city	Fifth floor structural plan
Galina Ivanova	781019		
Yanina Morozova	782942		
Tatjana Somova	780521		
		Date: 25/11/13	ID. no. : SP 08 Scale: 1 : 300

A3



Comments:

CW1 - CW130 - glulam columns;
BW1 - BW24 - glulam beams;

- cross laminated timber slab spanning in one direction.

Course name: Architectural enginering		Timber in the city	Sixth floor structural plan
Galina Ivanova	781019		Date: 25/11/13
Yanina Morozova	782942		ID. no. : SP 09
Tatjana Somova	780521		Scale: 1 : 300

A3