# BUNKER HOUSE

WAR. FEATURES OF DESIGN IN NEW REALITIES

- External enclosing structures must be made of durable materials (brick, concrete);
- The number of windows and their size must be minimized to protect the occupants of the house from damage due to shattering glass;
- Provide for the closing of windows with reinforced armored window sash or deaf sliding facade systems, shutters.

In the past, most individual houses were designed without underground floors (due to the high cost of earthworks)

In the future, a change is predicted in favor of the installation of comfortable underground storage, which could be people for a long time;

- The presence of two scattered exits from the ofb wahsiecmh esnhto (uoldn elead directly to the street);
- The area of the basement should take into account tetrhme slotanyg -of people (comfortable beds and seats);
- Premises with stocks of products, water, bathrooms, wiptrhe amni saeustonomous diesel generator must be designed;
- Special attention should be paid to the enrgeiqnueireerinmge nntest fwoorrks and equipment;

SCHEME OF THE PLANNING DECISION. ROOM FUNCTION
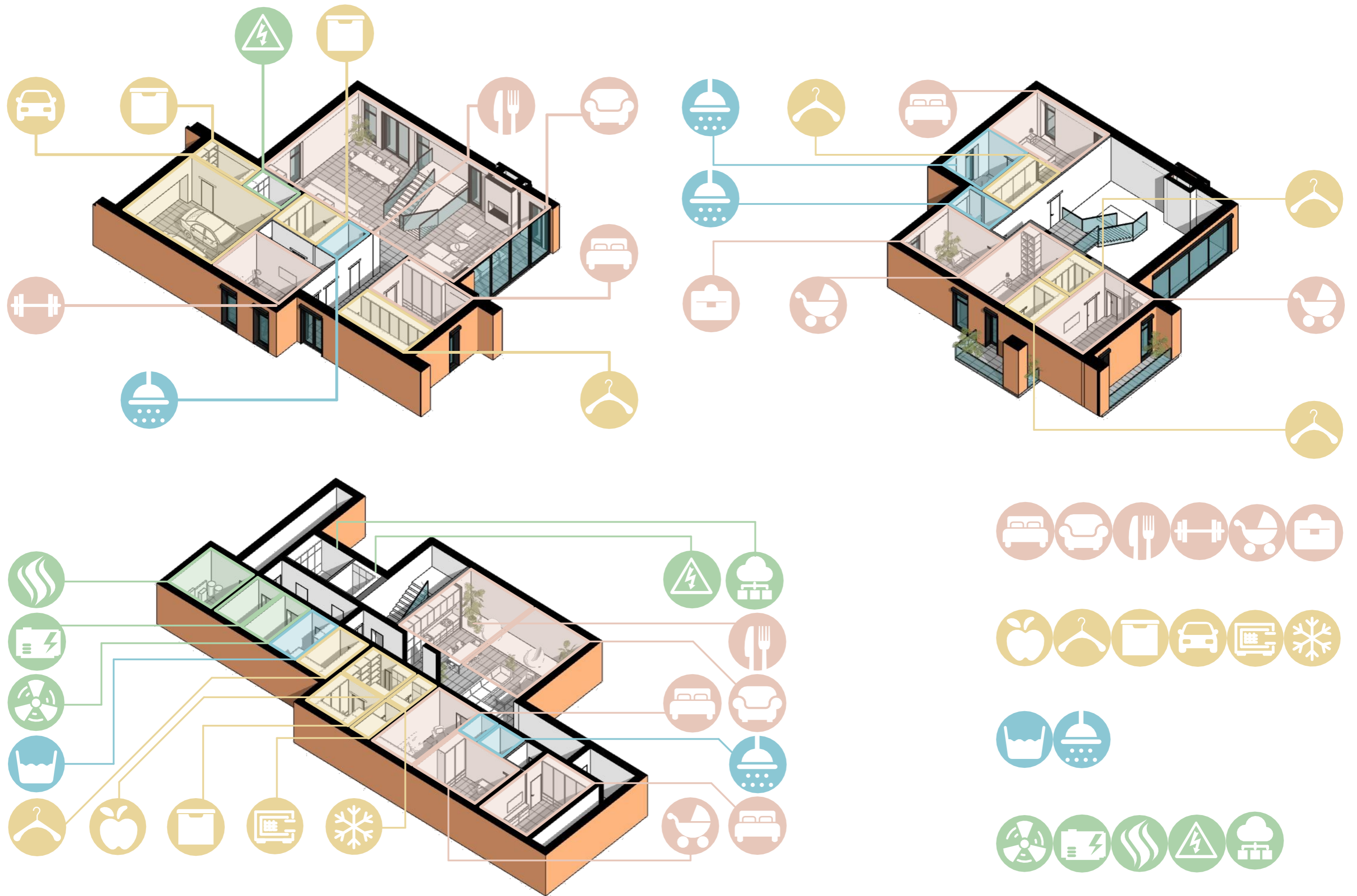
CONSTRUCTION SCHEME. MATERIALS
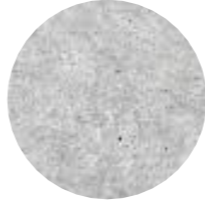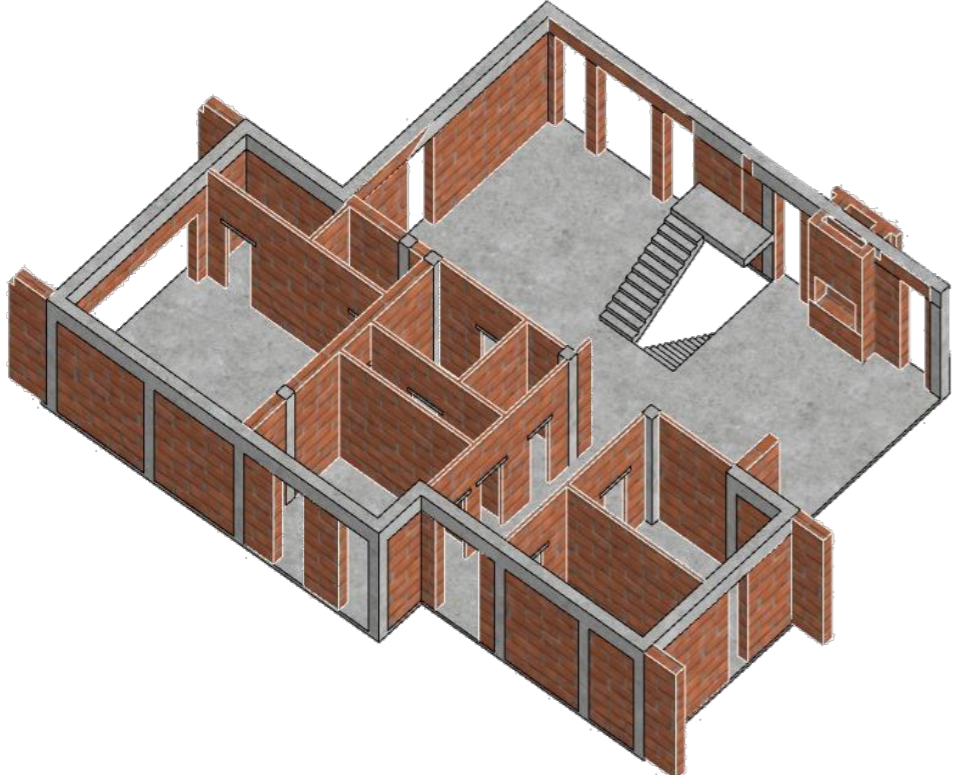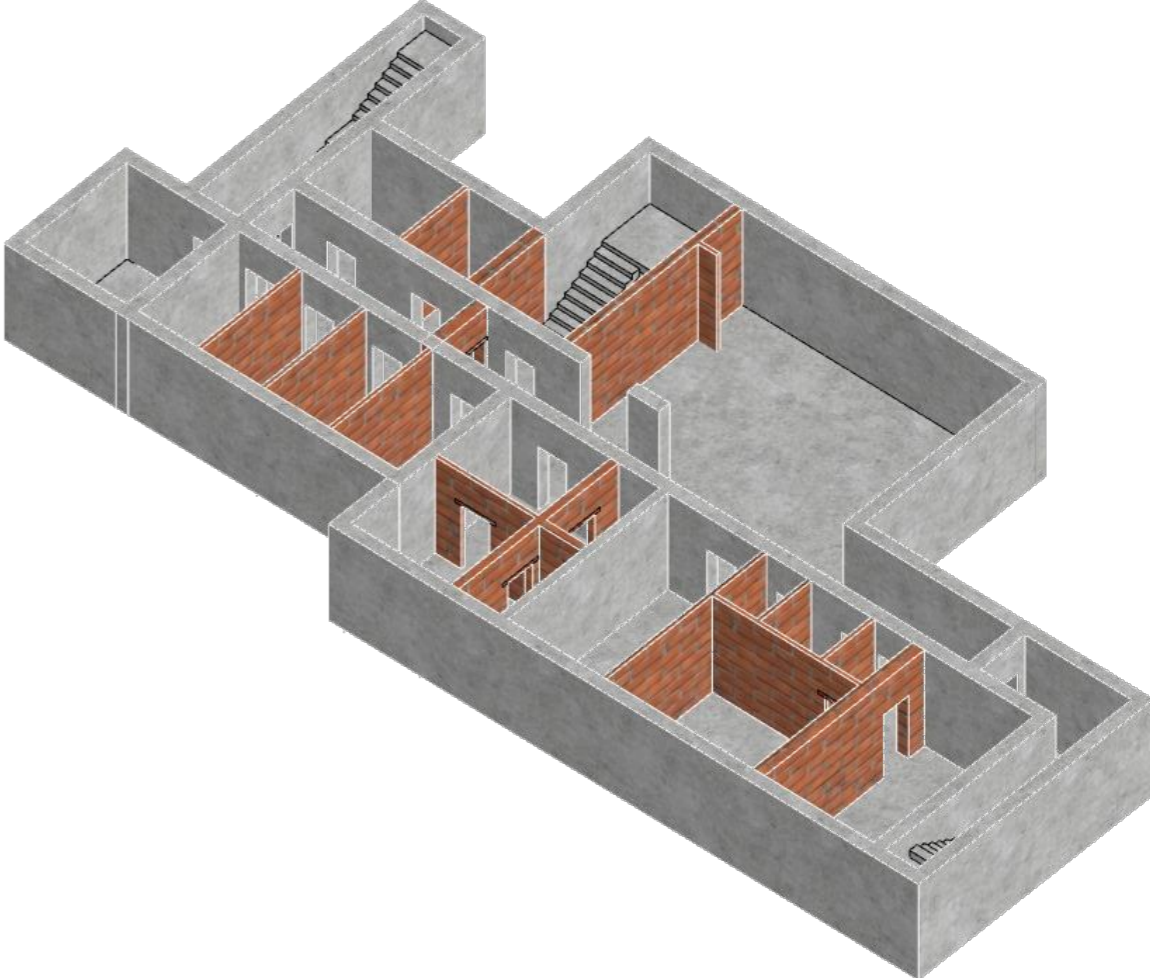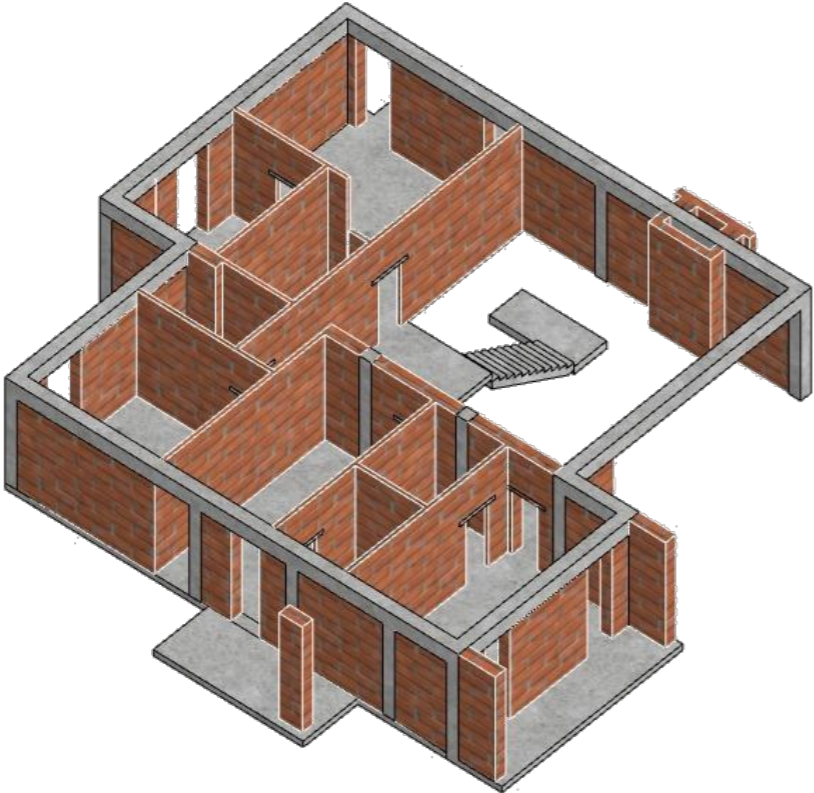
EXTERNAL WALLS OF THE BASEMENT:
reinforced concrete 400 mm

INTERFLOOR STAIRS:
ferroconcrete

COLUMNS:
reinforced concrete 380x380 mm

BEAMS:
reinforced concrete 380 mm

INTERFLOOR FLOORS:
reinforced concrete 200 mm

WINDOW AND DOOR OPENINGS:
concrete bridges 140 mm

OUTSIDE WALLS:
brick masonry 380 mm

INTERNAL WALLS:
brick masonry 250 mm
brick masonry 120 mm

LIFE-THREAK NOTIFICATION SCHEME

Напрямки шляхів евакуації

Notification system server

Signals from external security systems

Exit sign

Switch with PoE support

Transmission of information to the dispatcher of the State Emergency Service of Ukraine

Closing windows with facade shutters
Armored doors for entrances and exits

IP loudspeakers

IP emergency call phone

IP phone.
Satellite Internet

- Light notification. Signal boards and pointers
- Illumination of escape routes and descent into the basement.
  Backup light from an autonomous electric generator

- Communication and security systems

- Sound notification - loudspeakers.
  Air distress alert

- Closing windows with facade shutters
- Armored door

BASEMENT PLAN (SHELTER)

SYMBOL

▨	External walls: - reinforced concrete 380 mm - expanded polystyrene 150 mm
▭	Walls and partitions: brickwork 120, 250 mm
▤	Windows with security shutters
▬	External door with security shutters

EXPLANATION OF BASEMENT ROOMS

№	Name	Area m2	№	Name	Area m2	№	Name	Area m2	№	Name	Area m2	№	Name	Area, m2
1	Stairs	16.65	6	Garden with artificial light	14.44	12	Bedroom	19.97	18	Laundry	7.31	24	Tambour	5.36
2	Hall	10.77	7	Freezers	3.32	13	Corridor	2.21	19	Vent chamber	6.99	25	Stairs (evacuation)	6.18
3	Wardrobe	7.67	8	Pantry of things	9.48	14	Shower	3.86	20	Generator	6.85	26	Tambour	2.44
4	Living room	30.69	9	Safe	3.79	15	Bathroom	2.08	21	Electrical panel	4.95	27	Stairs	10,28
5	Kitchen-dining room	21.62	10	Guest bedroom	17.34	16	Corridor	8,18	22	Monitoring room/	7.18			
6	Food and water storeroom	8.35	11	Bedroom	17.70	17	Corridor	9.25	23	Server boiler room	11.77			

1ST FLOOR LAYOUT

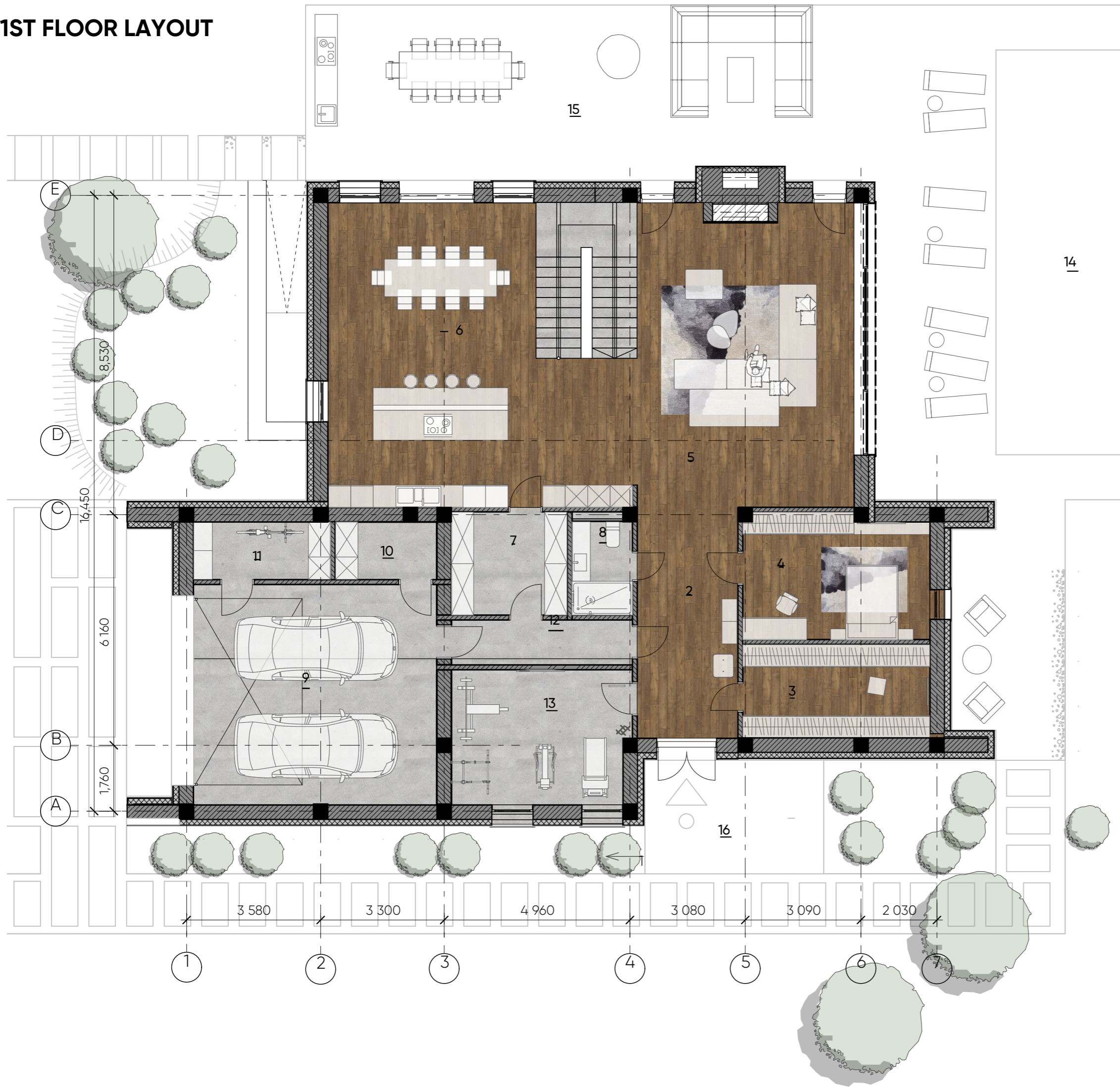|		
2	Corridor	16.61
3	Wardrobe	12.50
4	Guest bedroom	15.80
5	Living room	51.35
6	Kitchen	67.34
7	Pantry	8.54
8	Guest bathroom	4.07
9	Garage	38,22
10	Electrical panel	4.21
11	Pantry	5.65
12	Corridor	5.79
13	Gym	16.99
14	Terrace with pool	36.03
15	Terrace with barbecue	21,13
16	Porch	4.06

Outside walls:
- reinforced concrete 380 mm
- polystyrene foam 150 mm

Walls and partitions:
- brickwork 120, 250 mm

Windows with protective roller blinds

External door with protective roller blinds

8,530

16,450

6 160

1,760

3 580   3 300   4 960   3 080   3 090   2 030

2ND FLOOR LAYOUT

1	Hall	21,13
2	Children's	20.06
3	Master bedroom	22.00
4	Master bath	11.58
5	Master wardrobe	9.60
6	Office	16.81
7	Bathroom	5.80
8	Children's	19.68
9	Wardrobe	6.29
10	Wardrobe	6.07
11	Loggia (k=0.5)	3.15
12	Balcony (k=0.3)	2.52
13	Balcony (k=0.3)	2.89
		147.58

13
Balcony
9.65 m2
(k=0.3) 2.89 m2

E

3
Master-
bedroom
22.00 m2

SECOND LIGHT

8,530

1
Hall
21.13 m2

D

4
Master-
younn and
11.58 m2

5
Master
Mrardero b
9.60 m2

C

16,450

7
Bathroom
5.80 m2

10
Gard benter
6.07 m2

6160

6
Office
16.81 m2

8
Children's
19.68 m2

2
Children's
20.06 m2

11
Lodges l
6.30 m 2
(k=0.5)
3.15 m 2

9
Wardrobe
6.29 m2

B

1,760

A

12
Balcony
8.40 m2
(k=0.3) 2.52 m2

Outside walls:
- reinforced concrete 380 mm
- polystyrene foam 150 mm

Walls and partitions: - brickwork
120, 250 mm

Windows with protective roller
blinds

External door with protective
roller blinds

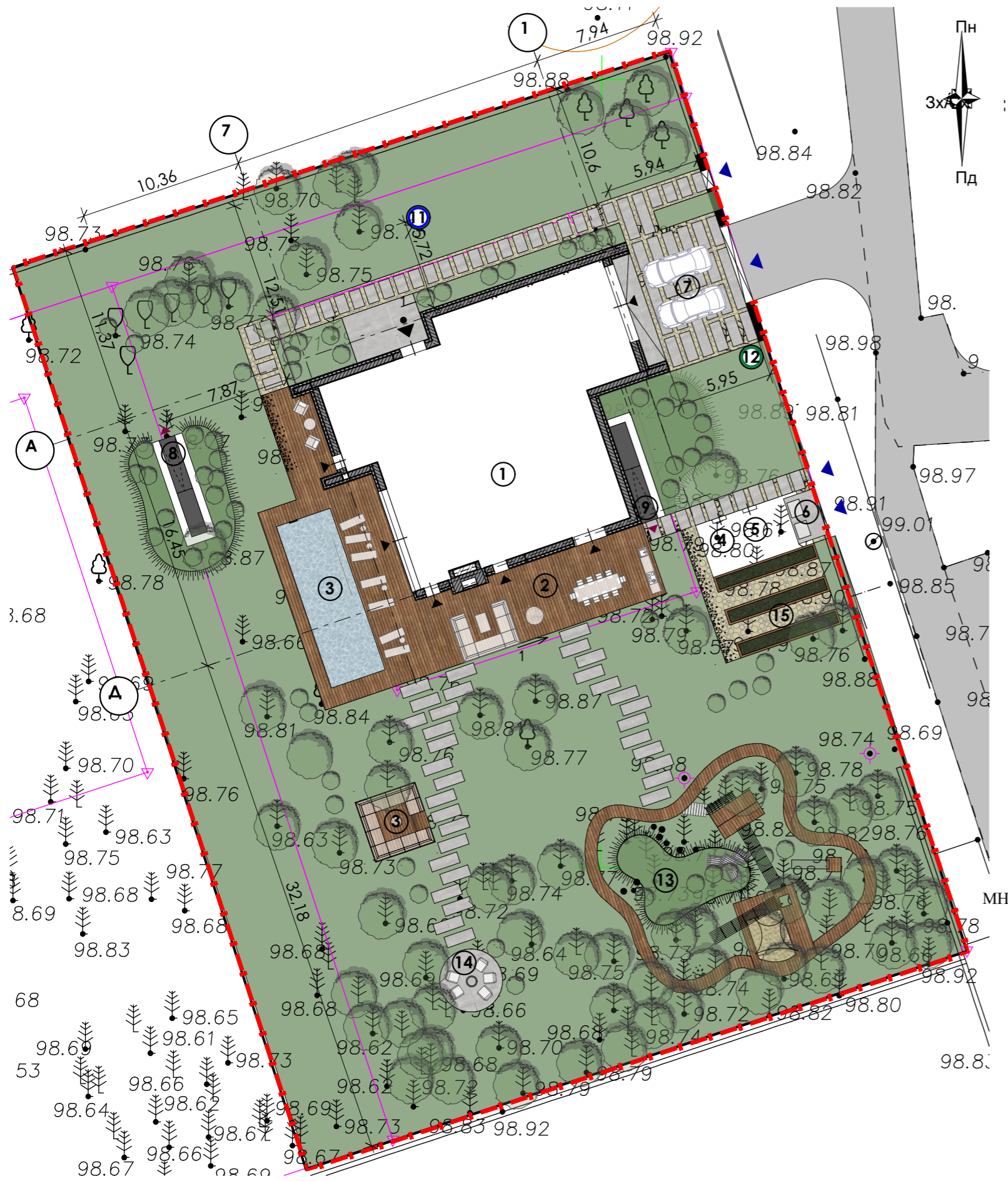3 580   3 300   4 960   3 080   3 090   2 030

20,040

1   2   3   4   5   6   7

MASTER PLAN OUTLINE

▬▬	Design area limit
▲	Main entrance to the house
▲	Another entrance to the house
▲	Vehicle evacuation from the
⊠	basement Entrance/arrival to the
▲	territory Designed house
▬	Paving
	Game
	Bushes
	Existing green spaces
	Lawn
	Terraces

1	Individual residential building
2	Residential terraces
3	Swimming pool
4	Storage room for garden inverter
5	Security room
6	Utility yard with trash cans
7	Guest parking
8	Emergency exit
9	Emergency exit
10	Patio
11	Well
12	Septic
13	Children playground
14	Resting-place
15	Garden bed

1	Plot area (topographical survey)	0,265 ha
2	Built-up area (house with terraces)	564,51 m²
3	(21.3%) - The area of footpaths, parking	299,05 m²
4	(11.28%) – Landscaping area (67.42%)	1787, 41 m²

1	The area of the premises of the house	662,79 m²
2	Summer premises area	227,3 m²
	/(with reduced coefficient k=0.5, k=0.3)	/69,44 m²
3	Total floor space	890,09 m²

Пн

ЗхАСг

Пд

FACADE IN AXES A-E

+7,650

+8,400

+6,600

+4,600

+4,600

+3,600

+3,600

+3,400

+3,400

−0,020

−0,020

1760	6160	1980	6 550

16 450

(A) (B) (B) (D) (E)

FACADE IN AXES E-A

+8,400
+7,150
+7,650
+6,600
+6,600
+4,600
+4,600
+3,600
+3,620
+3,600
+3,000
+3,400
+3,400
+2,900
±0,000
−0,020
±0,000

6 550   1 980   6 161   1 760

16 450

E   D   C   B   A

FACADE IN AXES 1–7

+8,400

+7,650

+7,150

+7,650

+6,620

+4,600

+3,620

+3,620

+3,620

+3,000

+3,000

±0,000

±0,000

±0,000

−0,020

| 3 580 | 3 300 | 4 960 | 3 080 | 3 090 | 2 030 |

20 040

1   2   3   4   5   6   7

FACADE IN AXES 7–1

+8,400

+7,650
+7,150

+7,150

+4,600

+3,400

+3,600

+3,000

+3,400 +3,400

| 2 030 | 3 090 | 3 080 | 4 960 | 3 300 | 3 580 |

20 040

7 6 5 4 3 2 1