

Architechtrual Project

Typical Kindergarten

for three groups

Mshvidobis street, 306, Senaki

Structural Part of the Project



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Explanatory Letter

General Information

The construction site (cadastral code of the land plot 44.01.38.140) is located in the town of Senaki, According to the norms - "Construction Climatology" the climatic characteristics of the construction site are the following:

- The average annual temperature is + 14.5. C
- Absolute maximum temperature + 40 ° C
- Absolute minimal temperature - 17 ° C
- Annual precipitation -1831 mm
- Snow cover weight - 0.5 kPa
- Standard height of seasonal ground frost - 0 m
- Standard wind pressure 0.6 kPa
- The prevailing wind direction is - East

- According to the map of the seismic regions, Senaki belongs to the 8-point seismic zone. From the engineering and geological point of view, the area allocated for construction is in satisfactory condition, no geological phenomena (landslides, falls, etc.) have been reported.

Planning

The construction site is a rectangular plot of land bounded by the public zone from the North and East, namely the streets, and adjacent land plots on all other sides.

There are solid buildings in the area which are subject to demolishing.

The project envisages the placement of a kindergarten building by the main facade to the North, to the street side, with main entrances to the East and North. The development and landscaping of the yard and arrangement of a playground and an arbor are planned as well as fencing.

The planning solution of the building includes the placement of three groups of kindergarten. One of them will have a bedroom unit, while such a unit will not be for the two preschooler groups; the girls 'and boys' toilets in this group are separated.

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5-1-б Sketch



682.23 m2

Project address:
Georgia,
Senaki

Stage:
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Building

The building presented in the project is a one-storey stone building, the floor level of which is 1.0 meters above the ground (including the walkway).The first-floor mark 0.00 corresponds to the absolute mark of 23.30. The height of the floor of the building from the floor to the ceiling is 3.4 meters.The filling of the external walls is done with a reinforced masonry of small pumice blocks 30 cm thick.

The bearing structure of the building is a complex reinforced concrete frame, reinforced concrete columns, a frame structure made of the monolithic reinforced concrete girder. The reinforced concrete columns on the external walls can be concreted in parallel with the masonry of the walls. Partitions are made of reinforced small wall pumice block with a thickness of 10 cm.

Floors in bathrooms are finished with tile, and in the rooms with wooden planks (deck). Floor heating is done with XPS tiles, and ceiling insulation is done with glass fiber.

Suspended ceilings in the bathrooms and kitchens are made of plastic, while in the rooms are made of gypsum boards.The bearing structure of the roof is made of wood, while the roofing is a painted metal sheet.

The windows are made of double-glazed PVC profiles.The entrance doors are made of steel and iso-aluminum, with plastic in the bathrooms and wood in the rooms (so-called MDF).

Exterior stairs and entryways are covered with basalt tiles.

A concrete walkway and access paths are arranged around the building.

The building will be provided with electricity, sewerage and water supply, as well as internal heating networks, which will be connected to the external main networks.

According to the resolution of the Government of Georgia, taking into account the characteristics of the grades of the buildings, the building belongs to the 3rd grade.

Explanatory note

Technical indicators of the area:

Area - 3610.0 m2
Construction area - 682.2 m2
Development density - 682.2 m2
Planting area - 2550 m2
The coefficient K1 - 0.2
The coefficient K2 - 0.2
The coefficient K3 - 0.7

ბ. ქანთარია
B. Qantaria

ა. გერგელავა
A. Gergedava

დ. მარტინი
D. Martini

Technical indicators of the building:

Number of floors - 1 floor
The volume of the building is 4713 m3
Out of them:
On the surface of the land - 3758 m3
Under the surface of the land - 955 m3
Total area - 627.84 m2

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Rendering



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Rendering

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Barcode

N 44.01.38.14

N 44.01.38.14

ამონაწერი საჯარო რეესტრიდა

განცხადების რეგისტრაცია
N 882016644019 - 21/09/2016 18:42

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22/09/2016 09:50:

საკუთრების განყოფილება

მონა სენაკი	სექტორი 44	კვარტალი 01	ნაკვეთი 38	ნაკვეთის საკუთრების ფიზი: საკუთრება ნაკვეთის დანიშნულება: არასასოფლო სამეურნეო დაზუსტებული ფართობი: 3610.00 კვ.მ. ნაკვეთის წინა ნომერი: 44.01.06.071; შენობა-ნაგებობის ჩამონათვალი N1 გაშენების ფართობი 435.64 კვ.მ; N2 გაშენების ფართობი 4.71 კვ.მ; N3 გაშენების ფართობი 59.19 კვ.მ.
მისამართი: ქალაქი სენაკი, ქუჩა მშენებლები, N 306				

მესაკუთრის განყოფილება

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უფლების დამადასტურებელი დოკუმენტი

- სახელმწიფო საკუთრებაში არსებული უძრავი ქონების ძირითადი და დამატებითი ქონების სახით გადაცემის შესახებ N13 , დამოწმების თარიღი:06/10/2008 , სახელმწიფო ქონების აღრიცხვისა და პრივატიზაციის სამეცნიერო-გურია-სვანეთის სამსახურის სამართველო

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 44.13.23.001; 44.06.21.001; 44.06.21.002; 44.01.30.005; 44.10.21.002; 44.01.36.117
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 შეტყობინება, N0661211, 25.11.2010, სენაკის მუნიციპალიტეტი
 მომართვა, N21-05/21594, 04.03.2015, შემოსავლების სამსახური

შეგდებული სარგებლობი

საჯარო რეგისტრის ეროვნული სააგენტო. <http://public.reestri.gov.ge>

გვერდი: 1(2)

საჯარო რეგისტრის აღმოჩენის სახის გნავ. <http://public.reestri.gov.ge>

2(2)

Project address:

Stage:
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Land cadastral

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John

A 6

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Cadastral Data



საქართველოს იუსტიციის სამინისტრო
საჯარო რესტრის ერგონოვლი საპატიო
საკადაციოში

მისამართი: საქართველოს საკადაციურო კოდი;
ბაზებადების რეგისტრაციის ნომერი:
მისამართი: ვართოვა;
დანართი:

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հասարակություն-Տաթևաշեն

მომზადების თარიღი:

13.06.13

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Map details:

- Coordinates:** Top-left: 4683300, Top-right: 256600, Bottom-right: 4683250, Bottom-left: 256650.
- Scale:** 1:500
- Orientation:** North arrow indicates North.
- Marker:** Red number 440138140 is located inside the red polygon.
- Annotations:** Labels 01/2, 02/1, and 03/1 are placed near the hatched areas within the polygon.

Land cadastre

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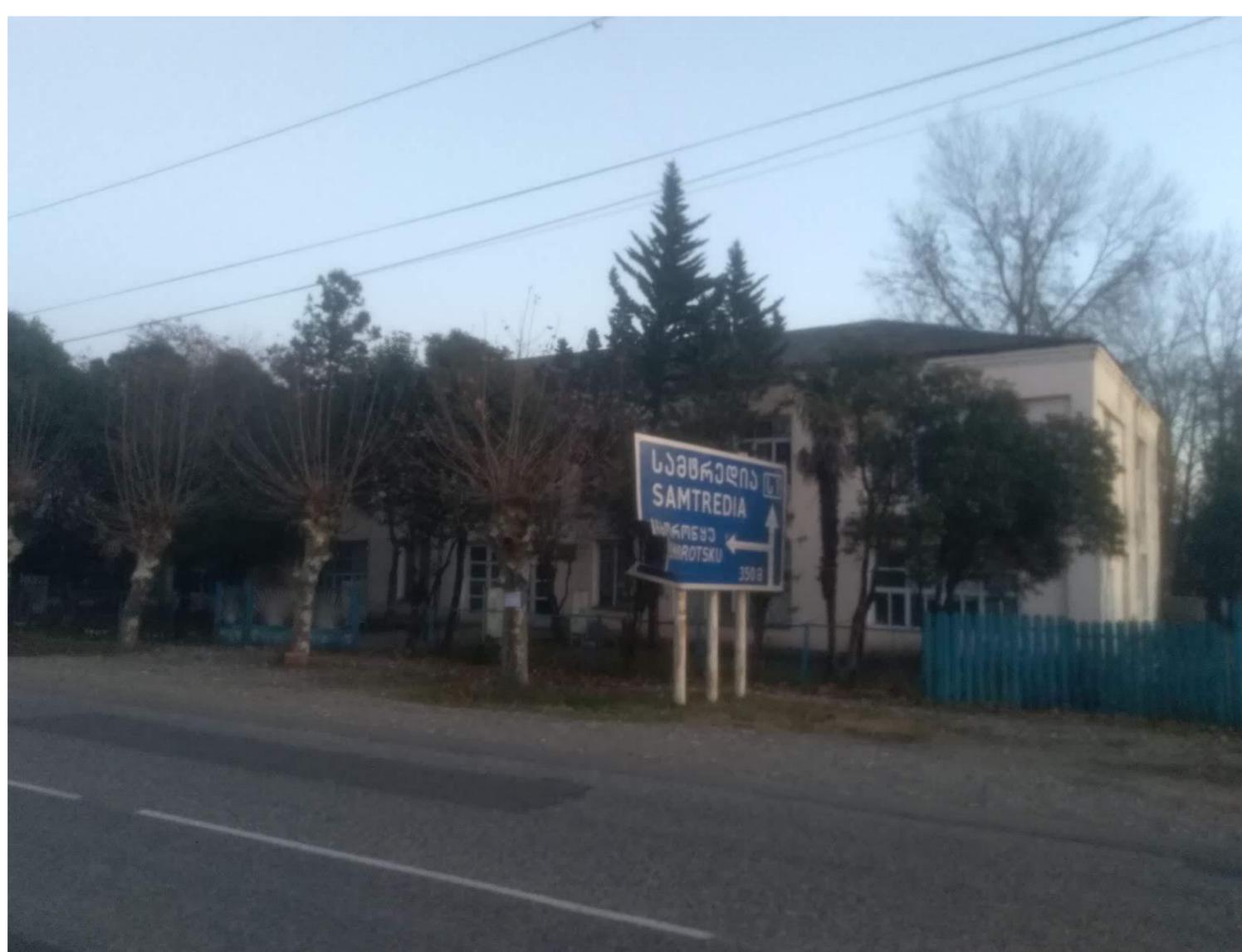
ა. გერგელავა
A. Gergedava

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Photos of Existing Building

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Layout Plan

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Compliance of the Building with Safety Rules

Conventional Signs

	Cadastral border
	Wall fireproof (one hour)
	Wall Fireproof (150 minutes)
	Educational Group EG
	Business Group BG
	Gathering Group GG-2
	Gathering Group GG-3
	Warehouse Group-2
	Concrete block masonry
	Hand fire extinguisher
	Exit sign

Analysis of Compliance of the Building with Safety Rules

Used rules- Building Safety Rules	
List the occupations of the building	
Educational Group EG	
Business Group BG	
Gathering Group-2	
Gathering Group- GG-3	
Warehouse Group SG-2	

Structure Type		
Determine the construction type for the new building		V-
Height Limitations		
Occupations Allowable Height Suggested Height		
1. Educational Group EG	1 Floor	1 Floor
2. Business groupd BG	2 Floor	
3. Gathering Group GG-2	1 Floor	
4. Gathering Group -3	1 Floor	
5. Warehouse Group	2 Floor	
Total Height	12.2	8.00
Number of floors above ground		1 Floor

Limitations of the Area		
Occupations	Allowable area	Suggested Area
1. Educational Group EG	880	115.46 m ²
2. Business groupd BG	840	24.66 m ²
3. Gathering Group GG-2	560	169.9 m ²
4. Gathering Group -3	560	69.62 m ²
5. Warehouse Group	1250	68.63 m ²
Total Area of The Flooring		627.8 m ²
Quantity of Flooring		Aboe the ground level 1
Total area of the building		669.3 m ²

Requirements to External Wall Aperture					
External Wall	Fire-fighting distance	area of wall aperture			
		allowable	forseen	protected	protected
Axis 1-8	25.7 m.	unlimited	unlimited		28 %
Axis A-E	5 m.	75%	25%		14 %
Axis 8-1	27.7 m.	unlimited	unlimited		20 %
bob E-A	11.2 m.	unlimited	unlimited		15 %

Requirements to the Fire-Prevention System					
Is there an auto-sprinkler system?					No
Is there a fire extinguishing system?					No
Is there a smoke control system?					No
Are there hand-held fire extinguishers?					Yes
Is there a fire alarm system?					Yes
Installation of emergency lighting					Yes

Floors	Number of exits		Width of exits			
			Stairs		Other components	
	Requested	Envisaged	Requested	Envisaged	Requested	Envisaged
I Floor	1	1			0.82	1.00

Floors	Number of exits		Width of exits			
			Stairs		Other components	
	Requested	Envisaged	Requested	Envisaged	Requested	Envisaged
I Floor	1	1			0.82	0.90

Floors	Number of exits		Width of exits			
			Stairs		Other components	
	Requested	Envisaged	Requested	Envisaged	Requested	Envisaged
I Floor	1	1			0.82	1.00

Floors	Number of exits		Width of exits			
			Stairs		Other components	
	Requested	Envisaged	Requested	Envisaged	Requested	Envisaged
I Floor	1	2			0.82	1.50

Floors	Number of exits		gasasvlelis sigane			
			Stairs		Other components	
	Requested	Envisaged	Requested	Envisaged	Requested	Envisaged
I Floor	1	1			0.82	1.00

Number of fixtures of water supply systems						
Calculation of load of occupation		Requested		Envisaged		
Fixtures		I	II	III	I	II
Toilet bowl		12			14	
Toilet wahs basin		12			16	
Bathroom/shouwer room		2			3	
Fountain for drinking water		-			-	
Service wash basin		1			9	

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Occupation load, access and exits

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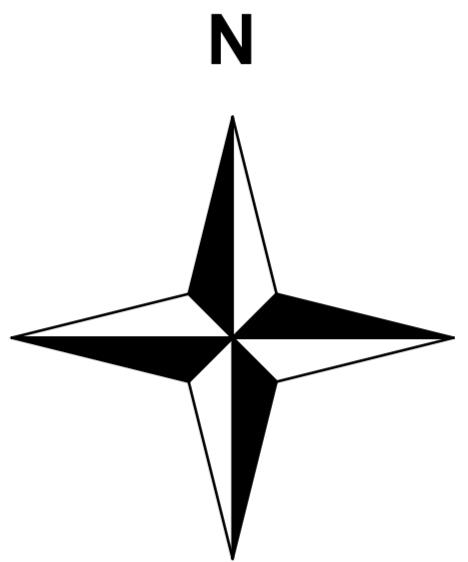


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Topographic Plan



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Topographic plan

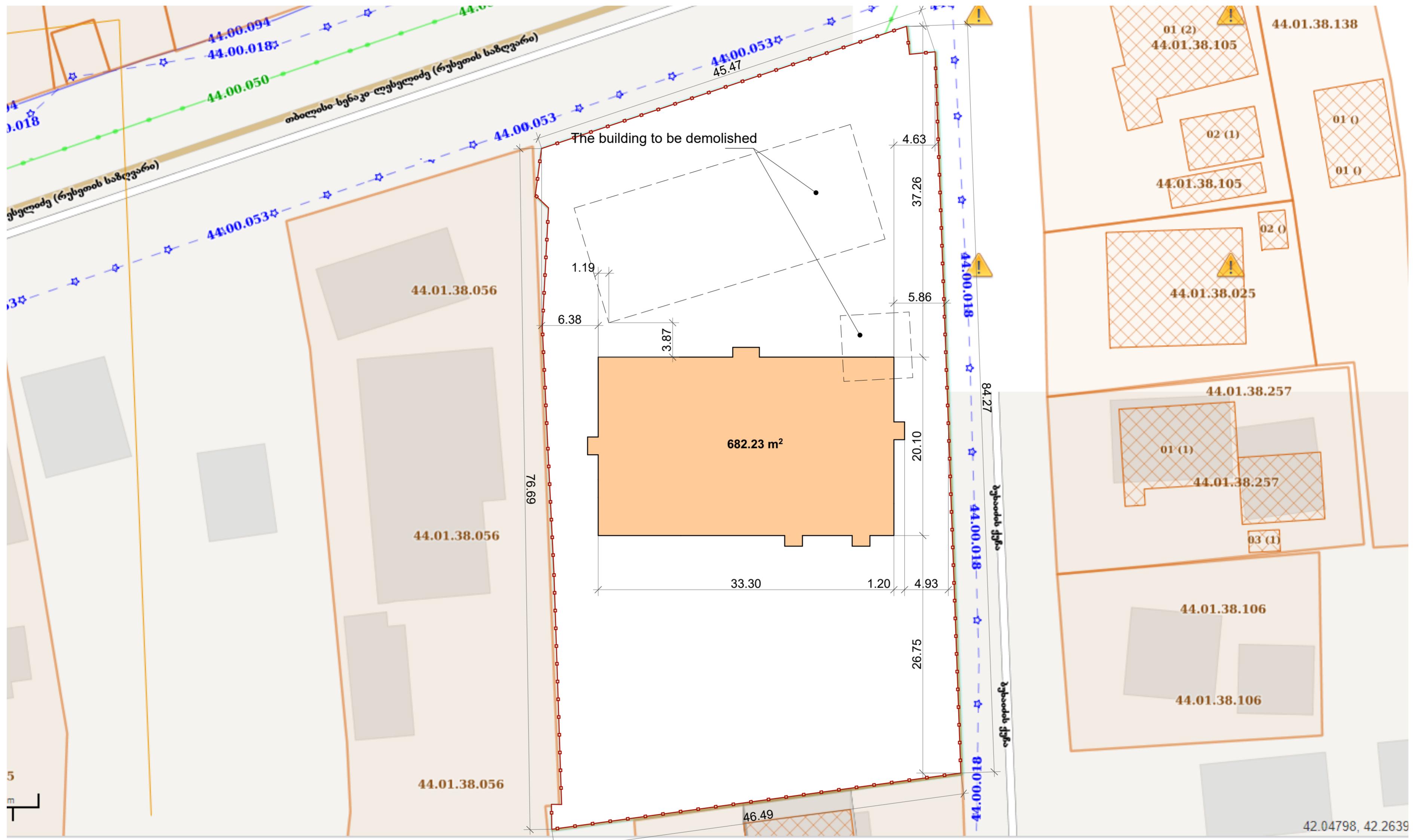
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ბ. ჭავჭავაძე

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Layout Plan



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Layout
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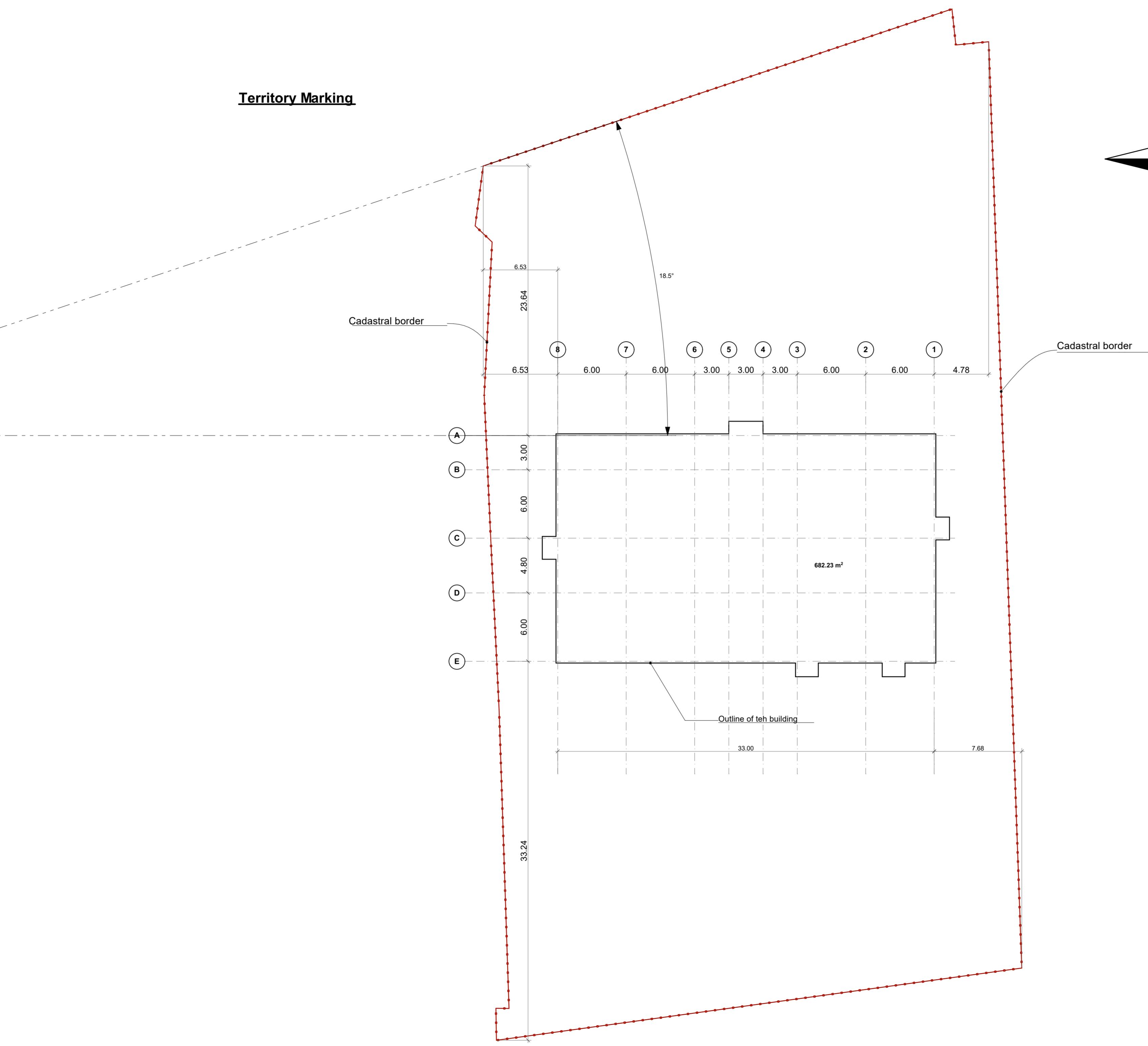
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Territory Marking



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Territory
marking

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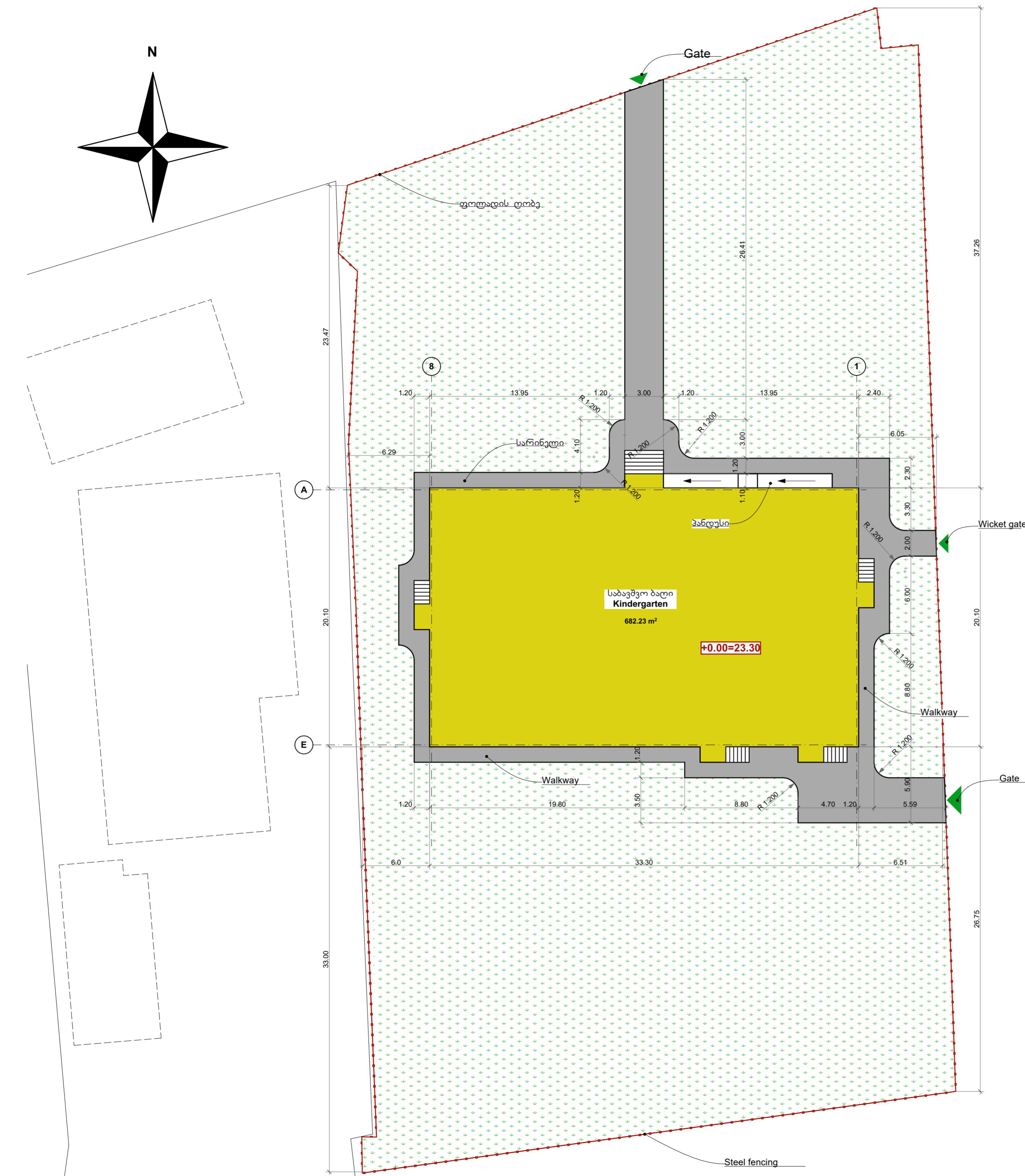
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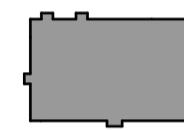


General plan



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j-1-u Sketch



682.23 m²

Project address:
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General plan

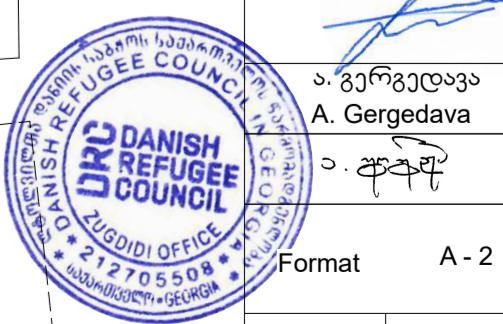
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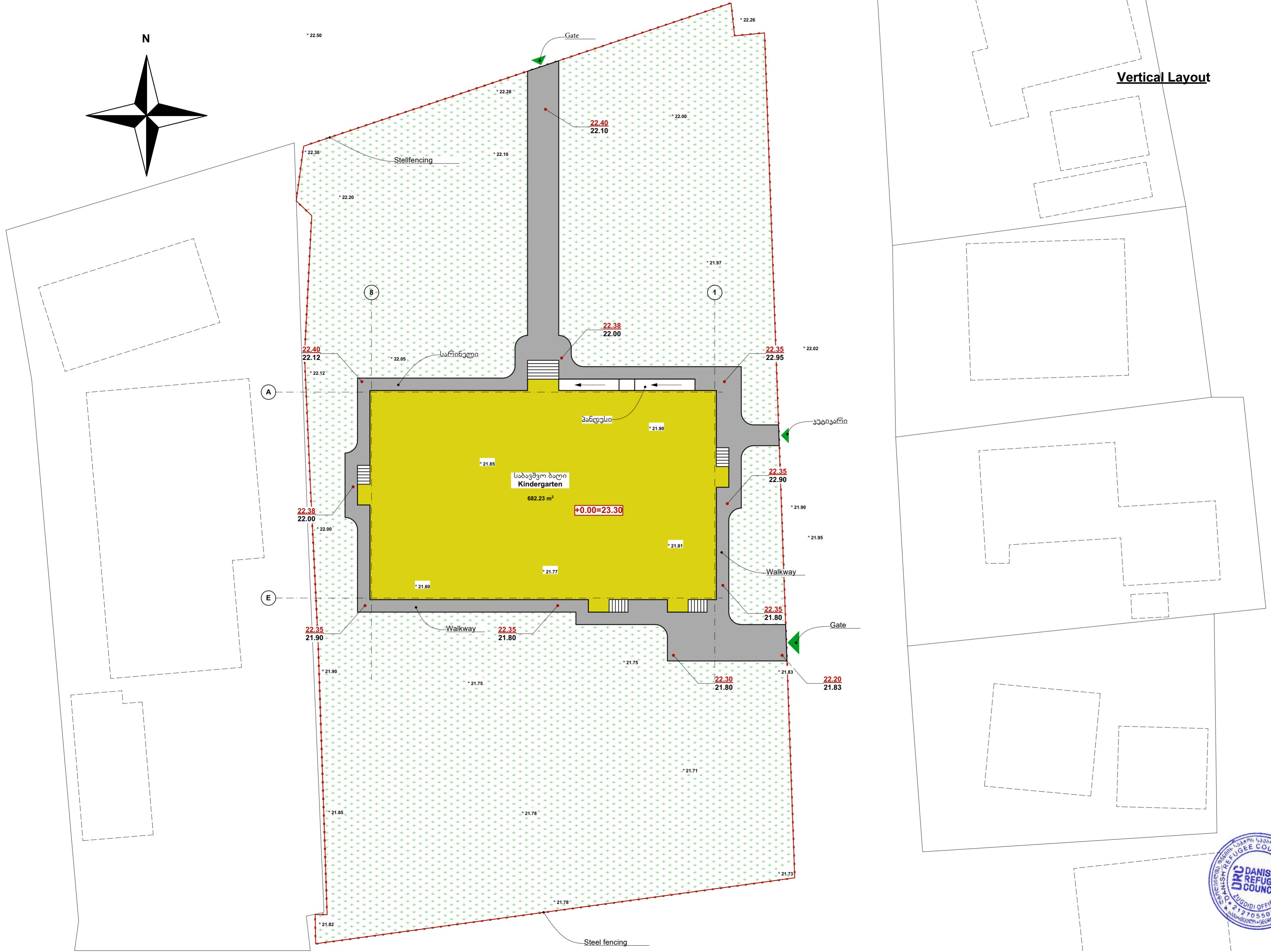
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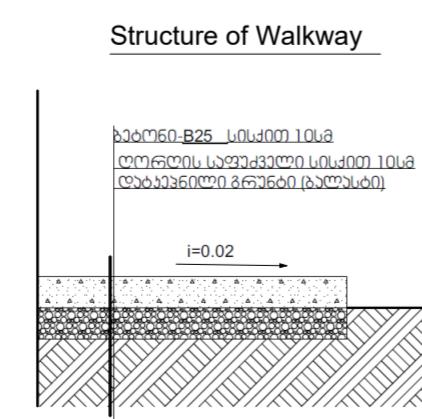
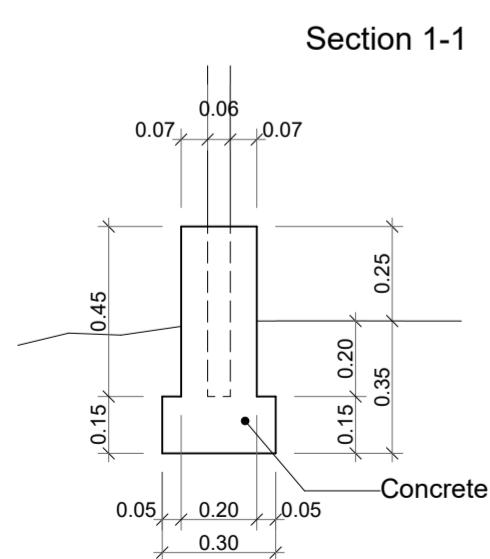
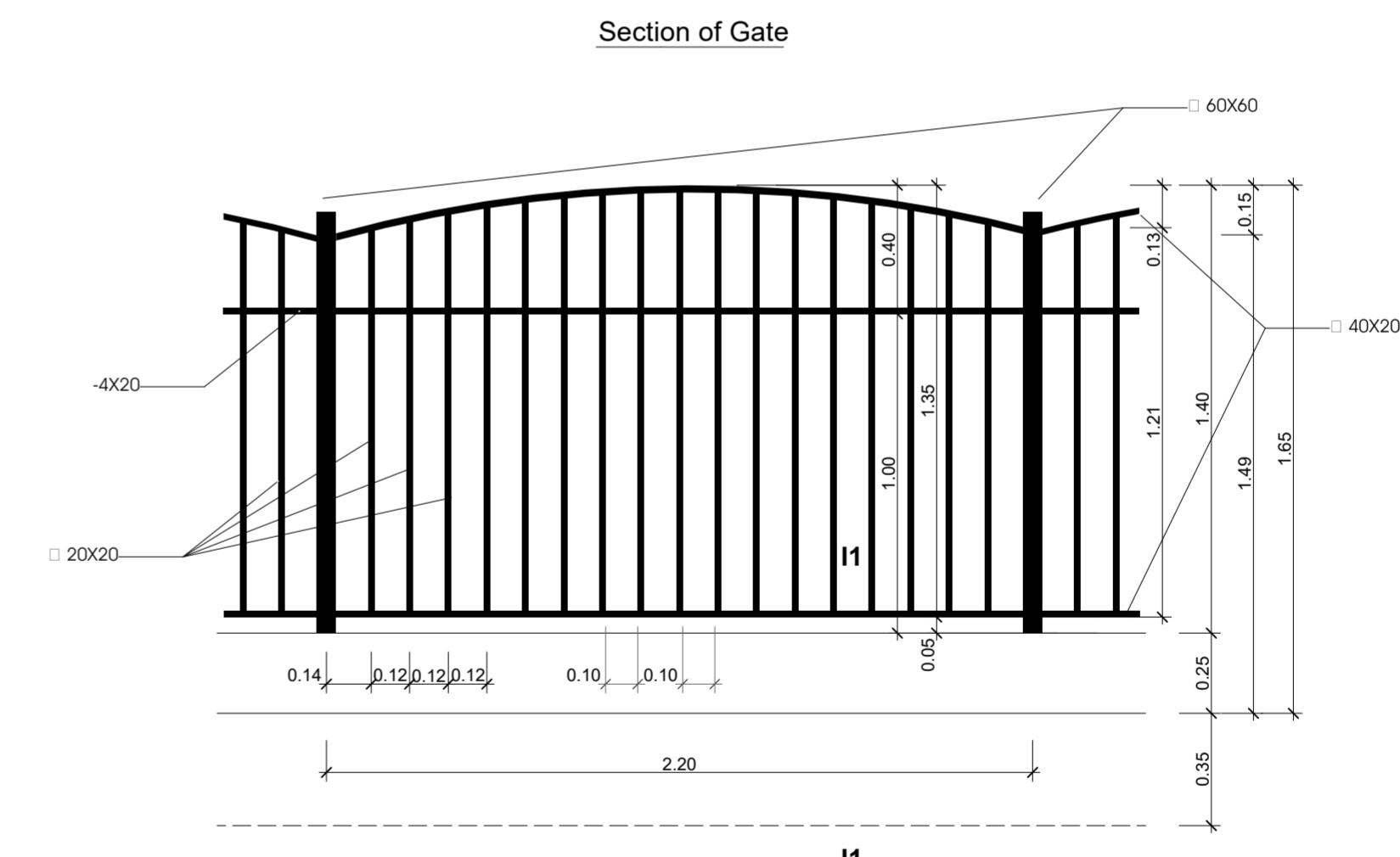
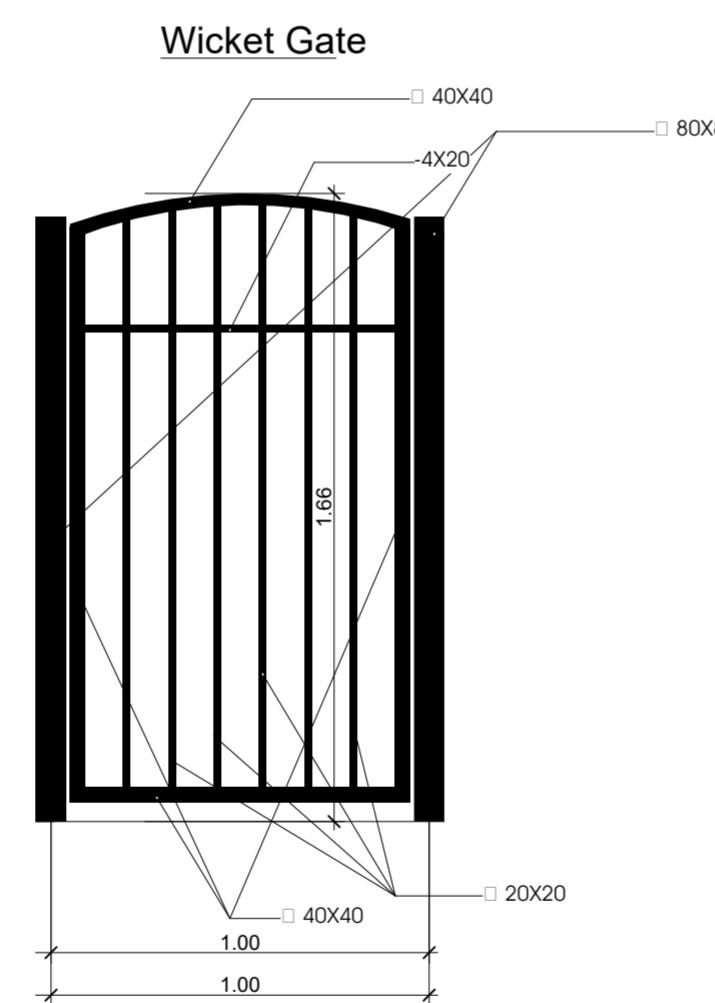
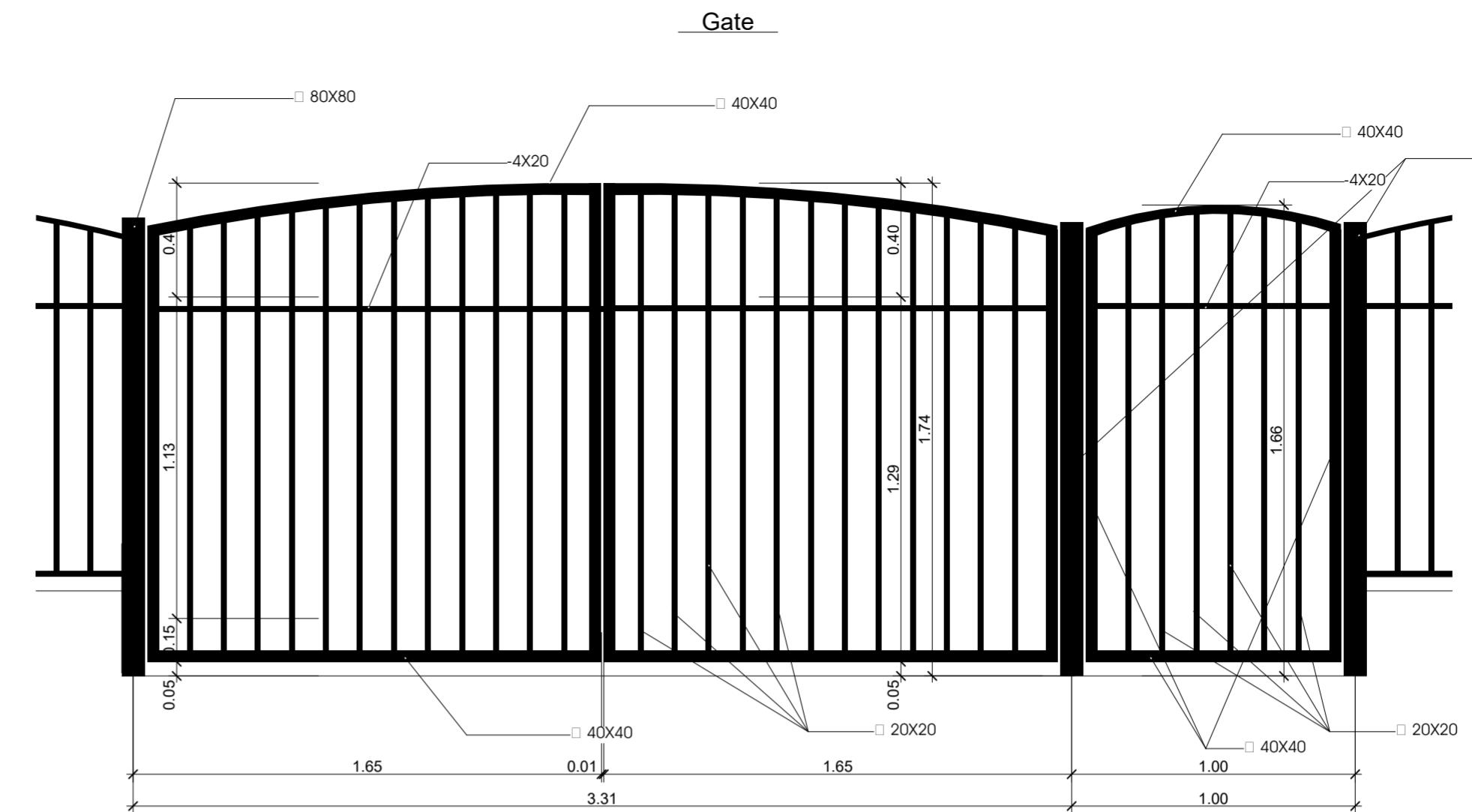
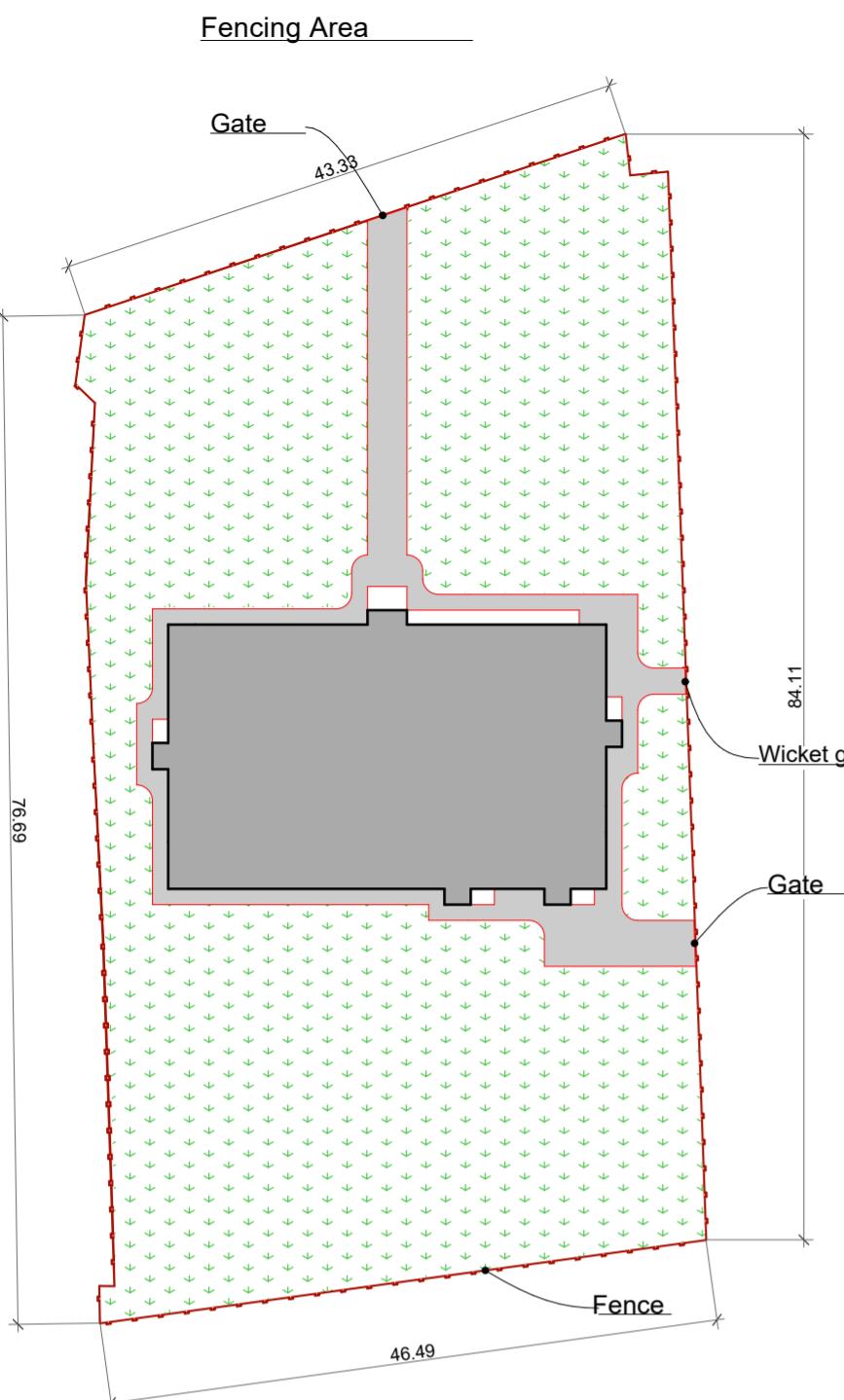
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Floor plan

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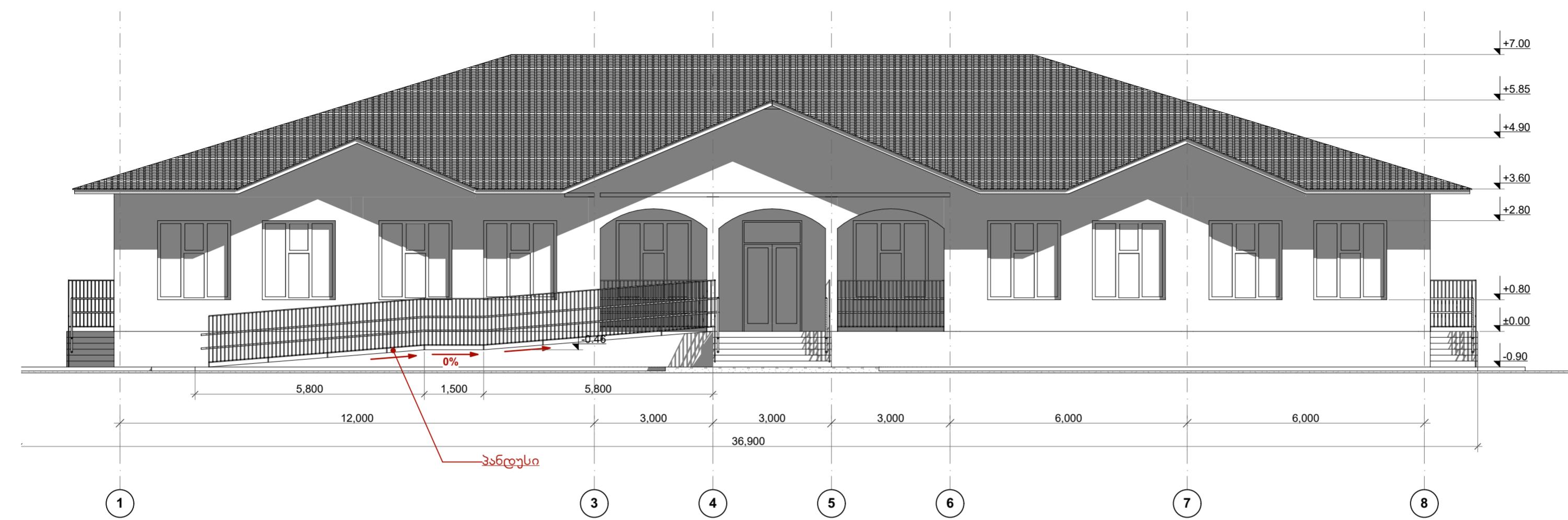
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Facade 1-8



Facade 8-1



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Project address:

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Facades

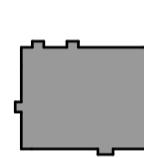
ბ. ქანთახი

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Facades

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ვ. სამიშვილი
V. Samishvili

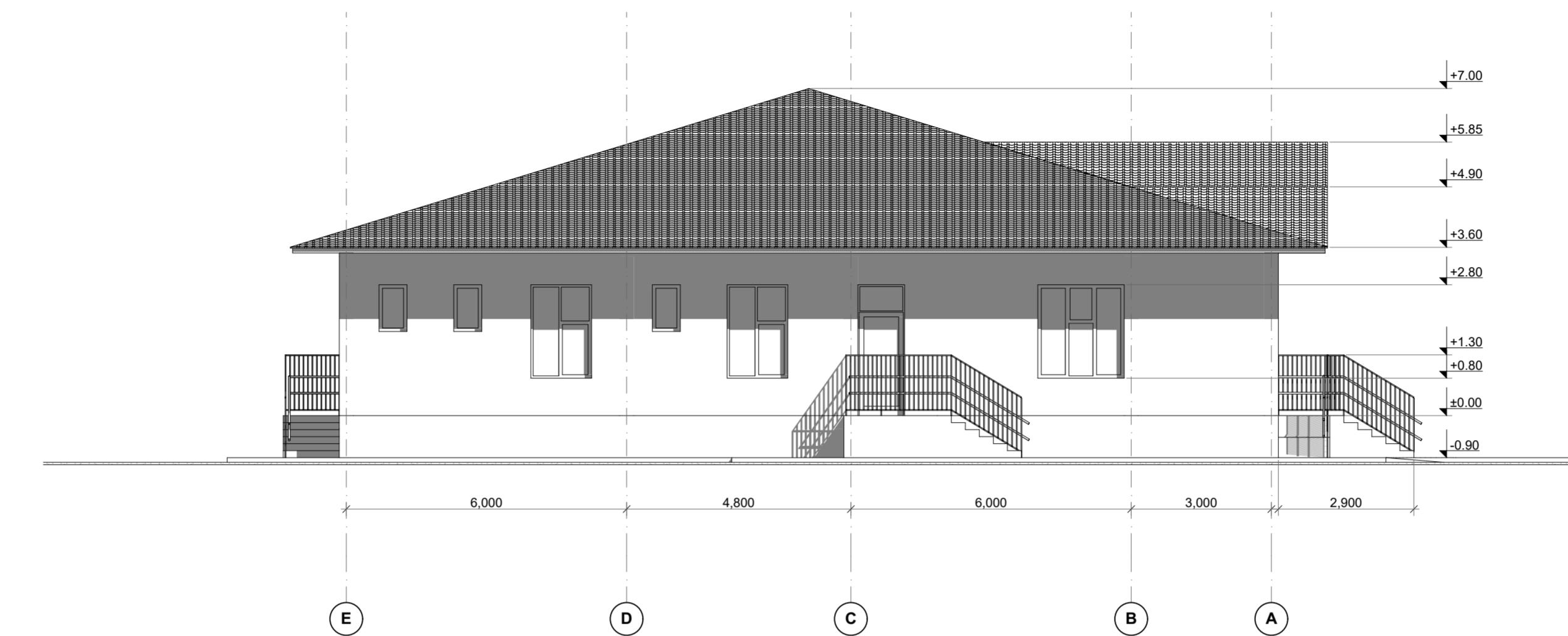


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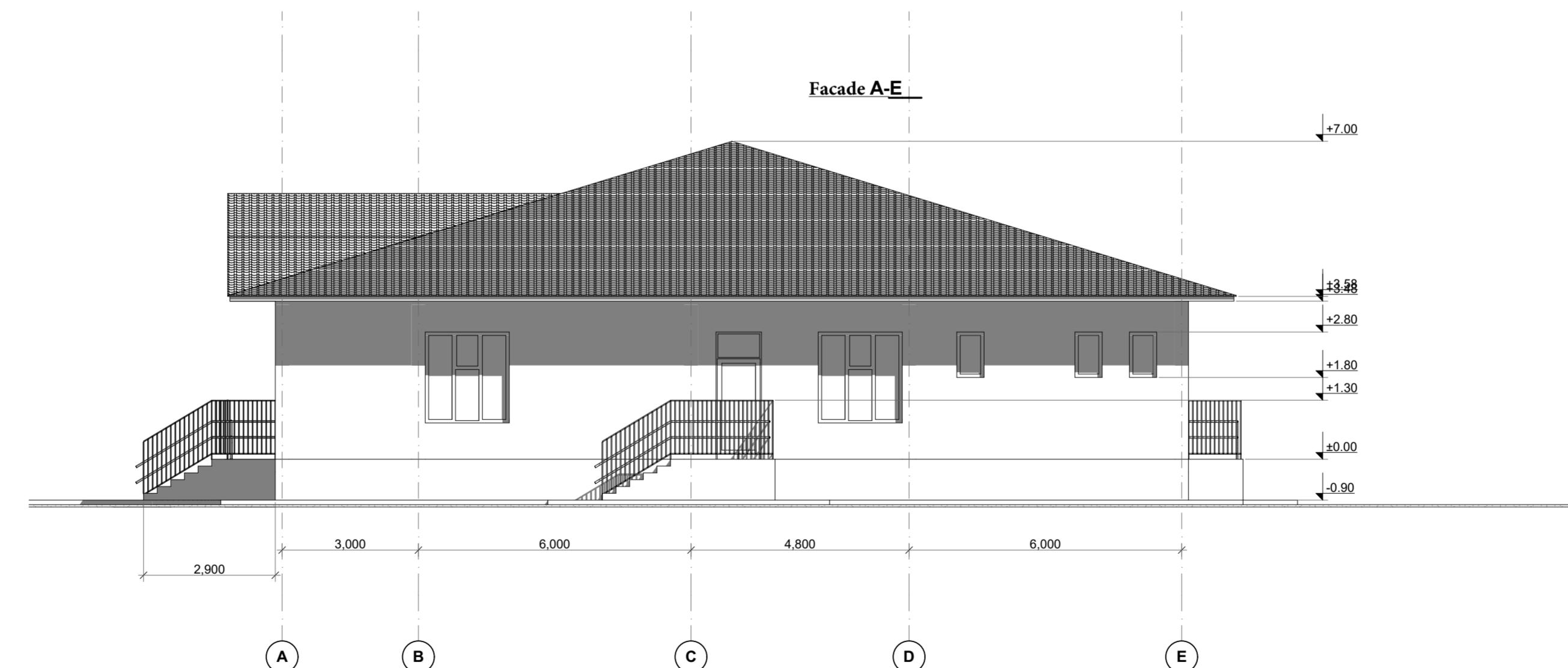
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Facade E-A



Facade A-E



Architectural
Project
Typical
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for three groups
Mshvidobis
street, 306,
Senaki

Project address:
Georgia,
Senaki

Stage:
Architectural project

Textures of
Rendering

ბ. ქანთარია
B. Qantaria

ა. გერგედავა
A. Gergedava

ვ. ჭავჭავაძე
V. Chavchavadze



Format A-2

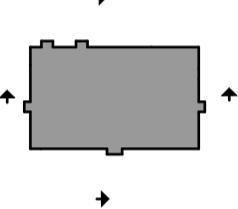
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Textures on Renders



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street, 306,
Senaki



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Georgia,
Senaki

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Section A-A
Section B-B

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B. Qantaria
ა. გერგედავა
A. Gergedava
ვ. სამიშვილი
V. Samishvili



Format A - 2

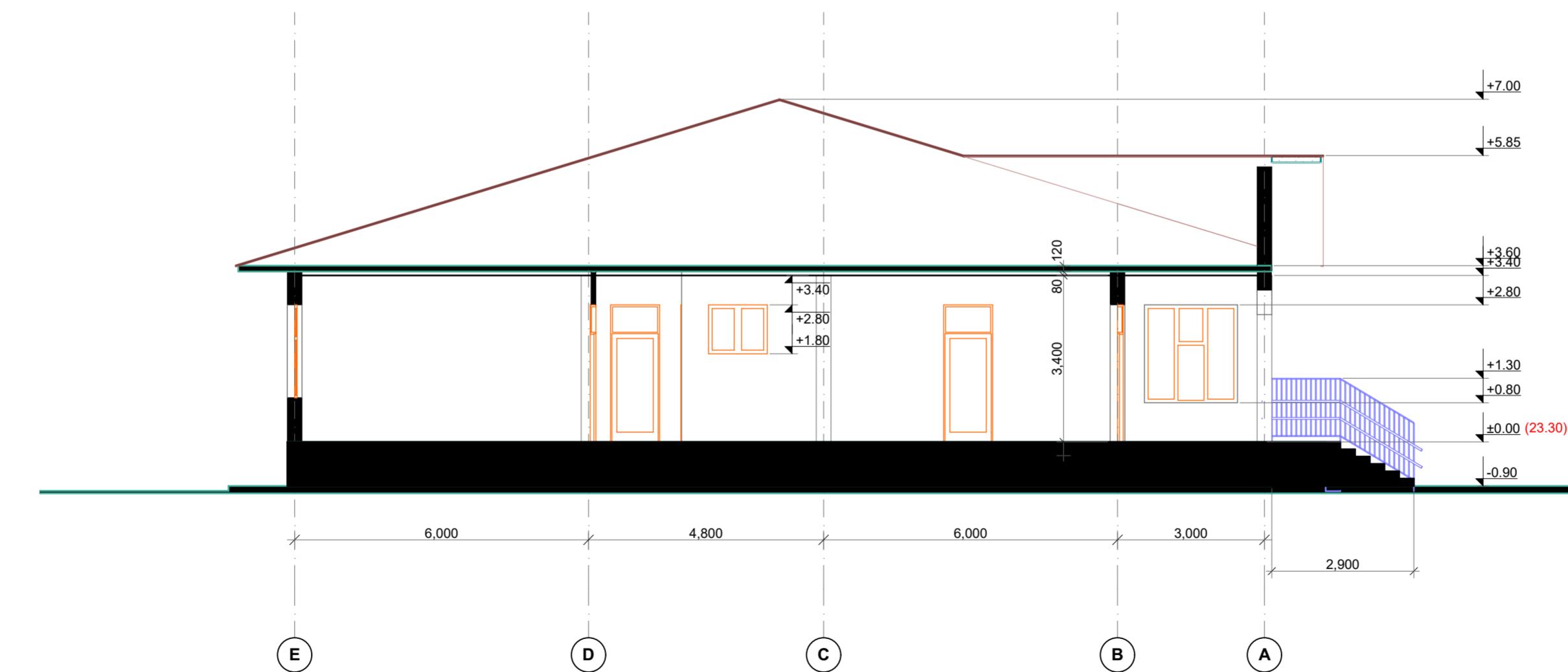
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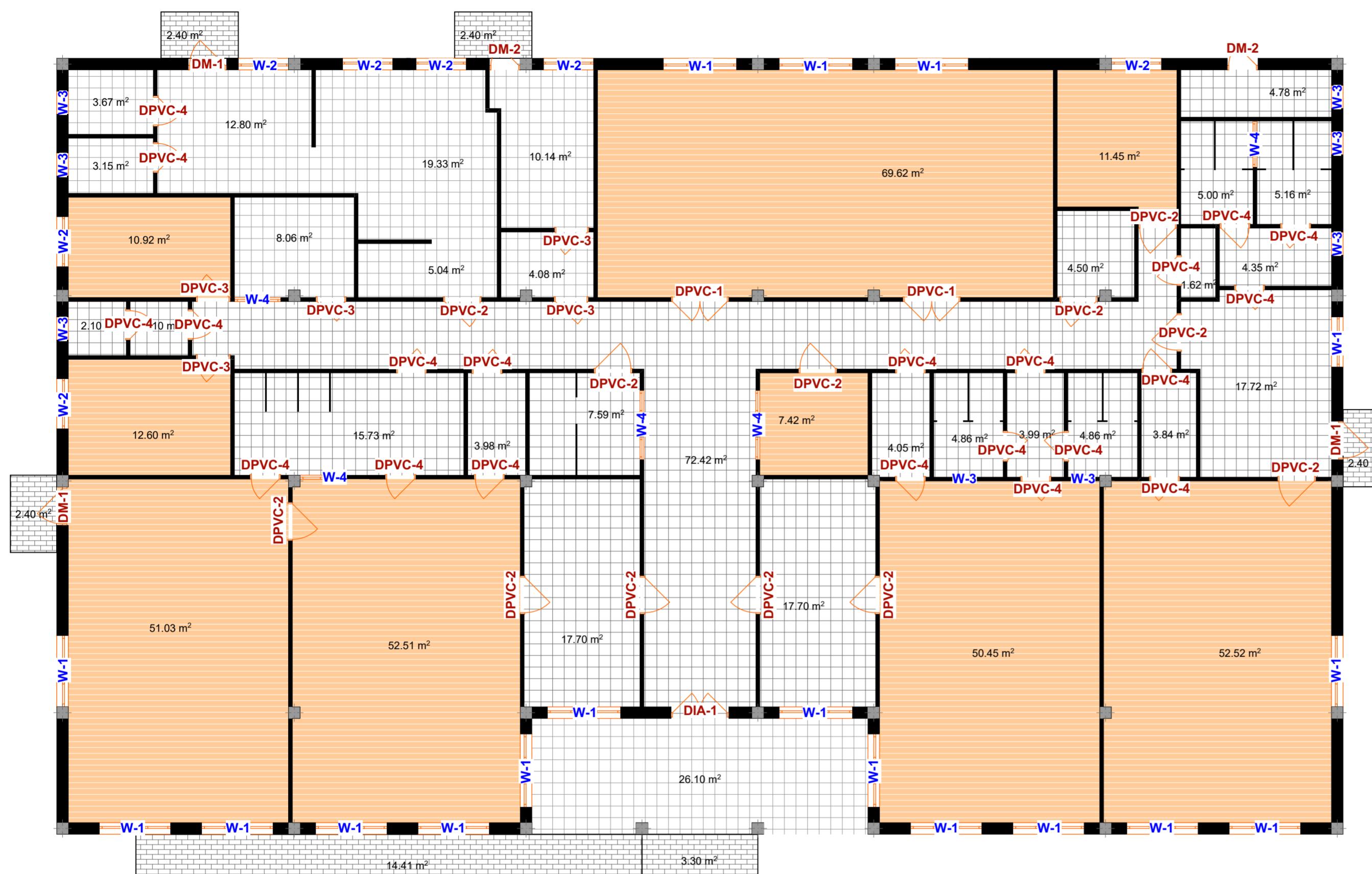
Section A-A



Section B-B



Types of floors, doors, and windows on the plan



Wooden (deck) floor

	<p>Wooden (deck) floor with a thickness of 27 mm Longitudinal beam 40X80 cm Regulatory underlayer Insulation (between longitudinal) XPS slabs 30 mm Reinforced concrete slab with a thickness of 8 cm Polyethylene film with thickness 0.1 mm</p>
---	---

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Ceramic (tiled) floor

	<p>Ceramic tiles 8 mm Leveling with cement-sand mortar Insulation with XPS slabs 30 mm Reinforced concrete slab with a thickness of 6 cm Polyethylene film thickness 0.1 mm Gravel imbankment</p>
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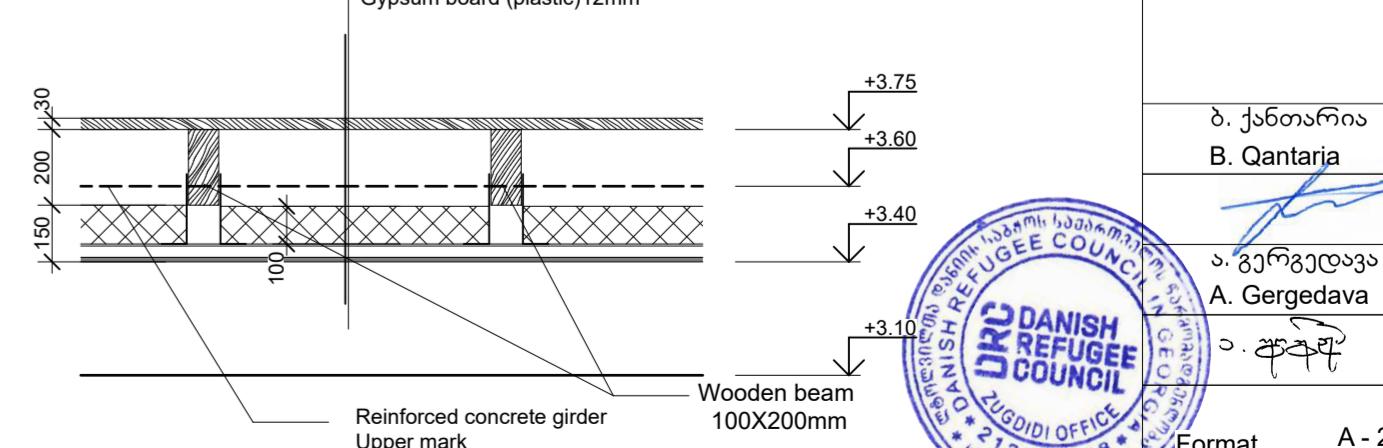
Basalt Floor

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Sakki

Stage:
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Types of Windows and Doors

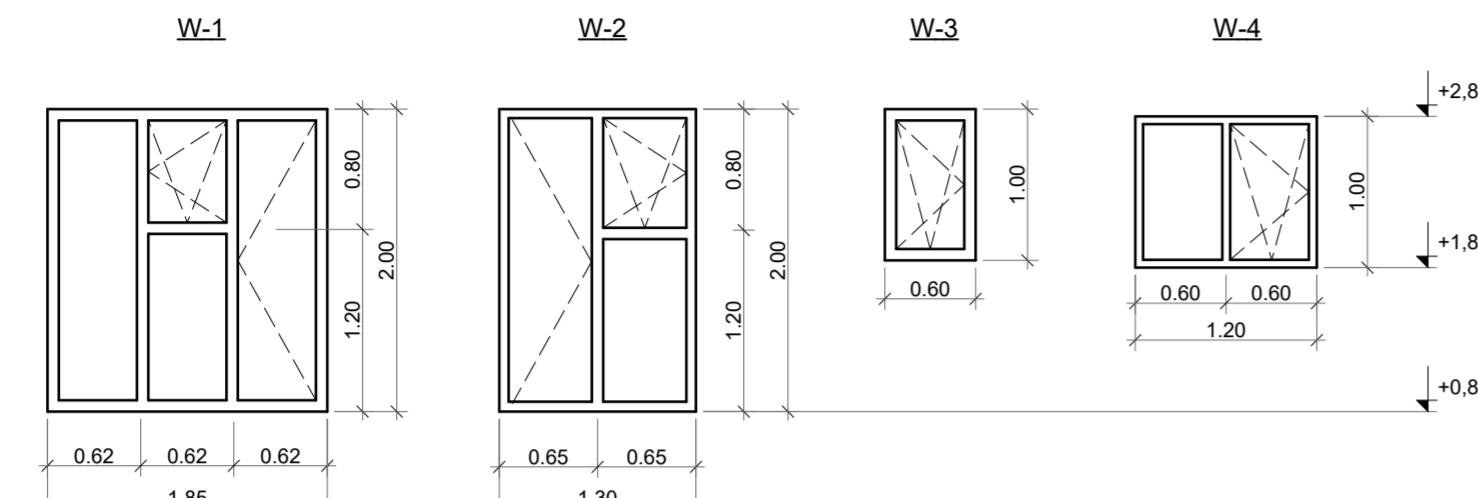
Reinforced concrete slab
Fiberglass insulation with foil, 10 cm
Gypsum board (plastic) structure 12mm
Gypsum board (plastic)12mm



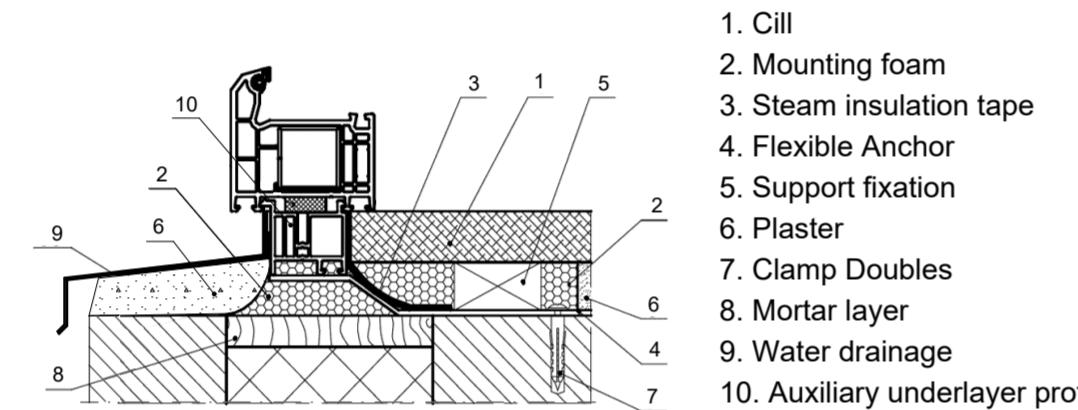
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PVC WINDOWS

Specification



Window Unit



1. Cill
2. Mounting foam
3. Steam insulation tape
4. Flexible Anchor
5. Support fixation
6. Plaster
7. Clamp Doubles
8. Mortar layer
9. Water drainage
10. Auxiliary underlayer profile

Iso-aluminum Door

Steel Door with Double Coating and Insulation

მარკა Mark	რაოდ ენობა Quantity	სიგანე mm	სიმაღლე mm	m2	Σ m2
DIA-1	1	1500	2800	4.2	4.2
DM-1	3	1000	2800	2.8	8.4
DM-2	2	900	2800	2.52	5.04
DPVC-1	2	1500	2800	4.2	8.4
DPVC-2	12	1000	2800	2.8	33.6
DPVC-3	5	900	2800	2.52	12.6
DPVC-4	21	800	2800	2.24	47.04
W-1	18	1850	2000	3.7	66.6
W-2	7	1300	2000	2.6	18.2
W-3	8	600	1000	0.6	4.8
W-4	5	1200	1000	1.2	6

Architectural Project Typical Kindergarten for three groups Mshvidobis street, 306, Senaki

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Windows and
Doors

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B. Qantaria

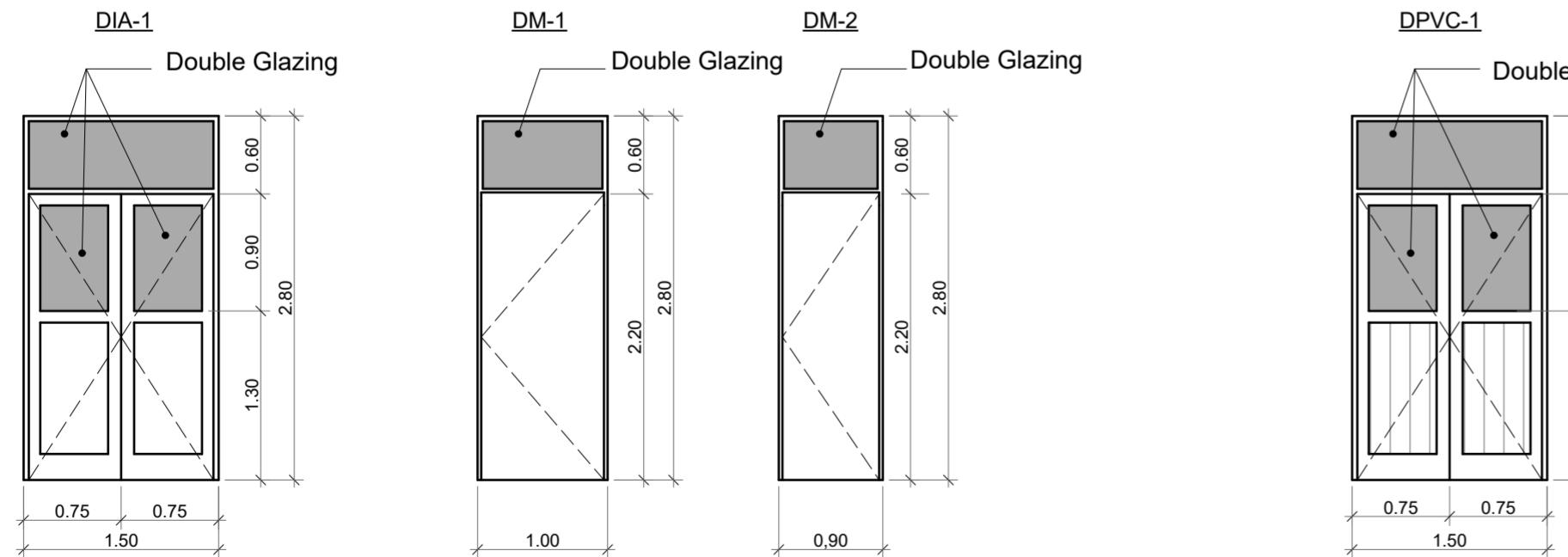
ა. გერგედავა
A. Gergedava

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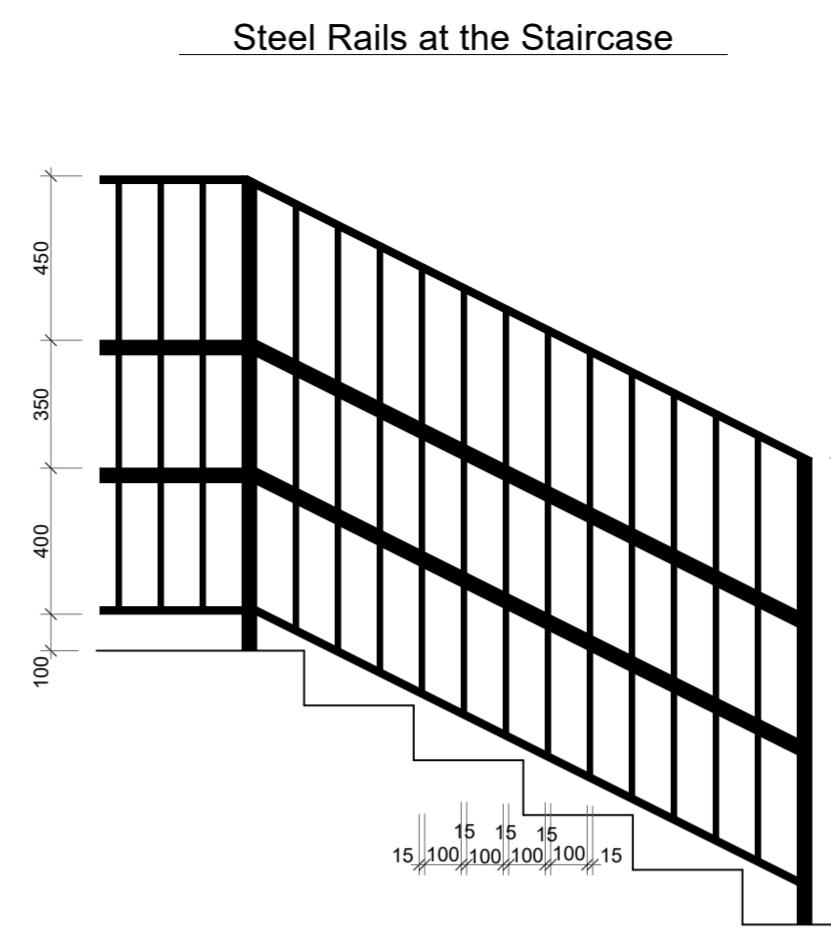
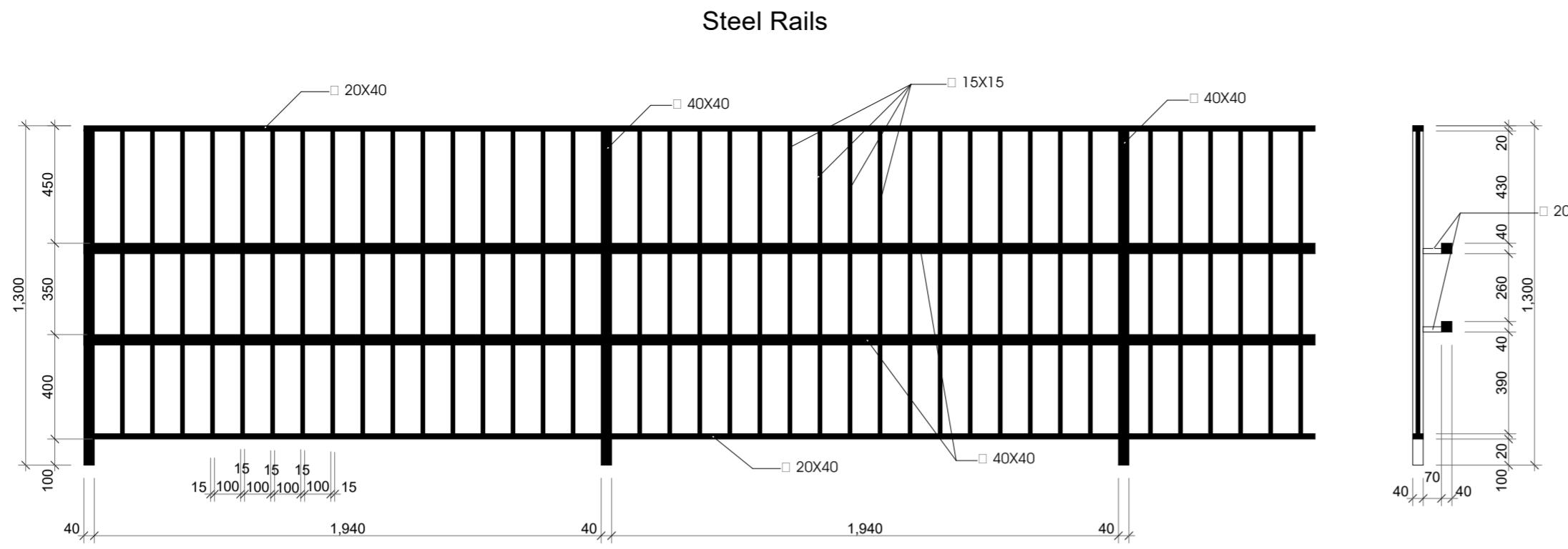
PVC Internal Doors



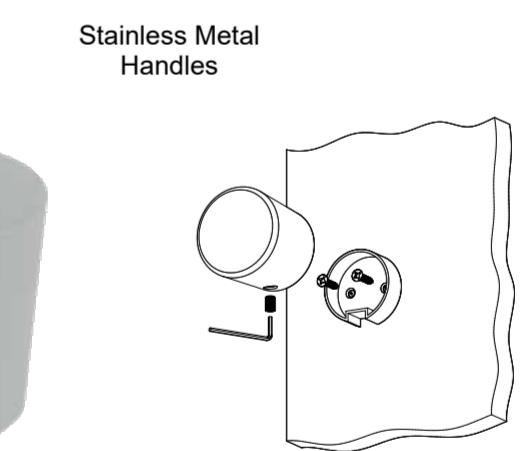
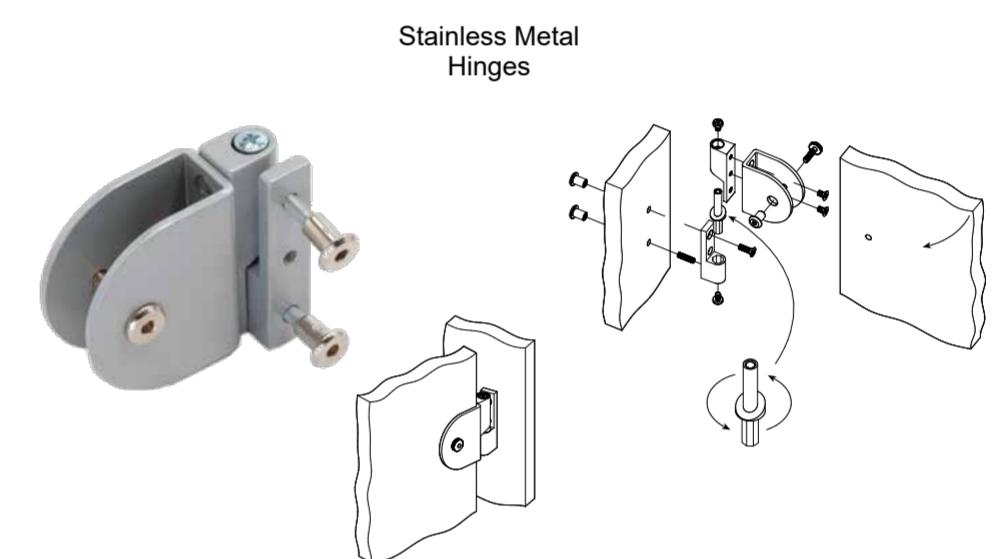
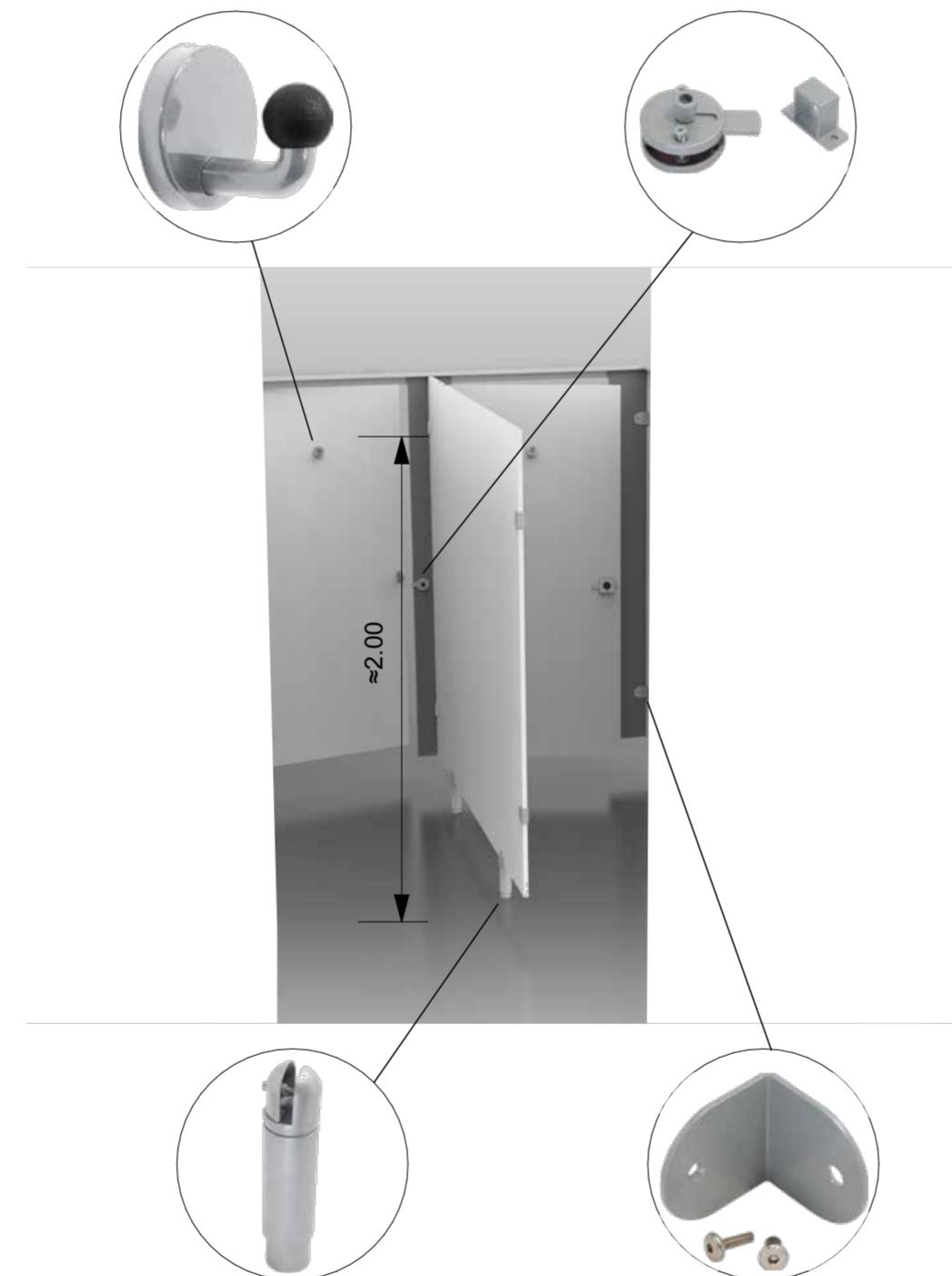
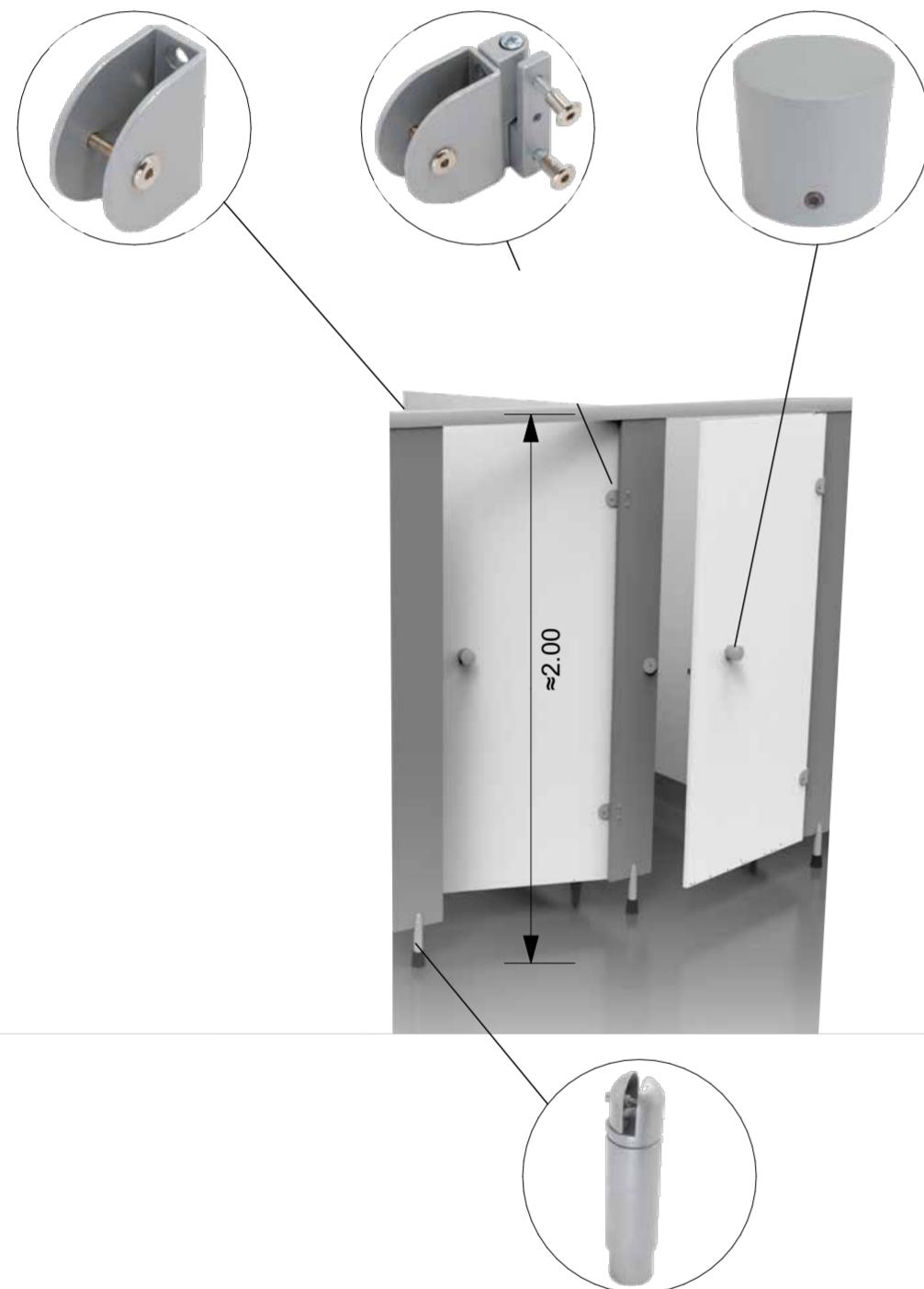
Note:

Door glazing should be darkened for administrative rooms and bathrooms for adults.

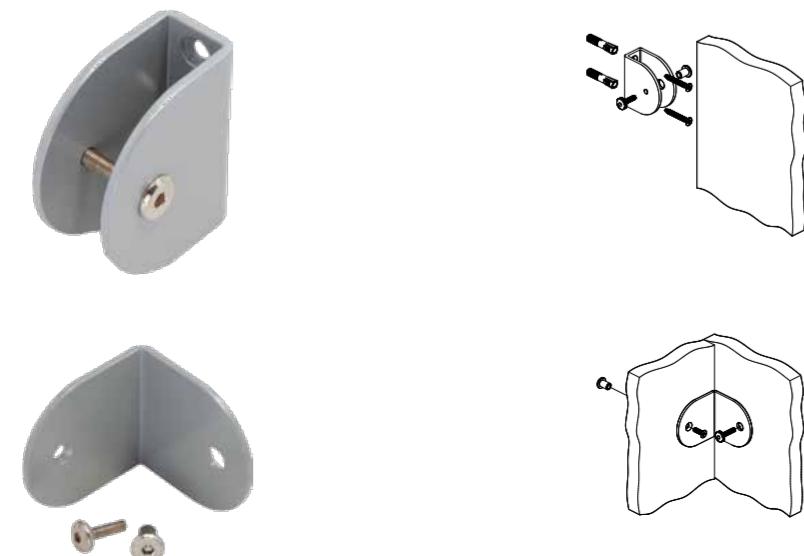




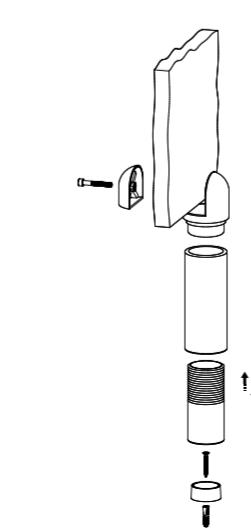
Senior Group Toilets for Boys and Girls (Rooms 9; 10,15,16)
Employee changing-room (room 27) partitions



Stainless metal fixations



Stainless metal supports



Folding screen between the toilet bowls
in the WC of the younger group



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V. Ceckvadze

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Technological Plan of the Rooms



Architectural Project Typical Kindergarten for three groups Mshvidobis street, 306, Senaki

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Typical
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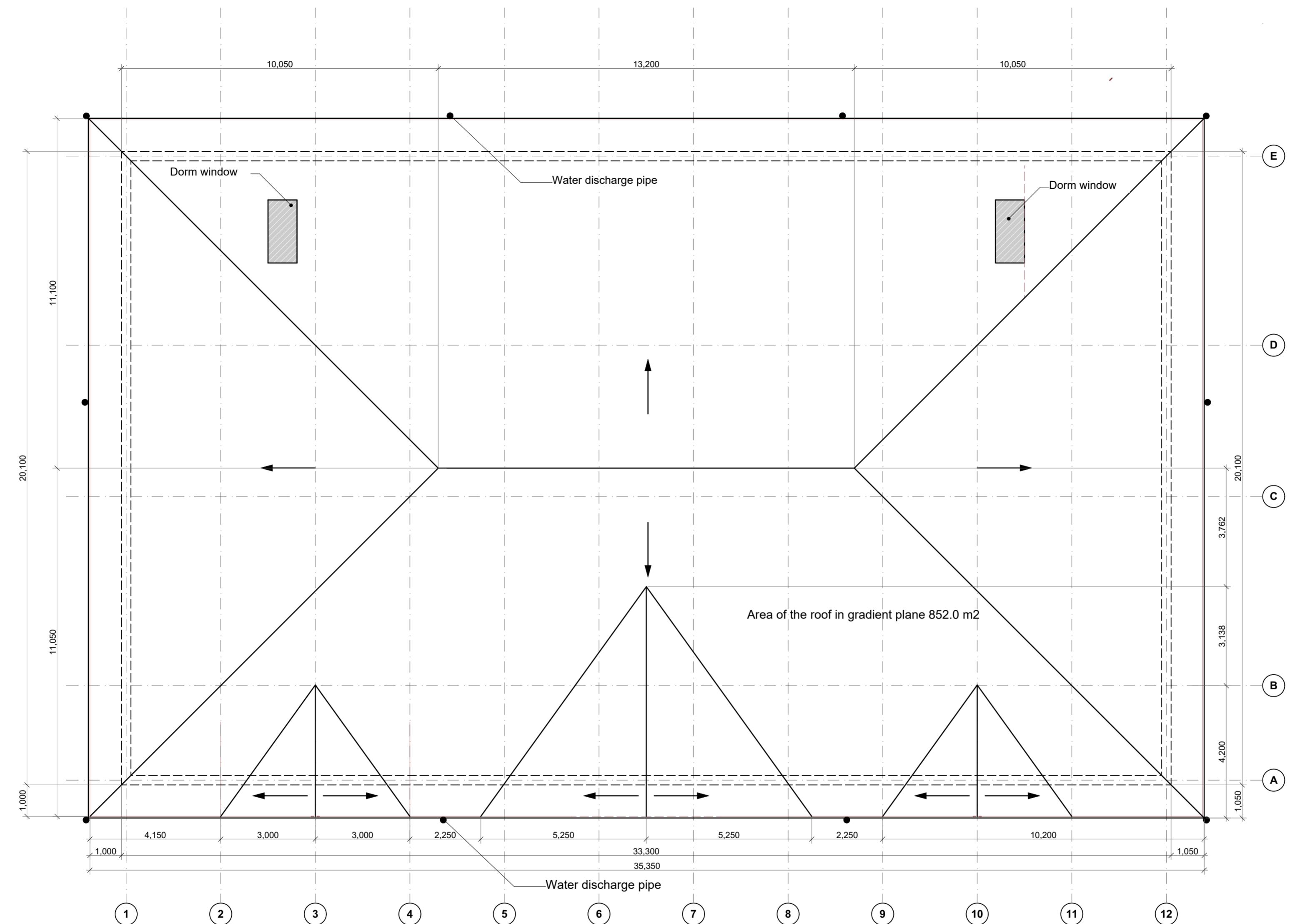
Roof Plan

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A. გერგელავა

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Construction Organizing Project

Explanatory letter

The project for the organization of construction is elaborated in accordance with the decree of the Government of Georgia on the Rule on Issuance of a Construction Permit and the Conditions for Permit and the Construction Rules and Regulations SN. And sec. 3.01.01.-85 with regard to "Construction Organization". The project construction documents were the basis for the elaboration of the project organization.

Construction is permitted after the issuing of the construction permit by Municipality City Hall.

Construction should be carried out following the technological cycles according to the calendar plan. It is inadmissible to deviate from approved design documentation solutions, and any changes made to the project must be agreed with the project authors.

Construction of all temporary electrical equipment and grids for construction shall be carried out under applicable electrical technical regulations and regulations, as well as safety equipment regulations.

Construction Conditions and Description of the Site

From the engineering-geological point of view, the construction site is in satisfactory condition; physical geological hazards are not observed (landslides, hailstones, etc.).

Due to its location in the seismically active zone of the whole territory of Georgia, construction standards and regulations- "Sustainable Construction" (PN 01.01.09) apply throughout its territory to the design of residential, public and industrial buildings, as well as reconstruction, reinforcement, and restoration.

Construction standards and regulations should be used in combination with other statutory documents in the field of construction.

During construction, the construction standards and requirements of regulations approved by the Minister of Economic Development of Georgia shall be observed.

The construction site is a square-shaped plot of land bounded by public zones to the street and and by the adjacent land on all sides.

The project envisages the placement of a kindergarten building by the main facade to the North, to the street side, with main entrances to the East and North. The development and landscaping of the yard and arrangement of a playground and an arbor are planned as well as fencing.

The planning solution of the building includes the placement of three groups of kindergarten. One of them will have a bedroom unit, while such a unit will not be for the two preschooler groups; the girls 'and boys' toilets in this group are separated.

The building presented in the project is a one-storey stone building, the floor level of which is 1.0 meters above the ground (including the walkway).The first-floor mark 0.00 corresponds to the absolute mark of 23.30. The height of the floor of the building from the floor to the ceiling is 3.4 meters.The filling of the external walls is done with a reinforced masonry of small pumice blocks 30 cm thick.

The bearing structure of the building is a complex reinforced concrete frame, reinforced concrete columns, a frame structure made of the monolithic reinforced concrete girder. The reinforced concrete columns on the external walls can be concreted in parallel with the masonry of the walls. Partitions are made of reinforced small wall pumice block with a thickness of 10 cm.

Floors in bathrooms are finished with tile, and in the rooms with wooden planks (deck). Floor heating is done with XPS tiles, and ceiling insulation is done with glass fiber.

Suspended ceilings in the bathrooms and kitchens are made of plastic, while in the rooms are made of gypsum boards. The bearing structure of the roof is made of wood, while the roofing is a painted metal sheet.

The windows are made of double-glazed PVC profiles. The entrance doors are made of steel and iso-aluminum, with plastic in the bathrooms and wood in the rooms (so-called MDF).

Exterior stairs and entryways are covered with basalt tiles.

A concrete walkway and access paths are arranged around the building.

The building will be provided with electricity, sewerage and water supply, as well as internal heating networks, which will be connected to the external main networks.

Technical indicators of the building:

Number of floors - 1 floor
The volume of the building is 4713 m³
Out of them:
On the surface of the land - 3758 m³
Under the surface of the land - 955 m³
Total area - 627.84 m²

Before construction, the construction site should be enclosed in a temporary fence within the cadastral border. The vertical planning project for conducting surface water to the street involves installing a bulkhead yard, for which a concrete boundary wall is provided, where the metal panel fence will then be installed.

Ready concrete should be supplied with a concrete pump, which can be installed in the northern as well as the southern part of the yard.

According to the decree of the Government of Georgia, taking into account the characteristics of the class of building, the building belongs to class 3.

Construction Terms and Stages

The duration of the construction shall be determined in accordance with the construction standards and regulations 1.04.03-85 taking into account the purpose, number of floors and materials used in the building.

The seismic coefficient for civil buildings in 8-9 high seismic areas is assumed K = 1.15.

The terms of construction were determined based on actual material-technical conditions and capabilities.

Duration of construction was 12 months, including 1 month for preparatory work.

The preparatory work consists of two stages:

1. Preparatory work, which involves the disposal of garbage and solid waste, the installation of ballast imbankment, its ramming and the fencing of the construction site.
 2. Marking off the building and removal and marking off the key axles. Preparatory work includes both organizational activities and external and internal construction works on the site.
- The sequence of Construction Works:
- 1) Land and building sub-foundation works.
 - 2) Arrangement of the building's foundation and basic construction system to zero.
 - 3) Installation of the main bearing and non-bearing structures of the floor of the building.
 - 4) Installation of the roof of the building
 - 5) Installation of doors and windows.
 - 6) Exterior finishing of the building.
 - 7) Internal finishing of the building (in parallel, electrical and other engineering networks, in particular, water supply and sewerage, heating system installation).
 - 8) Landscaping works.

Construction Site and Construction Safety Rules

Prior to the main construction works, the construction site and the surrounding area should be arranged. Construction site boundaries should usually fall within the cadastral boundaries of the land.

After the ballast imbankment is laid, the construction site is fenced and the temporary buildings are arranged. Prior to the excavation works, the axes of the building should be marked off and removed from the perimeter of the building. Information banners perceived from public spaces should be placed on the construction site. Work on the construction site shall be organized in a way to ensure construction safety in accordance with Government Regulation # 6228.03.07, as well as the Construction Safety Rules and Construction Rules and Regulations III-4-80.

The construction safety rules apply to construction under the permit site preparatory works and defines the security requirements while implementing the following works the construction site: organizing, construction machinery, technical equipment and tools in operation, electric and gaswelding, loading-unloading, insulation, the land, the foundations, roofing works, underground works, concrete and reinforced concrete, installation, demolition, and other construction works. All fire safety measures shall be complied with in accordance with the Construction Standards and Regulations 2.01.02-91 of the Fire-Safety Standards. Entrance to the construction site should be controlled and the possibility of unauthorized entry should be excluded. The enclosure in the public zone should be covered with a protective cover to ensure the safety of pedestrians. During darkness, the fencing should be equipped with signaling lamps or use materials or colors perceived in the dark.

In the same manner, the area of demolishing of structures must be fenced.

A responsible person for adhering to safety rules should be assigned to the construction site. Workers and engineers must wear helmets, and special work must be performed using appropriate equipment.

First aid facilities should be provided on the construction site.

Materials, structures and other equipment should be stored and disposed of following the standards to allow them to fall, settle, slide and expand.

Dusty materials should be stored in storage areas. During loading and unloading operations precautions shall be taken to prevent their scattering and overflow. Harmful or explosive solvents should be stored in a tightly sealed container.

Temporary structures should be provided on the south side of the building to keep up to the work hygienic conditions and proper organization of labor, which must be removed immediately before the commencement of the site improvement works.

List of Covert Works Acts

Upon completion of the major construction work, before the start of the next stage of works which can cause its concealing, the covert works act should be prepared by the construction developer, following the site investigation before its completion.

List of the main construction and installation works, which should be followed by a covert works act:

- Marking off building axes.
- Accepting a trench arranged for foundations
- Arrangement of a reinforced concrete foundation
- Arrangement of reinforced concrete inserts and walls
- Examine the waterproofing of foundation, basement walls, and roofing
- Connecting walls to columns.
- Accepting development works.

Environment Protection and Ecology

During the works on the construction site, it is necessary to implement measures for the protection of nature and air pollution in accordance with the applicable legislative acts and normative documents. It is forbidden to cut perennial trees and plants in the construction zone without the permission of the Environment Protection Agency. It is prohibited to wash concrete or cement solution pipes in existing sewage manholes or to dump them with construction debris. If construction or reconstruction is expected to spread dust, the building should be covered with a curtain or work should be carried out indoors. When transporting loose construction debris, the surface must be soaked or covered with a protective coating after loading it into the car body. Before leaving the construction site, tires need to be cleaned to prevent contamination of city streets

Architectural Project
Typical Kindergarten
for three groups
Mshvidobis street, 306, Senaki

Project address:
Georgia,
Senaki

Stage:
Architectural project

Construction Organizing Project

Recommended construction machinery-tools, vehicles

List of technical means

- Excavator, with capacity of 0.2 m³
Road roller
Lift crane
Auto-damper
Vehicle with body
Special motor vehicle with trailer
other large materials
Portable compressor
An in-depth vibrator
Surface vibrator
Welding plant
Concrete mixer
Concrete pump with conveyor
Multipurpose electro-pneumatic unit

List of Works

- Land works
Yard development
Various works
Ground removal, delivery of inert materials
Goods delivery
Transportation of reinforced concrete and
Air supply
Concrete works
Concrete mortars
Welding Works
Mortar preparation
Concrete works
Construction and Special Works

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V. Martinskiashvili

გ. გურგაშვილი
G. Gurjashvili

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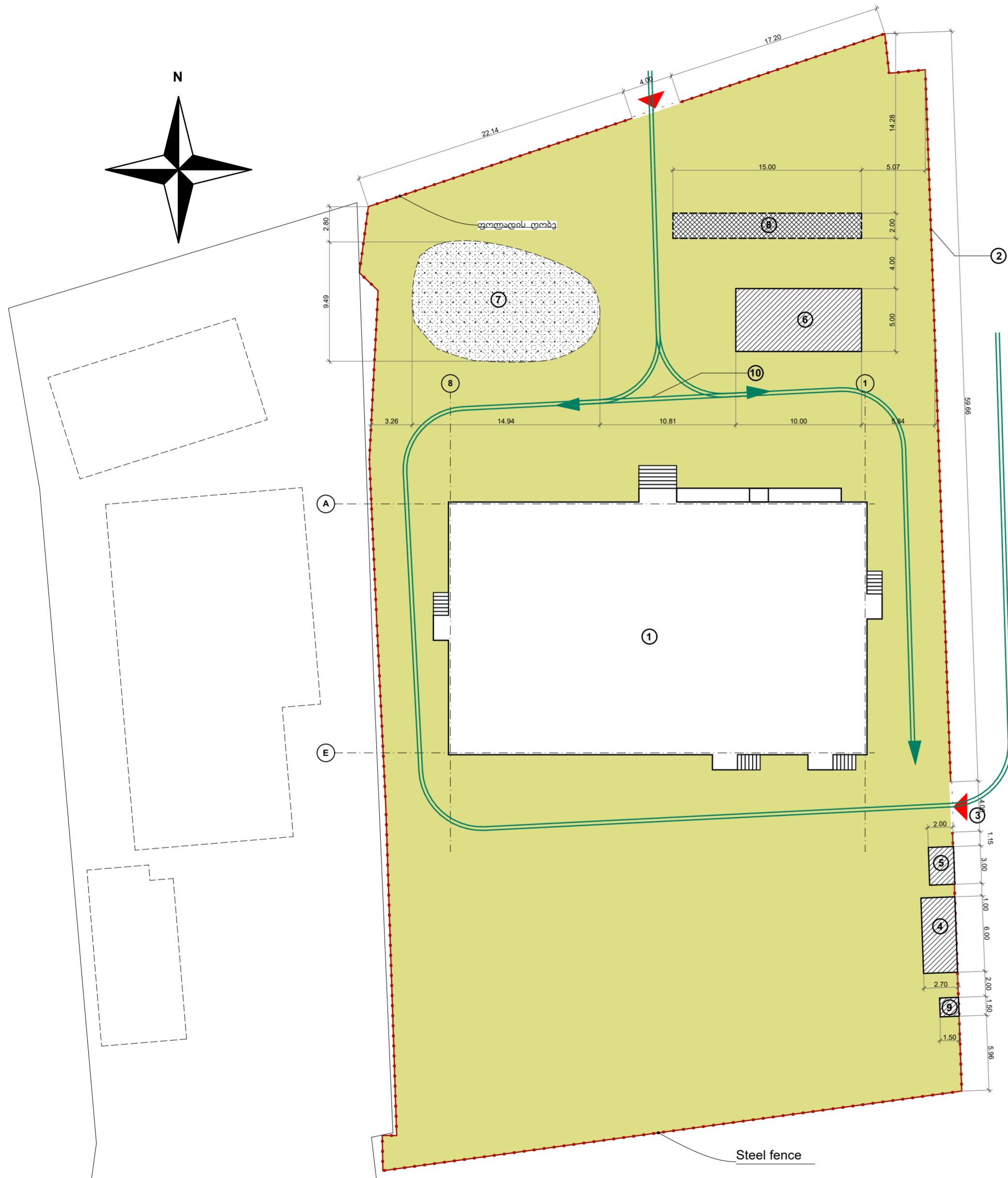
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Note:

It is possible to use modern equipment with the same parameters, given the data of the existing technical facilities.



Construction General Plan



Legend:

1. Project Building
2. Temporary fence
3. Entrance
4. Staff room
5. Security room
6. Closed Warehouse
7. Open warehouse for inert materials
8. Warehouse for reinforcement
9. Temporary bio-toilet
10. Vehicle path

Architectural
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Architectural project

General Plan of Construction

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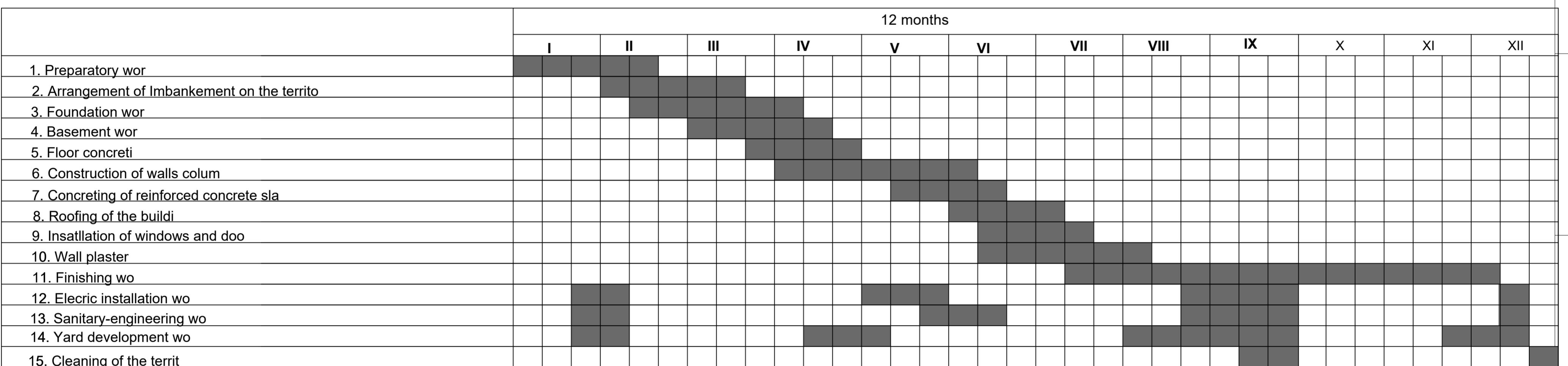
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Time Schedule of the Construction



Project address:
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Time Schedule
of Construction

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B. Qantaria

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A. Gergedava

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