

DESIGN TASK

CONCEPTUAL PROJECT

of an energy-efficient three-story eco-house in Stryi, Ukraine

1. Name and location of the object:

Name of the building: ECO-EDUCATIONAL PUBLIC CENTER IN STRYI
Ivan Pavla II St., Stryi, Lviv region, Ukraine

2. Client information:

The charitable foundation "Community Fund "Ridnya" has been operating since 2011. The founders of the foundation are the Stryi Diocese of the Ukrainian Greek Catholic Church and the credit union "Vyhoda". The foundation's mission is to create worthy communities, in which residents are educated, have the opportunity to create their own well-being, and exercise their own responsibility for the quality of life and ecology in the community.

We are currently operating in the Lviv region, expanding our area of interest to neighboring regions, and in the future we will be ready to expand our influence throughout Ukraine.

The main activity is collecting donations at the local level and holding a project competition for local residents on social, humanitarian, youth and environmental topics. It is important for us to develop people's self-organization and their vitality to solve any challenges that they face now or may arise in the future.

Today, during the war, we continue to actively work to modernize communities, so that even before the victory our communities are already actively working on their sustainable development and making the lives of residents happy.

3. Design phase:

Outline design.

4. Characteristics of the designed object:

We see this object as an energy-efficient building for a public space, where you can develop public and educational activities, including those aimed at popularizing environmental technologies for use in urban life. The land plot in the center of Stryi has an area of over 600 m² and consists of a house with four apartments with a total area of 200 m² and a small garden of 400 m².

Our vision is to demolish the existing house and build a modern three-story energy-efficient house with a minimum energy consumption and a height of up to 12 m in its place and on the adjacent territory.

The house will have the following number of floors:

The zero floor, which is below ground level, will serve as a shelter for people to stay safely during air raids.

The first floor will be used for commercial purposes to obtain resources for building maintenance.

The second floor will be used for public activities of children's, youth and adult organizations, for example, for local initiative activity groups (LAGs), we envisage the presence of premises that can be transformed for mass meetings.

The third floor for office premises of various public communities, including environmental ones.

The roof of the building will be flat, intended for gardening and recreation.

The house will be equipped with an elevator for people with limited mobility from the ground floor to the roof. Each floor will have toilets. On the ground floor for people with limited mobility, on the first floor for mothers with infants. On the second and third floors there will be ordinary ones.

Our goal is to use the most modern ecological materials and technologies so that this project becomes an example of effective coexistence of man and nature, with the least negative impact on the urban environment.

The house will purify water from washbasins for reuse for technical needs, heat pumps, solar panels and collectors will be used, rainwater will be collected for technical use, use of natural light. A green area has been created near the house for public use and recreation.

The building should become a public educational center and a pilot project for the popularization of ecological experience in Ukraine.

5. Design procedure:

Sketch design, working design.

6. Engineering support:

Next to the existing building, within 2-3 m, there is an opportunity to connect to electricity, gas, water and sewage and are sufficient for this type of house.

7. Basic requirements for structural solutions and materials:

- low thermal conductivity of building materials, such as wood;
- maximum use of natural lighting.

8. Basic requirements for technical equipment:

- Elevator for people with limited mobility from the ground floor to the roof.
- maximum use of the sunny side
- possibility of collecting rainwater and its technical use
- water circulation after purification for technical needs
- a recuperative ventilation system has been created
- accessible toilets for people with limited mobility, a changing table

MAIN CONTACT PERSONS:

Administrator of the Community Foundation "Ridnya",
development and innovation coordinator:

Svyatoslav SURMA, +380965512247,
bfridnya@gmail.com

Chairman of the Supervisory Board of the Foundation:

Petro MAKOVSKY, +380672331820
bfridnya@gmail.com

Attachment 1

Explication
internal areas to the plan of building № 5 on Ivan Pavla II Street

floor	apartment/premise number	room number in the apartment	the purpose of the room		Area				Premises that are not included in the total area
					area	total area	living area	utility area	
	I		basement		10,30				10,30
	II		basement		7,20				7,20
	III		basement		13,40				13,40
	IV		basement		6,63				6,63
	V		basement		20,40				20,40
	VI		basement		10,78				10,78
	VII		basement		2,46				2,46
	VIII		basement		3,57				3,57
				All in the basement	74,74				74,74
I	1	1	corridor		3,00			3,00	
		2	bath room		2,20			2,20	
		3	kitchen		8,00			8,00	
		4	living room		6,80		6,80		
		5	living room		20,60		20,60		
				Total per apartment 1	40,60	40,60	27,40	13,20	
	2	1	kitchen		15,12			15,12	
		2	living room		21,01		21,01		
		3	living room		15,19		15,19		
				Total per apartment 2	51,32	51,32	36,20	15,12	
	3	1	corridor		3,55				3,55
		2	kitchen		13,56			13,56	
		3	living room		18,68		18,68		
				Total per apartment 3	35,79	32,24	18,68	13,56	3,55

floor	apartment/premises number	room number in the apartment	the purpose of the room		Area				
					area	total area	living area	utility area	Premises that are not included in the total area
	4	1	corridor		3,60			3,60	
		2	kitchen		17,70			17,70	
		3	living room		18,43		18,43		
		4	pantry		2,70			2,70	
			Total per apartment 4		42,43	42,43	18,43	24,00	
				Total	172,26	165,72	113,04	52,68	7,10
				Total per floor	247,00	165,72	113,04	52,68	81,84
				apartments - 4					
				one-room apartments - 3		114,40	76,84	37,56	
				two-room - 1		51,32	36,20	15,12	
				residential rooms - 5					