

2.8 Creation of a social multifunctional complex as an example of a real competition project in Ukraine

Russia's aggression against Ukraine in 2014 and the full-scale invasion in 2022 failed precisely because of the resilience of Ukrainian society and the Ukrainian military in particular. However, difficult circumstances and military operations throughout the country left many physical and mental scars on the survivors. Thus, our state must provide victims with psychological and physical rehabilitation. It is precisely because of these circumstances that there is a need for the construction of modern rehabilitation centers that will not only deal with the physical health of patients, but also concentrate on their psychological state and assimilation into the post-war society.



Figure 1: exterior of the rehabilitation center



Figure 2: elevation the rehabilitation center

Concept

This is what we used in the design of the rehabilitation center "Recovery Circle", trying to ensure a full cycle (circle) of recovery and reintegration of victims of military operations into society. In this rehabilitation center, patients will be able to engage in physical and therapeutic exercises in the pool and gym, as well as receive psychological

help from specialists. The project also provides rooms for prosthetics and working with prostheses, massage and hydromassage rooms, a bathhouse, and others. Our project consists of 3 main buildings connected by a circular gallery on the first floor, thus we separate the three main functions of living / dining / sports on the site, providing good insulation to each of the buildings. The gallery connecting the buildings also separates the surroundings from the inner courtyard, which gives patients a sense of security and safety.

In order to analyze the experience of designing rehabilitation centers, we considered some foreign projects.

Analogues

Center for People with Disabilities ASPAYM ÁVILA / amas4arquitectura



Figure 3: exterior of the medical center

Text description provided by the architects. The ASPAYM Foundation, for disabled people, in its XXV anniversary, has decided to build this small center near Ávila (Spain). The program turns around the rehab space, which is an extension of the hall. These areas are polyvalent, because the absence of structure and the transparency of many partitions. All the corridors, bathrooms, furniture and rooms are for disabled people.

**St. Johns Rehab / Montgomery Sisam Architects + Farro w Partnership
Architects**



Figure 4: exteriorof the rehabilitation center

Text description provided by the architects. This major addition and renovation to St. John's Rehab Hospital takes full advantage of a remarkable site by reconnecting the major public spaces within the building to the surrounding natural landscape, which is part of the Toronto ravine system. The internal clinical environment has been transformed into a fresh, inviting space which will contribute to the patients' rehabilitation and recovery. On entering the building, one sees directly through to the treed ravine edge, the hospital's most precious asset.

Medical Resort Bad Schallerbach / Architects Collective ZT-GmbH (AC)



Figure 5: exteriorof the hospital

Text description provided by the architects. An inviting rehabilitation center highlighting maximum comfort and low operating costs are the result of a comprehensive renovation, modernization and extension of the healthcare facility Bad

Schallerbach by the Health Insurance Fund for Railway- Workers and Miners (VAEB). After a construction period of 20 month the new center combines medical care facilities in a spa like setting and sets new standards in energy efficiency and healthcare.

The master plan

The master plan of the territory is planned in such a way as to preserve the existing greenery on the territory as much as possible and provide insolation to all buildings. The yard is divided into five main zones

1. City square - the area between the canteen building and the residential block. Formed in such a way as to resemble an ordinary city square, with a cafe terrace, benches and passers-by.

2. The garden is the territory between the city square and one of the residential blocks. Designated for cultivation and care of fruit and plants, as one of the elements and methods of rehabilitation.

3. Free playground - the territory on the other side of the city square that is close to the sports block. It is designed for joint outdoor activities, picnics, ball games and watching movies on the wall of the sports block.

4. Forest - the zone with the largest number of preserved trees. It is located between the food and sports and residential blocks. Suitable for spending time alone surrounded by nature.

5. Surroundings - all other territory outside the gallery, provides guest parking, a sports field and additional landscaping.

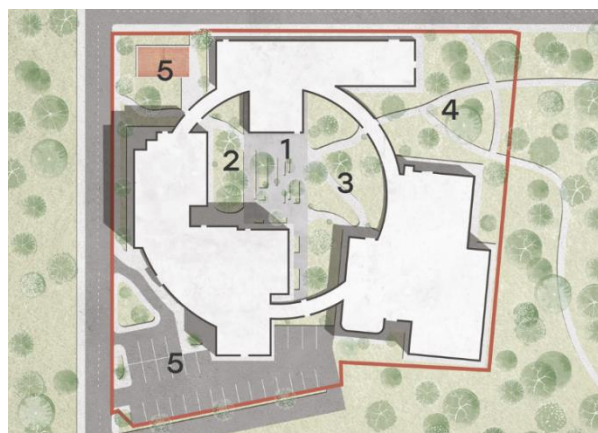


Figure 6: project masterplan

Planning decisions of the project

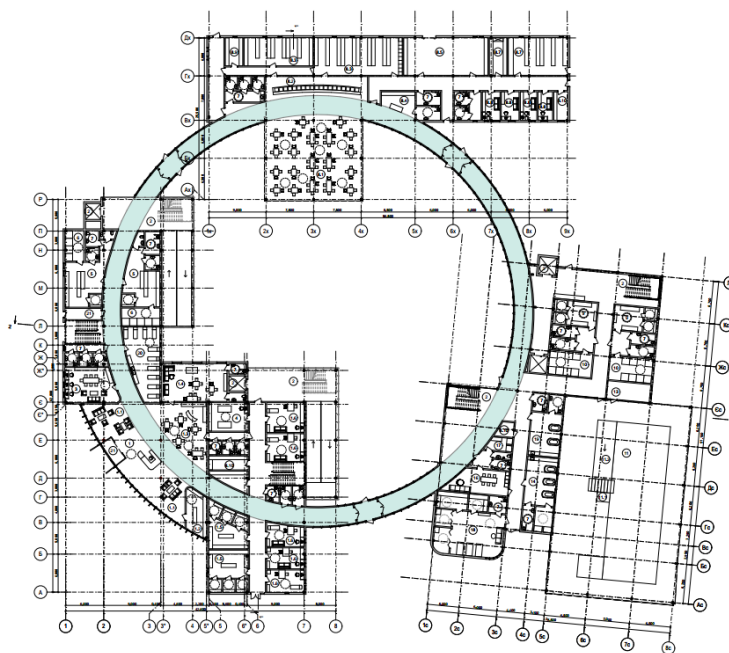


Figure 7: plan of the ground (first) floor

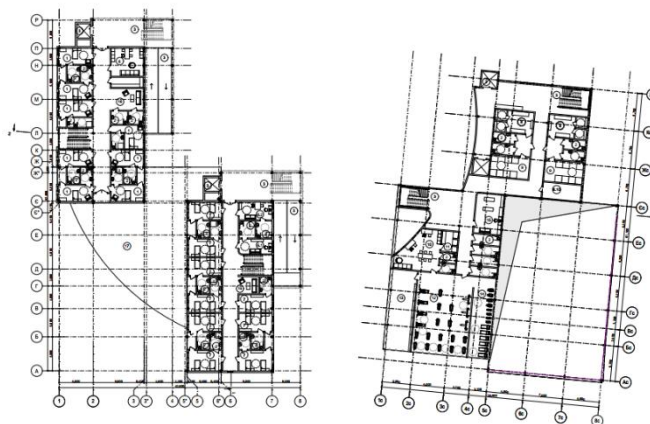


Figure 8: plan of the second floor

The planning scheme, as mentioned earlier, is divided in three volumes on the site, which are connected by a gallery.

Residential building

The residential building is located in the South-West of the site and includes single and double chambers for patients, a resident's room and doctors' offices, a lobby area with a children's room and a cafe for those waiting, premises for technical support and maintenance of the center, a room for rickets with prostheses and other offices for rehabilitation. The basis of the planning is a corridor scheme with common spaces that provide lighting for the corridor. Most of the chambers in the projects are two-bed to ensure the socialization of patients.

Food block

The food block is located in the north of the site and is divided into a production area and a food consumption area. The dining room is formed by a large common space without columns (due to the metal system), which provides variety in the number of seats and the organization of the space. It is also possible to use the territory of the "city square" in the warm season. The second part of the block is the production area, which is equipped with the necessary procurement and storage facilities. The production area is adjacent to the boundaries of the plot, which facilitates the delivery of goods and the removal of waste.



Figure 9: exterior of the food block

Sports block

The project of the sports block provides for the creation of a multifunctional swimming pool with sport and rehabilitation functions, a sports hall, which is divided into a cardio zone, a physical fitness zone and a strength exercise zone, a spa zone with hydromassage and mud baths and a bathhouse, and a sanitary and maintenance room.

The outer shadow wall of the changing rooms on the second floor of the sports block duplicates the rounded form of the gallery and forms a large white cinema screen for watching films, which is also part of the rehabilitation.



Figure 10: exterior of the sports block

Gallery

The gallery is a common space - a corridor that connects all buildings on the first floor and separates the surroundings from the inner courtyard. The length of the circle is actually equal to the length of the running track around the football field (360m), and can serve as a walking route even in bad weather. The floor of the gallery is covered with different types of coverings: asphalt, poured floor, cobblestone, etc.; in order to ensure diversity in education, whether with a prosthesis or using a wheelchair.

Attention to patient and staff safety is also an important element of our design, which is why we have provided an underground shelter floor with additional exits and a special escape ramp that duplicates the smoke-free exterior escape stairs

Interior



Figure 11: interior of the chamber

Chamber

The chamber is the key room of the residential block of the premises of the rehabilitation center. Standardized rooms are mirrored to each other and share a common wall with bathrooms.

The patient's room is divided into several zones: an entrance zone, a sleeping zone, and a zone for family visits.

- Entrance zone The zone is a connecting space with the possibility of a full turning of the patient in a wheelchair, which connects the bathroom and other areas of the room together

- The sleeping area is designed with a bed placed on one side against the wall and a cantilever cabinet for the patient to place personal belongings, and with a dedicated space for the patient to move around the bed without hindrance. In these boards, it is suggested to use special hospital beds with the function of adjusting the inclination of the bed sections. The hospital bed has electric control, which allows you to smoothly and silently change the inclination of the back section, intermediate (knee) section and leg section.

- The area for family visits is located next to the windows of the ward and in this case is solved by arranged soft chairs for sitting.

The lighting of the ward is made in several layers, a source of indirect light with the ability to adjust the brightness is located along the edges of the ceiling. The second layer of lighting (point lamps) are located directly on the suspended elements of the ceiling (these lamps are located along the paths and they are also located around the bed for good all-round illumination of the patient's bed in a critical case).

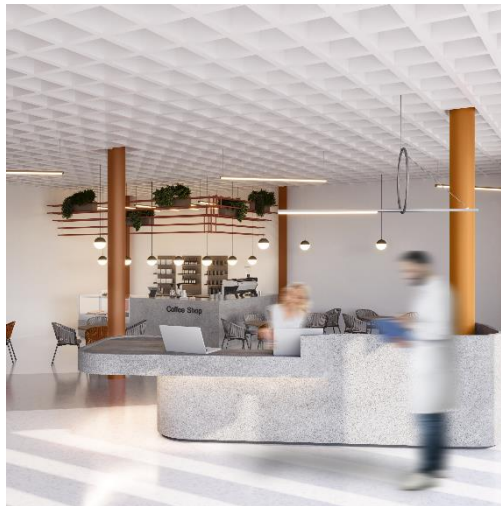


Figure 12: interior of the lobby

Lobby

During the development of the lobby, the following principles were used:

- The color of the lobby should be bright, light, fresh and natural, dark, cold colors should be avoided if possible.
- The lobby should welcome visitors and encourage them to have warm associations when visiting this area, for this, bright and warm colors were used, namely white and orange.
- When entering the lobby, you must be able to easily identify all areas of the lobby special check-in desk.
- Inclusion and barrier-free provisions were taken into account during the design of the lobby, so that the population with reduced mobility feels equally comfortable.
- The path to the rehabilitation premises is marked with a different surface, the total width of the passage is 2.6 m.

Structural elements of the ceiling are hidden by suspended structures into which spotlights are mounted, visible vertical structural elements are covered in orange color.

The lighting of the lobby is carried out zonally, the rest, registration and cafe areas have individual lighting with the help of pendant and track lights.

The floor covering is made of a liquid material with a Terrazzo texture, its advantages are a beautiful appearance, a durable and easy-to-install coating, the absence of sliding properties, which is extremely important in this type of institution.

Conclusion:

Summarizing the material of the article, it is important to note that considering the realities in which we find ourselves, it is important to understand the value of rehabilitation centers. They should be not just complexes of physical recovery, but also a way to improve the psychological state of people, their well-being and reintegration into society. Ukraine should become the most developed country in the world in the field of rehabilitation of both civilians and military, and it is we who should implement new functions of these centers and experiment with their filling. When designing such objects, the psychological state of a person should be put first in order to ensure the highest possible rehabilitation of people.