

ANALYSIS OF THE ORGANIZATION OF ARCHITECTURAL ENVIRONMENT ALONG CANALS IN CITIES

Malikov Suxrob Abduvali O'G'Li

Department of city, Faculty of Architecture, Tashkent University of and Civil Engineering, master

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Annotation

This article analyzes the architectural environment along canals in cities, their architectural, planning and compositional solutions.

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Introduction. Canalside is a volume-planned complex on the waterfront, occupying a significant area in the city. They are directly related to construction and water places in the city. Canal complexes include public buildings, residential buildings, landscapes created by natural or artificial means, as well as underground and underground engineering structures and equipment.

Main part. Each component has a different role in the formation of the channel complex. Their unique combinations create different project plans along the canal.

At the same time, the hydrological characteristics of the water and the natural-climatic and geological conditions of the local area are of great importance.

Architectural-landscape components located on the channel include:

- elements placed in coastal waters;
- the open area of canals from the regulation line to the red line of construction buildings;
- devices on the terrace and on the water;
- frontage depending on the coastal slope or urban construction part;
- Landscaping and engineering equipment elements.

The most important component is, first of all, hydraulic retaining walls and hydraulic devices in the water. They significantly determine the appearance of the facade along the channel. Profile views of such walls can be: sloping, semi-sloping and vertical. The aesthetic properties of these elements are not at the same level (the large concrete surface of the slopes is not positive for the appearance of the city, but it is preferable to design it in the form of a vertical wall). In the case of a vertical wall, it is easier to create different divisions along the channel that diversify the cordon (regulation line) and create its own contour (abris) in the channel, thereby creating a water zone, constitutes the coastal area. The cordon may not have a barrier structure. This is appropriate when the canal area is used as a recreation area. In this case, a certain part of the channels is used as a beach. Or this part of the canals can be done even when the waves do not wash the shore.

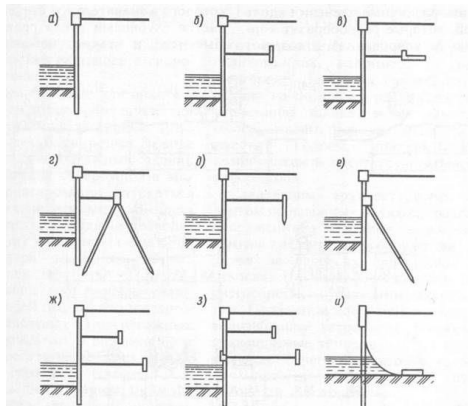


Figure 1. Types of retaining walls.

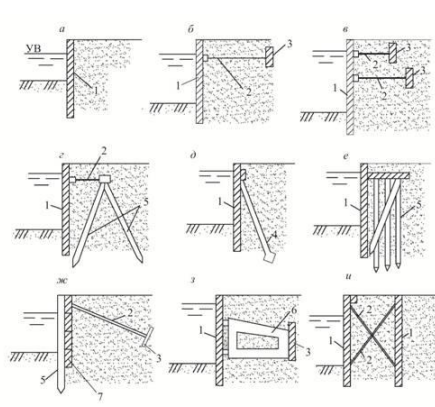


Figure 2. Types of retaining walls.

The next component of canals is its terraces, that is, the area from the cord line to the building line or to the bottom of the coastal slope. Its historical plan and profile are determined according to the functional task of the channels. The functional function of terraces (open area) can be limited by its absolute size. These dimensions do not always depend on the design plan. In some cases, there are urban buildings on one side and a coastal road on the other, and its location depends mainly on the depth of the channel near the coast. Drainage facilities, piers, footbridges and culverts will be located on the coastal slopes.

A critical component of the coastal architectural environment is the frontage associated with the coastal slope or urban building. This can be solved in the form of a dense system of high-rise buildings (as in the Frunze embankment in Moscow), or in the form of separate complexes with spaces that allow fresh air to freely enter the building. The building facade can consist of alternating expanded and point volumes, as in Omsk (high-rise buildings located in a certain rhythm along the coast, against the background of lower expanded buildings). And finally, the construction can be solved in the form of buildings oriented freely in relation to the coast.

From the side of the city, the coast can be limited by a high slope. Here, the landslide nature of the slope does not allow him to build any buildings, and it stretches for several kilometers in the form of a green high line, which is the main component of the architectural environment of the lake.

The next architectural component of the canal side is various structures - surface, underwater and underground structures. Surface structures are located on the coast and its slopes. Piers (bridge walkways), restaurants, swimming areas, etc. are located on the water, underground structures include water intakes, water discharge facilities, transport tunnels, etc. They are built in the thickness of the coastal slopes and terraces, passing through the coastal slopes and entering the water area.

Coastal slopes are distinguished by unique platforms, arbors, gatherings for terraces - trade pavilions, exhibition stands, pavilions at transport stations, etc. The embankments will have drainage channels, derailments, pedestrian bridge crossings, etc.

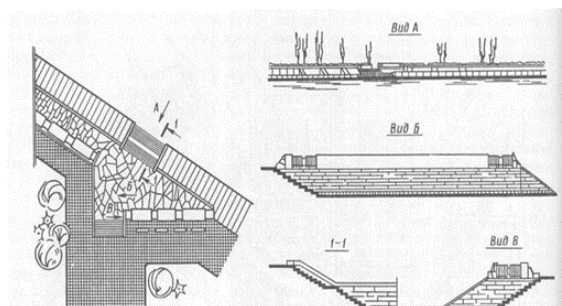


Figure 3. Swinging down a bank at a riverside resort. Kacha River (Russia, Krasnoyarsk). Project. Arch. M.F. Denisov.

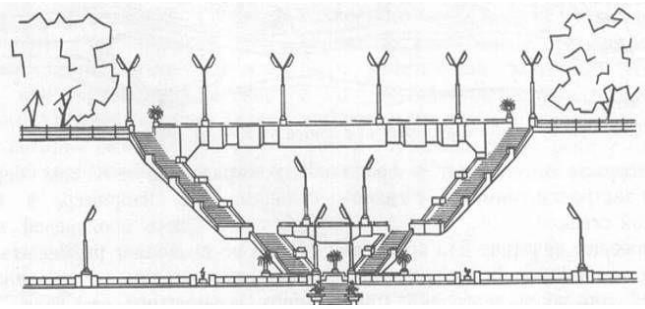


Figure 4. A ladder to climb up the high embankment.

One of the important parts of the canal is landscaping. Canalside landscaping is a big concept. It consists of several elements. The elements of beautification include, first of all, the formation of the territory. In addition, landscaping works include elements that create comfortable and important conditions, such as recreation areas, border fences, mosaic panels, etc. All the components of the channels are inextricably linked with each other not only from the aesthetic side, but also from the functional side. Without well-planned engineering equipment (water sprinklers, rainwater channels), good plant growth cannot be ensured. Small architectural and hydrotechnical forms cannot create a comfortable environment without green environment (plants). Engineering preparation is carried out for specially designed landscaping, roads, small forms.

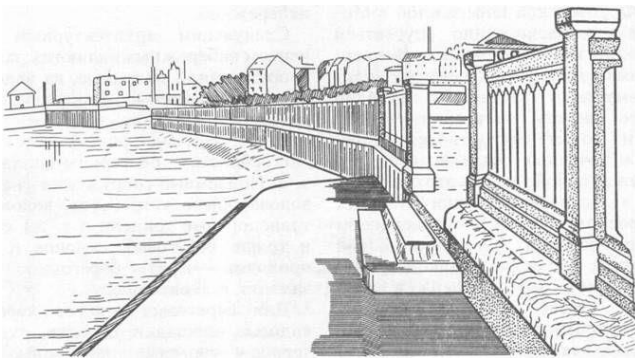


Figure 5. Boat accommodation on the retaining wall of the shore (Kaliningrad).

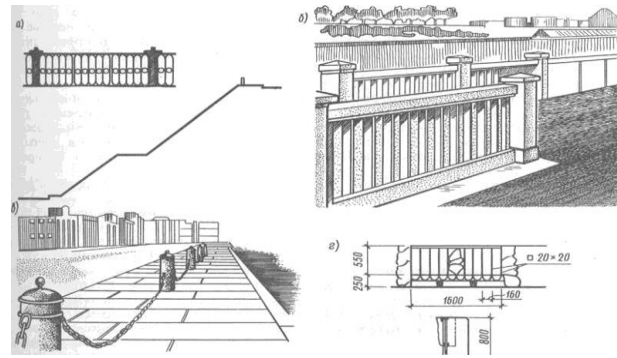


Figure 6. Types of fence (parapet).

In turn, the landscaping solution is closely related to other elements of the canal, for example, the functionality and dimensions of the terraces. Landscaping and engineering equipment also depend on these components. Therefore, instead of high lighting for narrow terraces, it is advisable to use small lighting. The size of the terrace (otkos) is determined depending on how the slope of the channel is solved.

The planning solutions of urban construction buildings have a great influence on the architectural interpretation of canal components. If the construction solutions have a collective character, then this area can be like an attraction park with decorative plants, information-advertising, etc.

If access to the channel is through point multi-story buildings, the embankment slope should serve as a connection between the buildings and the base, i.e., it should be in the form of a podium and consist of not very wide intermediate cuts that go down into the water. In this form, the composition of the channel is generally based on the mutual mobility of its components.

The components of the channels will have different service life. Hydraulic retaining walls are intended for long-term service. Landscaping and engineering equipment may be much less. The issues of channel landscape planning are best illustrated by channel classifications. Let's distinguish the following from them: construction, hydrotechnical, construction, functional, geographical, urban planning, historical.

Each route is characterized by certain ideas about the length of the channel.

Construction direction. The direction of construction divides channels into the following: channels with vertical hydraulic retaining walls, semi-sloping channels, stone-filled channels (blocks, tetrapod, etc.).

Hydrotechnical direction. The hydrotechnical direction is aimed at determining the mode of hydrotechnical position of the water volume in the classification of channels: flooded and non-flooded.

Building direction. The direction of construction - in the classification of the channel, it is based on the production specification of construction-assembly and hydrotechnical works in the process of its creation. According to this classification: one-tier is divided into two-tier and multi-tier. At the same time, the number of tiers can be underground. In this form, the city of Tenyu has 4 underground levels of Canals, which contain transport tunnels, engineering equipment, commercial facilities and warehouses.

Functional direction. Functional direction is the most widespread type of channel classification. According to this classification, canals are divided into: recreation area, footpaths, transport routes, residential and public buildings, industrial facilities.

City construction. According to the classification of urban construction, canals are divided into: central peridhric parks, portly.

Among other classifications, there is also a geographical classification, according to the nature of the water volume at the place of placement, the canals are divided into oceanic, sea, lake, river, and pond canals.

In the landscape design of canals, it is important to take into account a number of factors that constantly affect this area of the city. Among them, the most important factors are as follows. Natural ecological socio-democratic functional structural. These factors affect the aesthetic level of architecture-landscape design in many ways. Among these factors, the "functional factor" plays an important role in the architecture-landscape organization of the canals. The organization of the channel area is carried out according to the principles of transverse and longitudinal functional zoning.

The nature of functional zoning is influenced by urban construction and natural and climatic phenomena. When the longitudinal method is used in channel zoning, the structure and function of the urban area, which is mainly dependent on it, is taken into account. In the case of transverse zoning, a decision is made based on its designation as multi-purpose, the nature of water area use, and the dimensions and dimensions of the canals' cross sections. Events that have a functional influence on channels can be divided into 2 groups:

1. Having a relatively permanent effect (landscape, existing construction buildings, hydrology of water volumes, climate, green areas, geography of water networks of the city, etc.)
2. Hydrology of temporarily unregulated water areas, long-term construction history of areas near water, etc.

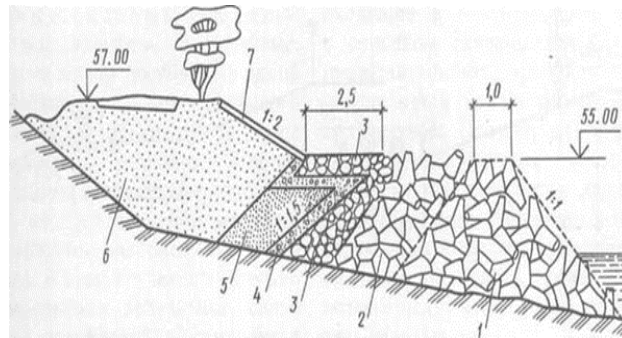


Figure 7. Reinforcement of the shore with tetrapod:

1. Tetrapod stone mass;
2. Tetrapod mass;
3. 3. 30-35 sm stones;
4. Single-layer reverse filter;
5. Fine-grained sand;
6. Restoration of the slope behind the 6th wall; 7. Installation of reinforced concrete.

3) Formal systems are more numerous than the above. This system can be made up of one form (around a big island) or made up of several forms, forming an archipelago of islands. Therefore, Sistema and its connected channels require a unique solution. In this case, shores surrounding closed water bodies (lakes, ponds) are meant.

In this case, the solutions of mutual proportionality and harmony of the coastal area become complicated. In order for the design of landscape architecture to be solved as a whole ensemble, it is necessary to take into account a significantly large urban area that affects the landscape architectural solution.

Conclusion. All the mentioned systems can be found in different combinations in big cities and are formed in the city-wide canal complex. Such formations can be formed from several types of systems, as well as from a combination of the same systems.

Visually connected systems of separate existing channels mainly depend only on things determined by the fourth dimension of architecture, such as memory, impression, image, time. For this reason, in order to determine such a situation as "city-wide complex of canals", it is necessary to take into account such factors as the infrastructure of the city, its water and land transport, as well as the identification of the most visible dominant points in the city.

Landscape design of city-wide canal complexes forms the architectural image of the whole city. Such design is a powerful tool in urban planning, with the help of which the individual image of the city can be depicted through sculpture. At the same time, the requirements of urban planning economy will remain. In fact, the naturalness of the decisions on the functional zoning and infrastructure of the city cannot be made without a comprehensive consideration of the characteristics of the environment.

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