

Landscape planning of the village school territory

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Abstract. The article assessed the existing situation on the territory of the village school Yakovlevo, Belgorod region: geographical location, boundaries of the object, assortment of growing trees and shrubs. A center drawing was drawn up indicating the main objects. The main elements of landscape design have been developed: a sports ground, a playground, a school garden. All elements were executed in compliance with architectural and planning requirements for landscape planning of the territory. A lighting scheme for the school grounds has been developed and implemented.

1 Introduction

The creation of landscape architecture objects – parks, squares, boulevards, forest parks, residential and industrial areas – is a complex and lengthy process consisting of the stages of their design and construction, proper maintenance and operation, repair and restoration [1, 2]. The object of landscape architecture includes both natural components (relief, soils, water systems, vegetation), as well as various engineering structures and switching.

The structural elements of the landscape architecture object are [3]:

- green spaces, including groups, alleys, arrays of trees and shrubs, communities and groupings of herbaceous plants (lawns, flower beds);
- garden and park roads, trails, playgrounds – sports, children's, for recreation;
- small architectural forms (SAF) and equipment – gazebos, awnings, urns, benches, lamps;
- structures – retaining walls, slopes, ladders, trays for drainage of rain and meltwater, wells, drains, cascades, household plumbing devices.

Architectural and planning requirements play a crucial role in choosing one or another method of landscape planning of the school territory. The placement of buildings and structures, underground utilities, pedestrian paths in the school, taking into account the public service system, sanitary, hygienic and economic conditions and requirements, determines the very nature of landscaping.

The purpose of the study is the landscape planning of the school territory of the urban-type settlement Yakovlevo, Belgorod region.

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2 Characteristics of the design object

The landscaping facility is located in the urban-type settlement Yakovlevo, Belgorod region. The landscaping facility includes: school grounds. The boundaries of the object are the main highway on the west side, the residential building on the north side, and the secondary highway leading to the Temple on the south side. The total area of the plot is 29.447 m².

The following assortment of trees and shrubs grow on the projected site: horse chestnut, warty birch, white willow, blue spruce, prickly spruce, common pine, plum, cherry plum, tree juniper, Cossack juniper, common juniper, western thuja, maiden grapes, peony, hosta, rose, petunia, marigolds erect [4]. The territory is not littered.

The placement of objects relative to the landscaped area is shown in Figure 1.

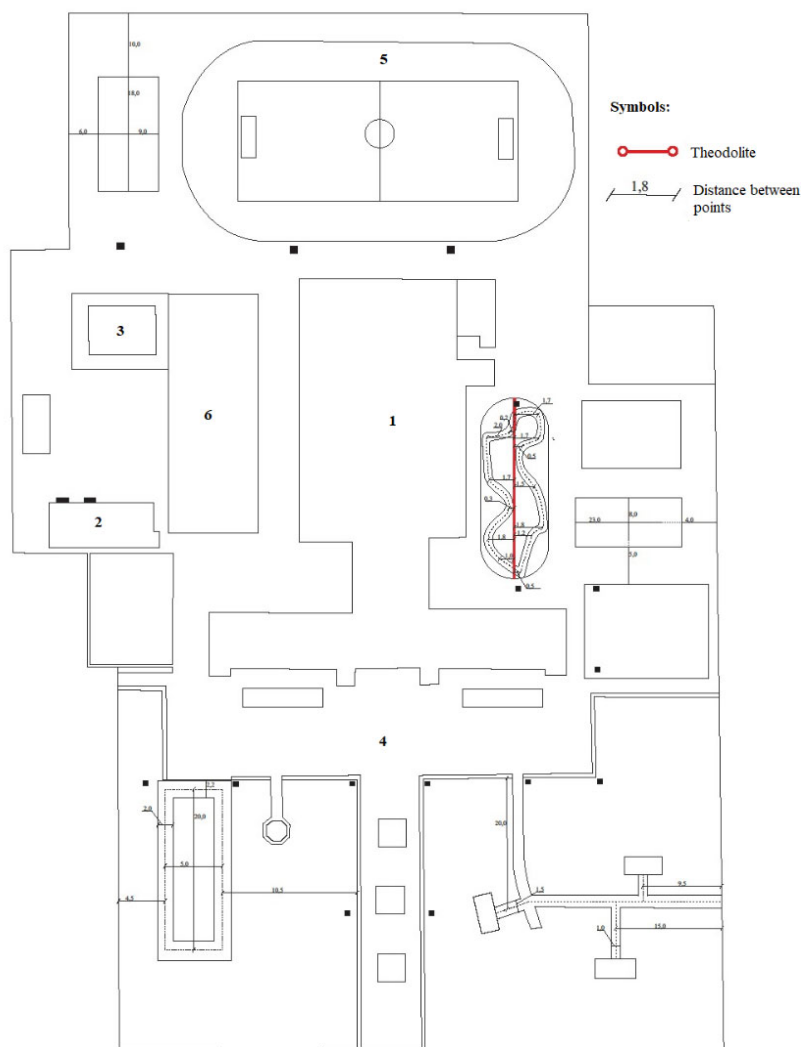


Fig. 1. Situational plan of the territory: 1 – school, 2 – workshop, 3 – boiler room, 4 – sidewalk, 5 – stadium, 6 – school garden.

3 Architectural and planning solution of the object

For the school territory, we accept the following ratio of functional areas: Entrance area – 10%, study area – 20%, quiet recreation area – at least 5%, sports arena – 20%, children's area – 10%, gymnastics area – 5%, walking area – 20%, household area – 10% [5].

The main entrance, as a rule, is the hallmark of any school, so it should be especially decorative. The entrance to the territory includes a tiled area with decorative groups of plants and colorful round flower beds.

Each school has a place on its territory for school-wide events - the first and last bell, fees, lines, etc. It can be a spacious rectangular or square playground, it is located in front of the entrance of the school itself, but since there is very little space for an event such as graduation, it is proposed to design an "Alumni Alley" [6].

Not far from the entrance to the school, which serves for quiet conversations during big breaks or for gatherings after classes, as well as the "Alumni Alley" located in the eastern part of the territory.

The courtyard area is connected to the main buildings and structures by winding paths with platforms with benches. Plantings are being designed around the DTS and sites with a compact crown (small-leaved linden) to create an openwork shade [7].

3.1 The sports ground of the school yard

The sports ground is equipped with standard stable and safe projectiles and structures. The coating is usually asphalt or unpaved. In the sports arena, a rubber coating is being designed for the stadium's treadmills, as well as volleyball and tennis courts [8]. For linear plantings along the stadium, such trees as: holly and red maple, common spruce and warty birch are suitable. The distance between them depends on the size of the crown and is approximately 3-5.

3.2 Playground

A playground is an area where elements of children's outdoor play equipment are located in order to organize meaningful leisure activities. Play equipment, in turn, is a set of structural structures that promote physical and mental development, while having a beneficial effect on the social adaptation of the child [9].

The total area of the playground is 240 m², made of a lawn highly resistant to trampling, the playground is fenced with a wooden fence 1 m high, limited by groups of plantings such as: red maple, small-leaved linden and lilac. Also an ordinary landing: Wangutta spiraea, Boomold spiraea and western thuja. We are designing a "Children's play complex" in the children's area.

3.3 A school garden

With a significant area of the school yard, a vegetable garden can be arranged for children to conduct experimental and research work. It will be especially interesting for younger students to grow vegetables and flowers. They will be able to learn how to take care of various garden crops there, expand their horizons. Middle school students should be involved in growing flower seedlings for flower beds. With sufficient financial resources in the school garden, it is proposed to build a small greenhouse for this purpose.

The main option for the layout of the road-tropical network was the radial layout. The walking paths are 1.5-2.0 m wide, the paths connecting the main structures are 1.00 m. The

total area of the walking paths is 189.65 m², and the paths are 32.4 m². The tile covering of paths and paths has been selected [10].

There are places for small architectural forms of utilitarian purpose: benches, urns, and SAFs of utilitarian purpose are also designed: flowerpots and a fountain.

4 Types of communications at the planning site

A "Alumni Alley" equipped with lighting was designed on the territory of the secondary school.

In all areas of the territory, soft, calm lighting is applied with lanterns with crowning lamps, where the ceiling is made in the shape of a cylinder. The height of the lantern is 2.15 m. For greater dispersion of light rays, transparent rings with a relief shape are installed on the lampshades. The power of the lamps used in such lanterns is 40-125 watts. The number of pieces on the territory of landscaping and landscaping is 22 (Figure 2).

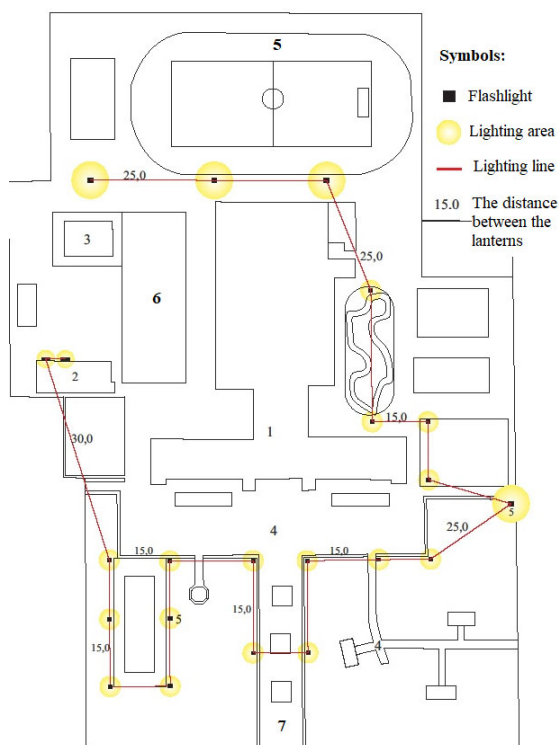


Fig. 2. The scheme of consecration: 1 – school, 2 – workshop, 3 – boiler room, 4 – sidewalk, 5 – stadium, 6 – school garden, 7 – "Alumni Alley".

5 Conclusion

When performing landscape planning of the school territory of the village. A situational plan of the territory was created in Yakovlevo, Belgorod region, and a communication scheme was developed.

They are designed to carry out the project in kind and link the elements of landscaping and landscaping to permanent or induced geodetic (basic) lines. The drawings were drawn

up depending on the area of the object and the complexity of its layout, the terrain of the territory, the density of existing vegetation, the presence of structures, buildings, roads, etc. The composition of the working drawings is regulated by the design assignment.

The engineering preparation of the facility was aimed at laying underground utilities, cleaning the territory, and preserving existing valuable green spaces and soil cover.

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