



THE STANDARD OF INTEGRATED DEVELOPMENT OF TERRITORIES (INCLUDING CRITERIA FOR EVALUATING HOUSING CONSTRUCTION)



KAZAKHSTAN
HOUSING
COMPANY

THE STANDARD OF INTEGRATED DEVELOPMENT OF TERRITORIES

IT AIMS TO SET THE MAIN PRIORITIES AND DESIGN PRINCIPLES, THE PURPOSE OF WHICH IS TO IMPROVE THE STANDARD OF LIVING OF FUTURE RESIDENTS OF FACILITIES FINANCED BY A KAZAKH HOUSING COMPANY. THE STANDARDS ARE USED TO DETERMINE THE FEASIBILITY OF FINANCING URBAN DEVELOPMENT INVESTMENT PROJECTS WITH A TOTAL AREA OF 50 THOUSAND SQUARE METERS.M.

FOR THE CONVENIENCE OF CHECKS FOR COMPLIANCE WITH THE STANDARD, PART OF THE DRAFT DESIGN SHOULD BE PROVIDED ACCORDING TO A SINGLE CONTENT.

THE DOCUMENT CONSISTS OF THREE CHAPTERS :

1.ANALYSIS OF TERRITORIES

2.INTERACTION OF TERRITORIES

**3.FORMATION OF THE
PROJECTED TERRITORIES**

THE CONTENT OF THE DRAFT PROJECT :

1.THE SCHEME OF THE ADJACENT (TERRITORY WITHIN WALKING DISTANCE FROM THE PROJECTED TERRITORY) AND PROJECTED TERRITORIES.

1.THE SCHEME OF INTERACTION OF AUTOMOBILE STREETS TAKING INTO ACCOUNT THE HIERARCHY.

1.THE SCHEME OF INTERACTION OF PEDESTRIAN ROADS.

1.THE SCHEME OF INTERACTION OF PUBLIC TRANSPORT WITH THE LOCATION OF STOPS.*

1.THE SCHEME OF INTERACTION OF BICYCLE PATHS.

1.PHOTOS OF ADJACENT ARCHITECTURAL OBJECTS FOR THE INTEGRATION OF THE PROJECTED SITE INTO THE URBAN ENVIRONMENT.

1.THE LAYOUT OF SOCIAL FACILITIES IN WALKING DISTANCE FROM THE PROJECTED RESIDENTIAL BUILDINGS.*

1.LAYOUT OF VARIOUS TYPES OF SMALL AND MEDIUM-SIZED BUSINESSES WITHIN WALKING DISTANCE FROM THE PROJECTED RESIDENTIAL BUILDINGS.*

1.PHOTOS OF ADJACENT VISUAL LANDMARKS.*

1.THE LAYOUT OF RECREATIONAL AREAS WITHIN WALKING DISTANCE FROM THE PROJECTED RESIDENTIAL BUILDINGS.*

1.THE LAYOUT OF PARKING LOTS WITHIN WALKING DISTANCE FROM THE PROJECTED RESIDENTIAL BUILDINGS.*

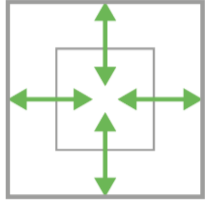
* IN CASE OF ABSENCE TO PROVIDE IN THE PROJECTED AREA.

CONTENT :



ГЛАВА 1. ANALYSIS OF TERRITORIES

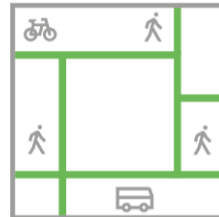
- 1.1. ANALYSIS OF THE ADJACENT TERRITORY
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- 2.1.3. Bus lanes
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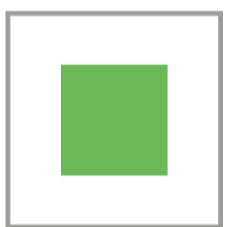
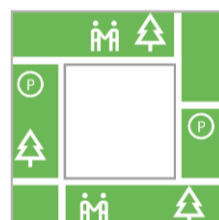
2.2. BUILDING

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- 2.2.2. Social facilities
- 2.2.3. Small and medium-sized businesses
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2.3. INFRASTRUCTURE

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- 3.1.4. Cycling links



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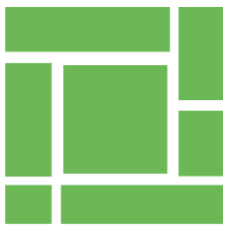
- 3.2.1. Comfortable housing
- 3.2.2. Social facilities
- 3.2.3. Small and medium-sized businesses
- 3.2.4. Visual landmarks



3.3. INFRASTRUCTURE

- 3.3.1. Recreational areas
- 3.3.2. Parking lots
- 3.3.3. Lighting
- 3.3.4. Landscaping



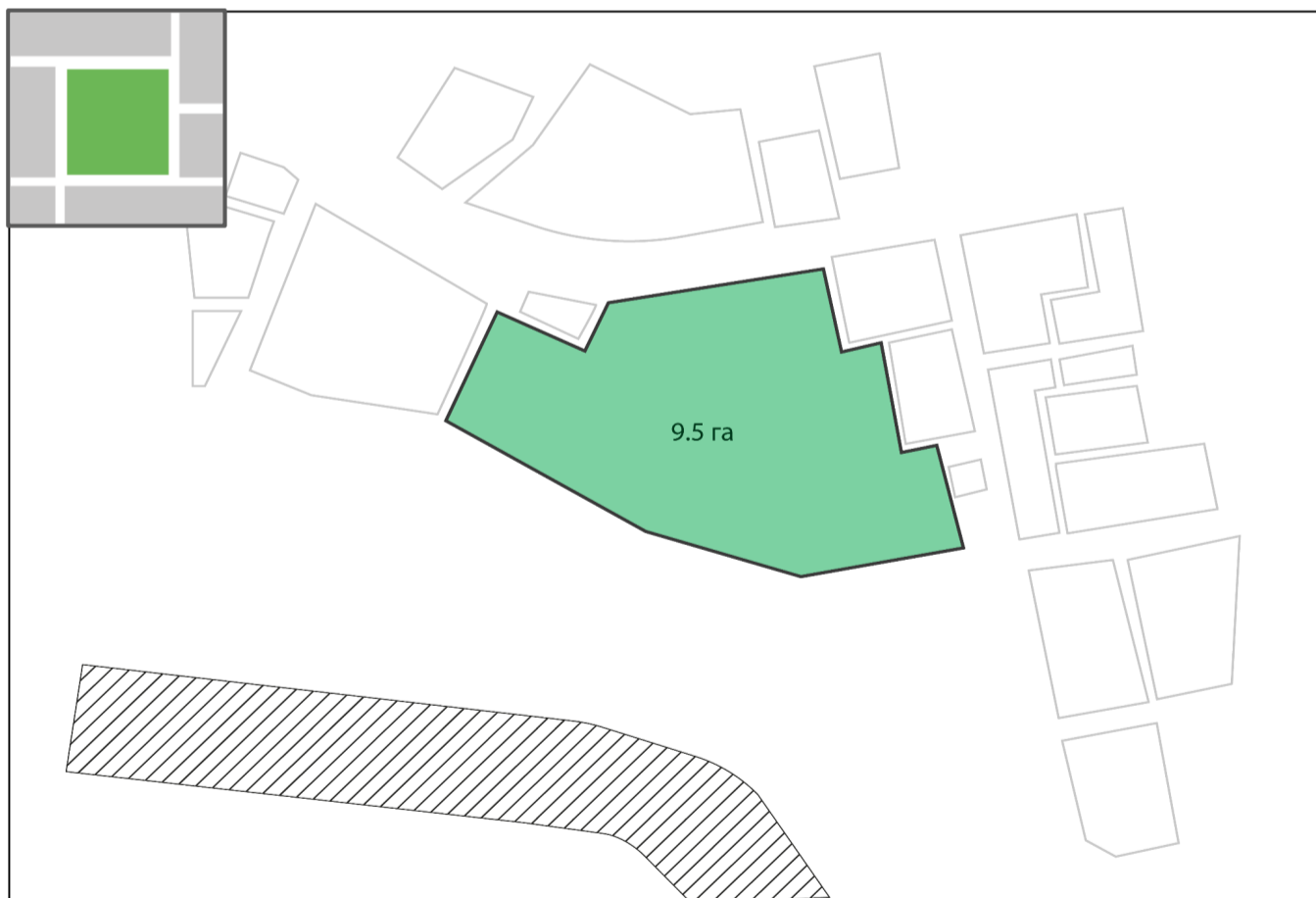


1. ANALYSIS OF TERRITORIES :

The **analysis of territories** is necessary to identify all the factors affecting the design process and design decisions.

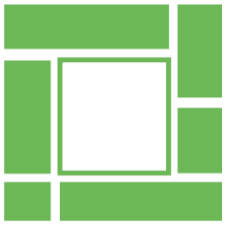


The **adjacent territory** is analyzed for the presence of a road network (main streets, pedestrian roads, bus lanes, bicycle paths), buildings (architecture, social facilities, small and medium-sized businesses, visual landmarks), infrastructure (recreational areas, parking lots, lighting, landscaping).



The **projected territory** during the development of the built-up area is analyzed for the availability and profitability of the road network, development, infrastructure, when analyzing the free territory, the presence of natural elements, vegetation, relief is considered.

After the analysis, a **technical task** is built for the correct design, taking into account the interaction of territories.



1.1 ANALYSIS OF THE ADJACENT TERRITORY

The analysis of the adjacent territory is carried out in the pedestrian accessibility zone (an area within the boundaries of which an untrained person can walk to any point in **5-15 minutes** with a calm step). The distance covered during this time is assumed to be **210-630 m** and is called the radius of pedestrian accessibility. The area of the pedestrian accessibility zone is described by this radius and ranges from **10 to 70 hectares**.

At this stage, the foundations are being laid for the creation of transport, visual and functional links of the design area with existing buildings, open spaces and objects of public and business infrastructure.

In this zone, attention should be paid to such indicators as:

- Streets and driveways adjacent to the projected territory;
- Availability of comfortable conditions for public transport;
- The paths of the paths of pedestrian flows;
- The presence of a bicycle infrastructure;

- Architectural style and number of floors of neighboring buildings;
- Availability of access to kindergartens, schools and polyclinics;
- Accounting for locations of small and medium-sized businesses;
- Definition of visual accents and visibility corridors;

- Identification of points of attraction in the territories adjacent to the projected;
- Consideration of the saturation of adjacent parking spaces and the distance to public transport stops;
- Analysis of the diversity and level of illumination of the adjacent space and objects;
- Identification of the level of landscaping of the analyzed territory.

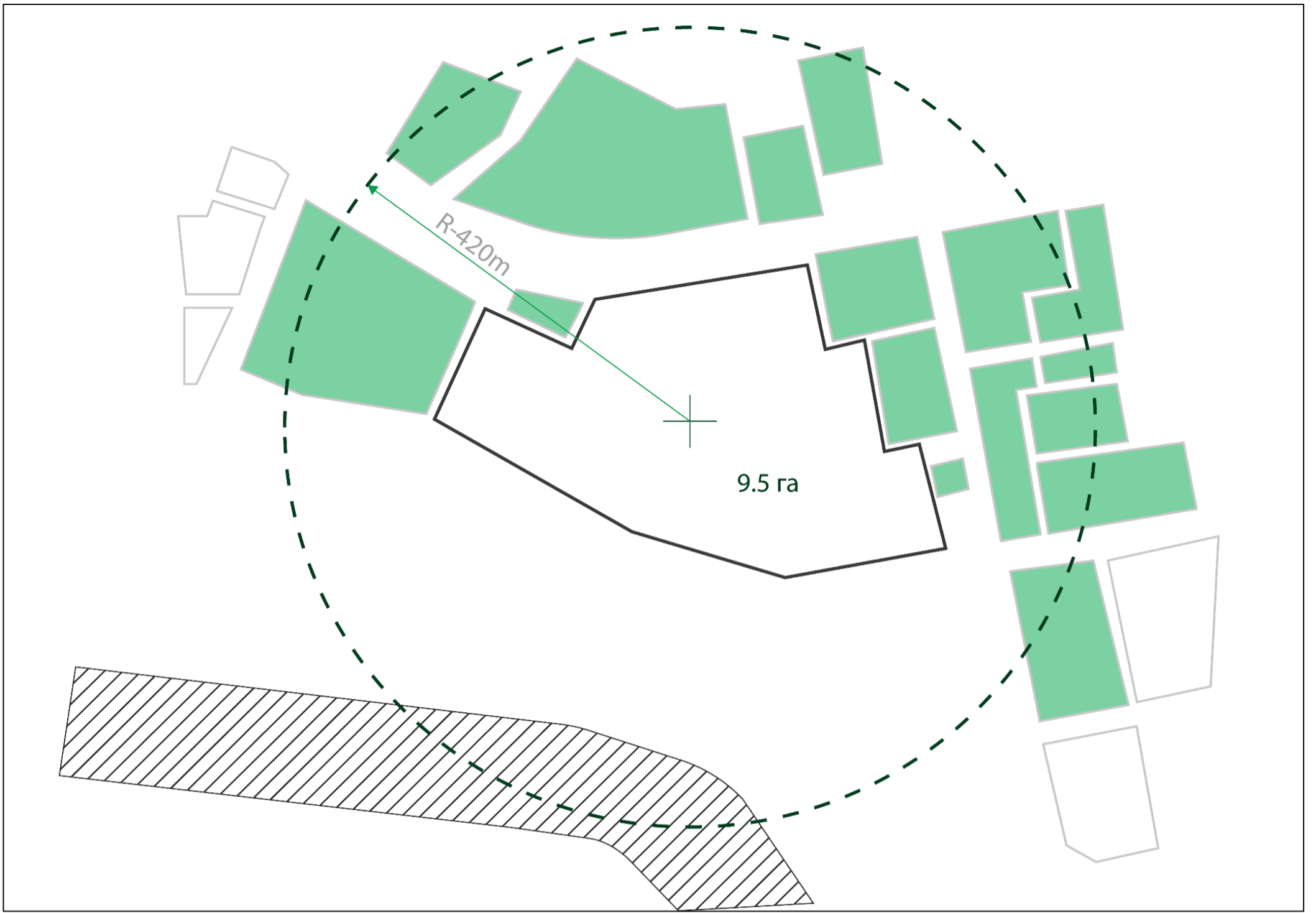


Diagram of the adjacent territory within walking distance.

- R=420m - pedestrian accessibility radius.
- 9.5 ra - the area of the plot.
- river.
- adjacent territories.

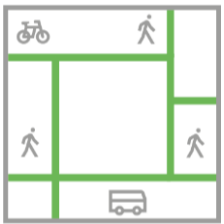


1.2 ANALYSIS OF THE PROJECTED TERRITORY

The analysis of the projected territory is carried out within the designated boundaries for the design, taking into account the previous analysis of the adjacent territory. When performing this work, the needs arising in the process of long-term and short-term stay on the territory of the facility are predicted, conditions are created to create a comfortable environment for citizens, problems that will arise during the operation of the facility are solved.

At the stage of the analysis of the projected territory, the foundations are laid to ensure the comfort and safety of movement, conditions are created for the development of public and business infrastructure, the proportions of open urban spaces are determined, schools, kindergartens and parking lots are located.

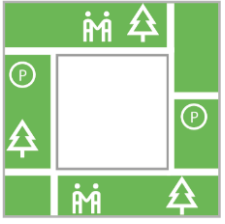
When performing an analysis of the projected territory, it should be taken into account:



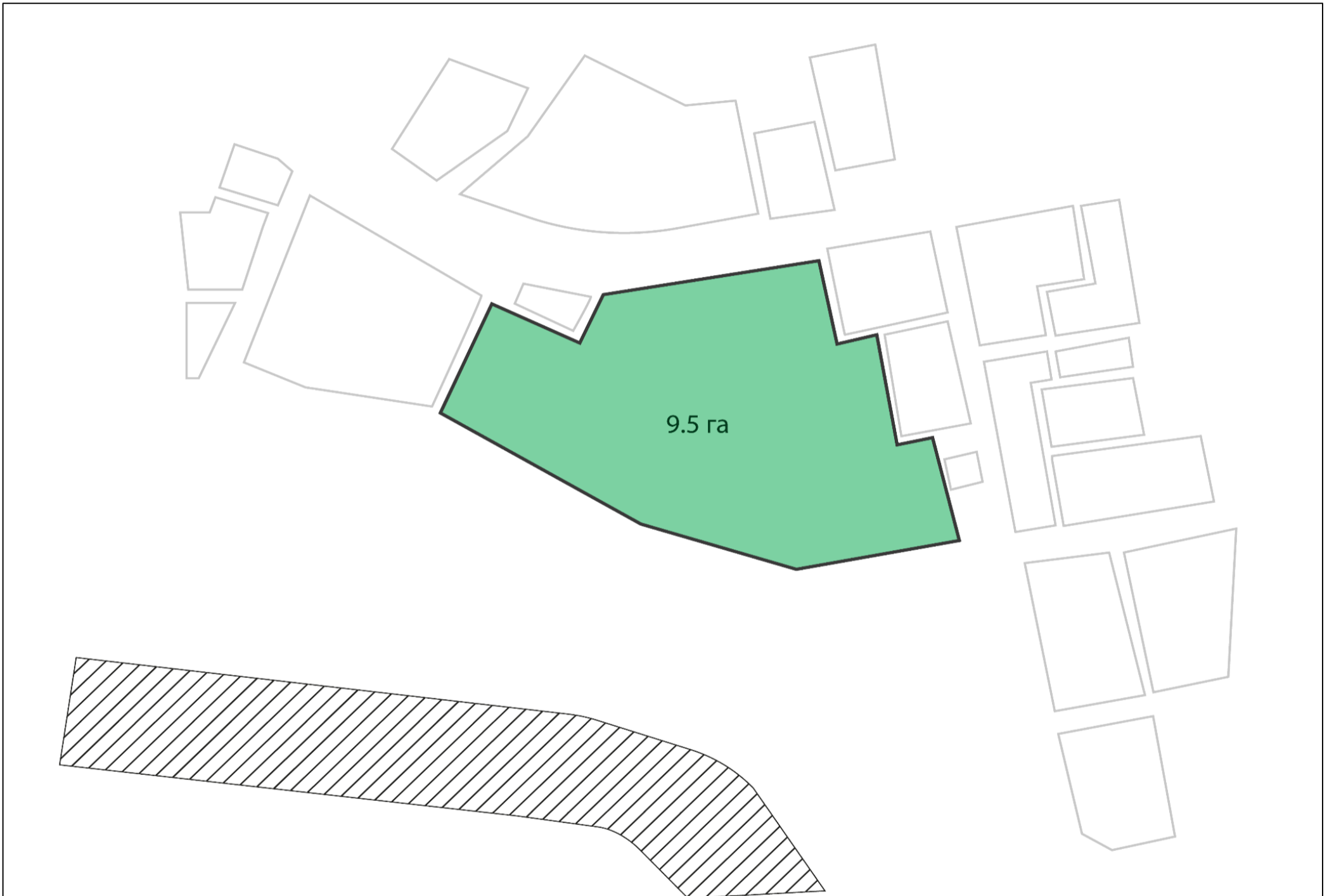
- natural and climatic conditions of the design area;
- availability of the existing road network;
- the breakdown of the territory into building sites, the identification of the hierarchy of streets and driveways;
- the possibility of creating a pedestrian environment necessary for comfortable movement on the projected territory;
- creation of additional public transport routes;
- formation of comfortable cycling connections;



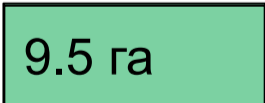

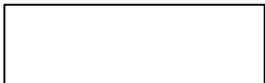
- application of the necessary architectural and planning and structural engineering solutions to create a comfortable environment for housing, work, leisure and other reasons for long-term and short-term stay;
- the location of the missing social service facilities in the designated areas of the projected territory;
- increasing the number and comfortable location of commercial premises for small and medium-sized businesses;
- creating visual landmarks to increase the recognition and attractiveness of the object;

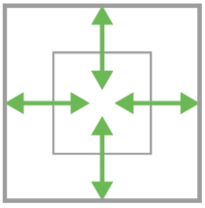


- creation of places of passive and active recreation, evenly located on the territory of the design;
- full provision of the territory with open and covered parking spaces and public transport stops;
- implementation of comfortable street, park and facade lighting on the territory;
- maximum possible landscaping of street, yard and recreational spaces.



The scheme of the projected territory.

-  9.5 ra - plot area
-  - river
-  - adjacent territories



2. INTERACTION TERRITORIES

This chapter lays the foundations for creating transport, visual and functional links of the design area with existing buildings, open spaces and public and business infrastructure facilities.

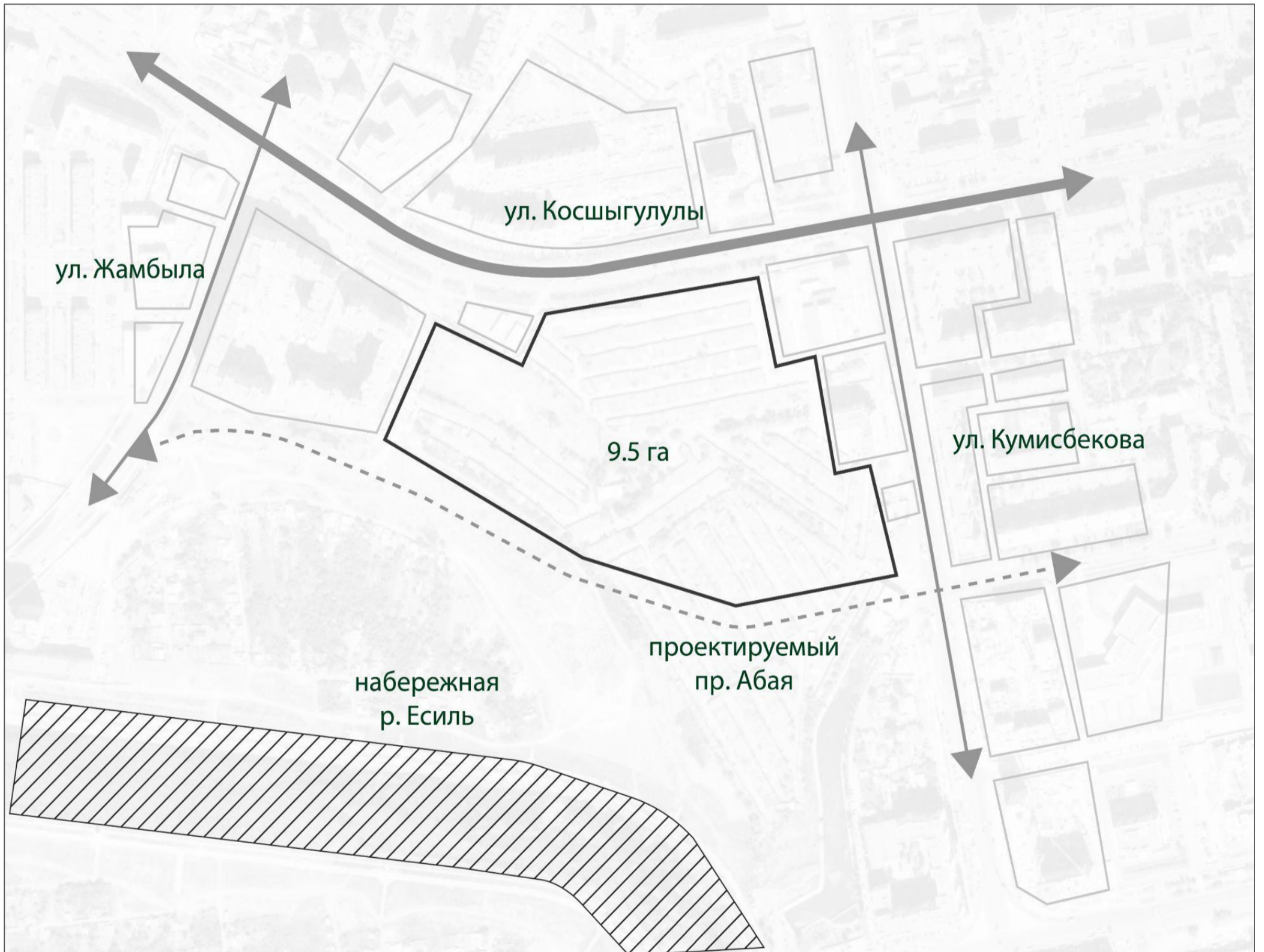


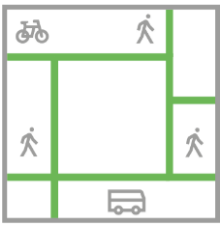
Diagram of existing and projected streets.

—> —> - existing streets.

- - -> - projected street.

9.5 га - the area of the plot.

▨ - river.

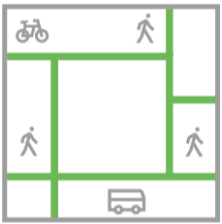


2.1 STREET AND ROAD NETWORK



The street and road network (UDS) is a complex of transport and pedestrian facilities that are part of the city territory bounded by red lines. It consists of streets, roads and driveways.

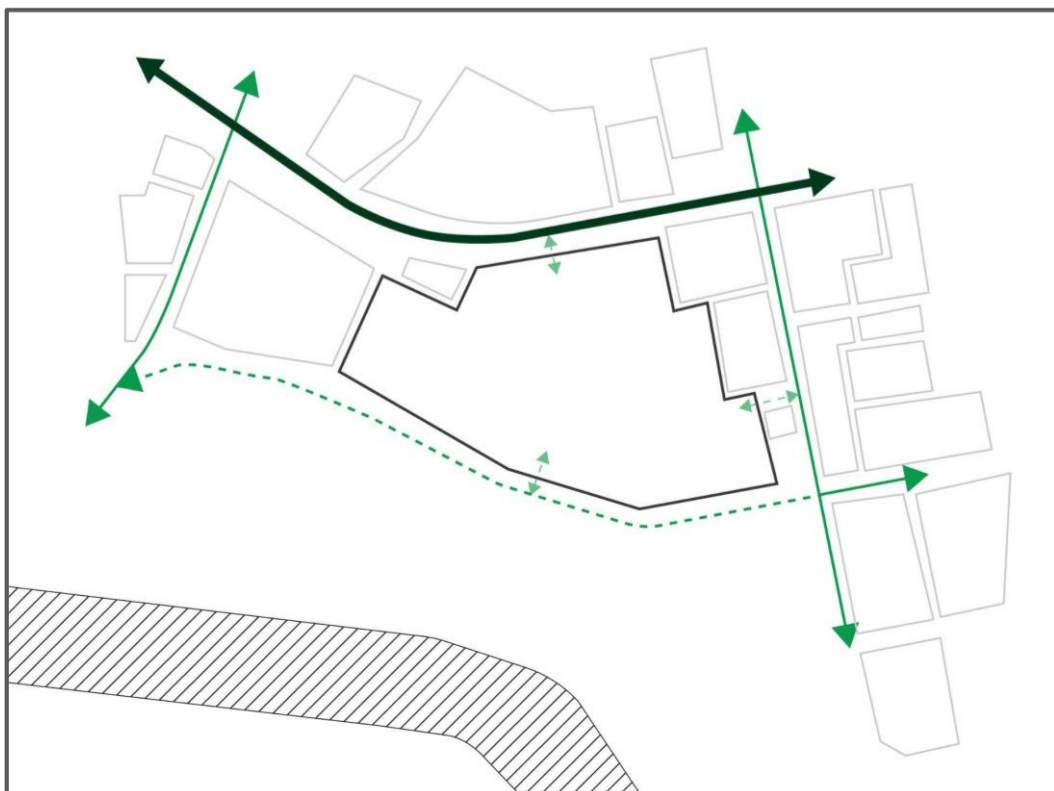
UDS provides the urban environment with pedestrian and transport links between the districts and quarters of the city, and also creates conditions for comfortable and safe movement of citizens on foot, by bicycle, public and private transport. The UDS forms the planning structure of the design area, defines the outlines of building sites, recreation and depends on the capacity of individual sections of the network.






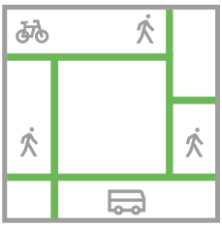
MAIN STREETS

The main streets connect the districts of the city. They are characterized by a high intensity of pedestrian and traffic flows, including a high density of public transport routes. A large number of public and business infrastructure facilities, including unique urban facilities, are located along the main streets and at their intersection. On such streets, the centers of urban life most often arise and there are visual accents of various scales.

At the boundaries of the site adjacent to the main street, it is necessary to provide a comfortable pedestrian zone, visual accents, commercial areas on the first floors.



-  - main street.
-  - secondary street.
-  - a street designed by the city.









2.1.1 BUS LANES

A bus lane is a dedicated lane designed to give priority to public transport in general traffic. The location of the lane on the road depends on the public transport system of the city.

If there are bus lanes adjacent to the site, it is necessary to design comfortable pedestrian paths from the bus shelters to the residential area.



The scheme of the existing bus lane and the connection to the projected site.

- | | | | |
|---|------------------------------------|---|---|
|  | - main street. |  | - bus lane. |
|  | - secondary street. |  | - connection of the projected zone with the bus lane. |
|  | - the street designed by the city. |  | - river. |



2.1.2 PEDESTRIAN ROADS

Pedestrian paths are included in the street profile. They are located along the street, buildings, public spaces and are designed for comfortable and safe movement of pedestrians in an urban environment.


It is necessary to take into account the existing pedestrian routes and design different types of pedestrian zones: on local streets and little-used spaces, it is necessary to lay paths of small width, and on the main streets, public spaces to make a large, comfortable promenade.

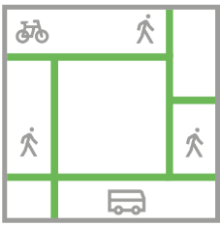


Diagram of existing pedestrian lanes and connection to the projected site.

← - - - → - existing hiking trails.

← - - - → - connection of the projected area with hiking trails.

 - river.



2.1.3 BIKE PATHS

Bike lanes are a traffic lane forming a new dedicated route for small mobility vehicles, separated from the roadway and pedestrian zone.

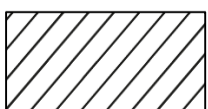
If there are bicycle paths as part of the profile adjacent to the street section, it is necessary to connect the path to the inner streets and driveways of the projected territory. In its absence, take into account the routes of cyclists along the borders of the territory and create separate cycling links with a promising connection to future routes.



Diagram of the existing bus lane and connection to the projected site.

← - - - → - existing bike paths.

← - - - → - connection of the projected area with bicycle paths.

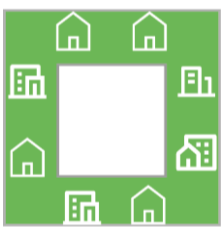
 - river.



2.2 BUILDING



The construction refers to all capital construction structures on the territory of the city, located within the boundaries of the red lines that form the spatial planning environment of the city. The development includes buildings and structures for various purposes with adjacent economic and technical buildings. It is divided into residential, business, industrial, mixed, as well as buildings with the placement of special purpose buildings. **The main factors influencing the creation of a comfortable residential development are** - number of storeys, density, availability of places to serve the population and conduct business, as well as the quality of capital construction.




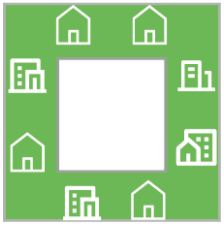
2.2.1 ARCHITECTURAL STYLE

An important factor when creating objects in the design area is the color and architectural design of neighboring buildings. The architecture of the design area is a standard of recognition and, therefore, an urban landmark that allows you to create a comfortable navigation in the city.

When creating the architectural appearance of the projected object, it is necessary to take into account the color design and the number of floors of the area.



 - the color palette of the surrounding buildings.



2.2.2 SOCIAL FACILITIES


Urban social facilities include educational facilities, healthcare facilities and other public services. Service radii of the main social facilities in the city :

- preschool institutions - 400 m;
- secondary schools - 500 m;
- polyclinics - 1300 m.

Social facilities that fully cover the projected territory are counted as the territory's service facilities. Objects whose service radius partially or completely does not cover the design area require the creation of additional social facilities on the territory.



R=500m - pedestrian accessibility radius.

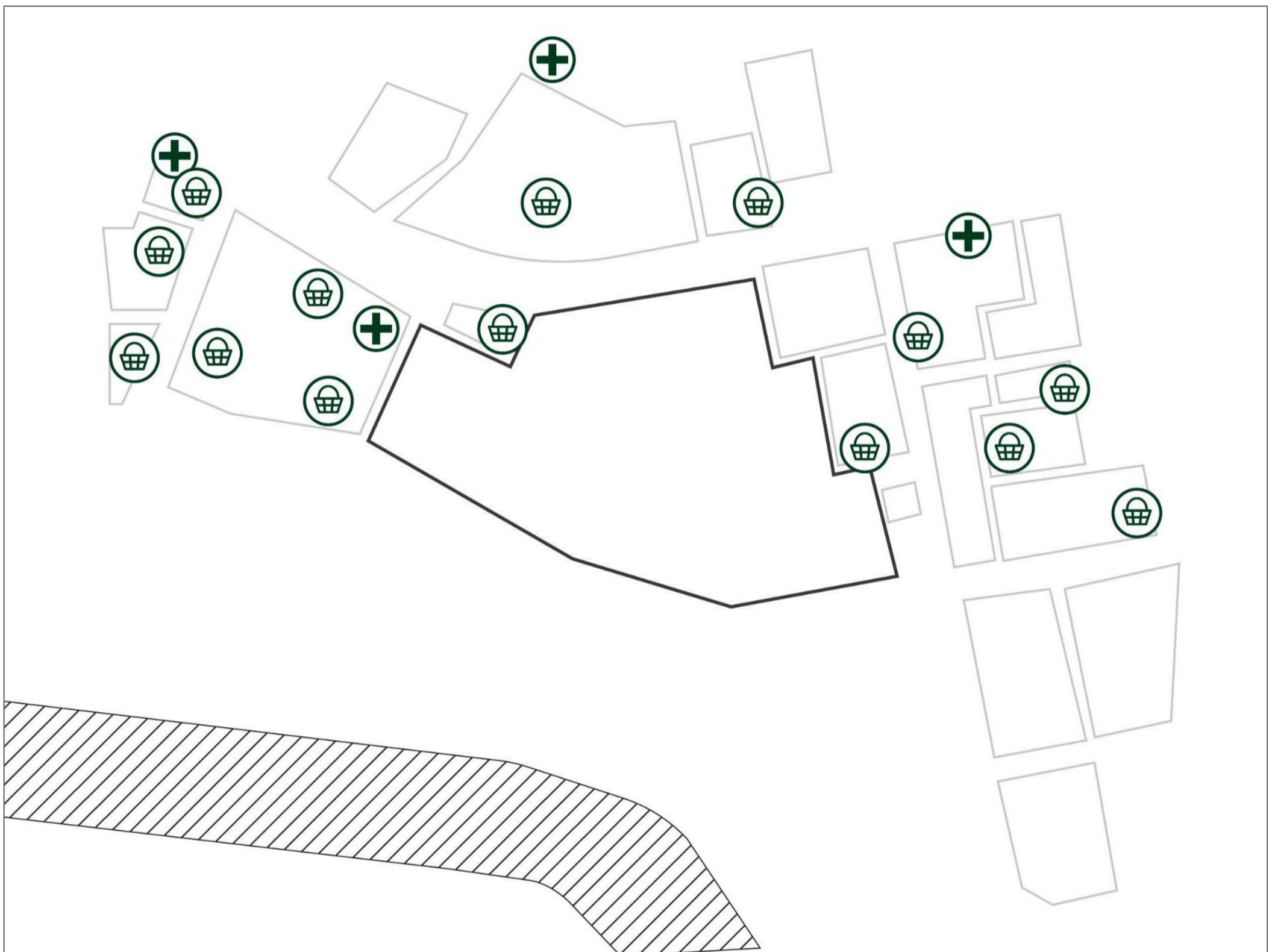
 - river.



2.2.3 SMALL AND MEDIUM-SIZED BUSINESSES

The objects of SMEs are all kinds of shops, catering establishments, offices, kindergartens, etc. As part of a residential development, there are buildings and pavilions integrated into a residential building and detached.

When designing premises for SMEs, it is necessary to take into account the types of demand and arrange them accordingly. Large premises should be located near the main streets and public spaces, smaller premises should be located on secondary streets, etc..



- the shops.



- pharmacies.



- river.



2.2.4 VISUAL LANDMARKS

In the conditions of urban development, it is necessary to create various visual landmarks that would facilitate orientation and give individuality to the area.

It is necessary to place them at the intersection of main streets or near public spaces. Visual landmarks stand out in the building - increased number of floors, color, location, finishing materials, etc.



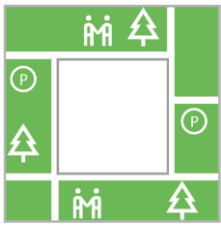
- visual landmarks.



- existing visual landmarks.



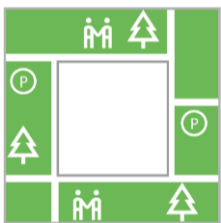
- river.



2.3 INFRASTRUCTURE



This document considers the concept of infrastructure as a complex of urban planning and engineering measures aimed at improving and maintaining the comfort of the urban environment. The complex includes recreation areas, parking lots, lighting and landscaping. Recreation includes all open public spaces of active and quiet recreation of various directions. Parking spaces provide adjacent buildings with places to store personal vehicles. Lighting provides comfort of movement and safety in the dark. Landscaping protects buildings from harmful emissions and dust.





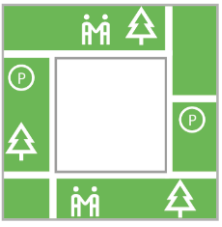
2.3.1 RECREATIONAL AREAS

Public spaces and all kinds of recreation are spaces within the urban development designed for events, quiet and active outdoor recreation.

If there is a development near the site, it is necessary to consider the pedestrian connection of the area with this space. In the absence of adjacent parks and squares to the site, it is necessary to provide for their location in the future development.



-  - the embankment area.
-  - the shortest way to the recreation area.



2.3.2 PARKING LOTS

Parking spaces are designed for open parking of personal vehicles. Must be located in such a way as to accommodate the estimated number of cars of residents of adjacent buildings.

It is necessary to equip parallel parking near public spaces and along active facades, which distributes a large number of cars along the street. And on quiet local streets and in specially designated areas, you can build a regulated parking lot with a larger capacity.

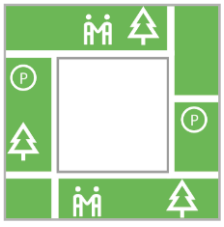


↔ - main street.

P - existing parking spaces.

↔ - secondary street.

- river.

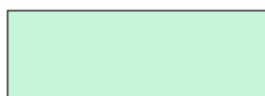
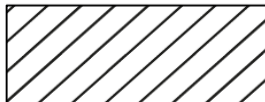


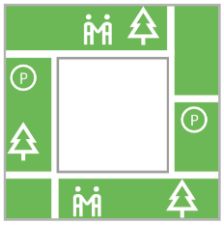
2.3.3 LIGHTING

The comfort and safety of the urban environment at night depends on the level of lighting. These include street, park and facade lighting devices. Street lighting devices are located along streets and driveways in the form of lampposts of various heights and configurations. Park equipment includes devices that illuminate the sidewalk, landscaping and significant objects. The facade includes wall lamps and spotlights.

When designing a site, it is necessary to take into account the current level of illumination of adjacent territories and, if necessary, create additional lighting.



-  - existing lighting.
-  - river.





2.3.4 LANDSCAPING

Landscaping is an important component of a comfortable and healthy urban environment. Landscaping is divided into outdoor, recreational and natural. The street is located along the roadway by ordinary planting of trees and shrubs, and protects buildings and citizens from harmful exhaust gases and dust. Recreational landscaping fills places for active and quiet recreation, participates in noise insulation and temperature control of public and courtyard spaces. Natural landscaping is located in the undeveloped areas of the city.

During the creation of the project, the existing landscaping should be maintained and supplemented in places where it is absent.



-  - natural landscaping.
-  - artificially planted plants.



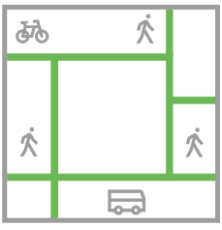
3. FORMING PROJECTED TERRITORIES.

The main objectives of this chapter are to form the planning structure of the design area and to draw up the architectural and planning task of the project based on the previously performed analysis of the interaction of the adjacent territory.

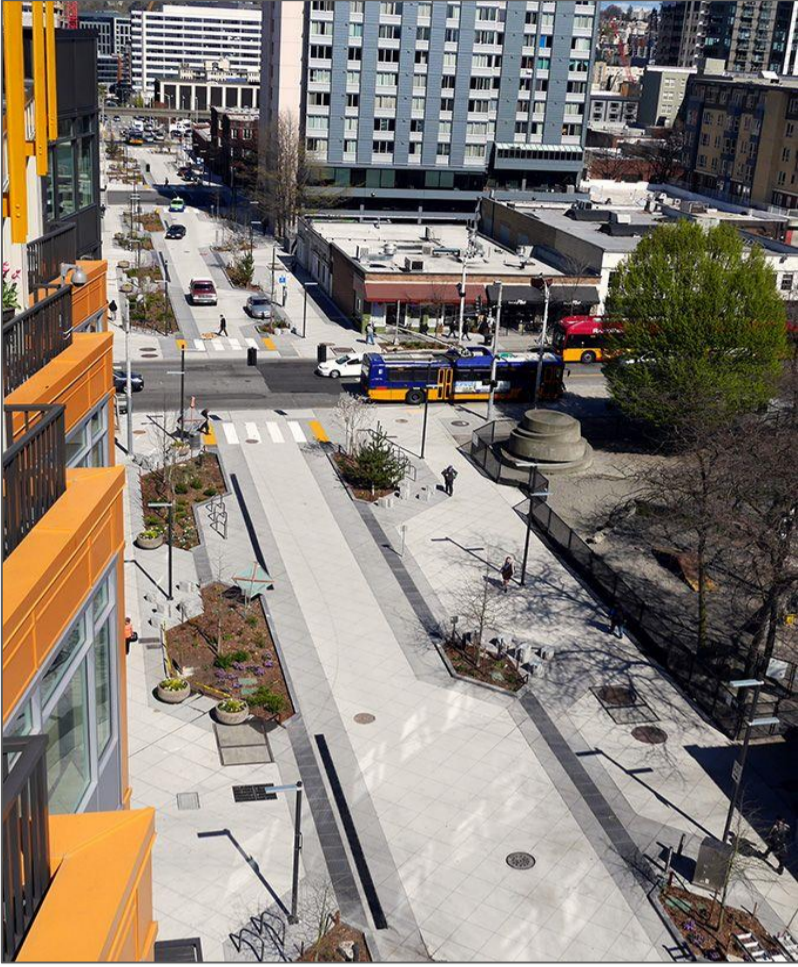
During the formation of the projected territory, the foundations are laid to ensure the comfort and safety of movement and residence, conditions are created for the development of public and business infrastructure, the proportions of open urban spaces are determined, criteria for lighting and landscaping of the territory are determined, schools, kindergartens and parking lots are located.

Creating a comfortable living environment requires an integrated approach with a priority on providing people living in the territory with all the necessary benefits, services and conditions. All the points described in this document are important aspects that need to be taken into account when considering design solutions.





3.1 STREET AND ROAD NETWORK



The road network inside the projected territory is formed in such a way that movement is comfortable and accessible for any type of transport.

This complex of transport and pedestrian facilities must be coordinated with the adjacent part of the city territory. The street and road network inside a residential area should provide a minimum priority for motor transport, giving way to pedestrians and small means of mobility. It is also necessary to provide a developed bicycle network of routes to encourage residents of the district to use bicycle transport.

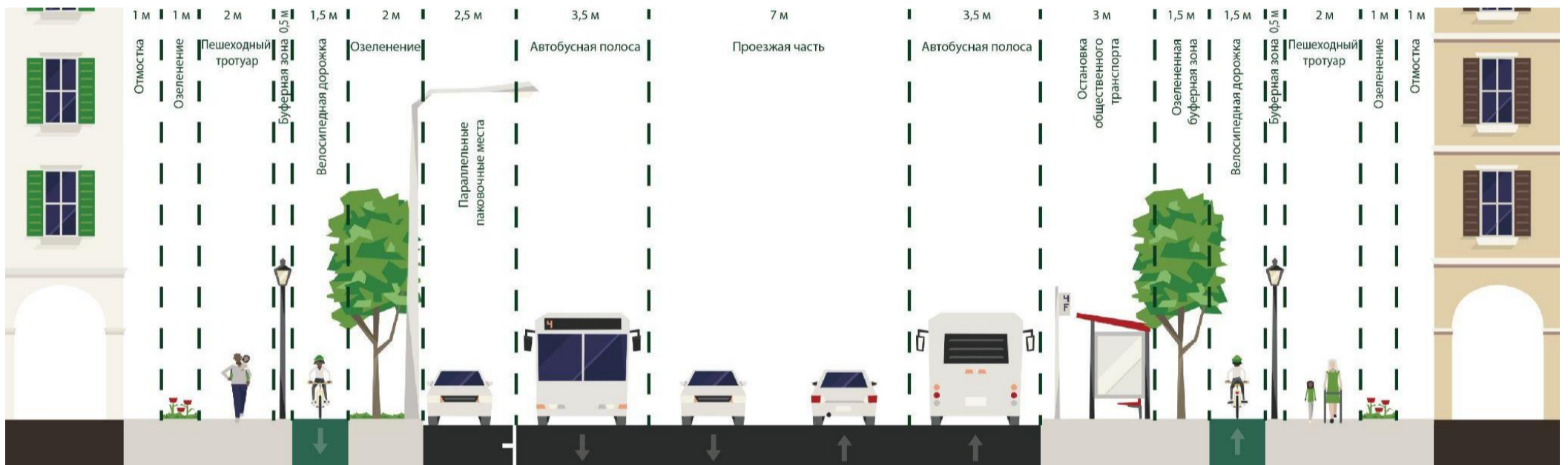




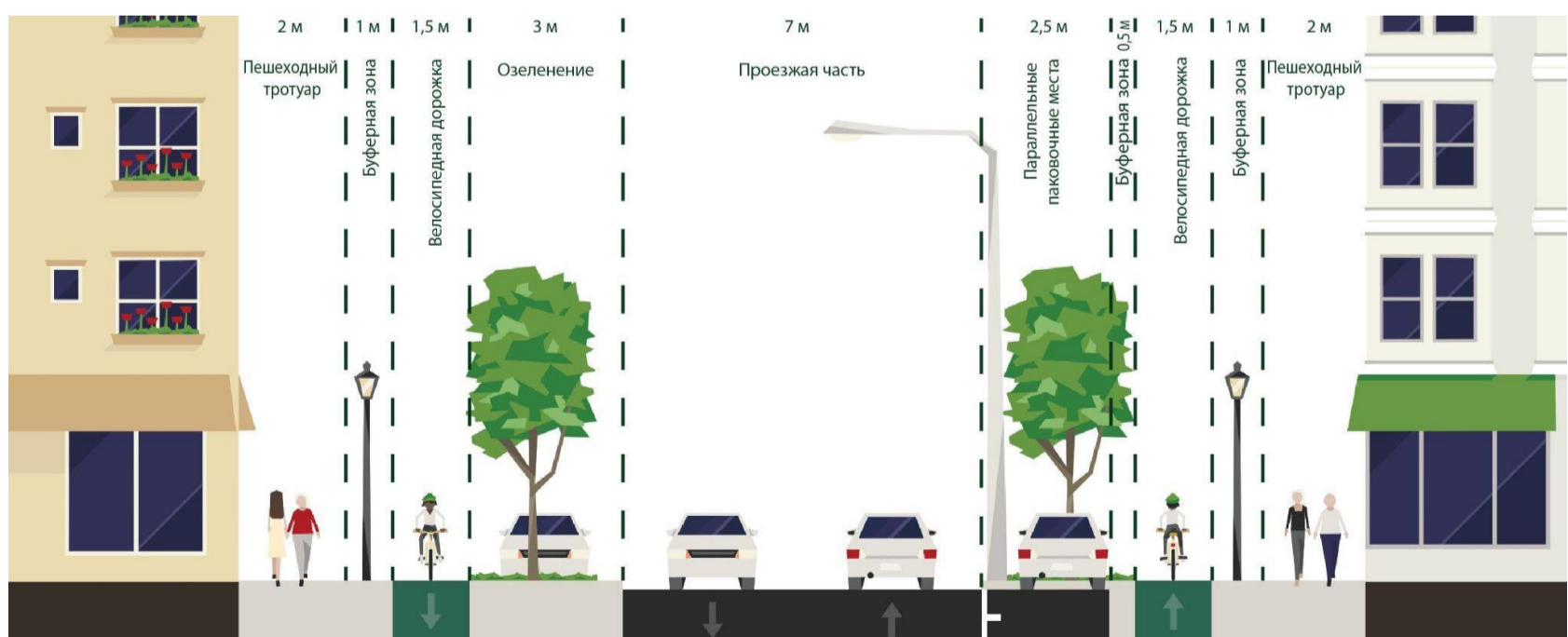
3.1.1 STREET GRID (HIERARCHY)

The principle of creating a grid of streets and their hierarchy depends on the existing UDS, which requires an addition in the form of a network being created on the projected territory. The network configuration mainly depends on the current urban situation and on the final result. The most optimal grid of streets, which provides a high density of buildings and allows solving problems with traffic load, is the quarterly one, which has a frequent pitch of the axes of the UDS and allows using comfortable profiles of streets and driveways.

The denser the existing UDS in the adjacent territories, the more streets can be extended to the design area. Additional streets will have the status of a local street, lane or driveway.



Example of a secondary street profile (35 m)

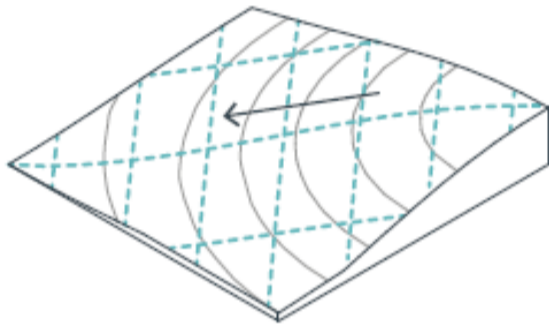


Example of a local street profile (22 m)

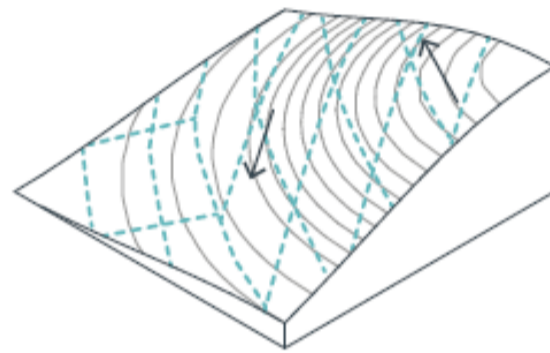
When tracing the axes of the UDS, it is necessary to take into account the relief of the design area.

This will allow:

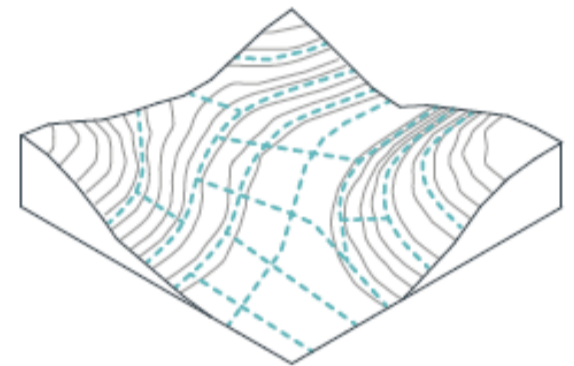
- preserve the natural features of the territory, including the natural relief;
- to ensure the comfort and safety of pedestrian and automobile movements;
- optimize the volume of excavation work, including work to ensure the normative longitudinal slopes of the roadway and the vertical layout of the territory;
- optimize the costs of work on the engineering preparation of the territory (strengthening of slopes, drainage, etc.).



If the slope of the terrain is less than 8%



When the slope of the terrain is more than 8%



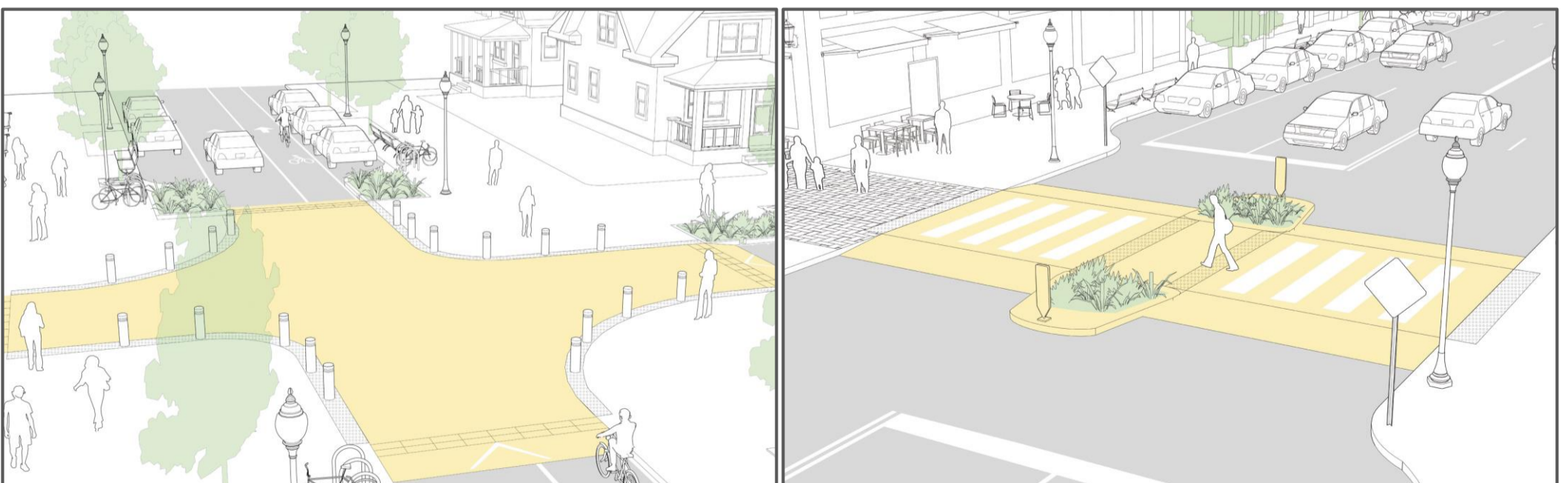
In a hilly area



3.1.2 PEDESTRIAN CONNECTIONS

The bulk of pedestrian traffic passes along streets, the profile of which provides comfortable and wide sidewalks. The street and road network formed by small blocks allows to provide an optimal interval for pedestrian placement of intersections (120-150 m). With the size of blocks of 2-5 hectares, the interval of placement of intersections increases. For the comfort of users' movements, it is necessary to form a network of through pedestrian paths connecting streets and other public spaces through intra-block territories, through parks and squares.

With enlarged block sizes that make it difficult to create pedestrian paths along the shortest distances between the points of attraction in the design area, through pedestrian paths are arranged along intra-block territories.



Along the borders of the projected territory, at the junctions of existing and projected streets, at intersections, the interval for the placement of pedestrian crossings is determined taking into account the priority of certain types of movement, population density in a residential area, as well as the placement of public transport stops. During new construction, it is recommended to avoid the installation of aboveground and underground pedestrian crossings. To reduce the number of traffic accidents involving pedestrians, it is preferable to use regulated ground pedestrian crossings. The recommended pedestrian accessibility radius of the crossing should not exceed 300 m.





3.1.3 BUS ROUTES

If the design area is remote from public transport routes, it is necessary to create additional routes or modify existing ones so as to provide citizens located on the projected territory with access to public transport. Several public transport systems differ:

- unorganized;
- organized along the edge of the roadway;
- organized by the center of the street (BRT).

If there is a street with a size of more than 4 lanes of automobile traffic, it is recommended to arrange a bus lane. Public transport stops, when the bus lane is located, are installed without “pockets” for public transport. This solution contributes to improving the comfort and safety of both public and private vehicles.



BRT (Bus rapid transit) is a high-speed bus route that runs in the center of the street and divides traffic lanes into one-way roads. Buses have an advantage at intersections, which speeds up the movement of public transport. Stops can be equipped with closed waiting areas, information centers and shops. Turnstiles facilitate faster boarding of passengers on the bus, since the check and purchase of tickets is carried out before boarding the bus.



3.1.4 CYCLING LINKS

Bicycle connections, as well as pedestrian ones, are being developed in order to increase the comfort and safety of all road users. When creating bike paths, it is also necessary to create protective buffer zones between the bike path and the sidewalk/roadway. It is also necessary to equip bike paths with appropriate equipment (trash cans, bike parks, bicycle repair stations), additional bicycle crossings parallel to pedestrian ones and a comfortable interchange of bike paths at intersections.



The route of a bike path can be laid along streets, roads and driveways, through or around the perimeter of squares, parks, squares and other public spaces.



3.2 BUILDING



The development of the projected territory by residential and public buildings involves the allocation of land plots of various sizes with the help of UDS and taking into account sanitary protection, water protection and other zones that prevent the placement of any buildings. The creation of comfortable housing requires consideration of design solutions that contribute to improving and maintaining a comfortable quality of life in the projected area. With the correct use of the previous analysis of the interaction of adjacent buildings, conditions will be created for social and commercial facilities, visual landmarks that increase the importance of the object in the city.





3.2.1 COMFORTABLE HOUSING



At this stage, a volumetric and spatial solution for the development of the projected quarter is being formed. Most blocks in the pedestrian accessibility zone include residential buildings, which are presented in pure form or in one way or another in relation to objects of other functional purposes: public and business infrastructure, parking lots, schools and kindergartens, etc.





3.2.2 SOCIAL FACILITIES

When placing social facilities, it is necessary to ensure their normative territorial accessibility from residential development, increase the efficiency of land use by optimizing the area of their territory, create conditions for the formation of a compact urban environment without large gaps in development.



To accommodate all functional zones on the school site, the Standard recommends limiting the maximum size of the school site to 1.8 hectares. Such an area will make it possible to form compact, pedestrian-oriented areas of residential and multifunctional development.

The maximum capacity of schools, taking into account the recommendations of the Standard, is 1150 places. If the required capacity implies the allocation of a school site, the area of which is larger than recommended in the selected target model of the Standard, a second school should be placed on the design site at a distance from the first one or a school complex should be created to which unique approaches and solutions for the formation of compact buildings are applied. Schools are placed taking into account the normative radius of their territorial accessibility . This radius is 500 m and, thus, can cover the pedestrian accessibility zone.



The placement of kindergartens is based on the number of residents in the projected territory:

- with a small number of residents, it is advisable to have built-in and built-in kindergartens of small capacity (up to 150 places) on the site of commercial premises in residential buildings;
- the increased number of residents implies the location of a free-standing kindergarten on the vacated territory of a larger capacity (from 150 seats);
- provide for a speed limit on the streets no higher than 30 km/h and noise protection measures at the entrance to kindergartens.



3.2.3 SMALL AND MEDIUM-SIZED BUSINESSES

The parameters of the target models set the proportion of premises for the placement of public and business infrastructure facilities for the entire pedestrian accessibility zone. The level of functional diversity of the development depends on the remoteness of the blocks from the center of urban life and the types of streets to which the land plots of the projected territory are adjacent. Closer to the center of urban life, the share of commercial premises from the total area of buildings in the quarter increases, because in places where intensive flows pass, the demand for trade and services facilities is higher, and the placement of offices and small industries further intensifies these flows.

Small and medium-sized businesses on the territory of the built-up object can be supported by JSC "Entrepreneurship Development Fund "Damu".



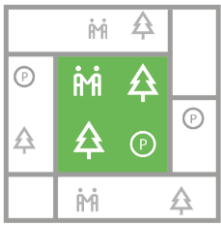


3.2.4 VISUAL LANDMARKS

Visual landmarks are high—rise dominants, architectural monuments and significant public buildings, unique elements of the natural landscape. They can be identified during landscape-visual analysis in the territories adjacent to the design area, and (or) be located in the design area when forming spatial solutions for development, as well as when clarifying the design landmarks of objects can be provided at a distance significantly exceeding the radius of pedestrian accessibility. For example, this can be achieved through the use of relief differences.

For visual landmarks, visibility corridors and optimal viewing sectors are established, if they have not been installed in the regimes of cultural heritage protection zones operating on the territory. These corridors and sectors must be taken into account when creating the number of storeys of buildings, as well as when forming spatial solutions for development. It is necessary to disclose views of the created landmarks from key urban planning axes (main streets of district significance, embankments, etc.).

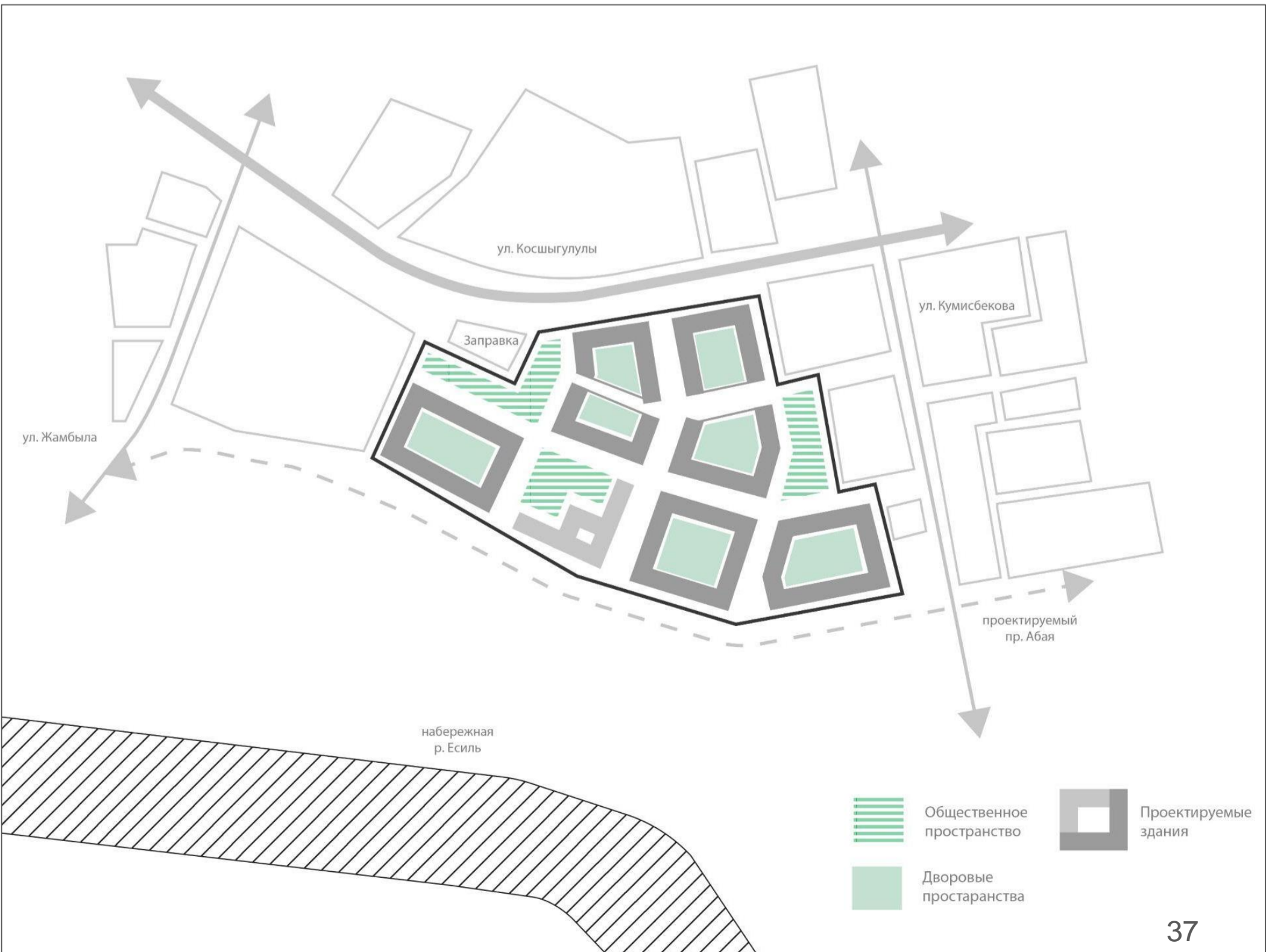


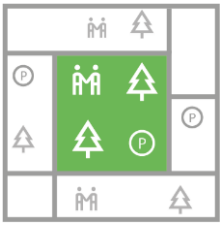


3.3 INFRASTRUCTURE



The infrastructure located within the boundaries of the design area is obliged to increase the comfort, convenience and safety of the residential area. Recreation creates conditions for leisure activities, improves mental and physical health and promotes the creation of communities. The correct placement of the estimated number of parking lots, separated from bicycle and pedestrian paths, provides additional safety and comfort for residents of the district. Proper lighting of the space of the projected territory provides residents with a safe and comfortable environment at night. Landscaping allows you to create a comfortable climate and temperature regime of the area.





3.3.1 RECREATIONAL AREAS

The boundaries of open urban spaces run along red lines and coincide with the boundaries of land surveying sites. The procedure for determining the boundaries of the improvement of open urban spaces depends on their types. For all types of landscaping should ensure visual integrity regardless of the form of ownership and type of use of the territory.

The recreation of streets includes all sections of public spaces located along the roadway. If a local square, square or boulevard adjoins the street, it is also recommended to include them in the landscaping section. If the width of the carriageway of the street is more than four lanes, only one side of the street can be included in the landscaping section. The boundary of the landscaping area is then taken to be the edge of the roadway.



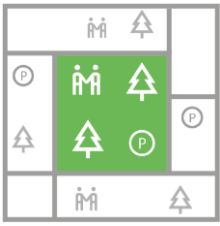
Squares are open public spaces adjacent to streets, the width of the transportless part of which is at least twice the width of the sidewalk of adjacent streets, and less than half of the space is occupied by landscaping.

The perimeter of the square can be formed by UDS objects, buildings and landscaping elements. The squares can be designed to have both different shapes and perform several functions.

Recreation also includes :

- yard spaces - performing the role of recreation for residents of one or more buildings and providing all groups of the population with the necessary functional content;
- parks and squares - an open landscaped area intended for recreation and walking, with a thoughtful landscape design that obeys the terrain;
- embankments are a coastal zone with high recreational potential with conditions for walking, access to a pond, quiet rest and sports;
- isolated public spaces that fulfill a certain purpose (extreme parks, viewing, walking areas, amphitheaters, etc.).





3.3.2 PARKING LOTS

When organizing parking lots, it is assumed to choose the optimal way to accommodate the required number of parking spaces as part of residential and multifunctional buildings. Parking lots can be located in public areas, as well as in planar parking lots and in parking lots of various types on intra-block territories.

The organization of parking lots is aimed at :

- for the placement of the main number of parking spaces in parking lots along the streets or in parking lots;
- to form mainly without transport intra-block spaces.

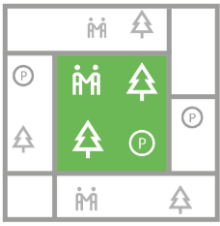


Planar parking lots are located on specially designated sites on the projected territory. These can be residential courtyards closed to parking for external users or parking lots accessible to a wide range of offices or public buildings. The size of the parking area in each block is limited by the value of the corresponding parameter (the proportion of intra-block territories for parking lots, etc.). Planar parking lots can also be located in public areas near public transport stops and transport hubs. The capacity of such parking lots should not exceed 100 parking spaces (an area of 0.4 hectares) in order to avoid the formation of significant gaps in the development.



On the main streets of city and district significance, parking is mainly focused on visitors of public and business infrastructure facilities located along the red lines. For such parking lots, a differentiated mode of use of parking lots can be applied: during the day they are used by employees of nearby offices and small industries, and in the evening and at night — by residents of the surrounding development. Along secondary and local streets, surface parking lots serve mainly for residents of surrounding houses.



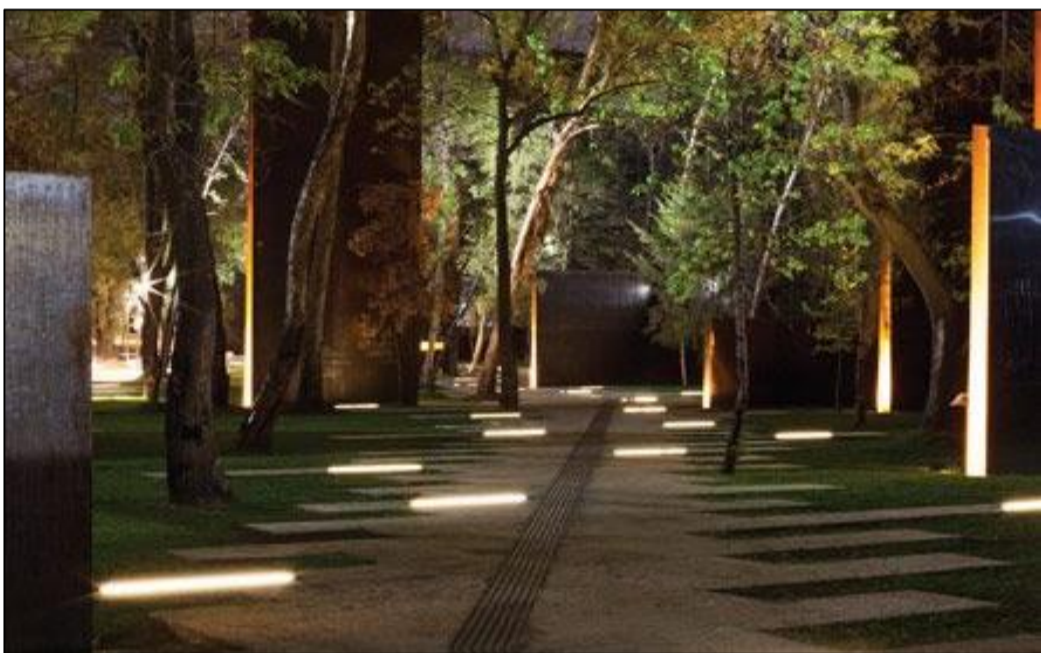
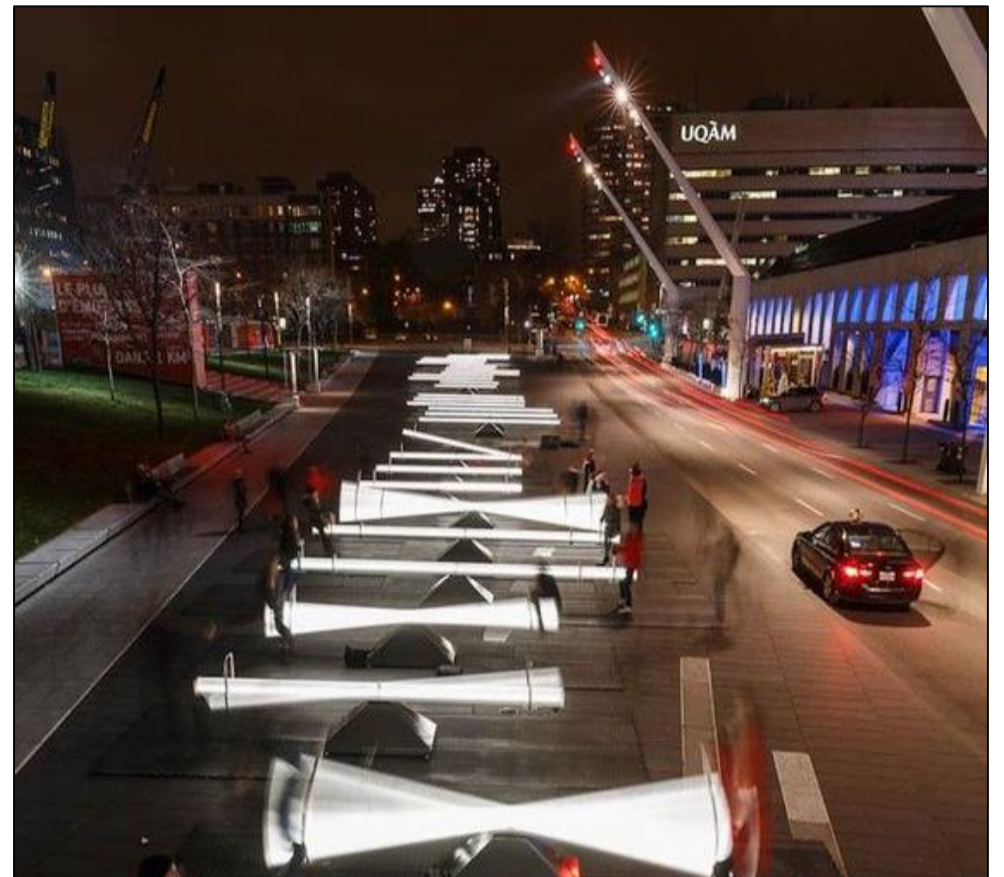


3.3.3 LIGHTING

Lighting of the projected territory should be considered as part of a set of measures to ensure the comfort and safety of residents of the district. The location of lighting on the territory must meet all quality requirements, ensure sufficient illumination on the streets, public spaces and courtyards.

Street lighting is divided into :

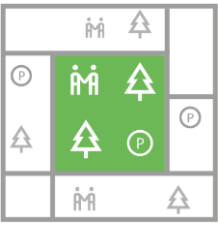
- high directional light poles to illuminate the roadway;
- park lighting diffused light for lighting sidewalks and bike paths;
- landscape lighting, aimed at trees and shrubs as natural barriers;
- фасадное освещения для освещенности придомовой территории.



Recreational lighting is more diverse in terms of styles and shapes of lighting devices located in crowded places, on pedestrian and bicycle paths and in landscaping areas. Glowing art objects are also used to create an original style of public space.

Yard lighting is located along pedestrian sidewalks and driveways, on playgrounds and sports grounds. The illumination of the courtyard is allowed to be made smaller than the street in order to avoid creating discomfort for sleeping residents of the adjacent house.





3.3.4 LANDSCAPING

The area of green areas for placement in public areas is distributed among local public spaces, streets and courtyards.

It is necessary to distribute the total area of green areas in public areas in such a way that at least one green public space is located in the design area.

Green areas of all types (parks, squares, boulevards) are distributed over the design area, taking into account the radius of a five-minute pedestrian accessibility from each residential building. Since the development of the blocks has not yet been formed, these radii are postponed from the red lines of the blocks.



The total area of landscaping within the block, including school sites, kindergartens and green roofs of parking lots, should be kept within the minimum limits (at least 10% of the area of the projected territory).

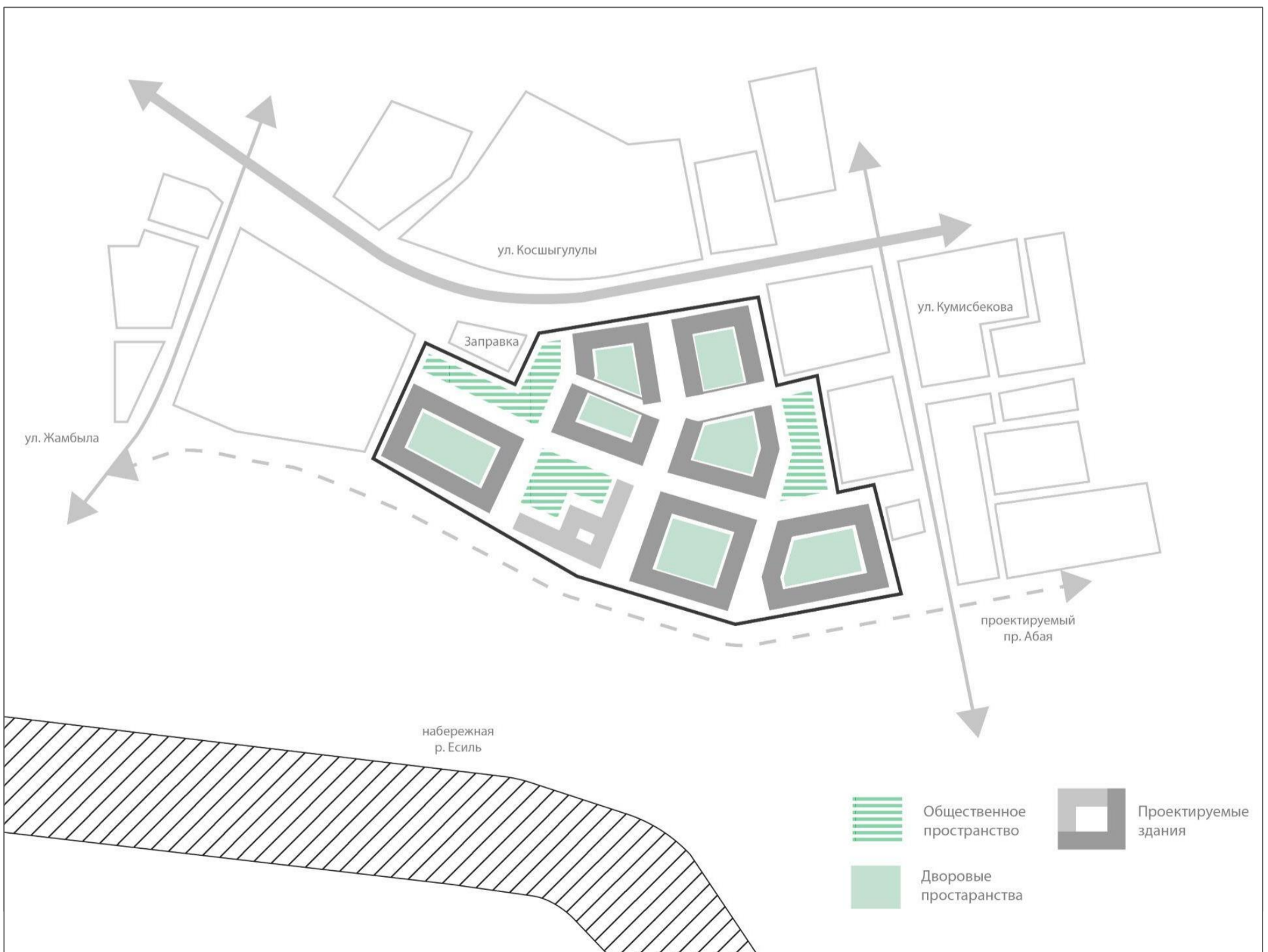
If the estimated landscaping area is less than the one required for placement in a block, solutions are aimed at increasing the landscaping area and may be as follows:

green roofs are used;

- the area of the territory for the placement of ground parking lots is being reduced, parking spaces are being transferred to parking lots located in the block;

- the building area is reduced by increasing the number of storeys of buildings;

- the missing landscaping area is redistributed to other land plots or in the common area when the technical and economic indicators of the entire project are clarified..



CRITERIA FOR DETERMINING THE FEASIBILITY OF FINANCING INTEGRATED DEVELOPMENT PROJECTS IN TERMS OF THEIR STREET AND ROAD NETWORK, TERRITORY AND INFRASTRUCTURE DEVELOPMENT

- Planned or actually existing school within walking distance (2 km.)
- Planned or actually existing public transport stop within walking distance (2 km.)
- Planned commercial premises suitable for the placement of preschool education organizations and (or) outpatient centers or the availability of these organizations within walking distance (2 km.)
- Planned or actually available within walking distance (2 km.) public spaces (park, square, garden, pedestrian street, boulevard, etc.) with playgrounds, outdoor exercise equipment and bicycle infrastructure
- The presence of conditions in the project for comfortable living of low-mobility groups of the population (including, but not limited to, tactile tiles along walking routes, slopes for wheelchair access, elevated pedestrian crossings at the level of the pedestrian path at the intersections of local streets)
- Availability of premises for small and medium-sized businesses with transparent, viewable entrance groups in the project
- The presence of a built-in and (or) free-standing parking and (or) parking spaces along local streets in the project
- Planned different types of streets in the planned residential area (at least one main, secondary and local street), connected to each other in order to avoid the creation of dead-end driveways
- Planned or actually existing long-tier landscaping of perennial plants, including shrubs and trees
- The presence in the project of closed courtyards without cars with fire-fighting passage

