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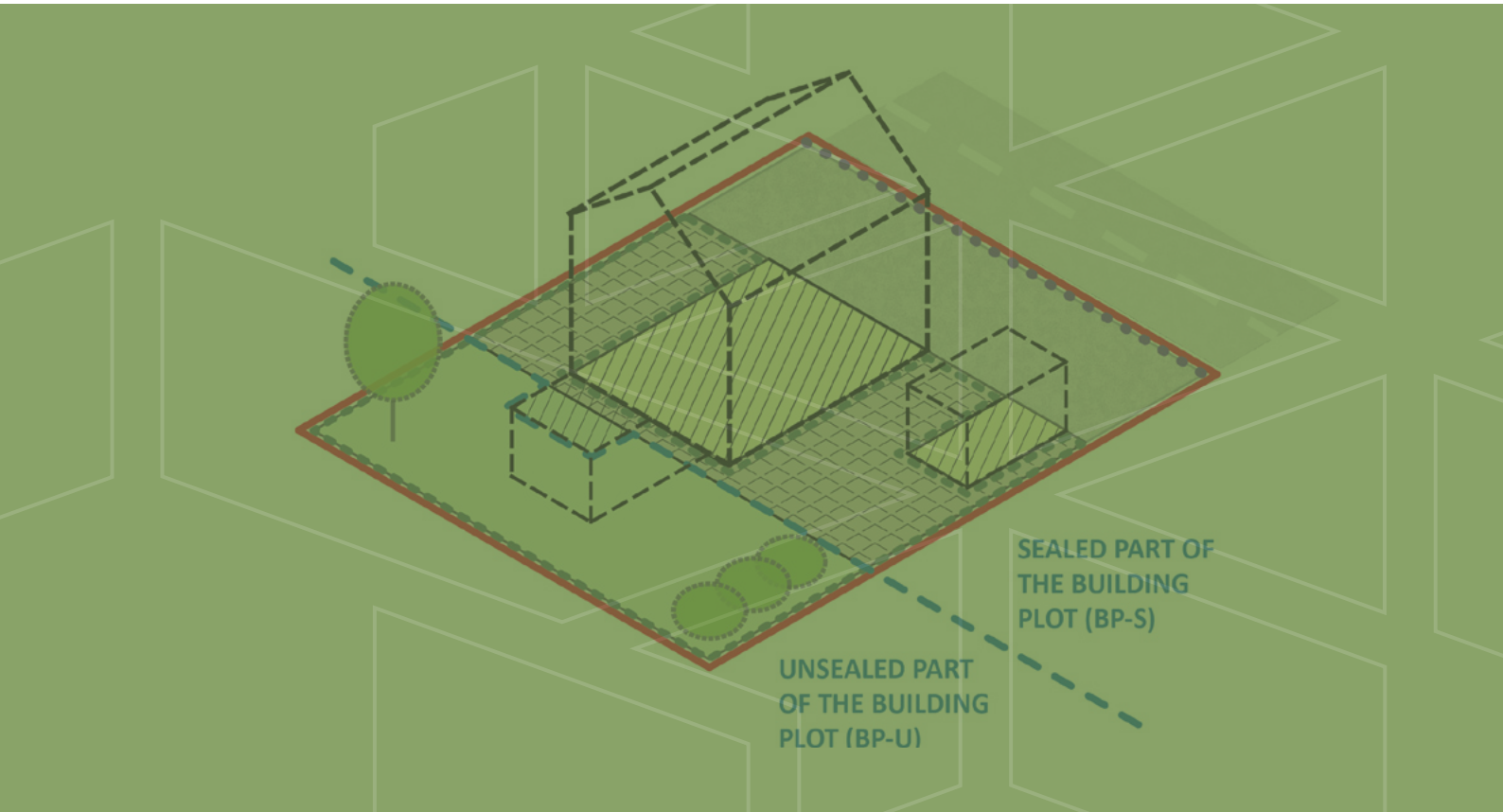
NATIONAL SPATIAL ORDER

URBAN DESIGN CRITERIA FOR THE PLANNING AND ORGANISATION OF BUILDING PLOTS

HANDBOOK

REPUBLIC OF SLOVENIA
MINISTRY OF NATURAL RESOURCES AND SPATIAL PLANNING



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Preface

The importance of the building plot as the basic cell on which a building stands and »breathes« is often only realised when the building is completed and enclosed, together with the associated land. It is then that we recognise the external paved traffic, utility and technical areas, the residential paved areas (terrace) and the green areas (ornamental and vegetable garden) in their size and furnishings. With the daily use of the outdoor areas and with intelligent and careful planning, additional space can be identified for the siting of associated ancillary facilities, a possible garden shed, a swimming pool or a heat pump.

The rational use of space ensures an appropriate ratio between built and green areas on the building plot. Another important aspect is the integration of the building plot into the wider context to ensure a favourable environmental situation (mitigation of the effects of climate change, promotion of the use of renewable energy sources, etc.), hygiene, health and technical aspects, and the management of non-standard shapes of the building plot.

The planning and organisation of the building plot require the planning and design part of urban planning. Planning requires knowledge of the spatial implementation regulation (building typology, regulation lines, building dimensions, utilisation rates with factors and proportions, etc.), which are defined in the municipal spatial plan (MSP) and the municipal detailed site plan (MDSP) as verified functional and design criteria by means of spatial implementation conditions. The ownership and physical characteristics of the area, which influence the size and shape of the building plot and divide it into a sealed and an unsealed part at the design stage, must also be taken into account.

One of the key objectives of the revision of the spatial planning legislation was to improve the practices and procedures for implementing spatial planning at the implementation level. The new approach in the formulation of national spatial planning rules helps us to immediately approach spatial planning in a more qualitative and unified way. The Ministry of the Environment and Spatial Planning is already in the process of revising the rules, supplementing them with recommendations. The focus is on the so-called »soft approach« with recommendations in the form of handbooks for areas in which there is a lack of them in practice. Defining, organising and planning the size and shape of a building plot is certainly one of the topics that requires our attention.

Here is the handbook that illustrates the planning and design of a building plot for various activities that take place in buildings. The basic organisation divides the building plot into a sealed part and an unsealed part. The sealed part comprises the areas built up with buildings (including underground parts of buildings, balconies, eaves, canopies) and associated ancillary buildings and paved external areas. The remainder of the building plot is the unsealed part of the building plot. These are the external unsealed areas of the building plot which maintain direct contact with the geological subsoil and thus the ability to retain, drain and sink water, and allow for the planting of tall vegetation, and may be used for outdoor living. The detailed organisation of the building plot shall be planned in accordance with the requirements and the realisation of the public interest in the area.

The Handbook of the Spatial Order of Slovenia provides specific recommendations and clarifies the application of urban design criteria for the design and organisation of the building plot. I would like to see as many municipal urban planners, planners, spatial planners, mayors and administrators in the field of spatial planning as possible read, open and use it. I hope that with this and, of course, other handbooks of the Spatial Order of Slovenia, we will be able to achieve our goals and aspirations in the field of spatial planning.

Georgi Bangiev
Director-General, Directorate for Spatial Planning and Construction

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List of Abbreviations

GFA	gross floor area
FAR	floor area ratio
SSI	sealed surface index
USI	unsealed surface index
FP	factor of paved external surfaces
FP-L	factor of paved external surfaces intended for living
FP-T	factor of paved external areas for transport, utilities and technical purposes
BF	built-up area factor
CPI	commercial public infrastructure
BP	building plot
BP-U	unsealed part of the building plot
BP-S	sealed part of the building plot
MSP	municipal spatial plan
MDSP	municipal detailed site plan
RES	renewable energy sources
SIC	spatial implementation conditions
CBPB	common building plot of the building
EEU	efficient energy use

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Terms Important for Understanding the Handbook

The following terms are used solely for the purpose of understanding this handbook:

floor area ratio (FAR)
is determined as the ratio of the gross floor area of the building, calculated in accordance with the documents governing the calculation of the areas and volumes of buildings, to the total area of the building plot;

sealed surface index (SSI)
is determined as the ratio of the sealed part of the building plot to the total area of the building plot;

unsealed surface index (USI)
is determined as the ratio of the unsealed part of the building plot to the total area of the building plot;

factor of paved external surfaces (FP)
is determined as the ratio of the paved external surfaces of the building plot to the total area of the building plot; The paved areas may be further subdivided into paved living areas (areas intended for outdoor living, determined by FP-L) and paved transport, utilities and technical areas (areas intended for the operational needs of the building, determined by FP-T);

factor of paved living surfaces (FP-L)
is determined as the ratio of the paved areas intended for outdoor living to the total area of the building plot

factor of paved transport, utilities and technical surfaces (FP-T)
is determined as the ratio of the paved outdoor areas for transport, utilities and technical purposes supporting the operation of the building to the total area of the building plot;

built-up area factor (BF)
is determined as the ratio of the built-up area, calculated in accordance with the documents governing the calculation of the areas and volumes of buildings, to the total area of the building plot, the built-up area being taken to be the area of all buildings and associated ancillary structures on the building plot;

building plot (BP)
comprises the land under the building and the associated land adjacent to the building which is permanently dedicated to the regular use of the building or structure;

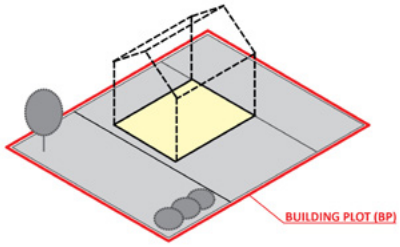


Figure 1: basic building plot diagrame

front side of the building plot
the part of the boundary of the building plot which is in contact with a public surface, and which allows the users of the building plot to have contact with or access to the public surface;

public surface
is a built and green area intended for general use, such as a public road, street, arcade, square, market, atrium, car park, playground, cemetery, park, lawn, recreation area and similar area;

public space
is an open or enclosed space, whether publicly or privately owned, which is accessible to all on equal terms, e.g. a railway station, public library, street, square, park;

shape of the building plot
the geometric appearance of the boundary of the building plot on the land. The shape of the building plot is shown in the municipal detailed site plans on the parcelling plans or building plot plans and, for each building, in the project for obtaining the building permit;

basic organisation of the building plot
is the basic division of the building plot into two basic parts: the sealed part and the unsealed part;

detailed organisation of the building plot
is a more detailed subdivision of the two basic parts previously defined by the basic organisation of the building plot (the sealed part of the BP and the unsealed part of the BP) into sub-units: the sealed part of the building plot is subdivided in the more detailed organisation into e.g. the land under the building, the land under the associated ancillary buildings, paved external areas, etc., and the unsealed part of the building plot. The detailed organisation of the building plot also determines the size and functional relationships of the sub-units defined;

sealed part of the building plot (BP-S)
comprises the areas which are built up with buildings (including underground parts of buildings, balconies, eaves, canopies) and associated ancillary buildings or are arranged as paved external areas. The remainder of the building plot is the unsealed part of the building plot;

land adjacent to the building
comprises the area of the unsealed part, the paved external areas and the area under the associated ancillary buildings;

space for the construction of the building
is the part of the building plot bounded by regulatory elements on which buildings may be sited, designed and constructed. The boundary of the space for the construction of the building is defined by the regulation lines bounding the space in area and by the height dimension bounding the space for construction in height;

spatial node
is a location or area within a settlement characterised by good accessibility by public transport and/or good accessibility (walking, cycling) to services of general interest;

unsealed part of the building plot (BP-U)
comprises the external areas of the building plot which maintain direct contact with the geological subsoil and thus the ability to retain, drain and sink water, and allow for the planting of tall vegetation, and may also be used for outdoor living. The remainder of the building plot is the sealed part of the building plot;

common building plot of the buildings (CBPB)
may comprise only that spatially interconnected land used for the purposes of the regular use of two or more buildings. A common building plot may be established where a particular plot of land is used for the purposes of the regular use of two or more buildings;

paved external areas
are areas on the sealed part of the building plot which are not covered by buildings and associated ancillary structures and are intended for traffic, utilities and technical areas and for living;

size of the building plot
is the area, expressed in numerical terms, determined in accordance with the activity for which the building plot is intended, the type of building and its associated ancillary buildings and its position in space (slope and orientation of the terrain);

built-up area
is the area of the planned or constructed building and associated ancillary buildings, calculated in accordance with the documents governing the calculation of the areas and volumes of buildings.

Purpose and Structure of the Handbook

The handbook deals with the planning and organisation of the building plot (BP). The planning mainly refers to determining the size and shape of the BP, while the organisation refers to dividing the area of the building plot into sub-units and is carried out at two levels – basic and more detailed. The aim of this handbook is to provide guidance and recommendations for the professional definition of BP, which should contribute to spatial arrangements that ensure quality of life in residential buildings, social infrastructure facilities, workplaces, production and commercial areas, etc.

It is intended for all those who, in their professional and lay fields, deal with the processes of planning, defining and designing BP. It makes recommendations based on an examination of good practice, professional starting points and regulations. Other handbooks already published in the framework of the Spatial Order of Slovenia on regulatory elements, stationary traffic, building typology and green systems in towns and cities have also been considered in the preparation of the handbook.

The handbook is divided into four main substantive sections. The first section defines the starting points and explains the basic concepts. The second section gives the main guidelines for planning and the basic and more detailed organisation of the BP. The third section defines the general guidelines for BP in terms of integration into the wider context, ensuring a favourable environmental status, hygiene, health and technical aspects, and the regulation of non-standard shapes of BP. The fourth section is in the form of the so-called ‘tables’, which give detailed guidelines for the organisation and design of the building plot in accordance with the individual activities in space or building typologies.

1 Introduction

The basic organisation of the BP is the result of taking into account the three aspects of sustainable development: economic, environmental and social. These aspects are interdependent and closely intertwined, more often mutually exclusive than coherent, and an imbalance between them leads to conflictual relationships. The basic organisation of the BP defines principles and provides guidelines for determining the appropriate proportions and ratios between the sealed part of the BP and the unsealed part of the BP.

The more detailed organisation of the BP refers to the division of the sealed and the unsealed part of the BP into more detailed sub-units and their size and functional relationships to each other. It defines the relationships between, for example, the land under a building, the land under associated ancillary structures, paved external areas, etc.

In addition to the organisation of the BP, the determination of the size and shape of the BP is very important in urban planning procedures. The basic rules are laid down in the applicable spatial planning regulations – the specific criteria and conditions for determining the size and shape are an integral part of the implementing spatial regulation, which is expressed in the spatial implementation conditions (SIC) in the municipal spatial plans (MSP) and municipal detailed site plans (MDSP). These spatial planning acts are the basic technical basis for the design of buildings and structures in the procedures for the preparation of project documentation. The MSP, in both its textual and graphical parts, prescribes the spatial implementation conditions for the siting and design of new buildings and also for the design of existing buildings in the event of alterations or extensions. Both acts (MSP and MDSP) also contain a parcelling plan in the graphic part – the MSP as optional and the MDSP as compulsory content. In addition to the laying-out elements, the parcelling plan shall also include a building plot plan, which shall show the size and shape of the BP on which the new building is planned.

The parcelling plan shall reflect the characteristics of the context of the specific site, relating to the location, size, function, design and visibility of the buildings and their BPs, while ensuring connections to transport, utilities, energy and other infrastructure. In determining the size and shape of the BP in the spatial implementation acts, account shall be taken in particular of criteria relating to the purpose, size and capacity of the planned structures or buildings, so as to ensure conditions for their normal use and maintenance and to ensure the quality of living. The size and shape of the BP will determine whether the building planned on it will have a suitable position and distance to allow good quality lighting, ventilation, privacy, functionality, accessibility and connectivity to public transport and other networks, etc. It is therefore particularly important that the size and shape of the BP be given the necessary attention both in the preparation of the SIC in the MSP and MDSP and in the detailed design of the spatial arrangement in the project documentation.

When organising the BP, it is important to continuously search for, optimise and finally determine the space for the construction of the building and to define a sufficiently large BP, which will also be recorded in the relevant records on the basis of the SIC in the MSP or MDSP and the project documentation. In this context, urban planning factors must be determined accordingly, ensuring an appropriate level of utilisation, built-up area, coverage, proportion of the unsealed part and proportion of paved external areas, with the aim of ensuring the functionality of the building and its surroundings, while at the same time providing conditions that allow a high quality of life.

Consistent compliance with the spatial regulation set out in the spatial implementation plans is essential for the implementation of spatial interventions. Compliance with all relevant spatial planning conditions prescribed for each spatial planning unit in the siting and design of new buildings and arrangements is a prerequisite for the long-term orderliness of our space.

1.1 Definition of the BP

The concept of BP is defined in the spatial planning regulations, which describe it as land permanently dedicated to the regular use of the building which stands on it. It comprises the spatially interconnected land on, over or under which a building is intended to stand or already stands, and other land permanently dedicated to the regular use of that building. In addition to the land under the main building, the BP shall also include the land on, over or under which (one or more) ancillary buildings are intended to stand or already stand, and land permanently dedicated to the regular use of the main building.

The basic characteristics of a BP are its shape and size. The shape of the BP is the geometric appearance of the course of the BP boundary and the size of the BP is its numerical area on the land. BPs can be of different shapes and sizes depending on the activity for which the BP is intended, the type of building on the BP, the position of the BP in space (slope and orientation of the terrain, contact with the public surface, etc.) and other factors such as the determination of a sufficiently large associated plot of land adjacent to the building.

The basic definition of the organisation of a BP is its division into a sealed part and an unsealed part. The sealed part of the BP comprises the areas which are built up with buildings (including underground parts of buildings, balconies, eaves, canopies, etc.) and associated ancillary buildings or are arranged as paved external areas. The remainder of the building plot of a building shall be the unsealed part of the building plot and comprises the external areas of the building plot which maintain direct contact with the geological subsoil and thus the ability to retain, drain and sink water, and allow for the planting of tall vegetation, and may also be used for outdoor living.

1.2 BP Design Criteria

In determining the criteria for the design of a building plot, the following criteria are particularly emphasised in the spatial planning regulations within the framework of the basic rules:

- the purpose, size and capacity of the buildings to be designed, in order to ensure conditions for their normal use and maintenance;
- the layout, the typology of the building and the prescribed degree of utilisation of the building plot;
- locally characteristic parcelling, in so far as this is the basis for a qualitative morphology of the settlement;
- the natural and man-made components of the space;
- the possibility of connection to utility equipment and facilities and to other public utility infrastructure networks;
- the possibility of providing access to the building plot;
- the possibility of ensuring fire safety requirements;
- the possibility of providing an adequate number of parking spaces;
- the possibility of erecting ancillary facilities;
- the possibility of providing open living areas of an appropriate form and size;
- lighting, technical and other requirements;
- restricted use of the land in accordance with other regulations.

In addition to the legal criteria, other criteria are also relevant, such as:

- requirements to ensure quality living conditions (the general human need for sun, good air quality, a noiseless environment, greenery, privacy, etc.);
- resource efficiency requirements (efficient use of land, contact with nature, efficient use of energy, etc.);
- environmental and nature protection requirements, such as arrangements to improve the climate and enhance biodiversity, including measures to adapt to and mitigate climate change, water sinks;
- etc.

The BP planning criteria listed above can be grouped into four sections, depending on their different aspects:

1. **criteria to ensure that the BP enables the building to function**
   These criteria define the function of the BP in relation to the activity taking place on it and ensure that the building, its associated ancillary facilities and the surrounding areas have sufficient surface area and are appropriately arranged and organised. The criteria shall be based on the purpose of the building to be designed, its shape and size, and shall aim to ensure the smooth running of activities in and around the building on the BP. They also include the possibility of direct access from a public surface (public path) and the provision of other CPI.

2. **criteria to ensure a favourable state of the environment, including tackling the effects of climate change**
   The design of the BP must allow for the economical use of land, encourage and allow areas for energy efficiency facilities and a sufficient proportion of unsealed land, which provides, in particular, greenery, rainwater draining and heat island effect mitigation, as well as habitat for flora and fauna.

3. **criteria governing the relationship of the BP to the wider area in which it is located or to its surroundings**
   These include taking into account the natural and physical characteristics of the site, the slope and orientation of the terrain, the surrounding building morphology and parcelling, the co-creation of the public space, the preservation of contact with nature, the preservation of the connectivity of areas of nature conservation importance and, last but not least, the location within the settlement (e.g. location in a spatial node).

4. **criteria which ensure favourable living and working conditions by meeting sanitary, hygiene and health requirements**
   A BP must allow for adequate sunlight, shade, ventilation, noise protection, compliance with fire and earthquake regulations, etc.

All these criteria have been the basis for the recommendations on the organisation of the BP. The recommendations in the handbook range from general ones, which apply to all BPs, to more specific ones, tailored to specific types of BPs. The recommendations are also applicable to facilities (e.g. bathing facilities, sports facilities, swimming pools, etc.).

The expert basis for the handbook is the *Building Plot Utilisation Rate Analysis*, which is the first stage in the production of this handbook, and the *Additional Expert Verification of the BP Design*. The recommendations have also been based on the applicable regulations and various technical literature.

2 BP Organisation

The BP organisation is divided into a basic organisation with two parts and, within the two basic parts, a more detailed organisation with sub-units.

The organisation of the BP should be such that it enables a high quality of life, minimises constraints on natural resources, incorporates resilience to climate change, minimises biodiversity loss and environmental pollution, supports social equity, sustainable mobility and public health.

A BP must be organised rationally and in such a way as to facilitate development and create good conditions for people to live and work and must include concern for environmental protection in terms of achieving the connectivity of areas important for nature conservation. Thus, the basic organisation of the BP is based on the division into the sealed and the unsealed part, while the more detailed organisation covers the further subdivision and interrelationships of the proportions of areas within the sealed and the unsealed part of the BP.

2.1 Basic Organisation of the BP

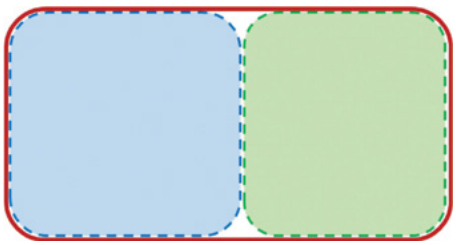
The basic organisation of the BP must consider all three aspects of sustainable development: economic, environmental and social. Sustainable development means siting interventions and allocating activities and uses in such a way as to ensure the long-term coherence of the environmental, social and economic aspects of development.

The basic organisation of a building plot shall determine the basic division of the building plot into two parts: the sealed areas (sealed part of the BP = BP-S) and the unsealed areas (unsealed part of the BP = BP-U).

Determining the ratio between the proportion occupied by the sealed part of the BP and the proportion occupied by the unsealed part of the BP has a significant impact on how environmentally, economically and socially sustainable the BP will be and, consequently, how the BP will affect the quality of the living and working environment for people and society. Determining the right proportion of the sealed part of the BP has become even more important in the context of climate change, as an inadequately measured (too large) proportion of sealed BP has a negative impact on the resilience of settlements to climate change. At the same time, an adequate proportion of the unsealed part contributes to ensuring a quality living and working environment.

The building plot (BP) is the land permanently dedicated to the regular use of the building that stands on it. It comprises the spatially interconnected land on, over or under which a building is intended to stand or already stands, and associated adjacent to the building which is permanently dedicated to the regular use of that building. The BP shall also include the land on, over or under which the associated ancillary building of that building is intended to stand or already stands, and the land permanently dedicated to the regular use of that associated ancillary building.

The BP area shall be divided into two parts at the stage of basic organisation: the sealed part and the unsealed part. The initial design phase of the BP shall concern the determination of the ratio between the proportion occupied by the sealed part of the BP and the proportion occupied by the unsealed part of the BP.



THE SEALED PART OF THE BP (BP-S) comprises the areas which are built up with buildings and associated ancillary buildings (including underground parts of buildings, balconies, eaves, canopies, etc.) or are arranged as paved external areas.

THE UNSEALED PART OF THE BP (BP-U) includes external surfaces in their original, naturally formed state, which have contact with the geological subsoil and thus the ability to retain and drain water; they can be changed from their original, natural state with minimal interventions related to soil recultivation, filling or excavation, as long as this does not reduce their ability to retain and drain water, maintains contact with the geological subsoil and allows the growth of plants with deep roots and the life of organisms in and above the soil.

2.2 More Detailed BP Organisation

The more detailed organisation of the BP refers to the division of the sealed and the unsealed part of the BP into more detailed sub-units and their size and functional relationships to each other.

The sealed areas of the BP are divided into:

- **areas under buildings (structures) and associated ancillary structures** – the area is determined in accordance with the rules for built-up areas in accordance with the documents governing the calculation of the areas and volumes of buildings in the part prescribing the calculation of the built-up area;
- **external paved areas** are divided into:
  - **traffic, utilities and technical areas**, which are further divided into:
    - **traffic surfaces**: paved area for entry to and exit from the BP; paved paths within the BP, such as roads, pedestrian paths, cycle paths; paved areas for intervention (fire brigade); parking areas for cars, bicycles and other means of transport (for the IP, IK types of uses these are trucks, tractors, for CD these are ambulances, buses, for BT these are camper vans, etc.), manoeuvring areas (for turning vehicles on the BP), etc.;
    - **utility areas**: waste collection areas (these should be located along the BP boundary with the public road to facilitate access and collection of waste by the competent waste collection service), areas for the installation of heat pumps, electric car charging stations, wind turbines, etc., and other paved areas for the utility infrastructure, etc.;
    - **technical areas**: utility yards (areas for delivery and handling of goods), external working areas, external storage areas, etc.;
  - **outdoor living areas (which do not include the unsealed part, but are paved areas)** and are divided into:
    - **paved living areas**: areas intended for play, sport and recreation (paved sports fields, paved children's playgrounds, paved recreation areas), areas with a representative function (entrance area in front of a building, such as a paved courtyard, square, platform in front of a residential building, municipality, shopping centre, office building, etc., areas of catering establishments) areas for other forms of living (courtyard, terrace of a single- or multi-apartment building, areas for gathering people at social and commercial buildings, usually equipped with benches, tables, pergolas), outdoor classroom at a school or kindergarten, etc.;
    - **green area above an underground building**: green roof above an underground building (the roof is at the ground level and is not classified as part of the unsealed part), etc.

- **The areas of the unsealed part of the BP** are outdoor areas mainly intended for outdoor living, socialising and recreation (e.g. gardens adjacent to residential buildings, parkland adjacent to multi-apartment buildings, social buildings, shops), improving the experiential quality of the space, separating different uses, preserving biodiversity and natural values, protection against wind, noise, excessive solar exposure, representative, ecological and similar purposes, and are divided into:
  - external areas in their original, naturally occurring state, without intervention, which have the capacity to retain, drain and sink water, have direct contact with the geological subsoil, and provide for the growth of plants with deep roots and the life of organisms in and above the soil;
  - unpaved transformed external surfaces which have been altered from their original state by minimal soil recultivation, filling or excavation, provided that their capacity to retain, drain and sink water is not thereby reduced, that contact with the geological subsoil is maintained, and that they support the growth of deep-rooted plants and the life of organisms in and above the soil.

The design and organisation of a BP shall be such as to enable the buildings and the activities taking place therein or on the land adjacent thereto to be used on a regular basis. A single BP is usually intended for a single building with associated ancillary facilities, but may also include building complexes (e.g. industrial or tourist complexes). **The size of the BP** is also measured in accordance with the operational needs of the building – one of the main tasks of the planning and organisation of the BP is to ensure the conditions for the smooth use of the building and the implementation of activities for which the BP is intended. At the same time, it must be borne in mind that the organisation of the BP must not unduly degrade the natural characteristics that the land had before the intervention (e.g. water retention and sinks, ecological and biological potential).

In order to ensure the conditions for the undisturbed use of the buildings, **direct contact between the BP and the public surface (e.g. road or path)** must be allowed[1]. The part of the BP boundary adjacent to the public surface is called **the front side of the BP**. Each BP must have at least one front side that allows users access from/to the public surface (e.g. road or path). It follows that the BP must be located directly adjacent to the public surface, and in certain exceptional cases also adjacent to a shared path (e.g. shared access to one- and two-apartment buildings if there are up to four apartment buildings; in the case of multi-apartment buildings, their BP must be in direct contact with the public surface). In some cases, especially in rural areas, BPs are found which do not have a front side, i.e. do not have direct contact with the public surface, which requires the creation of an easement and right of way for the BP. This type of access arrangement should be avoided and is only permissible in the context of the rehabilitation of the actual situation. The same applies to the provision of other CPI – a properly located BP should have access to CPI with direct contact with the public surface.

The handbook covers the basic and more detailed BP organisation for five selected groups of buildings:

1. BP for residential buildings and living accommodation;
2. BP for buildings with social activities;
3. BP for buildings with commercial activity;
4. BP for farms;
5. BP for buildings with production activity.

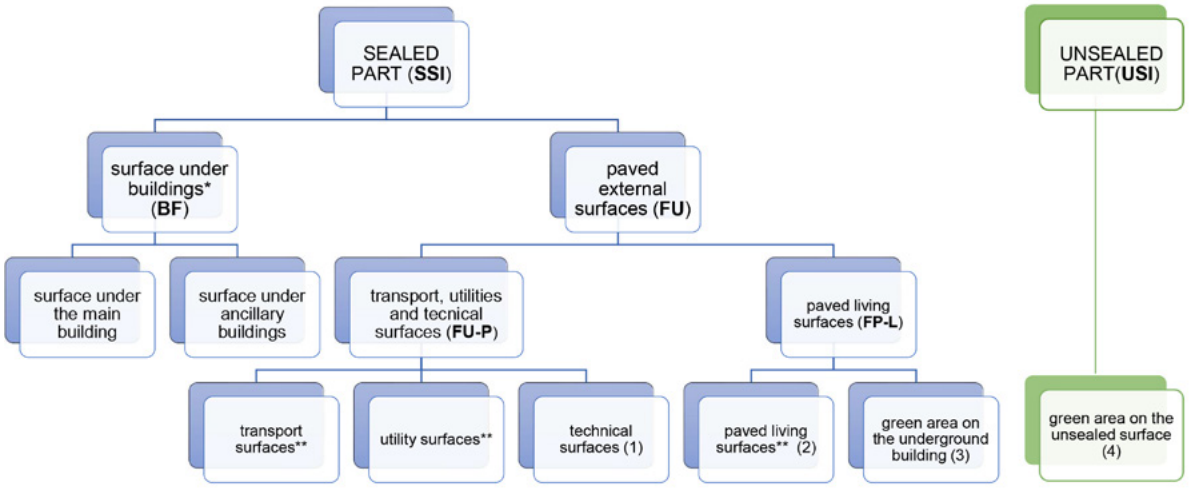
Each group is subdivided and described in detail in individual tables later in the manual. All relevant criteria for the organisation of the BP are taken into account, not only those related to the BP function.

1 In accordance with the sectoral regulations (e.g. Regulations on the criteria for determining the land with utility infrastructure).

2.2.1 Taking into account urban planning factors in the organisation of the BP and in determining its size and shape and the extent of its individual parts

The scale of the individual parts of a planned BP is expressed in terms of urban design factors in its organisation:

- **the sealed surface index (SSI)** is determined as the ratio of the sealed part of the building plot to the total area of the building plot;
- **the unsealed surface index (USI)** is determined as the ratio of the unsealed part of the building plot to the total area of the building plot;
- **the factor of paved external surfaces (FP)** is determined as the ratio of the paved external surfaces of the building plot to the total area of the building plot; The paved areas may be further subdivided into paved living areas (areas intended for outdoor living, determined by FP-L) and paved transport, utilities and technical areas (areas intended for the operational needs of the building, determined by FP-T);
- **the factor of paved living surfaces (FP-L)** is determined as the ratio of the paved areas intended for outdoor living to the total area of the building plot;
- **the factor of paved transport, utilities and technical surfaces (FP-T)** is determined as the ratio of the paved outdoor areas for transport, utilities and technical purposes supporting the operation of the building to the total area of the building plot;
- **the built-up area factor (BF)** is determined as the ratio of the built-up area, calculated in accordance with the documents defining and calculating the indicators for the areas and volumes of buildings, to the total area of the building plot, the built-up area being taken to be the area of all buildings and associated ancillary structures on the building plot;
- **the floor area ratio (FAR)** is determined as the ratio of the gross floor area of the building, calculated in accordance with the documents defining and calculating the indicators for the areas and volumes of buildings, to the total area of the building plot;



* all buildings with above-ground parts (the BF is calculated in accordance with the documents defining and calculating the indicators for the area and volume of buildings; the above-ground part is the part that projects above the ground, e.g. at least 5 cm)

** embanked or paved, directly on the ground or above the underground space

(1) e.g. external storage area, external disposal area, etc.

(2) e.g. terrace laid at the angle of the natural terrain; paved/enclosed children's playground, paved courtyard in front of the building, etc.

(3) e.g. intensively/extensively greened roof of an underground space arranged at the angle of the natural terrain

(4) e.g. garden, lawn, orchard, etc.

Figure 2: more detailed breakdown of the floor area ratios

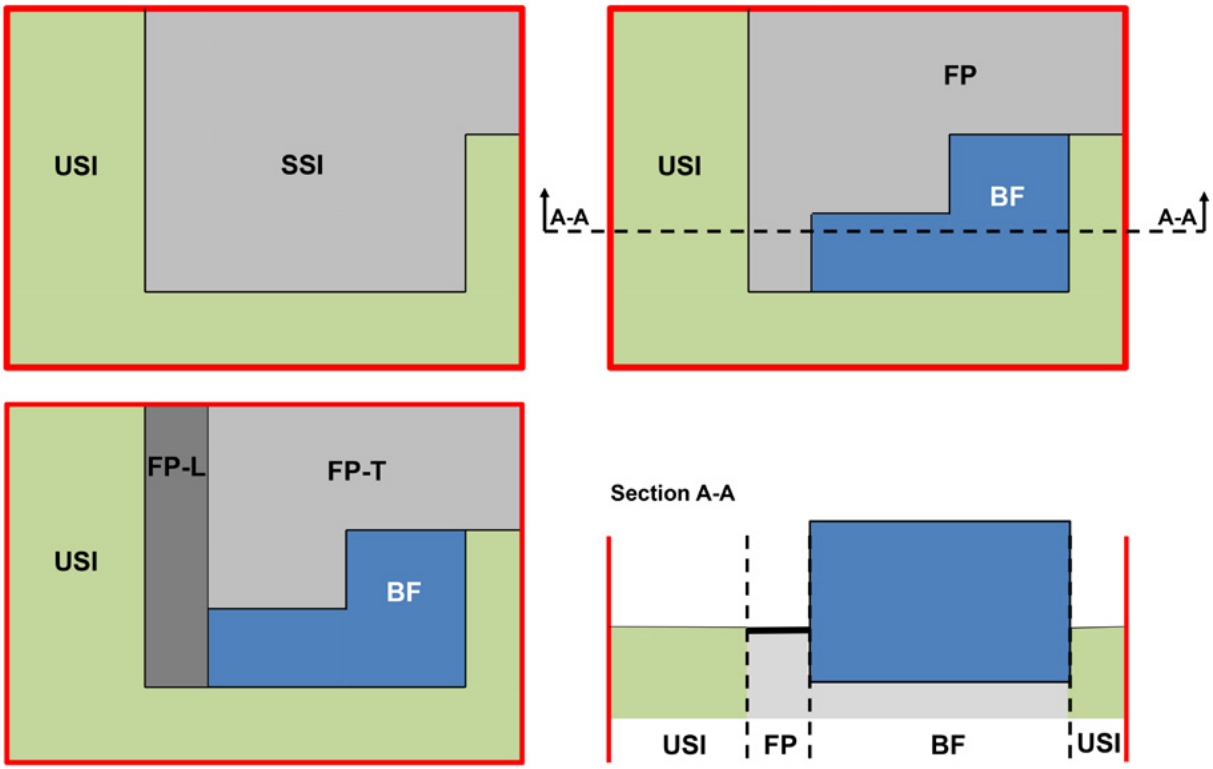


Figure 3: more detailed building plot organisation diagram

Additional factors

Concepts relating to the provision of green surfaces and open living spaces already used in the implementing spatial planning regulations may continue to be used. In applying these concepts, attention should be paid to the application of the factors to the use (LSF is used for residential buildings and GAF for non-residential buildings) and to the provision of a minimum proportion of the unsealed part in the subdivision of the LSF (the LSF is subdivided into the unsealed part and the paved areas for living purposes).

- **LSF** (open living areas factor): is the ratio of the open living areas, which include the green areas on the unsealed part and the paved areas for outdoor living, to the total area of the building plot of the building; i.e. the ratio of the sum of the unsealed part of the BP and the paved outdoor areas for living to the total area of the BP; it may also be expressed as the ratio of the sum of the unsealed part of the BP and the paved external areas intended for living purposes to the total BP area; it is determined only for building plots of residential buildings, where it is equal to the sum of the USI and the FP-L;
- **GAF** (green area factor): is the ratio of the green areas on the unsealed part to the total BP area; it may also be expressed as a percentage of green areas in the total BP area. It is determined for building plots of non-residential buildings.

Existing factors	New factors
	SSI
FAR	FAR
BF	BF
GAF	USI
LSP	
	FP-L
	FP-T
	FP

Table 1: translation table of existing and new building plot floor area ratios

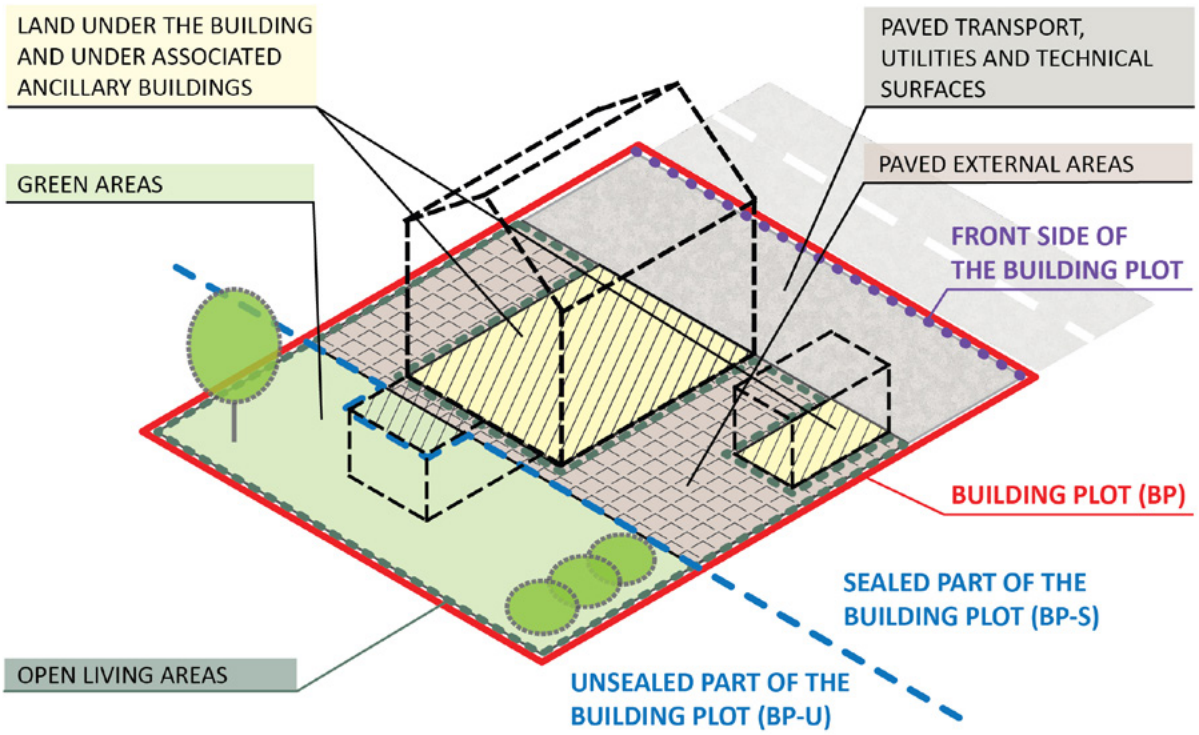


Figure 4: schematic representation of the detailed subdivision of the sealed and unsealed part of the BP into sub-units for the example of a residential building

3 General Guidelines for the BP Determination

3.1 BP in a Spatial Context

Slope and orientation of the terrain
The natural physical characteristics of the land, including slope and orientation, play an important role in determining the size and shape of the BP, as they have a direct influence on the usability of the land and on the solar exposure (e.g. on shady slopes, the BP is generally larger to ensure adequate solar exposure; the organisation of the same type of parcels generally requires more space on steep slopes than on flatter slopes, etc.).

BP integration into the wider settlement area
The organisation of the BP should also take into account the wider settlement area or the position of the BP in the spatial and functional structure of the settlement. Particularly important aspects are accessibility to services of general interest (shop, education, health, culture, etc.), to green and recreational areas and to public passenger transport. If accessibility is poor/good, this should be taken into account in the planning and organisation of the BP – e.g. in areas where there is a lack of public open green spaces, a higher proportion of the unsealed part of the BP is required; in areas with excellent accessibility by public transport, the BP should limit the areas for traffic manipulation; location in a spatial node with good public transport accessibility and a mix of functions may require more intensive build-up and/or land use and vice versa, etc. (see also Chapter 4 – Detailed Guidelines).

Accessibility is the reachability of a location in relation to a means of transport, measured in units of length or time. In urban planning, accessibility is used to plan the accessibility of different activities and services (e.g. education, health, services such as shops, banks, post offices, etc.) for different users[2]*. By improving accessibility to services of general interest and general economic interest, accessibility to housing and jobs through sustainable mobility modes and by reducing mobility needs, the quality of life in settlements is enhanced.*

Parcelling and morphological pattern
The design and sizing of the BP should also take into account the existing parcelling and morphological pattern (e.g. the characteristic narrow, deeply developed plots in Pannonian settlements, the organically formed structure of medieval cores, the grid pattern of 19th and 20th century towns, etc.) – it is necessary to achieve a coherent placement of the BP in the existing context, where it is of a good quality, and to be responsive to the existing parcelling pattern. Where the actual situation is of poor quality, better solutions should be sought in determining the BP. In particular, this requires moving beyond the excessively cramped construction of our modern times that results from too many buildings being placed in a certain area or buildings that are too large being placed on plots that are too small. Densification of the built-up area is preferably achieved by increasing the use of BP, which takes precedence over the building-up of the BP, while maintaining or increasing the proportion of green areas.

Relation to public space
In the layout of buildings and associated areas to buildings on the BP, particular attention shall be paid to the relationship between the BP and the public spaces or the impact of the organisation of the BP on the public space resulting from the siting of the building on the BP. This can be regulated by the use of regu-

2 Source: Urban terminology glossary, *https://isjfr.zrc-sazu.si/sl/terminologisce/slovarji/urbanisticni#v, 20/04/2021*

lating elements (regulating line, building line, building boundary) or by designating the space for the construction of the building. The overall contact of the BP with the public space (front side of the BP, three-dimensional influence of the arrangement of the BP on the wider space) has a significant and direct influence on the character of the public space and thus on the character of the settlement. The street façades of buildings and the layout of the areas between buildings and public spaces have a particularly strong influence. How buildings are shaped and positioned on the BP, where parking and manoeuvring areas are located, whether green spaces (e.g. gardens, trees) are provided between buildings and the public space, how entrances are orientated and architecturally marked, etc. are important aspects of the organisation of the BP that influence the image of the settlement as perceived from the public space.

3.2 Ensuring a Favourable State of the Environment

Although each BP is intended for buildings and potentially also for associated ancillary facilities, part of its surface area should be dedicated to supporting natural processes. Each BP (with the possible exception of the most dense parts of settlements) should include an appropriate proportion of the unsealed part, which has the capacity to retain and sink water[3], to be in contact with the geological subsoil, to support the growth of plants with deep roots and to support the life of organisms in and above the soil, provides abundant greenery and thus absorption of rainwater, cooling and purification of the atmosphere, and provides a home for animal species[4], maintains and establishes contact with nature, establishes the connectivity of areas important for nature conservation, while significantly improving the quality of life. This aspect is also very important when designing a green system. At the implementation level, the green system is ensured through the definition of land use designations and spatial implementation conditions – also as proportions of the unsealed part of the BP. Greening/planting shall preferably use native plant species.

3.3 Hygiene, Health and Technical Aspects

Consideration of the health, hygiene and technical aspects of the building's operation has an important influence on the design, size and organisation of the BP.

Sunlight as a source of light, heat energy and natural disinfection is essential for a favourable and good quality living environment on the BP. This is particularly important in residential buildings. The Technical Guideline on Energy Efficiency[5] sets the minimum required solar exposure for a dwelling at 2 hours at the winter solstice, 4 hours at the spring and autumn equinoxes and 6 hours at the summer solstice. These are the lower limits of the required exposure, and it is therefore recommended that buildings intended for residential use should be exposed to the sun's rays for longer periods. For free-standing one- and two-dwelling buildings, 10 hours in summer (21 June), 6 hours in spring and autumn (21 March and 21 September) and 4 hours in winter (21 December) are recommended[6], but the principle of energy-efficient construction should also be taken into account so that the building does not overheat.

3 The EDJNet study *(https://www.europeandatajournalism.eu/eng/News/Data-news/EDJNet-s-collaborative-investigation-on-climate-change-in-Europe-an-infographic),* based on simulations for Slovenia, predicts a marked increase in annual mean air temperature and a change in precipitation patterns – summer precipitation is predicted to decrease and winter precipitation is predicted to increase. The study also shows that cities are warming faster than their surroundings due to overheated built surfaces.

4 A United Nations report highlights the importance of biodiversity conservation for food production and the alarming state of the situation *(Commission on Genetic Resources for Food and Agriculture, Food and Agriculture Organization of the United Nations:* The State of the World's Biodiversity for Food And Agriculture, Rome 2019). The role of green spaces in human settlements as ecosystems is of paramount importance due to the large scale of human settlements. Therefore, every garden should have a piece of sustainable landscaping to support birds, small animals and insects that are important for the pollination of plants (including agricultural crops).

5 See Technical Guideline TSG-1-004: 2010: Efficient use of energy

6 Sunce u arhitekturi, Mječislav Tvarovski, Građevinska knjiga, Beograd 1969.

Adequate solar exposure shall be ensured between buildings by means of correct spacing and distances. At the same time, the different climatic macro- and micro-conditions must be taken into account and the need for shading on the sunny sites in summer, especially in warm climate types, must be taken into account. Shading is also becoming increasingly relevant in the light of climate change. Changing conditions and changing solar exposure objectives therefore require approaches tailored to specific conditions. In this respect, the planting of tall deciduous trees on the unsealed part of the BP in front of the southern façades is also particularly important, as the leafy canopy provides shade for the BP and its buildings in summer, but in winter, when solar irradiation is desirable, the bare branches do not block the sun's rays. The organisation of the BP must be such that this type of arrangement is possible.

The layout of buildings on a BP has a significant impact on airflows, as improper layout creates air vortices. This influence generally increases with the volume or height of the building, as taller buildings have a greater influence on the movement of air masses. Tall trees can also play an important role in this respect, shielding buildings from the wind. Greenery can also have a damping effect, but only if the belt is sufficiently wide (at least 50 m) and dense (tall trees without undergrowth have almost no effect)[7].

The spacing between buildings or structures and their distances from BP boundaries must also ensure compliance with all relevant technical regulations and guidelines (e.g. fire safety, seismic safety, protection against noise, vibration, efficient use of energy). For the distance of a detached building from the BP boundary, recommendations are given in the handbook *Regulatory Elements*[8]. If distances are less than recommended, other measures such as blind firewalls should be implemented.

All these factors must be reasonably taken into account in determining the size and shape of the BP in order to ensure favourable living conditions and the safety of the inhabitants.

From a traffic and utility planning perspective, the following should be taken into account in the design and organisation of the BP:

- the road buffer zone, which is determined in accordance with the categorisation of the individual road/way (possibility of reduced distance – the opinion of the municipality must be obtained). Interventions into the road buffer zone must not interfere with the construction, operation and maintenance of public road infrastructure;
- the road connection must be safe and technically capable of accommodating the planned traffic;
- the planned intervention must not obstruct the general use of the public road, nor reduce the visibility of the road or the connection to the public road;
- if parking is provided on the BP, a sufficiently large manoeuvring area must be provided for vehicles so that they are integrated frontally into the public road;
- the collection point for the collection of municipal waste shall be so arranged as to allow for the collection and removal of waste by municipal vehicles of the competent services.

Parking capacities also have an influence on the BP determination:

- In determining the number of parking spaces on the BP, the recommendations of the Spatial Order of Slovenia on *Stationary Traffic in Urban Settlements*[9] shall be taken into account, unless a norm is specifically prescribed for a particular activity or service (e.g. the Rules on standards and minimal technical conditions for kindergarten premises and equipment).
- The design of on-site parking areas should also take into account greenery to provide shading, mitigate the effects of climatic conditions and reduce storm water runoff. In providing adequate greenery, the handbook *Green Systems in Towns and Cities – Guiding the Development of Green Spaces*, specifically Chapter 5.2, Section 15.e Parking Arrangements[10], shall be followed.

7 See the publication The residential environment and its components. Jernejc, M., Ferluga, V., Urban Institute of Ljubljana, Ljubljana, 1976.
8 Available at: *https://www.gov.si/assets/ministrstva/MOP/Dokumenti/Prostorski-red/regulacijski_elementi.pdf*
9 Available at: *https://www.gov.si/assets/ministrstva/MOP/Dokumenti/Prostorski-red/Mirujoci-promet-v-urbanih-naseljih.pdf*
10 Available at: *https://www.gov.si/assets/ministrstva/MOP/Dokumenti/Prostorski-red/zeleni-sistem.pdf*

3.4 Regulating Non-standard BP Shapes

Determination of a common BP for building complexes – CBPB

Where there is a group of functionally linked buildings that function interdependently (e.g. a rounded neighbourhood of apartment buildings, an industrial complex, a commercial complex, a tourist complex), a so-called common building plot (CBPB) may be defined in one of the following forms:

TYPE1: a single CBPB for the entire complex of buildings

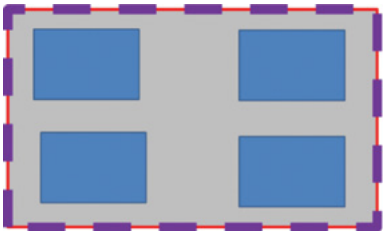


Figure 5: example of one common building plot of the whole building complex

TYPE 2: for a certain number (n) of building plots (BP) of buildings, an additional common building plot (n+1) is defined, where all the individual building plots of the buildings sharing the common building plot are in direct contact with it (common boundary).

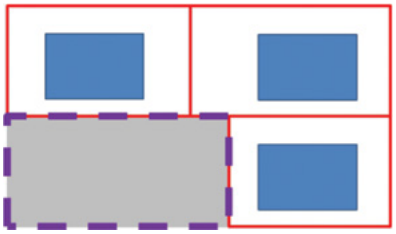


Figure 6: example of a common building plot of a building with direct contact

TYPE 3: For a certain number (n) of building plots (BP) of buildings, an additional common building plot (n+1) is defined, where the individual building plots of the buildings sharing the common building plot are in direct (common boundary) or indirect (through public space) contact with it. The building plots of the buildings to which the CBPB belongs are, together with the CBPB, a rounded spatial unit (are in contact, forming a continuous unit as a whole).

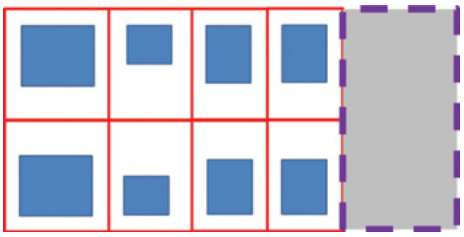


Figure 7: example of a common building plot of a building with indirect contact

In each of the above cases, there is a set of buildings, other structures and external arrangements that are functionally linked and interdependent. The basic organisation of the CBPB follows the same principle as for other BP (division into sealed and unsealed parts), its more detailed organisation depends on the activities taking place on it and the number of people who will be in the area.
In calculating the factors for each BP, the CBPB is taken into account in proportions proportional to the size ratios of the BPs sharing the CBPB.

Common building plots for residential buildings are only possible in the case of multi-dwelling buildings and when the construction is planned by means of a detailed site plan (MDSP).

4 Detailed Guidelines for Determining the Size, Scale and Organisation of the BP in Relation to Spatial Activities and Building Typologies

The following are the detailed guidelines for the definition of a BP, the following activities and the associated building typologies are considered:

SS – residential use:

- one- and two-dwelling buildings, villas and semi-detached houses
- terraced houses
- free-standing multi-dwelling buildings (villa block, block, tower block)
- higher density housing (blocks)

CD – social activity:

- kindergartens
- primary schools
- health care centres

BD – commercial activity:

- small commercial buildings
- large commercial buildings
- shopping centres

Farms

- farms

IP and IG – manufacturing:

- manufacturing complexes
- production zones

SS – RESIDENTIAL USE: One- and Two-dwelling Buildings, Villas and Semi-detached Houses

Basic organisation of the BP

SEALED PART

Areas under the building and under associated ancillary buildings

- main building: residential building
- associated ancillary buildings: garage, canopy for cars, bicycles and other means of transport, bicycle shed, woodshed, garden shed, shed, swimming pool, waste collection area, etc.

Paved external areas that are not covered:

Traffic, utilities and technical areas

- entry and exit;
- parking areas for cars, bicycles and other means of transport;
- manoeuvring areas (for turning vehicles on the BP);
- waste collection areas.

Outdoor living areas that are not covered:

- paved living areas for socialising (e.g. terraces, etc.);
- paved living areas intended for representative purposes (e.g. entrance area in front of the building);
- green areas above underground structures.

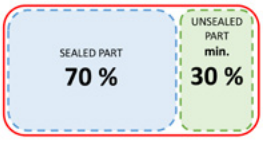
UNSEALED PART

Surface of the unsealed part

- green areas: garden (living, vegetable, ornamental, etc.), lawn, orchard, areas with trees, front garden, etc.

one- and two-dwelling building

semi-detached house



villa

Guidelines for the detailed organisation of the BP

The siting of buildings and structures and the detailed organisation of areas on the BP should ensure:

- a well-designed space between the building and the public area (front side of the BP). From the aspect of creating a quality edge to the public space, the position, size and shape of the buildings on the BP adjacent to it are of key importance. The building should create a quality street ambience with its façades oriented towards the public space. The space between the building and the public space should be designed, at least in part, for a representative purpose;
- adequate solar exposure of the building on the BP and of the buildings on the adjacent plots;
- a sufficiently large, enclosed green area on the unsealed part of the BP (e.g. for a garden, orchard, areas with tall trees);
- space for outdoor living and privacy of outdoor living areas;
- space for traffic areas (car park siting), access to the BP and connection to other CPI;
- space for any associated ancillary objects;
- a sense of privacy in the use of outdoor living areas, therefore living areas are generally located in the courtyard area, which is more sheltered and visually concealed from the street space.

BP size

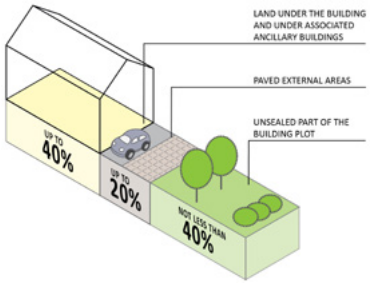
- The sizing of the BP shall take into account the type of the building, the intended size of the building and its associated ancillary structures, natural and created site conditions (e.g. morphological pattern), orientation, provision of distances from neighbouring structures, fire safety, existing parcelling, regulatory factors and provision of lighting and solar exposure.
- An important factor in determining the size of the BP is the provision of a sense of privacy, which is particularly important to ensure in the case of a detached building typology.
- In addition to the space for the building and associated ancillary structures, the BP should also provide: paved external areas for traffic, utilities, technical areas and outdoor living (e.g. access, paths, parking, terrace), and an unsealed area (garden, green areas). The design of the size and shape of green areas should take into account their multifunctional role: outdoor living, rainwater drainage, cooling and purification of the atmosphere, provision of shade by tall trees, preservation of biodiversity, as well as the production of vegetables and fruit for own needs.
- The BPs of villas are the most prominent in terms of size, being larger than the average BPs for one- and two-dwelling buildings and therefore requiring a high proportion of green areas on the unsealed land.
- In determining the size of the BP for two-dwelling buildings, the number of parking spaces and the proportion of green and paved outdoor living areas per number of dwellings should also be taken into account

RECOMMENDED BP SIZE

- one- or two-dwelling building: at least 450.00 m²; villas: at least 800.00 m²;
- semi-detached house on a site within a spatial node: minimum 250.00 m² and maximum 450.00 m² for each semi-detached house unit; semi-detached house on a site outside a spatial node: minimum 300.00 m² and maximum 500.00 m² for each semi-detached house unit;
- the maximum size of the BP for the calculation of the factors is 800.00 m².

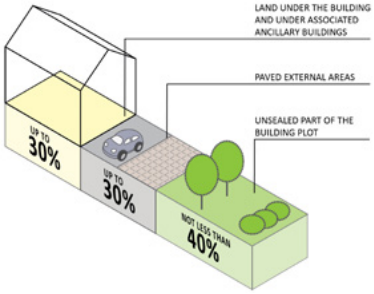
BP surface proportions and utilisation factors

one- and two-dwelling building in a spatial node



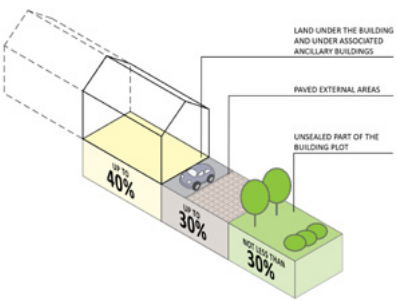
SSI: max. 0.6
FAR: /
BF: 0.4
FP: 0.2
FPl: /
FPt: /
USI: min. 0.4

one- and two-dwelling building outside a spatial node



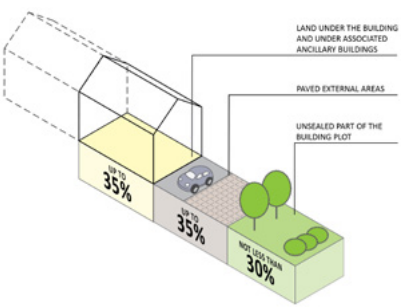
SSI: max. 0.6
FAR: /
BF: 0.3
FP: 0.3
FPl: /
FPt: /
USI: min. 0.4

semi-detached house in a spatial node



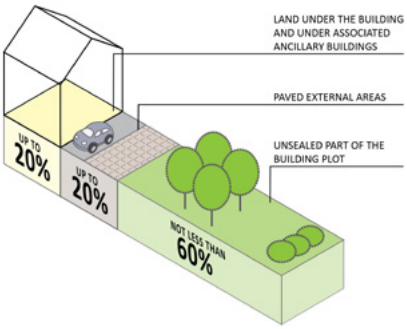
SSI: max. 0.7
FAR: /
BF: 0.4
FP: 0.3
FPl: /
FPt: /
USI: min. 0.3

semi-detached house outside a spatial node



SSI: max. 0.7
FAR: /
BF: 0.35
FP: 0.35
FPl: /
FPt: /
USI: min. 0.3

villa



SSI: max. 0.4
FAR: /
BF: 0.2
FP: 0.2
FPl: /
FPt: /
USI: min. 0.6

A. Land under the building and under associated ancillary buildings

- The land under the building includes the main building – the residential building – and the associated ancillary buildings, including canopies. In the case of one- and two-dwelling buildings, the main building may occupy no more than 75% of the land under the building, and at least 25% of this land must be allocated to the associated ancillary buildings. Canopies adjacent to the main building shall be included in the area devoted to the residential building and, if detached, in the area devoted to the associated ancillary buildings.
- The land under the building and associated ancillary structures of a one- and two-dwelling building may comprise up to 40% of the total BP area within the spatial node, up to 30% outside the spatial node and up to 20% in the case of a villa.
- The land under the building and associated ancillary facilities of a semi-detached house may comprise up to 40% of the total BP area within the spatial node and up to 35% outside the spatial node.

B. Paved external areas

- Paved outdoor areas are divided into traffic, utility and technical areas and areas intended for outdoor living. Their distribution is important, depending on the building type, and has an impact on the organisation and design of the BP.
- Paved outdoor living areas can also be provided on the roof of an underground object (garage, basement, etc.).
- The paved external areas intended for parking should be greened (Chapter 3) and preferably shaded by a canopy of tall trees.
- The areas of RES objects and EEU installations shall be taken into account in the calculation of paved areas (if not already part of the building or associated ancillary buildings).

C. Unsealed part

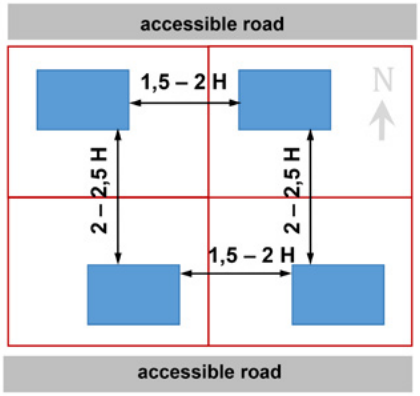
- An important component of the BP for one- and two-dwelling buildings, villas and semi-detached houses shall be the garden on the unsealed part, which shall cover at least 40% of the area of the BP for one- and two-dwelling buildings, at least 60% for villas and at least 30% for semi-detached houses.
- At least one tall deciduous tree should be planted on the unsealed part of the BP. Part of the green areas on the unsealed part should be in a sustainable form to support the small animal ecosystem.
- The installation of greenhouses as temporary structures (up to 6 months per year) is allowed on the area of the unsealed part, up to a GFA of 20 m^2.

Shape of the BP

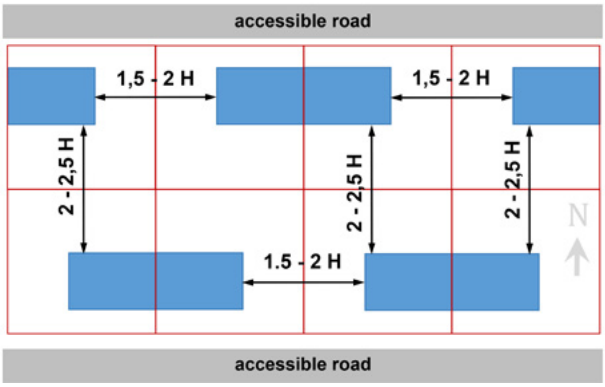
- The shape, size and greening of the BP and the position of the building on it should ensure efficient energy use: solar heating in the cooler months and shading by tall deciduous trees in the summer months.

RECOMMENDED SPACING BETWEEN BUILDINGS ON FLAT GROUND TO ENSURE ADEQUATE LIGHTING AND SOLAR EXPOSURE

• **Example 1:** one- or two-dwelling building, villa



• **Example 2:** semi-detached house



*V = height of the building from the ground to the ridge

Special features

The main advantages of one- and two-dwelling buildings over other forms of construction are the light and solar exposure on all three sun-facing sides of the building and the large garden area. These conditions must be met in the design of the BP, otherwise this type of construction is not viable as it is the most space-consuming. If it is not possible to define a BP large enough and suitably shaped to provide sufficient solar exposure on three sides of the building, it is reasonable to opt for a semi-detached house which provides solar exposure of two whole sides of the building on a smaller BP. In view of the above, in addition to the size of the building and its associated ancillary structures, the natural and created site conditions, orientation, provision of distances from neighbouring objects, fire safety, existing parcelling and all prescribed factors shall be taken into account in determining the BP for the one- and two-dwelling buildings and semi-detached houses.

SS – RESIDENTIAL USE: Terraced Houses

Basic organisation of the BP

SEALED PART

Areas under the building and under associated ancillary buildings

- main building: one unit of a row – terraced house
- ancillary buildings: garage, canopy for cars, bicycles and other means of transport, bicycle shed, woodshed, garden shed, shed, swimming pool, waste collection area, etc.

Paved external areas that are not covered:

Traffic, utilities and technical areas

- entry and exit;
- parking areas for cars, bicycles and other means of transport;
- manoeuvring areas (for turning vehicles on the BP);
- waste collection areas.

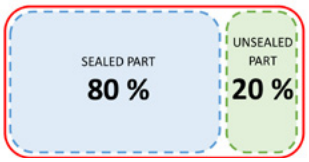
Outdoor living areas that are not covered:

- paved living areas for socialising (e.g. terraces, etc.);
- paved living areas intended for representative purposes (e.g. entrance area in front of the building);
- green areas above underground structures.

UNSEALED PART

Surface of the unsealed part

- green areas: garden (living, vegetable, ornamental, etc.), lawn, areas with trees, orchard, front garden, etc.



Guidelines for the detailed organisation of the BP

The siting of buildings and structures and the detailed organisation of areas on the BP should ensure:

- a well-designed space between the building and the public area (front side of the BP). From the aspect of creating a quality edge to the public space, the position, size and shape of the buildings on the BP adjacent to it are of key importance. If the building is located by the street, its façade directly co-creates the street façade series, with several outdoor living areas in the back. If the building is set back from the street, the space between the building and the public space should be designed at least in part for a representative purpose;
- adequate solar exposure of the building on the BP and of the buildings on the adjacent plots;
- a sufficiently large, enclosed green area on the unsealed part of the BP (e.g. for a garden, orchard, areas with tall trees);
- space for outdoor living;
- space for traffic areas (car park siting), access to the BP and connection to other CPI;
- space for any associated ancillary objects;
- the appropriate shape of the plots, which are generally long and narrow. Terraced houses are built from plot boundary to plot boundary in the direction of the shorter side of the plot, so that the external areas behind the building are entirely for garden and outdoor living, and those in front of the building are for access, private parking and representational purposes;
- external parking is normally provided as part of a BP, but shared parking areas for several buildings may also be provided (a complete larger parking area – a common building plot of the buildings).

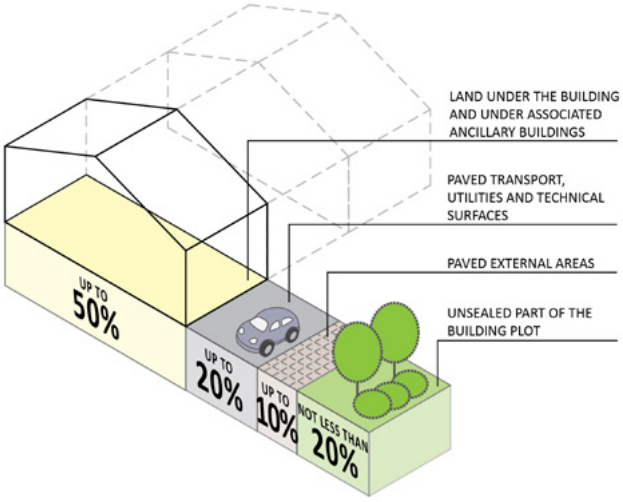
BP size

- The sizing of the BP shall take into account the intended size of the building and its associated ancillary structures, natural and created site conditions (e.g. relief, morphological pattern), orientation, provision of distances from neighbouring structures, fire safety, existing parcelling, provision of regulatory urban planning factors and proportions and provision of lighting and solar exposure.
- In addition to the space for the building and associated ancillary structures, the BP should also provide: paved external areas for traffic, utilities, technical areas and outdoor living (e.g. access, paths, parking, terrace), and an unsealed area (garden, green areas).
- The design of the size and shape of the unsealed part should take into account their multifunctional role: outdoor living, rainwater drainage, cooling and purification of the atmosphere, provision of shade by tall trees, preservation of biodiversity, as well as the production of vegetables and fruit for own needs.

RECOMMENDED BP SIZE

- one unit of terraced house: minimum 150 m^2 and maximum 350 m^2.

BP surface proportions and utilisation factors



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FPt: 0.20
USI: min. 0.2

A. Land under the building and under associated ancillary buildings

- The land under the main building – the residential building, as well as under the associated ancillary buildings, including canopies, may comprise up to 50% of the total BP area.

B. Paved external areas

- Paved outdoor areas are divided into traffic, utility and technical areas and areas intended for outdoor living. Their distribution is important, depending on the type of building, and on the organisation and design of the BP.
- The paved outdoor living areas can also be provided on the roof of an underground object (garage, basement, etc.).
- The paved external areas intended for parking should be greened (Chapter 3) and preferably shaded by a canopy of tall trees.
- The areas of RES objects and EEU installations shall be taken into account in the calculation of paved areas (if not part of the building or associated ancillary buildings).

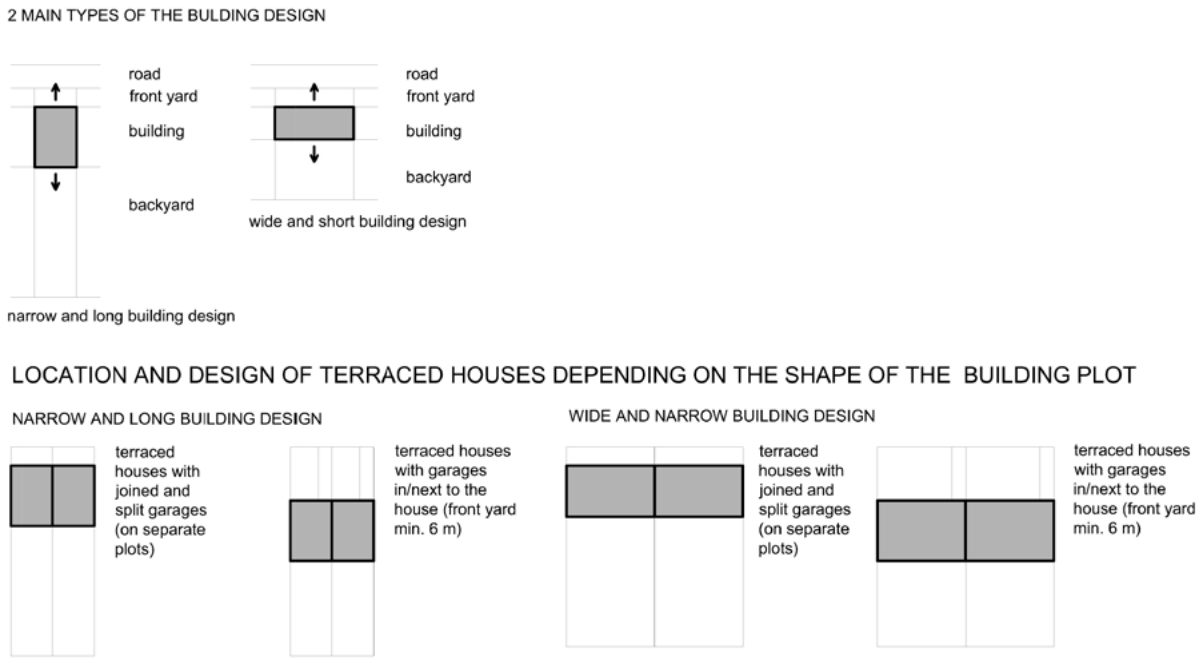
C. Unsealed part

- In order to ensure sufficient water drainage capacity, the proportion of the unsealed part shall not be less than 20% of the total BP area.
- The installation of greenhouses as temporary structures (up to 6 months per year) is allowed on the area of the unsealed part or unpaved outdoor areas, up to a GFA of 20 m^2.

Shape of the BP

- The shape, size and greening of the BP and the position of the building on it should ensure efficient energy use: solar heating in the cooler months and shading by tall deciduous trees in the summer months.

BP design example



Source: Urban planning; Čerpes I., Blejec G., Koželj J., University of Ljubljana, Faculty of Architecture, Ljubljana 2008

Special features

RELATIONSHIP TO ADJACENT BPs

The erection of fences on the boundaries between the plots of individual terraced houses in a row is not recommended as it detracts from the sense of openness of the living areas. Fencing towards the road and perimeter areas adjacent to terraced house rows is permitted.

SS – RESIDENTIAL USE: Free-standing Blocks (Villa Block, Block, Tower Block)

Basic organisation of the BP

SEALED PART

Areas under the building and under associated ancillary buildings

- main building: multi-dwelling building
- associated ancillary facilities: bicycle shed, covered parking spaces for residents, covered community space (e.g. community garden pavilion), covered area for waste, technical infrastructure facilities (e.g. transformer station), etc.

Paved external areas that are not covered:

Traffic, utilities and technical areas

- entry and exit;
- parking areas for cars, bicycles and other means of transport;
- manoeuvring areas (for turning vehicles on the BP);
- waste collection areas;
- accesses and routes within the BP, such as roads, footpaths, cycle paths; paved areas for emergency vehicles, firefighters, etc.

Outdoor living areas that are not covered:

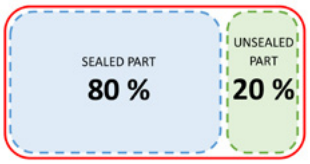
- paved living areas for socialising of residents (e.g. terraces, paved recreation areas, children's and sports playgrounds with associated equipment such as benches, tables, baskets, etc.);
- paved outdoor areas adjacent to the ground floor apartments (paved part of atrium gardens);
- paved living areas for representative purposes (e.g. entrance area in front of the building, square, courtyard);
- green areas above underground structures.

UNSEALED PART

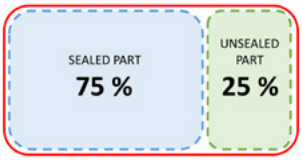
Surface of the unsealed part

- common green areas used by all residents: park areas including paths and equipment, children's playgrounds, lawns, areas with trees, green belts, green areas with a representative purpose (e.g. in front of the entrance to the building),
- gardens (community gardens or gardens allocated to residents for individual management),
- green areas of private gardens adjacent to ground-floor apartments (atrium gardens).

in a spatial node



outside a spatial node



Guidelines for the detailed organisation of the BP

The siting of buildings and structures and the detailed organisation of areas on the BP should ensure:

- a well-designed space between the building and the public area (front side of the BP). From the aspect of creating a quality edge to the public space, the position, size and shape of the buildings on the BP adjacent to it are of key importance. The building should create a quality street ambience with its façades oriented towards the public space. The space between the building and the public space should be designed, at least in part, for a representative purpose;
- adequate solar exposure of the building on the BP and of the buildings on the adjacent plots;
- a sufficiently large, enclosed common green area on the unsealed part of the BP (e.g. park, areas with tall trees);
- space for children to play;
- space for outdoor living and socialising;
- space for traffic areas (car park siting), access to the BP and connection to other CPI;
- space for any ancillary objects;
- outdoor parking shall be arranged in such a way that it does not dominate the experience of the public open space, as a rule behind or adjacent to the building and not in the area between the building and the main street, and at a reasonable distance from open areas for socialising. Outdoor parking areas shall be at least 5 metres from the nearest window of the dwelling.

BP size

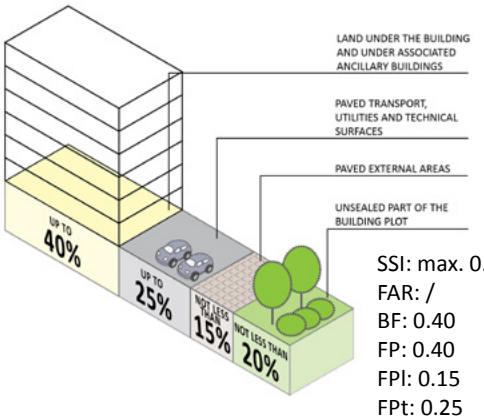
- The sizing of the BP shall take into account the type of the building, the intended size of the building and associated ancillary structures, natural and created site conditions (e.g. relief, morphological pattern), orientation, provision of distances from neighbouring structures, fire safety, existing parcelling, regulatory floor area ratios and provision of lighting and solar exposure.
- In addition to the space for the building and associated ancillary structures, the BP should also provide: paved external areas for traffic, utilities, technical areas and outdoor living (e.g. access, paths, parking, terrace), and an unsealed area (e.g. common green areas). The design of the size and shape of green areas should take into account their multifunctional role: outdoor living, rainwater drainage, cooling and purification of the atmosphere, provision of shade by tall trees, preservation of biodiversity, as well as the production of vegetables and fruit for own needs.
- The size of the BP depends on the capacity (number and surface area of apartments) of the apartment building.
- In determining the size of the BP for multi-dwelling buildings, the number of parking spaces and the proportion of green and paved outdoor living areas per number of dwellings should also be taken into account.

RECOMMENDED BP SIZE

- in a spatial node: one multi-apartment building (e.g. villa block) at least 900 m^2
- outside a spatial node: several multi-dwelling buildings on a common BP of at least 1,600 m^2 surface per building

BP surface proportions and utilisation factors

Free-standing block in a spatial node



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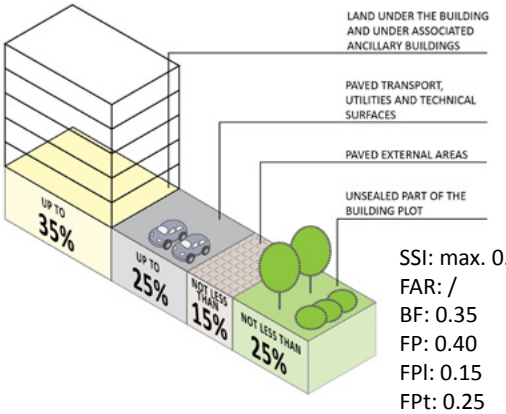
Free-standing block outside a spatial node



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A. Land under the building and under associated ancillary buildings

- On sites in a spatial node, the land under the building and associated ancillary facilities may comprise up to a maximum of 40% of the total BP area. In these locations it is reasonable to plan multifunctional buildings (e.g. commercial ground floor, apartments on higher floors).
- In locations outside the spatial node, the proportion of land under the building and associated ancillary facilities should not exceed 35% of the total BP area.

B. Paved external areas

- The paved outdoor areas may comprise up to a maximum of 40% of the total BP, of which transport, utilities and technical areas may together comprise up to 25% of the total BP; while at least 15% of the total BP must be dedicated to paved outdoor areas for outdoor living.
- The paved outdoor living areas can also be provided on the roof of an underground object (garage, basement, etc.).
- The paved external areas intended for parking should be greened (Chapter 3) and preferably shaded by a canopy of tall trees.
- The RES objects and EEU installations shall be sited on the paved areas (if not part of the building or associated ancillary buildings).

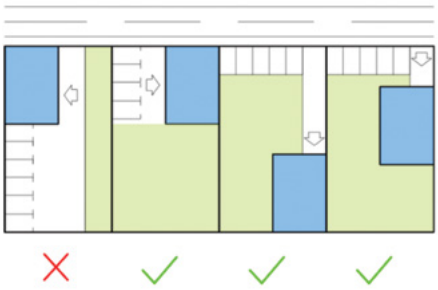
C. Unsealed part

- In order to ensure sufficient water drainage capacity, the proportion of the unsealed part shall not be less than 20% of the total BP area (within the spatial node) or 25% of the total BP area (outside the spatial node).
- The surface of the unsealed part or unpaved external areas may be used for small street furniture (benches, street lamps) and for walking areas (paths) up to 15%, provided that their arrangement allows for rapid water drainage.

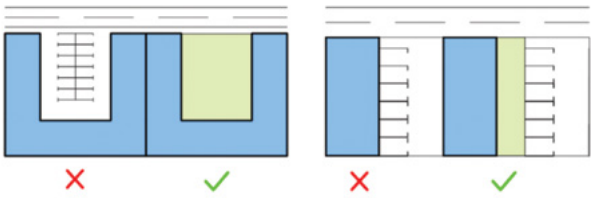
Shape of the BP

- The shape, size and greening of the BP and the position of the building on it should ensure efficient energy use: solar heating in the cooler months and shading by tall deciduous trees in the summer months.
- Free-standing multi-dwelling buildings (blocks, villa blocks) are mostly of detached building type (centrally located staircase), to which to the shape of the building plot is also adapted (e.g. rectangular shape). The shape of the BP is also influenced by the siting of the building and the layout of green open spaces.
- A BP developed in depth allows for green spaces in the courtyard area, which is more sheltered and visually concealed from the street space.

- **Example 1:** Both rectangular and square BP shapes are suitable, and in particular appropriate distances (from neighbouring buildings, traffic areas, etc.) and the location of green open spaces should be taken into account. These should form a rounded whole (examples of locating a children's playground between a driveway and the boundary of a plot are not appropriate).



- **Example 2:** Parking spaces shall be provided as much as possible within the building (underground garage). Outside parking should be provided in separate parking spaces of varying sizes that are separated from the residential building by a green belt. It is recommended that the parking space be removed at least 5 m from the residential building (façade with windows). Parking spaces in enclosed or semi-open inner courtyards are not suitable. The maximum recommended distance from the entrance of a residential building to a parking space is 100–150 metres. This may be up to 300 metres if parking cannot be provided closer.



Special features

ACCESS AND RELATION TO PUBLIC SPACE

- The layout of the ground floor apartments shall be arranged in such a way as to allow for private gardens (atriums) on the south-facing side of the building, and a part of the BP on the north-facing side of the building shall be dedicated to the creation of an entrance space, where a communal meeting space for the residents shall be created.
- The ratio between the open living areas intended for all the occupants of a multi-dwelling building and the open living areas belonging to the occupants of ground-floor apartments with atriums should reflect the ratio between the area (m^2) of all the apartments and the area (m^2) of the apartments with atriums or be in favour of the areas intended for all the occupants.
- Fencing of the BP of free-standing blocks is not appropriate as it reduces the sense of openness of living areas or the permeability of the city and urban areas.

SS – RESIDENTIAL USE: Higher Density Housing (Blocks)

Basic organisation of the BP

SEALED PART

Areas under the building and under associated ancillary buildings

- main building: a multi-dwelling building; may be several multi-dwelling buildings with a common building plot
- ancillary buildings*: school, kindergarten, shop, restaurants, social centre, etc.
- associated ancillary facilities: bicycle shed, covered parking spaces for residents, covered community space (e.g. community garden pavilion), covered area for waste, technical inf rastructure facilities (e.g. transformer station), etc.

* In the case of the construction of a new residential area or neighbourhood (e.g. Novo Brdo in Ljubljana).

Paved external areas that are not covered:

Traffic, utilities and technical areas

- entry and exit;
- parking areas for cars, bicycles and other means of transport;
- manoeuvring areas (for turning vehicles on the BP);
- waste collection areas;
- accesses and routes within the BP, such as roads, footpaths, cycle paths; paved areas for emergency vehicles, firefighters, etc.

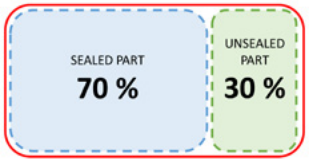
Outdoor living areas that are not covered:

- paved living areas for socialising of residents (e.g. terraces, paved recreation areas, children's and sports playgrounds with associated equipment such as benches, tables, baskets, etc.);
- paved outdoor areas adjacent to the ground floor apartments (paved part of atrium gardens);
- paved living areas for representative purposes (e.g. entrance area in front of the building, square, courtyard);
- green areas above underground structures.

UNSEALED PART

Surface of the unsealed part

- common green areas used by all residents: park areas including paths and equipment, children's playgrounds, lawns, areas with trees, green belts, areas with a representative purpose (e.g. in front of the entrance to the building), areas with tall trees for shading the parking areas, etc.
- gardens (community gardens or gardens allocated to residents for individual management);
- areas of private gardens adjacent to ground-floor apartments (atrium gardens).



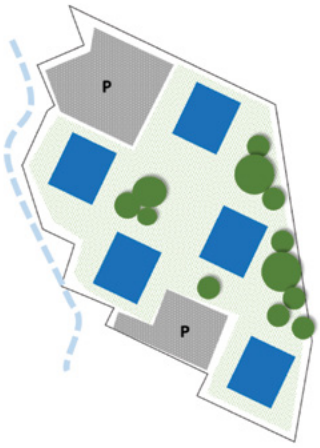
Guidelines for the detailed organisation of the BP

The siting of buildings and structures and the detailed organisation of areas on the BP should ensure:

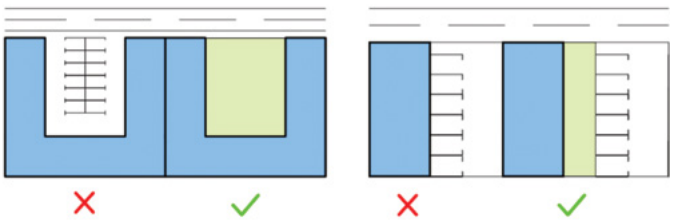
- a well-designed space between the building and the public area (front side of the BP). From the aspect of creating a quality edge to the public space, the position, size and shape of the buildings on the BP adjacent to it are of key importance. The building should create a quality street ambience with its façades oriented towards the public space. The space between the building and the public space should be designed, at least in part, for a representative purpose;
- adequate solar exposure of buildings on the BP and of the buildings on the adjacent plots;
- a sufficiently large, enclosed common green area on the unsealed part of the BP (e.g. park, areas with tall trees);
- space for children's playground;
- space for outdoor living and socialising;
- space for traffic areas (car park siting), access to the BP and connection to other CPI;
- space for any associated ancillary objects;
- outdoor parking shall be arranged in such a way that it does not dominate the experience of the public open space, as a rule behind or adjacent to the building and not in the area between the building and the main street, and at a reasonable distance from open areas for socialising. Outdoor parking areas shall be at least 5 metres from the nearest window of the dwelling.

Detailed organisation of the BP

- **Example 1:** In a cluster composition with a central circulation route, the buildings are arranged around the perimeter of the site to form open living areas in the interior for socialising.



- **Example 2:** Parking spaces shall be provided as much as possible within the buildings (underground garage). Outside parking should be provided in separate parking spaces of varying sizes that are separated from the residential building by a green belt. It is recommended that the parking space be removed at least 5 m from the residential building (façade with windows). Parking spaces in enclosed or semi-open inner courtyards are not suitable. The maximum recommended distance from the entrance of a residential building to a parking space is 100–150 metres. This may be up to 300 metres if parking cannot be provided closer.



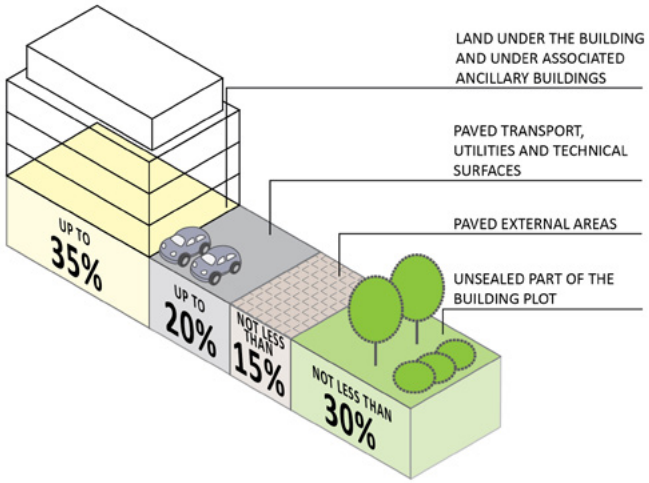
BP size

- The sizing of the BP shall take into account the type of the building, the intended size of the building and its associated ancillary structures, natural and created site conditions (e.g. morphological pattern), orientation, provision of distances from neighbouring structures, fire safety, existing parcelling, regulatory factors and provision of lighting and solar exposure.
- In addition to the space for the building and associated ancillary structures, the BP should also provide: paved external areas for traffic, utilities, technical areas and outdoor living (e.g. access, paths, parking, terrace), and an unsealed area (e.g. common green areas). The design of the size and shape of green areas should take into account their multifunctional role: outdoor living, rainwater drainage, cooling and purification of the atmosphere, provision of shade by tall trees, preservation of biodiversity, as well as the production of vegetables and fruit for own needs.
- The size of the BP depends on the capacity (number and surface area of apartments) of the apartment building.
- In determining the size of the BP for multi-dwelling buildings, the number of parking spaces and the proportion of green and paved outdoor living areas per number of dwellings should also be taken into account.

RECOMMENDED BP SIZE

- In the case of comprehensive construction, it is recommended that multi-dwelling buildings share a common building plot (CBPB).
- for multiple-dwelling buildings on a CBPB: minimum 1,200 m^2 of floor area/dwelling building

BP surface proportions and utilisation factors



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FPt: 0.20
USI: min. 0.30

A. Land under the building and under associated ancillary buildings

- the land under the building and associated ancillary facilities may comprise up to a maximum of 35% of the total BP or CBPB area.

B. Paved external areas

- The paved outdoor areas may comprise up to a maximum of 35% of the total BP, of which transport, utilities and technical areas may together comprise up to 20% of the total BP; while at least 15% of the total BP must be dedicated to paved outdoor areas for outdoor living.
- Paved outdoor areas intended for living should be greened as much as possible.
- Paved outdoor living areas can also be provided on the roof of an underground object (garage, basement, etc.).
- The paved external areas intended for parking should be greened (Chapter 3) and preferably shaded by a canopy of tall trees.
- The RES objects and EEU installations shall be sited on the paved areas (if not part of the building or associated ancillary buildings).

C. Unsealed part

- In order to ensure sufficient water drainage capacity, the proportion of the unsealed part shall not be less than 30% of the total BP/CBPB area.
- The surface of the unsealed part or unpaved external areas may be used for small street furniture (benches, street lamps) and for walking areas (paths) up to 15%, provided that their arrangement allows for rapid water drainage.

Shape of the BP/CBPB

- The shape, size and greening of the CBPB and the position of the building on it should ensure efficient energy use: solar heating in the cooler months and shading by tall deciduous trees in the summer months.
- Larger housing complexes represent a large CBPB in terms of area, which adapts to the layout of the housing, the shape of the terrain, the roads and the accompanying objects and arrangements.
- Outdoor parking may be provided on a stand-alone site (common building plot), where parking for several buildings is provided (an exhaustive parking area) within a relative walking access distance of up to 300 metres to the residential blocks.

Special features

ACCESS AND RELATION TO PUBLIC SPACE

- The layout of the ground floor apartments shall be arranged in such a way as to allow for private gardens (atriums) on the south-facing side of the building, and a part of the BP on the north-facing side of the building shall be dedicated to the creation of an entrance space, where a communal meeting space for the residents shall be created.
- The ratio between the open living areas intended for all the occupants of a multi-dwelling building and the open living areas belonging to the occupants of ground-floor apartments with atriums should reflect the ratio between the area (m2) of all the apartments and the area (m2) of the apartments with atriums or be in favour of the areas intended for all the occupants.
- Fencing of the BP of free-standing blocks is not appropriate as it reduces the sense of openness of living areas.

CD – SOCIAL ACTIVITY: Kindergartens

Basic organisation of the BP

SEALED PART

Areas under the building and under associated ancillary buildings

- main building: kindergarten building
- ancillary buildings: canopy for cars, bicycles and other means of transport for employees and visitors (or garage, bicycle shed), waste collection area, technical infrastructure facilities (e.g. transformer station), ancillary buildings for educational activities, sun shelter, toy shed, etc.

Paved external areas that are not covered:

Traffic, utilities and technical areas

- entry and exit;
- parking spaces for cars, bicycles and other means of transport for employees and visitors; space for short-term parking;
- manoeuvring areas (for turning vehicles on the BP);
- waste collection areas;
- accesses and routes within the BP, such as roads, footpaths, cycle paths; paved areas for emergency vehicles, firefighters, etc., paved area for the delivery and handling of goods (utility yard).

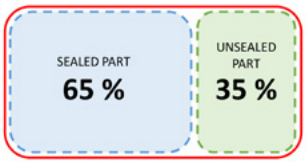
Outdoor living areas that are not covered:

- paved living areas for socialising (e.g. terraces in front of living units, paved areas of children's and sports playgrounds with associated equipment such as benches, tables, waste bins, etc.);
- paved living areas for representative purposes (e.g. entrance area in front of the building, square, courtyard);
- green areas above underground structures.

UNSEALED PART

Surface of the unsealed part

- green spaces: park areas including paths and equipment, children's playgrounds, garden, lawns, green belts to protect against noise and wind, areas with tall trees to green car parks, to protect against excessive sunlight, etc.

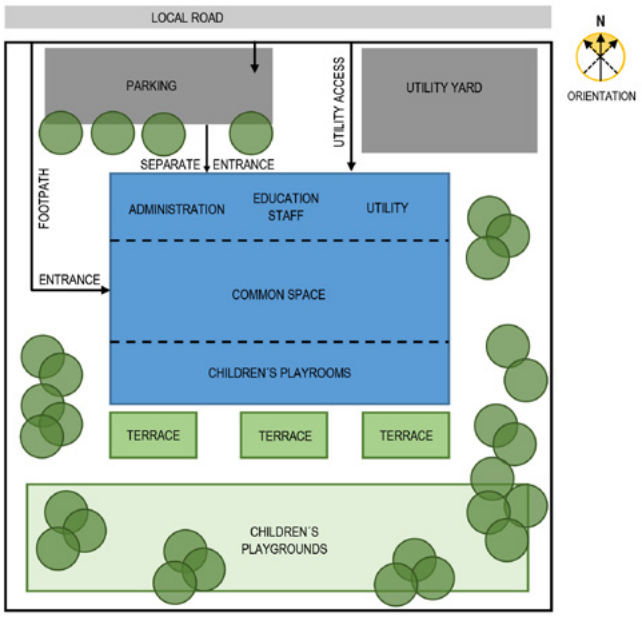


Guidelines for the detailed organisation of the BP

The siting of buildings and structures and the detailed organisation of areas on the BP should ensure:

- a well-designed space between the building and the public area (front side of the BP). From the aspect of creating a quality edge to the public space, the position, size and shape of the buildings on the BP adjacent to it are of key importance. The building should create a quality street ambience with its façades oriented towards the public space. The space between the building and the public space should be designed, at least in part, for a representative purpose;
- adaptation to the spatial possibilities in a largely built environment, unless the construction of a new kindergarten is part of a housing expansion, e.g. next to a new residential neighbourhood. The most compact shape of BP is desirable;
- the organisation of the BP shall be adapted to the shape of the plot and the terrain and to all programme and functional conditions. Preferably, the site should be on flat or gently sloping ground, facing south or east;
- adequate solar exposure of the building on the BP and of the buildings on the adjacent plots. Living spaces shall not be oriented between 315 and 45 degrees from north, unless this ensures special values such as views, tranquillity, safety from the negative impact of neighbouring objects, etc;
- a sufficiently large outdoor living area for outdoor play and learning. It is recommended that outdoor spaces be arranged so as to allow direct access to a suitably arranged and secure outdoor space from individual playrooms;
- a sufficiently large, enclosed green area on the unsealed part of the BP;
- space for traffic areas (car park siting), access to the BP and connection to other CPI – so as not to hinder safe access to the kindergarten. As a general rule, outdoor parking shall be provided behind or adjacent to the building and not in the area between the building and the main street, and at a reasonable distance from the play areas and green open spaces for play and socialising;
- space for any associated ancillary objects.

EXAMPLE OF BP ORGANISATION



BP size

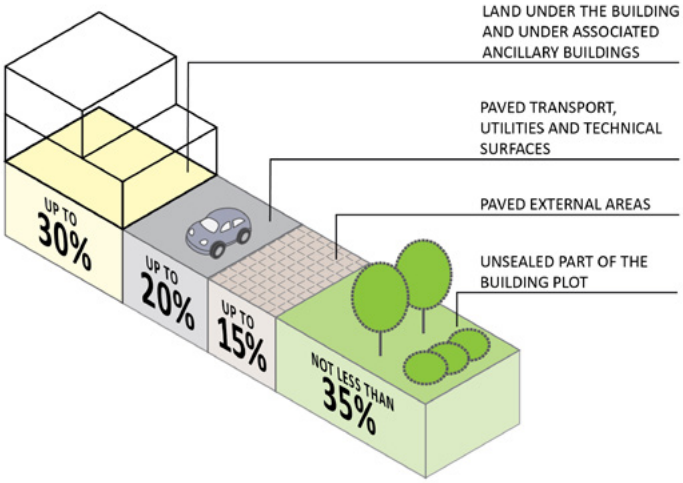
The sizing of the BP shall take into account the type of the building, the intended size of the building and its associated ancillary structures, natural and created site conditions, orientation, provision of distances from neighbouring structures, fire safety, existing parcelling, regulatory factors and provision of lighting and solar exposure.

- In addition to the space for the building and associated ancillary structures, the BP should also provide: paved external areas for traffic, utilities, technical areas and areas for outdoor living (e.g. access, paths, parking, paved playground, terraces), and an unsealed area (green areas). The design of the size and shape of green areas should take into account their multifunctional role: outdoor living, socialising, learning and playing, rainwater drainage, cooling and purification of the atmosphere, provision of shade by tall trees, preservation of biodiversity, as well as the production of vegetables and fruit for own needs and education.
- The minimum floor area of the building is determined by the number of classes and the normative number of children.
- The size of the BP is prescribed by the Rules on standards and minimal technical conditions for kindergarten premises and equipment (Official Gazette of the Republic of Slovenia, No 73/00 and amendments) according to the number of children. A minimum of 25 m^2 of kindergarten land must be provided per child. Exceptionally, the land may be smaller, but not less than 15 m^2 per child, if there are green areas in the immediate vicinity of the kindergarten, which can be used for play and are reached by a safe path.

RECOMMENDED SIZES

number of classes	normative number of children	BP size (m^2)
2	44	660–1100
3	66	990–1650
4	88	1320–2200
5	110	1650–2750
6	132	1980–3300

BP surface proportions and utilisation factors



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A. Land under the building and under associated ancillary buildings

- The land under the building and associated ancillary facilities may comprise up to 30% of the total BP area.

B. Paved external areas

- Paved outdoor areas intended for living should be greened as much as possible.
- The paved external areas intended for parking should be greened (Chapter 3) and preferably shaded by a canopy of tall trees.

C. Unsealed part

- In order to ensure sufficient water drainage capacity, the proportion of the unsealed part shall not be less than 35% of the total BP area.

Shape of the BP

- The shape, size and greening of the BP and the position of the building on it should ensure efficient energy use: solar heating in the cooler months and shading by tall deciduous trees in the summer months.

Special features

LOCATION

- Good and uniform accessibility with a central location in a settlement or residential neighbourhood should be provided, to ensure that the greatest possible proportion of users can walk as short a distance as possible (the shortest possible distance is recommended; for larger settlements or higher density housing, a distance of up to 300 metres or 5 minutes on foot is recommended, including to a bus stop; the maximum recommended distance to a kindergarten is a 15-minute or 1-kilometre walk);
- it is located in an area of mutually compatible land uses, e.g. residential area, central activity area (exceptionally, the kindergarten may also be located in a non-residential area, e.g. manufacturing area and technology parks, if the needs of the employees in the area are met, e.g. major manufacturing plants);
- close to the transport network, but in a quiet area, well connected to the residential area, so as to ensure safe and pleasant pedestrian routes to the kindergarten that do not cross traffic routes;
- on flat or gently sloping ground, south-facing, sunny position;
- a safe route to the kindergarten should be provided for children and parents, as well as to nearby recreational and park areas and throughout the kindergarten site, and as separate as possible from parking and road surfaces and the commercial entrance;
- kindergartens should not be located in or near degraded areas, areas contaminated by waste material, flood-prone areas, marshy areas, areas subject to landslides and erosion hazards, near power lines, streams and rivers with relatively low ground water levels; they should be located in areas safe from natural disasters and sheltered from wind;
- the site should be protected from noise and air pollution – where noise and air pollutant concentrations do not exceed the maximum permissible limits prescribed for residential areas;
- it must satisfy the requirement for fresh, good quality air free from dust, fog, smoke, gases, radioactive or electromagnetic radiation;
- it may be sited in close proximity to related programmes – institutions, schools or recreational areas and parks, wherever possible, to allow complementarity of programmes, especially in smaller towns;
- a pleasant and creative living environment for children and employees should be provided in the kindergarten and in the open space – separate entrances to each programme and functional unit must be provided, and it is mandatory that the physically handicapped be allowed unhindered access, entry and use of all areas.

ACCESS AND RELATION TO PUBLIC SPACE

- Two parking spaces per kindergarten department must be provided for short-term parking.
- Access for emergency vehicles should be possible from at least two sides.
- Space should be provided for access and turning of delivery vehicles, parking of service vehicles, collection area for waste containers, access to the gas station and storage (tanks, etc.), boiler room, bicycle shed.

CD – SOCIAL ACTIVITY: Primary Schools

Basic organisation of the BP – programme starting points

SEALED PART

Area under the building and under associated ancillary buildings

- main building: primary school building;
- ancillary building: gymnasium;
- ancillary buildings: canopy for cars, bicycles and other means of transport for employees and visitors (or garage, bicycle shed), waste collection area, technical infrastructure facilities (e.g. transformer station), ancillary buildings for educational activities, etc.

Paved external areas that are not covered

Traffic, utilities and technical areas

- entry and exit;
- parking spaces for cars, bicycles and other means of transport for employees and visitors; space for short-term parking;
- manoeuvring areas (for turning vehicles on the BP);
- waste collection areas;
- accesses and routes within the BP, such as roads, footpaths, cycle paths; paved areas for emergency vehicles, firefighters, etc., paved area for the delivery and handling of goods (utility yard).

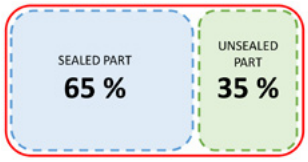
Outdoor living areas that are not covered

- paved living areas for socialising, playing, learning (e.g. terraces in front of the first three grades, paved areas of children's and sports playgrounds with associated equipment such as benches, tables, waste bins, etc.);
- paved living areas for representative purposes (e.g. entrance area in front of the building, square, courtyard);
- green areas above underground structures.

UNSEALED PART

Surface of the unsealed part

- green spaces: park areas including paths and equipment, outdoor classrooms, playgrounds, garden, lawns, green belts to protect against noise and wind, areas with tall trees to green car parks, to protect against excessive sunlight, green areas with a representative purpose (e.g. in front of the entrance to the school), etc.

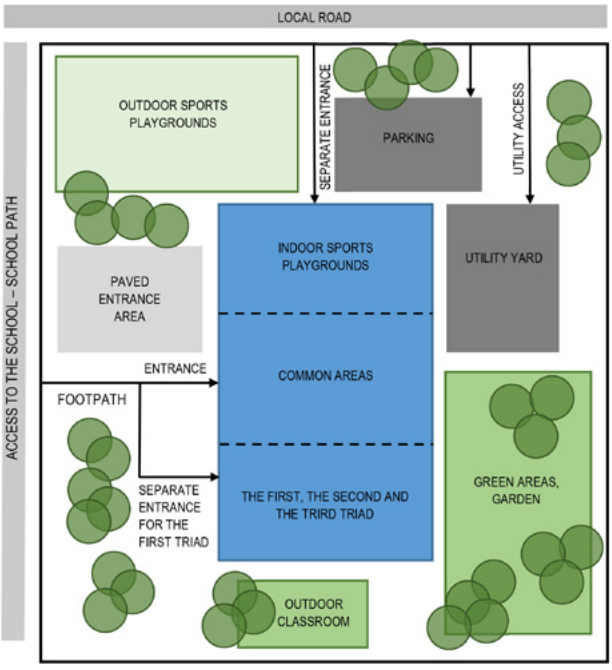


Guidelines for the detailed organisation of the BP

The siting of buildings and structures and the detailed organisation of areas on the BP should ensure:

- a well-designed space between the building and the public area or front side of the BP. From the aspect of creating a quality edge to the public space, the position, size and shape of the buildings on the BP adjacent to it are of key importance. The building should create a quality street ambience with its façades oriented towards the public space. The space between the building and the public space should be designed, at least in part, for a representative purpose;
- adaptation to the spatial possibilities in a largely built environment, unless the construction of a new school is part of a housing expansion, e.g. next to a new residential neighbourhood. The most compact shape of BP is desirable;
- the organisation of the BP shall be adapted to the shape of the plot and the terrain and to any programme and functional conditions. Preferably, the site should be on flat or gently sloping ground, facing south or east;
- a sufficiently large, enclosed green area on the unsealed part of the BP;
- a sufficiently large outdoor living area for outdoor play, exercise, socialising and learning.
- space for traffic areas (car park siting), access to the BP and connection to other CPI – so as not to hinder safe access to the school. As a general rule, outdoor parking shall be provided behind or adjacent to the building and not in the area between the building and the main street, and at a reasonable distance from the classrooms and green open spaces for play, learning and socialising;
- space for any associated ancillary objects;
- adequate sunlight or orientation of the rooms: south or south-east (up to 10 degrees) orientation is preferred for the classrooms. In this orientation, even a small canopy can be used to prevent the rooms from getting too much sun (overheating) in the warmer months of the year when the sun is high.
- In addition to the south orientation, a north orientation is also suitable for subject classrooms, especially for art education. However, classrooms can be oriented in any way, taking into account local conditions, technical and other factors affecting the hygiene and technical solution (protection against wind, cold, solar radiation, overheating, external noise, etc.);
- prevent overheating: the building must be adequately protected from excessive solar exposure (e.g. by construction and technical measures, landscaping, large tarmac and white sand surfaces must not extend right up to the classrooms, etc.).

EXAMPLE OF A MORE DETAILED BP ORGANISATION



BP size

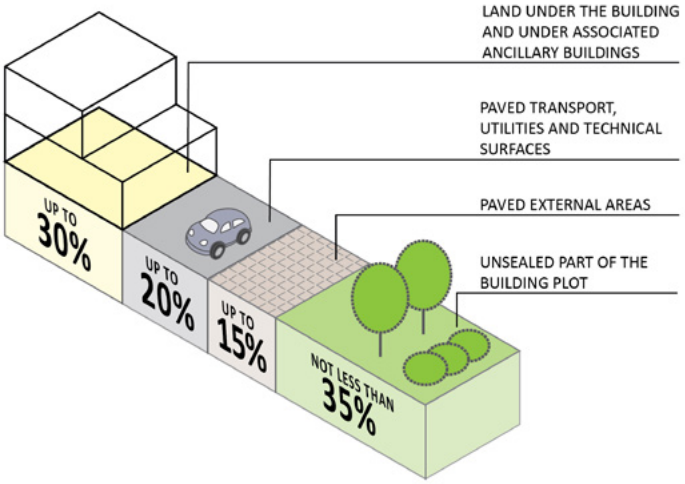
The sizing of the BP shall take into account the type of the building, the intended size of the building and its associated ancillary structures, natural and created site conditions, orientation, provision of distances from neighbouring structures, fire safety, existing parcelling, regulatory factors and provision of lighting and solar exposure.

- In addition to the space for the building and associated ancillary structures, the BP should also provide: paved external areas for traffic, utilities, technical areas and outdoor living (e.g. access, paths, parking, terraces), and an unsealed area (green areas). The design of the size and shape of green areas should take into account their multifunctional role: outdoor living, socialising, exercise, learning and playing, rainwater drainage, cooling and purification of the atmosphere, provision of shade by tall trees, preservation of biodiversity, as well as the production of vegetables and fruit for education and own needs.
- The minimum floor area of the building is determined by the number of classes or the number of pupils.
- 35 m^2 (for a school with a maximum of 9 departments) or at least 25 m^2 of land (for a school with 10–33 departments) must be provided per pupil. Exceptionally, the land may be smaller, but not smaller than 29 m^2 per pupil (for a school with a maximum of 9 departments) or smaller than 21 m^2 per pupil (for a school with 33 departments), if there are indoor or outdoor public sports and recreation facilities in the immediate vicinity of the school surfaces that students can use. *(Regulations governing the planning of schools.)*

RECOMMENDED SIZES

no. of departments	no. of pupils	surface area per pupil (m^2)	BP size (m^2)
9	252	29–35	7.308–8.820
14	392	27,5–33	10.706–12.893
18	504	26–31,5	13.079–15.730
25	700	23,5–28,5	16.506–19.782
27	756	23–27,5	17.343–20.752
33	924	21–25	19.404–23.100

BP surface proportions and utilisation factors



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A. Land under the building and under associated ancillary buildings

- The land under the building and associated ancillary facilities may comprise up to 30% of the total BP area.

B. Paved external areas

- Paved outdoor areas intended for living should be greened as much as possible.
- The paved outdoor areas (playgrounds) on the site should be shaded by a canopy of tall trees.
- The paved external areas intended for parking should be greened (Chapter 3.3) and preferably shaded by a canopy of tall trees.
- The size of the outdoor part of the school playground depends on the size of the area under the building, the number of departments or pupils, the proximity of sports fields, etc.

C. Unsealed part

- In order to ensure sufficient water drainage capacity, the proportion of the unsealed part shall not be less than 35% of the total BP area.

Shape of the BP

- The organisation of the BP shall be adapted to the shape of the plot and the terrain and to any programme and functional conditions. Preferably, the site should be on flat or gently sloping ground, oriented towards south or east;
- The design of the school complex and building should be adaptable and flexible, allowing for later additions and extensions (phased construction) to ensure that it can adapt to the changing needs of the learning process, the evolution of learning technology and changes in pupil numbers over time.

Special features

LOCATION

- Good and uniform accessibility with a central location in a settlement or residential neighbourhood should be provided, to ensure that the greatest possible proportion of users can walk as short a distance as possible (the shortest possible distance is recommended; for larger settlements or higher density housing, a distance of up to 800 metres or 10 minutes on foot is recommended, including to a bus stop; the maximum recommended distance to a primary school is a 20-minute or 1,500-metre walk); for the youngest schoolchildren, the shortest possible route to school is preferred;
- it is located in an area of mutually compatible land uses, e.g. residential area, central activity area (exceptionally, the school may also be located in a non-residential area, e.g. manufacturing area and technology parks, if the needs of educational processes are met);
- close to the transport network, but in a quiet area, well connected to the residential area, so as to ensure safe and pleasant pedestrian routes to the school that do not cross traffic routes;
- schools should not be located in or near degraded areas, areas contaminated by waste material, flood-prone areas, marshy areas, areas subject to landslides and erosion hazards, near power lines, streams and rivers with relatively low ground water levels; they should be located in areas safe from natural disasters and sheltered from wind;
- the site should be protected from noise and air pollution – where noise and air pollutant concentrations do not exceed the maximum permissible limits prescribed for residential areas;
- it must satisfy the requirement for fresh, good quality air free from dust, fog, smoke, gases, radioactive or electromagnetic radiation;
- it may be sited in close proximity to related programmes – institutions, kindergartens or recreational areas and parks, wherever possible, to allow complementarity of programmes, especially in smaller towns;
- it is mandatory that people with reduced mobility have unhindered access, entry and use of all areas.

ACCESS AND RELATION TO PUBLIC SPACE

- Access for emergency vehicles must be provided at several locations.
- The service entrance shall be separate and accessible for delivery vehicles.
- Adequate car parking and bicycle storage areas should be provided, with one parking space per department and 3–9 additional parking spaces depending on the size of the school*.

* Unless otherwise specified in the Spatial Planning Acts.

CD – SOCIAL ACTIVITY: Health Care Centres

Basic organisation of the BP

SEALED PART

Area under the building and under associated ancillary buildings

- main building: health care centre building
- ancillary buildings: canopy for cars, bicycles and other means of transport for employees and visitors (or garage, bicycle shed), waste collection area, technical infrastructure facilities (e.g. transformer station), etc.

Paved external areas that are not covered

Traffic, utilities and technical areas

- entry and exit;
- parking areas for cars, bicycles and other means of transport for employees and visitors;
- manoeuvring areas (for turning vehicles on the BP);
- waste collection areas;
- accesses and routes within the BP, such as roads, footpaths, cycle paths; paved areas for emergency vehicles, firefighters, etc., paved area for the delivery and handling of goods (utility yard).

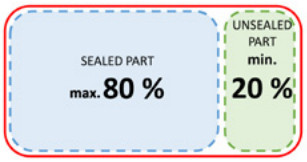
Outdoor living areas that are not covered:

- paved living areas with a representative purpose (e.g. entrance area in front of a building, square, courtyard) and a residential purpose (e.g. paved seating areas with associated furnishings such as benches, tables, waste bins, etc.);
- green areas above underground structures.

UNSEALED PART

Surface of the unsealed part

- green areas: park areas including paths and equipment, lawns, green belts for noise and wind protection, green areas with a representative purpose (e.g. in front of a building entrance), areas with tall trees to shade car parks, etc.



Guidelines for the detailed organisation of the BP

The siting of buildings and structures and the detailed organisation of areas on the BP should ensure:

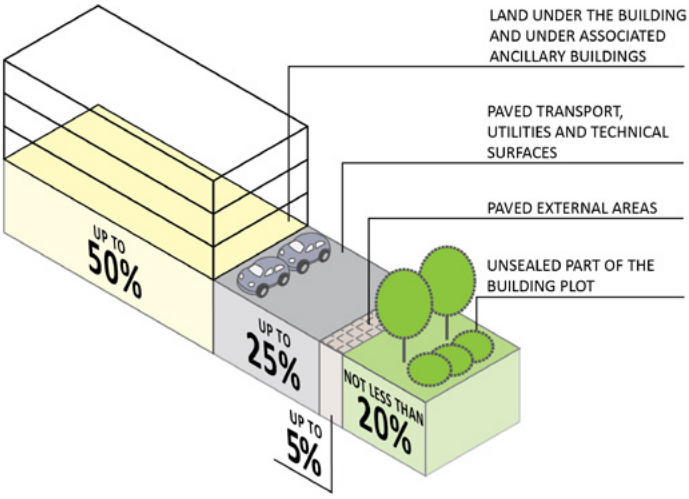
- a well-designed space between the building and the public area or front side of the BP. From the aspect of creating a quality edge to the public space, the position, size and shape of the buildings on the BP adjacent to it are of key importance. The building should create a quality street ambience with its façades oriented towards the public space. The space between the building and the public space should be designed, at least in part, for a representative purpose;
- adaptation to the spatial possibilities in a largely built environment, unless the construction of a new health care centre is part of a housing expansion, e.g. next to a new residential neighbourhood. The most compact shape of BP is desirable;
- the organisation of the BP shall be adapted to the shape of the terrain and to any programme and functional conditions. Preferably, the site should be on flat or gently sloping ground;
- adequate solar exposure of the building on the BP and of the buildings on the adjacent plots;
- a sufficiently large, enclosed green area on the unsealed part of the BP (e.g. park arrangement, representative green area);
- space for traffic areas (car park siting), access to the BP and connection to other CPI. Outdoor parking shall be provided in visually unexposed places, usually behind or adjacent to the building and not in the area between the building and the main street, and at a reasonable distance from the outpatient clinic facilities and green open spaces for socialising;
- space for any associated ancillary objects.

BP size

The sizing of the BP shall take into account the type of the building, the intended size of the building and its associated ancillary structures, natural and created site conditions, orientation, provision of distances from neighbouring structures, fire safety, existing parcelling, regulatory factors and provision of lighting and solar exposure.

- In addition to the space for the building and associated ancillary structures, the BP should also provide: paved external areas for traffic, utilities, technical areas and areas for outdoor living (e.g. access, paths, rest area), and an unsealed area (green areas). The design of the size and shape of green areas should take into account their multifunctional role: outdoor living, representation, rainwater drainage, cooling and purification of the atmosphere, provision of shade by tall trees, preservation of biodiversity.
- In addition to the above recommendations, the size of the BP and the size of the health care centre building are adapted to the size of the catchment area and whether there is a general hospital nearby, in which case some activities may be carried out in the hospital.

BP surface proportions and utilisation factors



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FPt: 0.25
USI: min. 0.20

A. Land under the building and under associated ancillary buildings

- The land under the building and associated ancillary facilities may comprise up to 50% of the total BP area.

B. Paved external areas

- The paved external areas intended for parking should be greened (Chapter 3) and preferably shaded by a canopy of tall trees.

C. Unsealed part

- In order to ensure sufficient water drainage capacity, the proportion of the unsealed part shall not be less than 20% of the total BP area.

Shape of the BP

- The shape, size and greening of the BP and the position of the building on it should ensure efficient energy use: solar heating in the cooler months and shading by tall deciduous trees in the summer months.
- The shape of the BP should be as compact as possible.

Special features

LOCATION

- it should be located in the centre of the settlement as it offers the best accessibility;
- the location should provide all the necessary health, economic, ecological, urban planning and technical conditions;
- it should be located in an area of compatible land uses, e.g. residential, central activity areas, adjacent to green spaces;
- close to the transport network, but in a quiet area, away from traffic and production noise;
- the location should meet the conditions such as fresh air free from dust, fog, smoke, gases and radiation, etc;
- health care centres should not be located in or near degraded areas, areas contaminated by waste material, flood-prone areas, marshy areas, areas subject to landslides and erosion hazards, near power lines, streams and rivers with relatively low ground water levels; they should be located in areas safe from natural disasters and sheltered from wind;
- without exposure to radioactive or electromagnetic radiation;
- chosen from the point of view of cost-effectiveness (location not requiring expensive protective works, high retaining walls, drainage, special foundations, long distances from existing utility networks, facilities, etc.).

ACCESS AND RELATION TO PUBLIC SPACE

- All accesses and entrances intended for patients and their companions or visitors must be controlled and provide safe access for users without architectural barriers, quick and easy access with the help of information (signs, signposting, information service, etc.), and access for cars and ambulances to the entrance.
- The main entrance to the health care centre should be oriented in the direction of access of the majority of visitors (city, public transport stop, etc.). The entrance area shall be designed to provide clear orientation for visitors and to make it as easy as possible for them to enter the facility. Access to the main entrance shall be covered.
- The entrance to the pre-school clinic shall be separate from the main entrance to the health care centre, but the two entrances may be in close proximity to each other.
- The entrance for the emergency medical service shall be separate from the other entrances.
- If there is an ambulance station in the health care centre, it shall have unobstructed access for ambulances.
- The service entrance shall be apart from the main patient and visitor entrances.
- A driveway shall be provided for access to the entrance for visitors with reduced mobility and shall be in the area of the covered entrance. If a ramp is required for access, it shall be heated, and the slope and width of the ramp shall allow for one-way traffic by car or ambulance.
- Access for emergency vehicles must be provided at several locations. Fire-fighting vehicle accesses (road surfaces or paved surfaces) shall be constructed in accordance with the requirements of the applicable regulations (Rules on fire safety in buildings and Technical Guideline TSG-1-001:2005).
- Pedestrian walkways and access to the entrances to the facility shall be designed in such a way as to allow safe, unhindered and the shortest possible access to all visitors to the health facility.
- Walkways shall be adequately marked and illuminated. Equipment (benches) should be installed along longer walkways to allow sick people and people with reduced mobility to rest for short periods.
- Public transport stops should be located close to the main entrance and be fully covered and have more seating than usual.
- Adequate parking for patients or companions (calculated to accommodate at least 50% of the total number of patients in the outpatient clinics in one hour), for disabled persons (at least 3), a reasonable number of temporary parking spaces for taxis (at least 2), and a bicycle parking space in the area in front of the entrance must be provided. Parking spaces shall be provided for service vehicles, duty team vehicles and ambulances, if an ambulance service is also organised in the health care centre. Parking spaces shall also be provided for employees, one space for each doctor, one space for every 3 other employees and at least one space for disabled employees.
- Technical access to the health facilities and the areas provided for this purpose must be so designed as to enable all services to be supplied unhindered and to ensure physical separation of transport routes and manoeuvring areas.

BD – COMMERCIAL ACTIVITY: Small Commercial Buildings

Basic organisation of the BP

SEALED PART

Areas under the building and under associated ancillary buildings

- main building: small commercial building
- ancillary buildings: canopy for cars, bicycles and other means of transport for employees and visitors, bicycle shed, waste collection area, technical infrastructure facilities (e.g. transformer station), etc.

Paved external areas that are not covered:

Traffic, utilities and technical areas

- entry and exit;
- parking areas for cars, bicycles and other means of transport;
- manoeuvring areas (for turning vehicles on the BP);
- waste collection areas;
- pedestrian access and routes within the BP;
- areas for the delivery and handling of goods;
- accesses and routes within the BP, such as roads, footpaths, cycle paths; paved areas for emergency vehicles, firefighters.

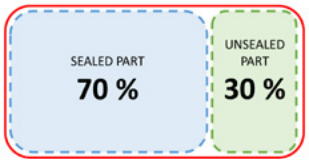
Outdoor living areas that are not covered:

- paved living areas for socialising, with associated equipment such as benches, tables, waste bins, etc;
- paved living areas for representative purposes (e.g. entrance area in front of the building, square, courtyard);
- green areas above underground structures.

UNSEALED PART

Surface of the unsealed part

- green areas: lawn, areas with trees, areas with tall trees for greening car parks, green area with a representative purpose (e.g. in front of the shop entrance), etc.



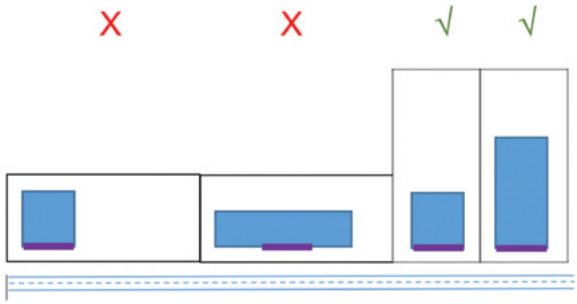
Guidelines for the detailed organisation of the BP

The siting of buildings and structures and the detailed organisation of areas on the BP should ensure:

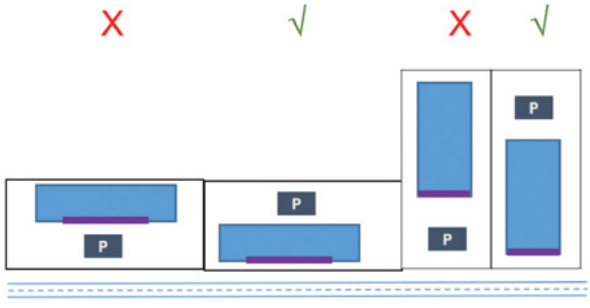
- a well-designed space between the building and the public area (front side of the BP). From the aspect of creating a quality edge to the public space, the position, size and shape of the buildings on the BP adjacent to it are of key importance. It is therefore recommended that the commercial building is located in close proximity to the public space and that its façade co-creates the street façade series, with the commercial yard and parking areas in the background, while the space between the building and the public space is at least partly designed for a representative purpose;
- a sufficiently large, enclosed green area on the unsealed part of the BP (e.g. lawn, area with trees);
- space for traffic areas (car park), access to the BP and connection to other CPI;
- space for any associated ancillary objects;
- as commercial buildings often have a large part of the façade inactive, BPs developed in depth are generally preferable, where the front side of the BP is on the shorter side. This reduces the proportion of blank façade along the public space;
- a BP developed in depth allows for car park spaces in the courtyard area, which is visually concealed from the street space.

BP DESIGN EXAMPLES

- **Example 1:** An in-depth developed BP is more suitable for commercial buildings that have a relatively small proportion of the façade designed as an active façade – it allows better contact between the building and the public space.



- **Example 2:** Locating parking spaces between a commercial building and the street is not city-forming as it prevents direct contact between the building and the public space. As a rule, parking spaces should be located in the courtyard part of the BP and a good quality public space for pedestrians and cyclists should be provided between the building and the street space.



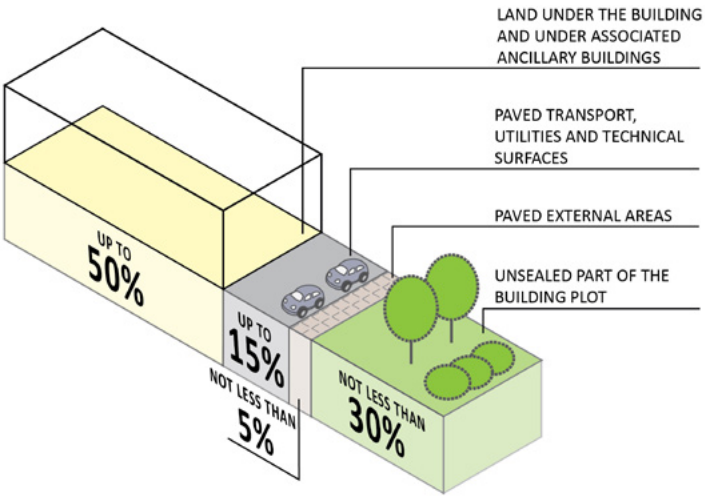
BP size

The sizing of the BP shall take into account the type of the building, the intended size of the building and its associated ancillary structures, natural and created site conditions, orientation, provision of distances from neighbouring structures, fire safety, existing parcelling, regulatory factors and provision of lighting and solar exposure.

- In addition to the space for the building and associated ancillary structures, the BP should also provide: paved external areas for traffic, utilities, technical areas and outdoor living (e.g. access, paths, parking, area for delivery and handling of goods), and an unsealed area (green areas). The design of the size and shape of green areas should take into account their multifunctional role: outdoor living, representation, rainwater drainage, cooling and purification of the atmosphere, provision of shade by tall trees, preservation of biodiversity.

- The sizing of the BP depends on the expected capacity (m^2 of sales area) of the commercial building.
- In addition to the areas for the buildings, paved external areas for access (visitors, delivery of goods, waste collection), parking areas (possibly within the building) and open green areas on the unsealed area should be provided.

BP area ratios



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A. Land under the building and under associated ancillary buildings

- The land under the building and associated ancillary facilities may comprise up to 50 % of the total BP area.
- Particularly in locations adjacent to spatial nodes, the development of commercial space in the form of multifunctional buildings (e.g. commercial ground floor, offices, apartments, etc. on upper floors) is encouraged.

B. Paved external areas

- The paved external areas intended for parking (which should be greened – Chapter 3.3) and restaurant terraces should be shaded as much as possible by the canopy of tall trees.

C. Unsealed part

- In order to ensure sufficient water drainage capacity, the proportion of the unsealed part shall not be less than 30 % of the total BP area.
- The surface of the unsealed part may be used for small street furniture and for walking areas up to 10 %, provided that the arrangement allows for water drainage.

Special features

LOCATION

Smaller commercial buildings are generally located at spatial nodes in settlements and are easily accessible to local people on foot or by bicycle.

ACCESS AND RELATION TO PUBLIC SPACE

- In smaller commercial buildings, the delivery access may be shared with the user access and a separate area for unloading goods.
- The space between the main entrance of the building and the main street should be designed as a high quality outdoor public space for use by such as pedestrians and cyclists. It should be designed and furnished in such a way as to allow a pleasant experience, without barriers for users with reduced mobility.
- Access for emergency vehicles shall be provided along the entire long side of the building from at least one side.
- At least 60% of the façade of the building facing the main street shall be designed as an active façade to allow visual contact between the street space and the interior of the building. Direct access to the building from the street space should be possible.

BD – COMMERCIAL ACTIVITY: Large Commercial Buildings

Basic organisation of the BP

SEALED PART

Areas under the building and under associated ancillary buildings

- main building: large commercial building
- ancillary buildings: canopy for cars, bicycles and other means of transport for employees and visitors, bicycle shed, waste collection area, technical infrastructure facilities (e.g. transformer station), etc.

Paved external areas that are not covered:

Traffic, utilities and technical areas

- entry and exit;
- parking areas for cars, bicycles and other means of transport;
- manoeuvring areas (for turning vehicles on the BP);
- waste collection areas;
- areas for the delivery and handling of goods;
- accesses and routes within the BP, such as roads, footpaths, cycle paths; paved areas for emergency vehicles, firefighters.

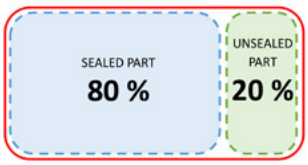
Outdoor living areas that are not covered:

- paved living areas for socialising of residents (e.g. open terraces of catering establishments, and other paved living areas with associated equipment such as benches, tables, waste bins, etc.);
- paved living areas for representative purposes (e.g. entrance area in front of the building, square, courtyard);
- green areas above underground structures.

UNSEALED PART

Surface of the unsealed part

- green areas: lawn, areas with trees, areas with tall trees for greening car parks and terraces of catering establishments; green belts, green area with a representative purpose (e.g. in front of the building entrance), etc.



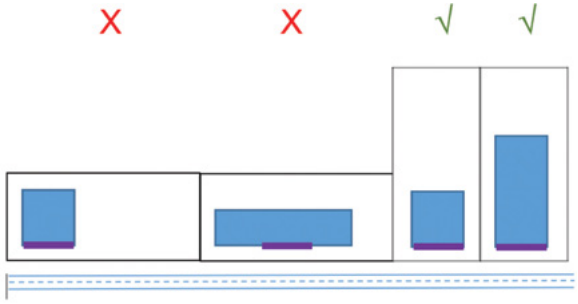
Guidelines for the detailed organisation of the BP

The siting of buildings and structures and the detailed organisation of areas on the BP should ensure:

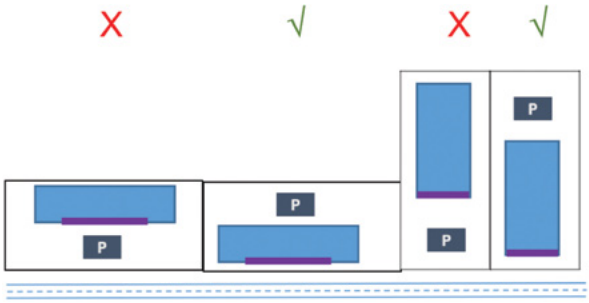
- a well-designed space between the building and the public area or front side of the BP. From the aspect of creating a quality edge to the public space, the position, size and shape of the buildings on the BP adjacent to it are of key importance. It is therefore recommended that the commercial building is located in close proximity to the public space and that its façade co-creates the street façade series, with the commercial yard and parking areas in the background, while the space between the building and the public space is at least partly designed for a representative purpose;
- a sufficiently large, enclosed green area on the unsealed part of the BP (e.g. area with trees, lawn), preferably at the interface with the public space;
- space for traffic areas (car park siting), access to the BP and connection to other CPI.
- space for any associated ancillary objects;
- as commercial buildings often have a large part of the façade inactive, BPs developed in depth are generally preferable, where the front side of the BP is on the shorter side. This reduces the proportion of blank façade along the public space;
- a BP developed in depth allows for car park spaces in the courtyard area, which is visually concealed from the street space.

BP DESIGN EXAMPLES

- **Example 1:** An in-depth developed BP is more suitable for commercial buildings that have a relatively small proportion of the façade designed as an active façade – it allows better contact between the building and the public space.



- **Example 2:** Locating parking spaces between a commercial building and the street is not city-forming as it prevents direct contact between the building and the public space. As a rule, parking spaces should be located in the courtyard part of the BP and a good quality public space for pedestrians and cyclists should be provided between the building and the street space.



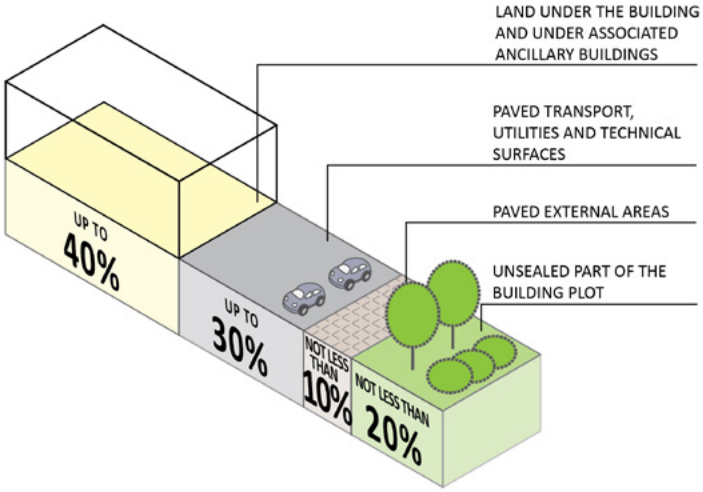
BP size

The sizing of the BP shall take into account the type of the building, the intended size of the building and its associated ancillary structures, natural and created site conditions, orientation, provision of distances from neighbouring structures, fire safety, existing parcelling, regulatory factors and provision of lighting and solar exposure.

- In addition to the space for the building and associated ancillary structures, the BP should also provide: paved external areas for traffic, utilities, technical areas and outdoor living (e.g. access, paths, parking, area for delivery and handling of goods), and an unsealed area (green areas). The design of the size and shape of green areas should take into account their multifunctional role: outdoor living, representation, rainwater drainage, cooling and purification of the atmosphere, provision of shade by tall trees, preservation of biodiversity.

- The sizing of the BP depends on the expected capacity (m^2 of sales area) of the commercial building.
- In addition to the areas for the buildings, paved external areas for access (visitors, delivery of goods, waste collection), parking areas (possibly within the building) and open green areas on the unsealed area should be provided.

BP surface proportions and utilisation factors



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A. Land under the building and under associated ancillary buildings

- The land under the building and associated ancillary facilities may comprise up to 40% of the total BP area.
- Particularly in locations in the settlement centres, the development of commercial space in the form of multifunctional buildings (e.g. commercial ground floor, offices, apartments, etc. on upper floors) is encouraged.

B. Paved external areas

- The paved external areas intended for parking (which should be greened – Chapter 3.3) and restaurant terraces should be shaded as much as possible by the canopy of tall trees.

C. Unsealed part

- In order to ensure sufficient water drainage capacity, the proportion of the unsealed part shall not be less than 20% of the total BP area.
- The surface of the unsealed part may be used for small street furniture and for walking areas up to 10%, provided that the arrangement allows for water drainage.

Special features

LOCATION

Large commercial buildings are located in easily accessible locations.

ACCESS AND RELATION TO PUBLIC SPACE

- For large commercial buildings, access shall be provided separately for motorised visitors and for delivery of goods.
- Pedestrian and cyclist access should be designed and furnished in such a way as to allow a pleasant experience, without barriers for users with reduced mobility.
- Access for emergency vehicles shall be provided from all sides of the building.
- At least 40 % of the façade of the building facing the main street shall be designed as an active façade to allow visual contact between the street space and the interior of the building. Direct access to the building from the street space should be possible.
- The space between the main entrance of the building and the main street should be designed as a high quality outdoor public space predominantly for pedestrians and cyclists.

BD – COMMERCIAL ACTIVITY: Shopping Centres

Basic organisation of the BP

SEALED PART

Areas under the building and under associated ancillary buildings

- main building: shopping centre
- ancillary building: parking garage, etc.
- ancillary buildings: canopy for cars, bicycles and other means of transport for employees and visitors, bicycle shed, waste collection area, technical infrastructure facilities (e.g. transformer station), etc.

Paved external areas that are not covered:

Traffic, utilities and technical areas

- entry and exit;
- parking areas for cars, bicycles and other means of transport;
- manoeuvring areas (for turning vehicles on the BP);
- waste collection areas;
- areas for the delivery and handling of goods;
- accesses and routes within the BP, such as roads, footpaths, cycle paths; paved areas for emergency vehicles, firefighters.

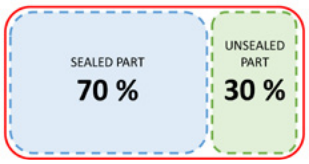
Outdoor living areas that are not covered:

- paved living areas for socialising (e.g. open terraces of catering establishments, and paved areas of children's playgrounds with associated equipment such as benches, tables, waste bins, etc.);
- paved living areas for representative purposes (e.g. entrance area in front of the building, square, courtyard).

UNSEALED PART

Surface of the unsealed part

- green areas: park areas including paths, equipment, children's playgrounds in green areas, lawns, areas with tall trees for greening car parks and terraces of restaurants; green belts, green spaces with a representative purpose (e.g. in front of entrances to the centre), etc.



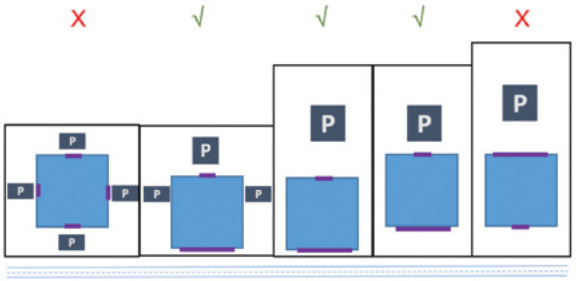
Guidelines for the detailed organisation of the BP

The siting of buildings and structures and the detailed organisation of areas on the BP should ensure:

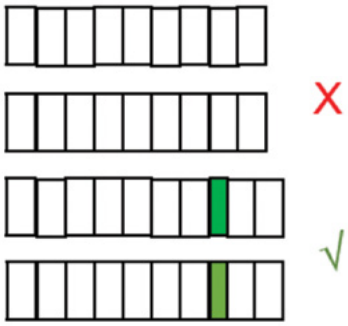
- a well-designed space between the building and the public area (front side of the BP). From the aspect of creating a quality edge to the public space, the position, size and shape of the buildings on the BP adjacent to it are of key importance. It is therefore recommended that the shopping centre building is located in close proximity to the public space and that its façade co-creates the street façade series, with the commercial yard and parking areas in the background, while the space between the building and the public space is at least partly designed for a representative purpose;
- a sufficiently large, enclosed green area on the unsealed part of the BP (e.g. park arrangement);
- space for outdoor living and socialising for visitors and employees;
- space for traffic areas (car park), access to the BP and connection to other CPI.
- space for any ancillary objects;
- external parking shall be arranged in such a way that it is visually concealed from the main street (adjacent to or behind the building, obscuring views with greenery, etc.);
- areas intended for external parking shall, as a rule, be hardened using materials which allow direct water drainage. Parking areas shall be greened in accordance with the Handbook on Green Systems in Cities and Towns, Chapter 15.e Landscaping of Parking Areas.

BP DESIGN EXAMPLES

- **Example 1:** Inactive facades along the street and/or large parking areas between the street and the building are not city-forming. In order to create a contact between the shopping centre and the street space, the active façade of the building should be oriented directly towards the street space.



- **Example 2:** Organisation of the manipulation areas on the unsealed area: parking spaces in long rows should be interrupted at least every 4 parking spaces by an unsealed area to allow direct water drainage.



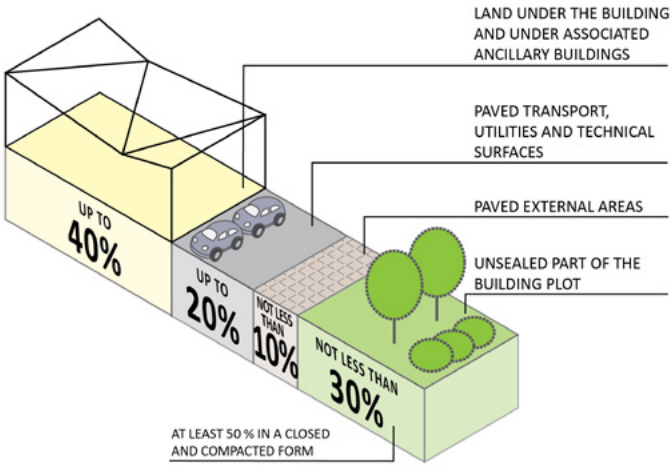
BP size

The sizing of the BP shall take into account the type of the building, the intended size of the building and its associated ancillary structures, natural and created site conditions, orientation, provision of distances from neighbouring structures, fire safety, existing parcelling, regulatory factors and provision of lighting and solar exposure.

- In addition to the space for the building and associated ancillary structures, the BP should also provide: paved external areas for traffic, utilities, technical areas and outdoor living (e.g. access, paths, parking, area for delivery and handling of goods), and an unsealed area (green areas). The design of the size and shape of green areas should take into account their multifunctional role: outdoor living, representation, rainwater drainage, cooling and purification of the atmosphere, provision of shade by tall trees, preservation of biodiversity.

- The sizing of the BP depends on the expected capacity (m^2 of sales area) of the commercial building.
- In addition to the areas for the buildings, paved external areas for access (visitors, delivery of goods, waste collection), parking areas (possibly within the building) and open green areas on the unsealed area should be provided.

BP surface proportions and utilisation factors



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A. Land under the building and under associated ancillary buildings

- The land under the building and associated ancillary facilities may comprise up to 40% of the total BP area.

B. Paved external areas

- The paved external areas intended for parking (which should be greened – Chapter 3.3) and restaurant terraces should be shaded as much as possible by the canopy of tall trees.
- At least 70% of paved external areas for motor traffic should be shaded by a canopy of tall trees.
- Safe pedestrian routes shall be provided in the external parking area. At least 50% of their area should be shaded by a canopy of tall trees. If the area has a basement and the growth of tall trees is not possible, the same percentage of shading of pedestrian routes shall be provided by other means of greening, canopies or other measures.

C. Unsealed part

- In order to ensure sufficient water drainage capacity, the proportion of the unsealed area shall not be less than 30% of the total BP area, with at least 50% of the unsealed area being in a closed and compacted form.
- The surface of the unsealed area may be used for small street furniture and walkways through which water can drain, provided that this increases the usability of the area for visitors, however, these may not exceed 10% of the total surface of these areas.

Special features

LOCATION

Large commercial buildings are located in easily accessible locations.

ACCESS AND RELATION TO PUBLIC SPACE

- Motorised access for visitors and for delivery of goods must be organised in separate areas.
- Pedestrian and cyclist access should be designed and furnished in such a way as to allow a pleasant experience, without barriers for users with reduced mobility.
- Access for emergency vehicles shall be provided from all sides of the building.
- The BP shall be designed to maximise the contact between the active façade of the shopping centre and the street space. At least 40% of the façade of the building facing the main street shall be designed as an active façade to allow visual contact between the street space and the interior of the building. Direct access to the building from the street space should be possible. As shopping centres have a large part of the façade inactive, BPs developed in depth, where the BP is in contact with the public surface with its shorter side, are generally preferable.
- The space between the main entrance of the building and the main street should be designed as a high quality outdoor public space predominantly for pedestrians and cyclists.

FARMS

Basic organisation of the BP

SEALED PART

Areas under the building and under associated ancillary buildings

- main building: residential building, agricultural commercial building (buildings for storage and processing of agricultural crops or buildings for keeping livestock – stables)
- ancillary buildings for the pursuit of agricultural activities: buildings for the storage of agricultural machinery, tools and equipment, silo, granary, corn crib, hay shed, hay rack, other buildings for storing crops, dairy building, buildings for the processing of own agricultural products (cheese factory, etc.), greenhouses, sheds, woodsheds, beehives and other buildings and structures for the pursuit of agricultural activities
- ancillary buildings: garage, canopy for cars, bicycles and other means of transport, waste collection area, technical infrastructure facilities (e.g. transformer station), etc.

Paved external areas that are not covered:

Traffic, utilities and technical areas

- entry and exit;
- areas for the delivery and handling of goods;
- outdoor work surfaces;
- external storage areas, parking areas for work machinery, goods vehicles, cars, bicycles and other means of transport;
- manoeuvring areas (for turning vehicles on the BP);
- waste collection areas;
- accesses and routes within the BP, such as roads, footpaths, cycle paths; paved areas for emergency vehicles, firefighters.

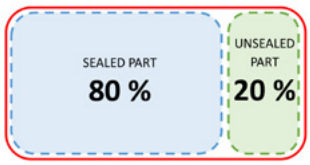
Outdoor living areas that are not covered:

- paved living areas adjacent to the residential building for socialising of residents (e.g. terraces, etc.);
- paved living areas for representative purposes (e.g. entrance area in front of the building).

UNSEALED PART

Surface of the unsealed part

- green areas: garden (living, vegetable, ornamental, etc.), lawns, orchard, areas with trees, front garden, etc.



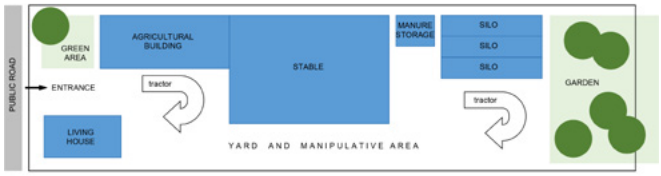
Guidelines for the detailed organisation of the BP

The siting of buildings and structures and the detailed organisation of areas on the BP should ensure or provide:

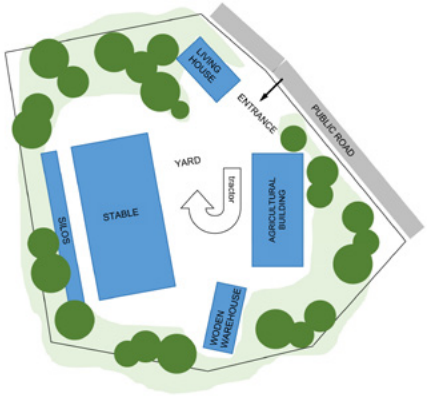
- quality design of the space between the buildings within the farm and along the public areas (front side of the BP);
- local characteristics (e.g. in rural flatland settlements, longitudinal BPs running perpendicular in length to the public paths or village streets to the farmland in the hinterland of the settlement; in isolated hill farms, due to the greater availability of space, BPs may be wider and lumpier in shape, with buildings arranged around an inner courtyard);
- adequate solar exposure of buildings on the BP and of the buildings on the adjacent plots;
- a sufficiently large, enclosed green area on the unsealed part of the BP (e.g. vegetable or ornamental garden, orchard);
- a sufficiently large area for outdoor living and socialising.

BP DESIGN EXAMPLES

- **Example 1:** longitudinal BP typical of rural settlements



- **Example 2:** BP typical of isolated farms



BP size

The sizing of the BP shall take into account the type of the building, the intended size of the building and its associated ancillary structures, natural and created site conditions, orientation, provision of distances from neighbouring structures, fire safety, existing parcelling, regulatory factors and provision of lighting and solar exposure.

- The BP of a farm combines a production function with a living function. The organisation and size of the BP of a farm depend on the agricultural and forestry activities on the farm, which can be varied (see the examples of layout above – modern dairy cattle farms, which require the most space).
- The main criterion for determining the size of the BP of a cattle farm is the number of livestock. This determines the size of the stable and the accompanying buildings. The turning capacity of the tractor and trailer is particularly important for determining the size of the BP.
- The largest building on the farm is the agricultural commercial building (buildings for storage and processing of crops or livestock buildings – stable), which is usually joined with other buildings. Buildings for storing agricultural machinery, tools and equipment also occupy a large amount of space on the BP.
- The external paved areas consist mainly of a farmyard with access to all agricultural commercial buildings and structures. It must be of a size to allow driving and turning of working machinery.

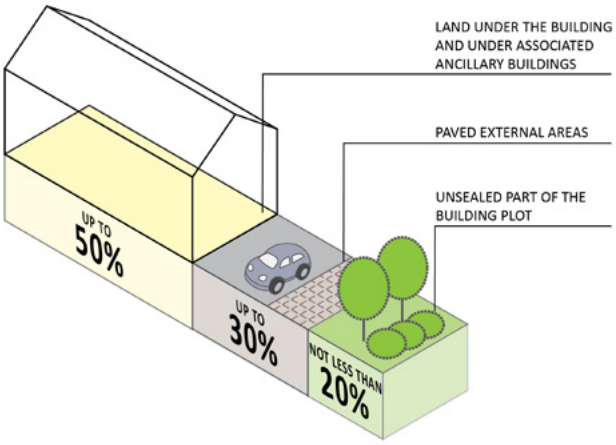
- The BP should also provide space for landscaped green areas, comprising a garden at the rear of the farm, including fruit trees, and small ornamental lawns adjacent to the house. Isolated farms have a belt of tall fruit trees around the perimeter.
- The design of the size and shape of green areas should take into account their multifunctional role: outdoor living, rainwater drainage, cooling and purification of the atmosphere, provision of shade by tall trees, preservation of biodiversity, as well as the production of vegetables and fruit for own needs.
- The most scope for development is in isolated farms or in farms in hamlets.

EXAMPLE: BP AND STABLE SIZE REGARDING THE NUMBER OF DAIRY COWS
(BP width minimum 40–60 m and terrain without significant slope):

no. of cows	BP size	two-row stable (width 17 m)		three-row stable (width 20 m)	
	(m²)	surface (m²)	length (m)	surface (m²)	length (m)
30	3500–4300	500	29,5		
40	4200–4800	550	32	530	28
60	5300–6300	730	44	700	37
80	6500–7700	940	55	870	46
100	9000–10.000	1156	68	1030	54

BP surface proportions and utilisation factors

in a settlement:



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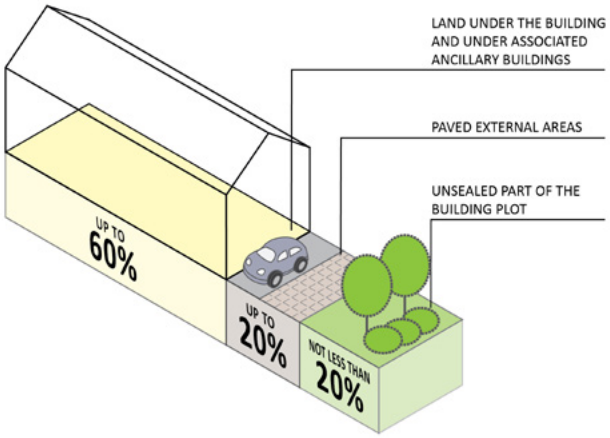
outside of a settlement:



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A. Land under the building and under associated ancillary buildings

- Land under a building includes a residential house, agricultural commercial buildings and other objects other than buildings, but used for agricultural production. The proportion of land under buildings in the BP may be up to 50% in a settlement and up to 60% outside a settlement.

B. Paved external areas

- The majority of the paved external areas on the farm belong to the farmyard and its connection to the public road.
- The BP shall be capable of being connected directly to the public road, with sufficient width to allow access to the BP for working machinery.
- Parking for private vehicles shall be provided in the farmyard and not between the residential building and the public road.
- Part of the paved outdoor areas shall also be dedicated to outdoor living.

C. Unsealed part

- In order to ensure sufficient water drainage capacity, the proportion of the unsealed part shall not be less than 20% of the total BP area.
- The green areas on the unsealed part consist mainly of a garden with tall fruit trees at the rear of the farmhouse, opening onto agricultural land.
- In the case of an isolated farm, it is important to plant tall fruit trees around the whole farmhouse – for protection against wind and summer heat, for fruit production and for better visual integration into the rural environment.

Special features

ACCESS AND RELATION TO PUBLIC SPACE

- The BP of the farm must have a direct connection to a public road.
- The main façade of the residential building shall be located adjacent to the public access road, thereby contributing to the quality of the street space design. An ornamental green space (front garden) shall be provided adjacent to it and parking shall be provided inside the BP.

DESIGN

- The siting of buildings on the farm should respect the traditional hierarchy of the layout of buildings on the farm, as this preserves the identity of rural settlements. As a rule, residential buildings should be located alongside the public road, with commercial buildings and objects behind it (and sometimes alongside). Hay racks are placed at the end of the BP and merged with gardens. The construction of an additional residential house to the rear of the farmhouse is inappropriate as it does not allow the residential building to be directly linked to the public highway and breaks up the characteristic structure of the village.
- In the case of an isolated farm, the layout of the buildings can be more arbitrary, and the residential building should also normally be sited alongside the main access road.
- For intensive agricultural production complexes, the provisions of the IP and IG section of this handbook – manufacturing: manufacturing complexes and production zones – shall apply.

IP and IG – MANUFACTURING: Manufacturing Complexes and Production Zones

Basic organisation of the BP

SEALED PART

Areas under the building and under associated ancillary buildings

- main building: production building(s)
- ancillary buildings: storage, energy and similar facilities, administration building, catering building, industrial shop, etc.;
- ancillary buildings: garage, canopy for cars, bicycles and other means of transport, bicycle shed, waste collection area, technical infrastructure facilities (e.g. transformer station), etc.

Paved external areas that are not covered:

Traffic, utilities and technical areas

- entry and exit;
- parking areas for goods vehicles, cars, bicycles and other means of transport;
- manoeuvring areas (for turning vehicles on the BP);
- waste collection areas;
- areas for the delivery and handling of goods;
- outdoor work surfaces;
- outdoor storage surfaces;
- accesses and routes within the BP, such as roads, footpaths, cycle paths; paved areas for emergency vehicles, firefighters.

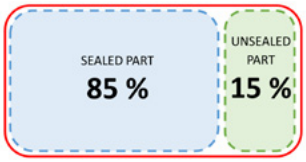
Outdoor living areas that are not covered:

- paved living areas with a representative purpose (e.g. entrance area in front of a building, square, courtyard) and a residential purpose (e.g. paved seating areas with associated furnishings such as benches, tables, waste bins, etc.);
- green areas above underground structures.

UNSEALED PART

Surface of the unsealed part

- green areas: park areas including paths and equipment, lawns, green belts (barriers to separate incompatible activities in car parks), green areas with a representative purpose (e.g. ornamental green areas in front of building entrances), areas with tall trees for greening car parks, etc.

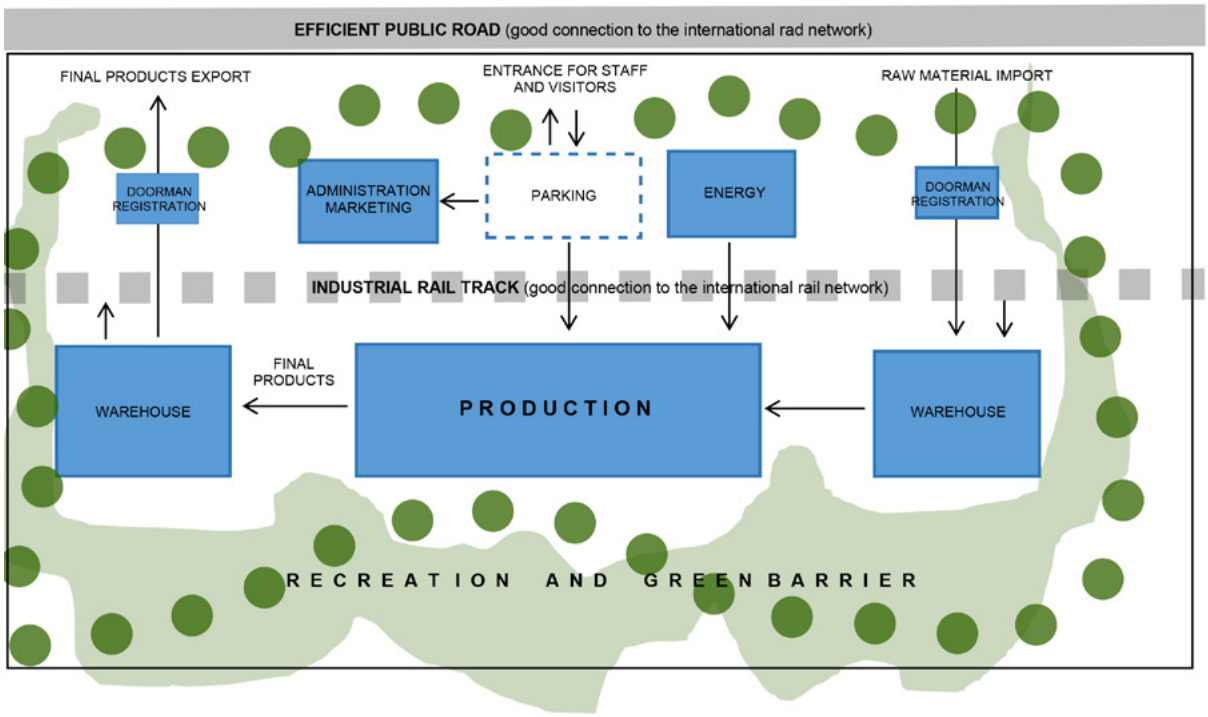


Guidelines for the detailed organisation of the BP

The siting of buildings and structures and the detailed organisation of areas on the BP should ensure:

- a production process, which basically consists of: delivery of raw materials, storage of raw materials, production, storage of finished products and removal of products. In addition to the facilities and areas necessary for the production process, ancillary or auxiliary facilities are added;
- a well-designed space between the building and the public area (front side of the BP). From the aspect of creating a quality edge to the public space, the position, size and shape of the buildings on the BP adjacent to it are of key importance. It is therefore recommended that the building is located in close proximity to the public surface and that its façade co-creates the street façade series, with the commercial yard and parking areas in the background, while the space between the building and the public surface is at least partly designed for a representative purpose and, if possible, greened;
- a sufficiently large, enclosed common green area on the unsealed part of the BP; In mixed-use production zones, park arrangements can be arranged as one or more shared parks, also as a CBPB;
- green belts in large car parks and storage areas to drain water and reduce overheating; green belts along the edges of the BP as a green barrier separating the production zone from other land uses shall be arranged.

BP DESIGN EXAMPLES

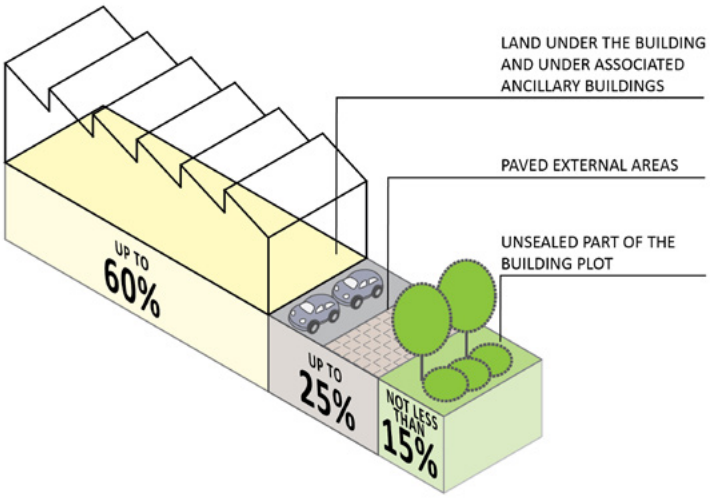


BP size

The sizing of the BP shall take into account the type of the building, the intended size of the building and its associated ancillary structures, natural and created site conditions, orientation, provision of distances from neighbouring structures, fire safety, existing parcelling, regulatory factors and provision of lighting and solar exposure.

- The size of a BP of a production complex depends on the type of production, which varies. It should be considered as a whole within a single BP, with the production building(s) as the main building and other ancillary and auxiliary facilities. In the case of production zones with mixed production and service activities, each individual activity shall be covered by a separate BP.
- The external paved areas may be part of the production process and their size and purpose depend on the type of business activity. Therefore, (apart from access roads and paths for work vehicles and employees' vehicles), in some manufacturing activities a large part of these areas is also dedicated to work areas, such as storage of raw materials or finished products (e.g. automotive industry). Labour-intensive manufacturing has a high level of parking needs, which should initially be addressed in the context of sustainable mobility (establishment of public passenger transport) or in the context of garages above or below ground.
- The design of the size and shape of green areas should take into account their multifunctional role: outdoor living, representativeness, rainwater drainage, cooling and purification of the atmosphere, provision of shade by tall trees, preservation of biodiversity, as well as the potential production of vegetables and fruit for own consumption, provided that such activity is compatible with the main activity and there is no risk of contamination of the produce.

BP surface proportions and utilisation factors



SSI: max. 0.85
FAR: /
BF: 0.60
FP: 0.25
FPI: /
FPt: /
USI: min. 0.15

A. Land under the building and under associated ancillary buildings

- The land under the building and associated ancillary facilities may comprise up to 60% of the total BP area.

B. Paved external areas

- The nature of the production process often requires large paved external areas, most of which are asphalted.
- Intermediate green belts should be provided in car parks to drain rainwater as well as for providing shade by means of a canopy of tall trees. External storage areas should be avoided as much as possible, and storage should be provided indoors.

C. Unsealed part

- In order to ensure sufficient water drainage capacity, the proportion of the unsealed part shall not be less than 15% of the total BP area.

Special features

*NOTE: These recommendations also apply to intensive agricultural production complexes.

Summary Table of BP Area Proportions

	Surfaces under the building and under associated ancillary buildings	**Paved external areas** that are not covered: sum of subcategories maximum (% BP)		**Unsealed terrain**
		Traffic, utilities and technical areas	Areas for outdoor living	
	maximum (% BP)	maximum (% BP)	maximum (% BP)	minimum (% BP)
SS – residential use				
one- and two-dwelling buildings	in a spatial node: **40** outside a spatial node: **30**	in a spatial node: **20** outside a spatial node: **30**		**40**
villa	**20**	**20**		**60**
semi-detached houses	in a spatial node: **40** outside a spatial node: **35**	in a spatial node: **30** outside a spatial node: **35**		**30**
terraced houses	**50**	**20**	**10**	**20**
free-standing blocks (villa block, block, tower block)	in a spatial node: **40** outside a spatial node: **35**	**25**	**15**	in a spatial node: **20** outside a spatial node: **25**
higher density housing (blocks)	**35**	**20**	**15**	**30**
CD – social activity				
kindergartens	**30**	**20**	**15**	**35**
primary schools	**30**	**20**	**15**	**35**
health care centres	**50**	**25**	**5**	**20**
BD – commercial activity				
small commercial buildings	**50**	**15**	**5**	**30**
large commercial buildings	**40**	**30**	**10**	**20**
shopping centres	**40**	**20**	**10**	**30** (of which at least 50% in one piece)
Farms				
farms	in a spatial node: **50** outside a spatial node: **60**	in a spatial node: **30** outside of a settlement: **20**		in a spatial node: **20** outside a spatial node: **20**
IP and IG – manufacturing				
IP and IG – manufacturing complexes and production zones	**60**	**25**		**15**

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