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"INVENTORY OF ENGINEERING STRUCTURES IN SAMARKAND"

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Abstract: Civil engineering facilities are those that are designed to provide the conditions for the implementation of production processes by performing certain technical functions that are not related to changes in the subject of labor, or by performing non-production duties. They can be classified into the following groups based on the above definitions and the current status of engineering and construction facilities established to execute duties connected to manufacturing processes in settlements.

Introduction

Since the country's early days of transition to a market economy, legal requirements for land have been moderate, and it has now become one of the economy's main directions as a measure taken by the government to deepen market relations, including taxes, rent, insurance, investment, and entrepreneurship.

The large-scale construction of modern housing and the formation of appropriate infrastructure in our country's villages on the basis of exemplary projects is a vivid demonstration of attention and care for further improving the quality and standard of living today, due to he initiative of the President of the Republic.

Civil engineering facilities are those that are designed to provide the conditions for the implementation of production processes by performing certain technical functions that are not related to changes in the subject of labor, or by performing non-production duties.

The following types of engineering and construction facilities can be classified based on the aforementioned definitions and the current status of engineering and construction facilities developed to execute activities connected to manufacturing processes in settlements:

- **Surface structures** are distinguished by the absence of rooms that do not enter the building due to structural solutions, and they are classified as follows:
  - bridges, dams, tower structures, sports complexes.
- **Surface engineering communication facilities** are engineering devices designed to perform tasks related to surface production processes and are classified as follows based on their design solutions:
  - street-road network, trams, railways, airways, waterways, subways, power and communication transmission lines, gas, water, heat, and sewer external pipes.

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➢ **Underground engineering communication facilities** - engineering and construction facilities designed to direct underground traffic flow and conduct activities involving self-propelled pressure and various voltage cable procedures. Underground tunnels, water supply, sewerage, drainage, gas pipelines, heat supply networks, oil and gasoline pipelines, stream and river water pipelines, and food pipelines are grouped into the following types based on their constructive solutions:

Table 1 shows information on engineering structures with protected areas on the territory of the Republic of Uzbekistan.

Protected regions in engineering facilities (as of 2020)

Table 1

№	Type of engineering structures	Number, pcs
1	Buildings and structures	7735261
2	Water bodies	1870
3	Hydraulic structures	22207
4	Objects of material and cultural heritage	8208
5	Communication areas	12337
6	Highways	184039
7	Railways	5243
8	Land cadastre objects	7435261
9	Minerals and deposits	2434
10	Technogenic hazard areas	10875
11	Protected natural areas	430
	Total:	**15418165**

➢ The following environmental requirements for the location, design, construction and operation of engineering structures are set out in Article 80 of the Code:

- land protection measures are envisaged and implemented during the placement, design, construction and commissioning of new and reconstructed facilities, buildings and structures, as well as the introduction of new technologies that adversely affect the condition of lands;
- it is prohibited to commission facilities and use such technologies that are not provided with measures to protect lands from crop failure or damage and do not have a positive conclusion of the ecological expertise;
- the location of facilities that affect the condition of land is agreed with the land management, nature protection and other authorities in the manner prescribed by law.

➢ Article 90 of the Code establishes liability for violation of land legislation in the use of engineering structures in the following cases:

- degradation of agricultural lands and other lands, pollution of them with chemicals and radioactive substances, industrial wastes and sewage;
- placement, construction, design, commissioning of facilities that adversely affect the condition of lands;
- non-compliance with land use nature protection requirements;

One of the main tasks of the state cadastre of buildings and structures in the country is to obtain information on the location of structures and adjacent protected areas, the quantity and quality of land, technical condition, level of improvement and value and changes in these indicators.

Procedure for recording:

- determining the actual existence and composition of facilities that use the protected area or are leased on a long-term basis;
- check the availability of title documents confirming the right of ownership or long-term lease of facilities;

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- determine the technical condition and value of the protected area;
- ensuring that land use and environmental regulations for the use of protected areas are established and enforced in the relevant documents.
- registration of constructions is carried out in the following general cases:
- in the work related to the planning of settlements with the allocation of new lands with existing facilities;
- commissioning of construction projects - in order to obtain complete information on the actual condition of all elements of the structures accepted for use, as well as deviations from all design parameters;
- in the creation of a database for the management of facilities - within the boundaries of the territory of all facilities: basic (planned) and current (in order to always keep the latest information at the appropriate level);
- in preparation for the registration of structures - in order to obtain objective information on the physical deterioration of certain structures and elements, which allows to determine the actual technical condition and value of the object of construction;
- in inspections related to the identification of the consequences of natural disasters, man-made disasters and catastrophes - to obtain specific information on the preservation or degree of damage (damage) of structures and their structural elements in order to determine the amount of damage to design rehabilitation projects;
- in scheduled inspections of old structures to determine their actual physical condition (reliability) and technical condition of load-bearing structures, in resolving issues of their reconstruction, demolition or re-specialization;
- in scheduled inspections to determine the compliance of all facilities with the requirements of the amended (newly introduced) norms of construction design.

Censuses of facilities are also conducted for statistical reporting purposes.

Terms of registration of constructions. Registration of land plots and structures located on them is carried out at least once every five years as of January 1.

Based on the results of the planned (basic) technical inventory, the territorial cadastre services are provided with information on all legal and technical changes that have occurred at the facilities.

Owners (users) of construction facilities shall notify the local cadastre services of unscheduled changes within 1 month to make corrections to the initial data.

Registration of newly constructed (reconstructed) structures shall be carried out not later than 1 month from the date of their construction.

Geophysical data of buildings

During the enumeration process, for example, take a topographic map of the area, number each object to be enumerated (Figure 1.1) and enter in a special table the number, name, address, state registration of the owner.

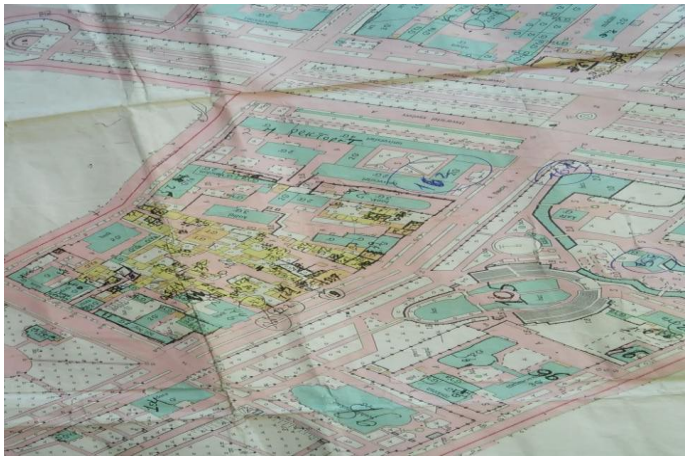

Figure 1. Number designation of each facility where the census is conducted.

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Note that in order to obtain the geophysical data of this structure, this structure is photographed using a camera (modern telephone, camera) with a special program "geocode". The photo shows a view of the structure and the following geophysical data (Figure 1.2):

Figure 2. Geophysical data of the structure.

The date and time of the geophysical coordinates of the structure are determined by the device itself.

The street address of the building and the last name, first name, and patronymic of the owner of the property are recorded by the executor.

Information on the structure, historical and cultural heritage sites, as well as the historical territory identified in the process of registration shall be formalized in the manner prescribed by the cadastral assembly.

If the building is a historical and cultural heritage site, the data on them and the cadastre collected will be sent to the “State inspectorate for protection and control of territorial cultural heritage and the state inspectorate” will be responsible for the protection of cultural heritage sites, reference, etc.) and sends it in the form of a notification to the cadastral service, the owner of the property, the local government, if necessary, other organizations (prosecutor's office, M.I.F., water, gas, etc.).

The notice of inspection (reference, obligation, letters of instruction) must be studied by the executor, formalized in the prescribed manner in the cadastral assembly, and the owner of the property must be notified and signed.

In the process of using engineering communications, protected, sanitary zones shall be established around protected engineering communications and facilities that may pose a threat to the population, in order to ensure their effective use and protection.

Protected areas will be established around the following structures and facilities:

- prevention and elimination of contamination, pollution, reduction and turbidity of water bodies by soil erosion products along rivers, main canals and collectors, as well as around reservoirs and other water bodies, as well as maintenance,

operation and repair of favorable water flow; in order to create favorable conditions for transportation;

- in order to protect the water around the sources of domestic water supply, used for drinking, household and medical needs of the population;
- in order to ensure their safety, create the necessary conditions for their use in the areas adjacent to the facilities of the power grid, as well as to prevent their damage and accidents among the population;
- in order to ensure the safety of the population and traffic safety in the areas adjacent to the area allocated for public roads;
- in order to ensure the safety of the population, as well as the normal use of railways and other railway transport facilities located on lands that may be subject to landslides, floods, mudslides and other dangerous effects;
- in order to ensure the safety of the population along the main oil and gas pipelines, main heating mains, as well as to protect their ground equipment;
- in order to ensure the use of telecommunications around cable, radio relay and overhead networks;
- in order to protect citizens and the environment in the areas where objects using ionizing radiation sources are located;
- in areas adjacent to the objects of tangible cultural heritage, in order to preserve their irreplaceable features and its historical environment;
- • in areas bordering state reserves, complex (landscape) reserve reserves, order reserves, state natural monuments and national parks, in order to prevent negative impact on these protected natural areas.

Protected areas may also be established around other facilities in cases provided by law.

The design of the protected areas will be developed by the relevant ministries and agencies, set up on site and mapped.

The projects will be developed by the Uzdaverloyiha State Scientific Design Institute of the State Committee for Land Resources, Geodesy, Cartography, and State Cadastre of the Republic of Uzbekistan (hereinafter referred to as the Uzdaverloyiha Design Institute), with participation from other project organizations as needed.

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