The American Journal of Engineering and Technology
(ISSN – 2689-0984)
Published: November 29, 2020 | **Pages:** 108-112
Doi: https://doi.org/10.37547/tajet/Volume02Issue11-17

IMPACT FACTOR
2020: 5. 32
OCLC - 1121105677

Ways Of Implementation Of Environmental Emergency Situations In Engineering Preparation Works In Cities

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ABSTRACT

This article provides basic information on engineering selection and beautification of urban areas to be built in response to emergencies.

KEYWORDS

City; general plan; release; groundwater level, climate zone.

INTRODUCTION

Human life activity is closely connected with the formation of cities and settlements in them. For this reason, it is necessary to design and build urban and residential areas in a comfortable and prosperous way.

The study of the natural conditions of the site allows the assessment of the selected land for the city in terms of urban planning. Typically, the integrated solution of urban planning depends on the extent to which engineering preparatory work has been carried out in the area. Also, the natural conditions of the chosen place and the complexity of the relief have a direct impact on the requirements for urban planning. Areas with favorable conditions for construction do not require excessive work. However, taking into account

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the risk of landslides in the area where the city will be built, rising groundwater levels, as well as other physical and mechanical phenomena, engineering preparatory work will be carried out only if it is technically and economically justified. The development and implementation of an optimal city plan requires the search for ways to use some of the unused reserve areas of the existing urban area. To this end, it is of practical importance to change the areas that are considered "inconvenient" on the basis of urban planning requirements. Swamps, cliffs, floodplains, etc. are among such "inconvenient" places.

Ensuring the correct implementation of the architectural solution (master plan and vertical section) in the planning process for the implementation of creative work on the ground, with the integral connection of residential and historical monuments, greenery, ancient trees and their surrounding areas, urban engineering is the main goal of the training.

One of the main parts of the urban planning project is the project documentation for the engineering preparation of the area. This document reflects the zoning plan, the development of master plans for new and developing cities, residential areas, rural housing, industry, suburbs and green areas, as well as specific plans for parts of the city and neighborhoods and a group of buildings. Forms of zoning plan serve for the implementation of project-plan solutions between the regional planning and urban planning project. The draft zoning plan provides for the identification of the sequence of formation of industrial complexes and the distribution of housing, depending on the conditions of the site, and clarification of their formal solutions. The initial phase of such projects will last for 10 years, the next phase for 20 years and the demographic, economic and environmental calculations for 40-50 years. At the stage of development of the master plan of the city, according to the activity of the factors that make it up, it is decided to take into account the designation of city centers, the role of administrative, cultural production facilities in the urban distribution. The master plan identifies public service networks and engineering locations that are relevant to all activities for the future long-term development of the city or other settlements.

In the development and definition of the master plan will be developed a clear plan of zoning of individual districts by urban planning complexes and the level of activity of the city. With this project, architectural-complex solutions of creativity will be identified and reconstruction solutions will be implemented in the coming years. The draft clear plan serves as a basis for the formation of a creative project in the implementation of the project of complex and group placement of neighborhoods, quarters, houses. This project will be implemented in two stages. The first is related to the initial cost of construction, the second is the working cost documents.

As a result of the topography and changes in its shape, the physical process of the soil changes as the natural flow of surface water becomes more difficult. As a result, groundwater levels will rise and swamps will form in the regions. Therefore, one of the main tasks of engineering measures is to ensure that the relief does not change. The next task is to use "inconvenient" places for some purpose in urban development. Cities engineering activities are inextricably linked with the design of landscaping and underground engineering equipment.

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One of the main measures of engineering training is the implementation of landscaping, vertical planning of ravines, which is closely related to engineering landscaping. Engineering training plays an important role in improving the sanitary and hygienic conditions of the city. It will clear swamps, improve the irrigation system and water basins. Engineering measures allow for efficient and rational use of urban terrain. In this case, inconvenient and unsuitable areas in the territory of residential areas are partially or completely eliminated. Efficient use of urban space ensures a compact location of the city, which allows to reduce the length of streets and public transport, which in turn provides great economic benefits in urban life activities.

Engineering measures are carried out before the start of construction, taking into account that they meet the requirements of the ideas of buildings, architecture and master plan used to maintain the state of the environment. At the same time, landscaping works are carried out on the basis of vertical planning, the use of retaining walls, stairs, ramps and other types of engineering landscaping elements in the formation of various slopes. Engineering preparatory work is carried out as follows:

a. Excavation, shoveling and hydromechanization, filling of pits and ditches, leveling of hills;
b. Use of open or closed (hidden) form of sewage drainage system;
c. Organization of irrigation systems;
d. Use of a drainage system that lowers the groundwater level;
e. Construction of structures that ensure the immutability of the relief and use it for other purposes (retaining walls, dams, etc.);
f. Strengthening of various natural and artificial slopes.

Each city has its own natural conditions. These conditions are not the same even in regions where conditions are close.

Based on this information, we study 3 types of environmental emergencies:

1. Situations associated with changes in the state of land (soil, subsoil): catastrophic landslides - landslides, landslides as a result of mining and other human activities during the excavation of minerals;

Contamination with toxicants caused by soil and land industry, the presence of heavy metals, petroleum products, as well as pesticides and other toxic chemicals used in concentrations that pose a threat to human health in agricultural production.

2. Circumstances associated with changes in the composition and properties of the atmosphere (air): Extremely high pollution of the air with the following ingredients:

- Sulfur oxide, nitrogen oxide, carbon monoxide, dioxide, dry matter, dust and other harmful substances of anthropogenic nature in concentrations that pose a threat to human health.
- The formation of large-scale acidic zones and the formation of large amounts of acid waste:
- High levels of radiation

3. Situations related to changes in the state of the hydrosphere: Industrial and agricultural production flows of surface and groundwater:

Extremely high-level contamination of petroleum products with wastes and other harmful substances containing heavy metals,

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various toxic chemicals that have caused or may cause poisoning;

An increase in the amount of groundwater that may or may not cause the collapse of buildings, utilities, and housing;

Acute shortage of drinking water due to contamination of water sources and water intakes with harmful substances.

At present, the United Nations - in addition to the description of emergencies on the UN:

a) Socio-political emergencies

b) military-type emergencies can be included.

According to the decision of the Cabinet of Ministers of the Republic of Uzbekistan, 7 types of emergency situations have been approved in our region:

1. Earthquakes, landslides.
2. Floods, floods, etc .;
3. Accidents at hazardous chemical facilities (release of acute toxic substances);
4. Accidents and catastrophes at facilities where there is a risk of explosion and fire;
5. Accidents and accidents during transportation by rail and other means of transport;
6. Accidents at radioactive sources.

The territory of the country is divided into 4 climatic zones depending on climatic conditions, each region, in turn, is divided into 4 climatic districts. The design of cities is based on meteorological data. This includes the average monthly precipitation during the year and its intensity, the time of snowfall and its thickness, the level of weather over the period (low, high, average and the amount of night-day change); wind strength, direction and return (year-round and seasonal); humidity, thickness and return of the fog, number of sunny days throughout the year, and so on.

The location of the accommodation is chosen depending on the main direction of the wind. In addition to the main function of the streets, they also serve as a natural corridor for ventilation of the city. Climatic conditions are a set of individual factors, which are the most important in terms of urban planning and depend on the following factors:

- Relief - the largest and most important in urban planning, a number of works such as urban planning, irrigation are closely related to its condition;
- As a result of flooding of low-lying areas under the influence of snow and rain water, some areas will turn into swamps and damage engineering works;
- Flooding of foundations and basements of a building or structure as a result of rising groundwater levels, complicating construction and rehabilitation works;
- The banks of rivers, lakes, reservoirs and reservoirs are damaged or eroded as a result of rising or falling levels.

The influence of water, wind and human activities, which create changing natural processes in nature, is important in the formation of relief. For this reason, the selection of land for urban development takes into account the following important natural processes:

- Flooding of some parts of the city by snow, rain or river water;
- The appearance of cliffs;
- Landslides (landslides and collapses);
- Occurrence of floods;
- The presence of karsts and subsidence;
- Erosion of the relief surface under the influence of water and wind.

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- Human activity processes include:
- Disturbance of relief as a result of subsoil use;
- The risk of flooding of residential areas as a result of the construction of reservoirs and rising groundwater, etc.

In the study of the natural conditions of a particular place depends on the shape of its relief, the condition of the ground, in particular the amount of snow and rainwater. In the allocation of urban areas, in the planning of highways, in ensuring the interdependence of traffic and landscaping

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