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LIFE CYCLE MANAGEMENT OF CONSTRUCTION FACILITIES

TRANSFORMATION IS ONE OF THE MOST IMPORTANT STAGES OF THE LIFE CYCLE OF INDUSTRIAL URBAN AREAS

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This article examines the main stages of the life cycle of industrial territories, identifies the prerequisites for the effective use of former industrial and degrading territories, examines in detail the process of transforming industrial zones with identifying ways of regeneration and renovation of a unique industrial environment, and performs a SWOT analysis of the use of former industrial territories for various functions of urban spaces.

Keywords: areas, life cycle, urban environment, effective transformation, SWOT - territory analysis, renovation, transformation, sustainable development, infrastructure

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RESEARCH OF INVESTMENT CYCLES OF A CONSTRUCTION PROJECT AND ANALYSIS OF CONDITIONS FOR ITS IMPLEMENTATION

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This scientific work provides an in-depth comprehensive study of the early stages of the life cycle of large investment projects in the construction industry.
The study covers a comprehensive analysis of the content and sequence of all processes and stages, from the emergence of the initiative to implement the project to the receipt of permits for construction. At the same time, a detailed study of the conceptual apparatus is being carried out, which makes it possible to fully reveal the features of the various phases of the sale of real estate objects, to identify the interdependence of all stages and components of each phase. Significant periods of the project life cycle are analyzed in detail through a detailed study of all processes occurring within the boundaries of the relevant stages, and the logic and interdependence of these processes is also examined. A comprehensive risk analysis is carried out at all stages of the implementation of such large-scale projects, taking into account existing sources and risk factors.
Based on the research carried out, the reasons for the lack of a unified classification of the phases of investment and construction cycles are established. The presented classification of phases and the results of the risk analysis demonstrate the main conclusions of the conducted scientific research.

Keywords: construction phases, investor activities, contract work, project stages, project phases, project risks, key organizational even

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IMPLEMENTATION OF THE PRINCIPLES OF SUSTAINABLE DEVELOPMENT IN THE LIFE CYCLE OF THE UNIVERSITY CAMPUS

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The article provides a theoretical analysis of normative and scientific literature in the field related to the concept of the life cycle. Various models of life cycle stages for capital construction projects are analyzed. Based on the performed analysis, a model is formulated and the main functional components for a sustainable university campus are highlighted. Taking into account the peculiarities of the university environment as a dynamic system, the main stages of the life cycle of the university campus are formulated. A variant of introducing environmental, social and economic aspects of sustainable development into each of the phases of the university campus life cycle is proposed. A model of life cycle stages for a sustainable university campus has been developed.

Keywords: university campus, life cycle, sustainable development, comfortable environment

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RELATIONSHIP OF THE LIFE CYCLE STAGES OF A NEWLY CONSTRUCTED CONSTRUCTION PROJECT AND ITS COST INDICATORS

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The article presents a study of the structure of the life cycle of a construction project. As a subsystem of the life cycle, the stages are defined, based on the results of which the real estate object is built. Each stage of the life cycle of the construction of a real estate object is decomposed into regulatory, financial, economic and engineering and technological elements that ensure the implementation of the relevant tasks when creating a construction project. The authors noted and disclosed the fundamental difference between the concepts of “construction cost” and “cost of real estate”, used in the analysis of the cost indicators of an object during its construction. The article also formulates the main elements and factors influencing the value of real estate during the construction of an object at various stages of the life cycle of the construction of an object.

Keywords: investment and construction activities, unfinished construction object, life cycle of the object, cost of real estate, construction readiness of the object, methods of real estate valuation, construction costs

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TECHNOLOGY AND ORGANIZATION OF CONSTRUCTION

STAGES AND PRINCIPLES OF THERMAL ENGINEERING DESIGN OF PUBLIC BUILDINGS WITH PANORAMIC GLAZING THE OUTER CONTOUR

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Ensuring energy efficiency in the design of architecturally attractive public buildings using large-scale facade glazing is relevant and will be possible through a step-by-step approach to the design of external fences, taking into account temperature fields and elements of thermal heterogeneities. This article discusses the basic concepts and principles of thermal engineering design of external fences, taking into account the processes of heat transfer, when constructing temperature fields and taking into account heat loss through thermotechnically heterogeneous areas. Specific heat losses are made taking into account the distribution of temperature fields along the contour of the junction of the elements of panoramic glazing.

Keywords: thermal contour of the building, thermal engineering design, energy efficiency, temperature field, heat transfer, thermal inhomogeneities, reduced resistance to heat transfer, structural glazing, panoramic windows

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IMPROVING FINANCING MECHANISMS IN EQUAL CONSTRUCTION

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A new settlement mechanism in the field of shared construction is being considered, which includes the use of an escrow account. This mechanism has its advantages and disadvantages, which will be discussed in detail below.
Issues related to the use of escrow accounts in domestic practice are considered. These include participants in tripartite agreements and the algorithm for conducting transactions with escrow accounts in accordance with current legislation. A diagram of the benefits of insuring funds in an escrow account is presented

Keywords: shared construction, government regulation, escrow account, bank account, insurance

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PROSPECTS OF USING THE CONSTRUCTION AND ASSEMBLY BASE FOR THE COMPLETION OF NPP CONSTRUCTION FOR THE DEVELOPMENT OF THE CONSTRUCTION INDUSTRY IN AN UNDERDEVELOPED REGION

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The aim of the research is to reveal perspective directions of exploitation of construction and assembly facilities during NPP construction for the development of construction industry in underdeveloped regions. Objectives to achieve the goal: to analyze the objects of the construction and assembly base and identify their possible ways of operation; to develop the directions of using the SMB objects to maximize efficiency and development of the construction industry in the region; to justify the developed methods in terms of increasing the productivity of the SMB and the maximum possible use of its functionality after the construction of NPP. Research methods: the methodological basis consists of modeling method and analytical method. The analytical method consists in analyzing the production capabilities of SMB objects and their effective use for the development of the construction industry. Modeling consists in finding the relationship between the possible functionality of SMB objects and construction needs of the underdeveloped region.

Keywords: NPP, auxiliary infrastructure, preparatory period, construction and assembly base, commissioning, construction and assembly works, regional development

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URBAN PLANNING, PLANNING OF RURAL SETTLEMENTS

FORMATION AND DEVELOPMENT OF A NEW PARADIGM INDUSTRIAL ARCHITECTURAL ENVIRONMENT WITH USE OF DOME STRUCTURES

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The development of the remote Arctic territories of the Russian Federation in terms of the formation of an industrial cluster of the extractive industry and the development of the agro-industrial complex is determined by the demand for the widespread use of architectural dome forming modules for prefabricated construction. The implementation of the concept will ensure the versatility of dome structures using high-tech structures and the active pace of construction in remote areas of the Arctic zone of the Russian Federation (AZRF).

Keywords: dome forming, energy efficiency, prefabrication, modular design, multifunctional spaces

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THE PRINCIPLES OF THE ORGANIZATION OF RECREATIONAL AREAS IN THE STRUCTURE OF COASTAL TERRITORIES IN THE LIPETSK REGION

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This article presents the results of an empirical study of the assessment of landscaping and comfort of open spaces of coastal areas in the Lipetsk region. The object of the study was the embankment of the Usman River, as an important component of urban space endowed with a recreational function. The main provisions of the landscaping concept are defined on the basis of urban planning analysis and existing project proposals to improve the comfort of the urban environment.

Keywords: landscaping, coastal areas, recreational areas, embankment, urban environment

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ENVIRONMENTAL SAFETY OF CONSTRUCTION AND URBAN ECONOMY

DEVELOPMENT OF TASKS AND THEIR SOLUTION FOR THE ANALYSIS OF THE CONSEQUENCES OF FIRES AT FACILITIES WITH THE PRESENCE OF PETROLEUM PRODUCTS

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The article provides a number of statistical data on fires at facilities handling petroleum products in the Belgorod and Voronezh regions for 2022, 2023, and also describes their consequences.

As a result of setting and solving a calculation problem related to determining the intensity of thermal radiation during spills of flammable and burning liquids (hereinafter referred to as ITIP), the software product “Program for calculating the intensity of thermal radiation during fires of spills of flammable and combustible liquids” was developed in Microsoft Excel and tested. [1]. The program allows you to quickly predict: the radius of fatal damage, areas of irretrievable and sanitary losses, safe distances from the center of the fire, the number of deaths and the number of people injured in fires of flammable and flammable liquids.

Keywords: intensive support, fire, petroleum products, liquid, flammable, flammable, losses, methodology, program

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SYSTEM ANALYSIS, MANAGEMENT AND INFORMATION PROCESSING (IN CONSTRUCTION AND ARCHITECTURE)

COMPUTER-SOFTWARE COMPLEX OF INTELLECTUAL DECISION SUPPORT IN THE MANAGEMENT OF REGIONAL INVESTMENT AND CONSTRUCTION PROJECTS

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The article describes a computer-software complex for intellectual decision-making support in the management of regional investment and construction projects, focused on application in design and construction organizations and allowing for interactive work to solve various socio-economic and organizational and technological tasks, assess technical, economic, financial, production and other risks, taking into account the uncertainties of the project environment, develop proposals for the settlement of intra-company conflicts.

Keywords: computer software complex, intelligent decision support, management, investment and construction project

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