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ARCHOLOGICAL PRINCIPLES IN THE CONSTRUCTION OF HOTEL PROJECTS IN THE POST-WAR RECONSTRUCTION OF UKRAINE

The term «archology» is derived from the words «architecture» and «ecology». It denotes a field of study and practice that integrates architectural design and ecological principles to create sustainable urban structures. In the construction of hotel and restaurant complexes, archology becomes particularly relevant, as these structures have the potential to consume vast quantities of resources and to contribute to environmental degradation. The implementation of architectural principles in such complexes not only mitigates their environmental impact but also enhances energy efficiency, ensures a comfortable environment for guests and staff, and underscores the social responsibility of the company.

The reconstruction of Ukraine in the aftermath of the war presents novel challenges and prospects for the construction industry. The destruction of infrastructure, the necessity of rebuilding residential and commercial facilities, and the aspiration to integrate into the global economy define the priorities of national recovery. In this context, the concept of archology—a combination of architecture and ecology aimed at building viable urban structures with minimal environmental impact is attracting particular attention. The application of archology in the construction of

hotel and restaurant complexes not only facilitates the conservation of resources and the reduction of the environmental footprint, but also enhances the appeal of Ukraine as a tourist destination.

The concept of archology, as proposed by Italian architect Paolo Soleri, is based on the principles of reducing the resource intensity of buildings, using natural materials, and creating self-sufficient structures. In other words, the primary objective of employing archology in the construction of hospitality facilities is to develop self-sufficient complexes that can be integrated into the natural environment and minimize their ecological footprint. In the context of hotel and restaurant complexes, archology entails the implementation of innovative approaches, including energy efficiency, sustainable development, and closed cycles. Energy efficiency is achieved through the incorporation of advanced energy-saving technologies, such as thermal insulation, solar panels, and energy-efficient appliances. Sustainable development and closed cycles are facilitated by waste recycling, rainwater harvesting, and recycling. Green design encompasses the integration of internal gardens, green roofs, facades with vertical landscaping, and other features that reduce the thermal load of the building and enhance the microclimate.

The hotel and restaurant sector represents a significant component of the tourism infrastructure, necessitating particular attention during the recovery phase. The implementation of sustainable principles within this sector can lead to notable reductions in energy costs and carbon dioxide emissions, while simultaneously enhancing the environmental friendliness and appeal of such complexes to tourists. Post-war reconstruction efforts are focused on the creation of modern, innovative complexes that can serve as symbols of the new Ukrainian hospitality business, with an emphasis on energy efficiency, energy conservation, the use of renewable materials, recycling, and waste management.

The following technologies are utilized in the construction of complexes based on archological principles:

The incorporation of green areas, internal gardens, and vertical landscaping of buildings serves to reduce the temperature within the premises and improve the

microclimate by creating a natural insulation barrier. Green roofs can also serve as recreational areas for visitors, thereby enhancing the aesthetic appeal of the premises and the surrounding environment.

Rainwater collection and treatment systems can be installed to collect and treat rainwater for reuse in technical needs, thereby reducing the consumption of potable water.

A closed-loop system for waste management can be implemented to reduce the amount of garbage produced and to provide compost for plant care on the premises. Restaurants can also implement programs for the disposal of food waste.

The implementation of smart systems enables the automatic regulation of energy consumption, illumination, and indoor climate conditions, thereby reducing costs and enhancing comfort. The integration of smart control systems and solar panels on roofs has the potential to result in a 30 – 40% reduction in electricity costs.

The implementation of environmental projects during the renovation of hotel and restaurant complexes in Ukraine may draw upon international experience. For instance, hotels that utilise renewable energy sources and recycled materials have long been a popular phenomenon in Northern Europe. In Sweden, for instance, the Treehotel was constructed in accordance with environmental principles. Each room is situated within a distinct edifice, situated in close proximity to a forest, and constructed with environmentally conscious materials and a system of minimal energy consumption. Another exemplar is the Silo restaurant in London, which operates without waste. The facility utilizes recycled materials, secondary processing, and innovative systems for comprehensive waste management.

The principal advantages of archological hotels are reduced operational costs, enhanced environmental conditions within the surrounding area, and optimal conditions for visitors. Moreover, such hotels foster greater brand loyalty among tourists who select environmentally responsible accommodation. The primary challenges Ukraine faces are the necessity for significant initial investments, which require either public or private funding, as well as the technical difficulties associated with the introduction of modern technologies in the affected regions. Nevertheless,

the experience of countries that have already adopted an ecological approach demonstrates that such investments are viable.

The post-war recovery of Ukraine represents a significant opportunity for the development of new infrastructure that is environmentally responsible and innovative. The incorporation of archology in the construction of hotel and restaurant complexes presents a valuable opportunity to mitigate environmental impact, advance sustainable development, and cultivate a positive image of the country as a progressive and welcoming destination for international tourism. By incorporating archaeological principles into construction, Ukraine can establish a novel standard of hospitality that prioritizes ecology and comfort, which are crucial for contemporary society and future generations. Moreover, the prospective advancement of this concept has the potential to establish archaeological complexes as a benchmark for environmentally responsible hospitality businesses.

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