World Herigate Research

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Abstract

The right-bank part of historic centre of Kiev from the immemorial time formed the unique outline of the city. During ages and today it plays a major town forming role of the urban development. Namely on this territory the most valuable architecture heritage of the XI-XVIII centuries are concentrated. Many years' experience witnesses that the works of the heritage conservation can not been efficiency without the conservation of the underground constructions and without the monitoring the geo-engineering environment as well.
Zones of high hazard have been defined. Geological structure, tectonic conditions and seismicity of the territory of the city, geomorphological, engineering-geological, hydrogeological conditions, their changes under the effect of the urbanization have been considered. Geodynamic process manifestation features have been studied. Parameters that can be used to examine the possibilities of the appearance of the destructive and emergency situations in the geologic medium have been determined. The expediency of a forming of a geodynamic proving ground in the city territory for combined (geophysical, geodetic, geomorphologic, hydrogeological, radiological) monitoring of the geological medium of the city has been founded.
Mentioned above territory is a raised plateau dismembered by ravines and gullets. A thickness of the sediment cover of the territory is 450-600 m. The elevation changes on a small area reaches about 100 m. The top layers of the sediment cover are the unstable ground after a damping. Just within such layers the geotechnic systems and bases of the ancient buildings are disposed.
The series of the tectonic breaks with various estimations of a tectonic activity crosses a crystalline foundation within the territory of the city and nearest area [1]. The main crossing knots of the tectonic breaks disposed namely on the right-bank territory. There are generated anomalous strained state, geothermic and geochemical, and hydra-geological anomalies within such zones.
The scientific and technical research programmme provide the task-oriented researches, monitoring, design and realization of the protective and restorations measures [2,3,4].

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