

ENGINEERING-GEOLOGICAL MONITORING OF URBAN TERRITORIES UNDER CONDITIONS OF SEISMIC HAZARD AND SUBSIDING ABILITIES OF LOESS SOILS

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Underflooding processes in Tashkent are responsible for moistening of building foundations located in zones with loess soils having hydroconsolidation properties. As a result of moistening there takes place a decrease in bearing capacity of soils and subsequently deformations of buildings occur. Seismic vibrations intensify subsiding processes in under-consolidated loess soils and seismic subsidence takes place, that is a component of the total subsiding deformation able to occur under dynamic excitation even after conventional stabilization of the common subsiding process. It might be supposed that in the city of Tashkent with its 2000 years history loess soils could have realized their subsiding abilities, especially in central parts of the city. However experience shows that subsiding abilities still show in case of moistening of soil foundations. For the period of 3-5 years permanent geodetic observations were conducted for 5 buildings located in different parts of the city of Tashkent, where non-uniform deformations took place due to moistening of soil foundations. Materials of the geodetic observations were analyzed taking into consideration data of instrumental seismometric registrations in the city for the same period. Analysis shows that components of seismic subsidence could be revealed in the course of the common subsiding process even under II-III shaking intensities (MSK). After realization of full conventional stabilization corresponding to static conditions in moistened loess soils seismic subsiding deformations could occur in case of seismic intensity more than VI. This is indicative of some under-consolidation of loess soils under static loading.