On approval of the Rules for carrying out engineering-geological surveys

Unofficial translation

Order of the Minister of Industry and Infrastructure Development of the Republic of Kazakhstan dated September 30, 2020 No. 509. Registered with the Ministry of Justice of the Republic of Kazakhstan on September 30, 2020 No. 21338.

Unofficial translation

In accordance with subparagraph 11-16) of article 20 of the Law of the Republic of Kazakhstan dated July 16, 2001 On Architectural, Town-planning and Construction Activity in the Republic of Kazakhstan, **I hereby ORDER**:

1. Approve the Rules for carrying out engineering- geological surveys in accordance with the appendix to this order.

2. As prescribed by law, the Construction and Housing-Communal Services Affairs Committee of the Ministry of Industry and Infrastructure Development of the Republic of Kazakhstan shall:

1) provide the state registration of this order with the Ministry of Justice of the Republic of Kazakhstan;

2) post this order on the Internet resource of the Ministry of Industry and Infrastructure Development of the Republic of Kazakhstan.

3. Control over the execution of this order shall be assigned to the supervising Vice Minister of Industry and Infrastructure Development of the Republic of Kazakhstan.

4. This order shall take effect upon expiry of ten calendar days after the date of its first official publication.

Minister of Industry and Infrastructure Development
of the Republic of Kazakhstan *B. Atamkulov*

"AGREED"
Ministry of Ecology,
Geology and
Natural Resources
of the Republic of Kazakhstan

Approved
by order No. 509
of the Minister of Industry and
Infrastructure Development
of the Republic of Kazakhstan
dated September 30, 2020

Rules for carrying out engineering-geological surveys Chapter 1. General Provisions

1. These Rules for carrying out engineering- geological surveys (hereinafter - the Rules) have been developed in accordance with subparagraph 11-16) of Article 20 of the Law of the Republic of Kazakhstan dated July 16, 2001 On Architectural, Town-planning and Construction Activity in the Republic of Kazakhstan and define the procedure for engineering -geological surveys execution for the construction design rationale, and also for engineering-geological surveys carried out during the construction, operation and post-utilization of facilities.

2. The rules shall be subject to observance for all the subjects of architectural, urban planning and construction activities carried out in the territory of the Republic of Kazakhstan.

3. The following concepts shall be used in these Rules:

1) contractor - an individual or legal entity licensed for the relevant type of activity, performing engineering- geological surveys for construction under a contract or a public procurement agreement with a customer;

2) customer - an individual or legal entity performing works in accordance with the legislation of the Republic of Kazakhstan in architectural, urban planning and construction areas.

4. When conducting engineering- geological surveys for construction, the Law of the Republic of Kazakhstan dated July 16, 2001 On Architectural, Town-planning and Construction Activity in the Republic of Kazakhstan shall be observed and also state regulations in architecture, urban planning and construction.

5. Engineering- geological surveys for construction shall be carried out by legal entities and individuals holding appropriate licenses, issued as prescribed by the Law of the Republic of Kazakhstan dated May 16, 2014 On Permits and Notifications.

6. Engineering- geological surveys shall provide an integrated study of geotechnical conditions of the territory (area, site, land plot, track) of the projected construction and forecasting of their possible changes in the sphere of the designed objects interaction with the geological environment in order to obtain the necessary and sufficient materials for the urban planning rationale and development of design solutions.

7. The customer shall:

1) independently or with the involvement of third-party specialists, draw up a technical assignment for performing engineering- geological surveys for construction, approve it with the chief executive or a person replacing him and certify it with the seal (in its existence).

The technical assignment for the execution of engineering- geological surveys for construction shall constitute an integral part of the contract and become binding to the parties from the moment it is approved by the customer.

In the event of revealed in the engineering surveys of complex natural and man-made conditions (due to insufficient knowledge of the territory of the construction site at the previous stages of work and design stages), which may have an adverse effect on the construction and operation of structures and the habitat, the engineering survey contractor

shall inform the customer of the need for additional study and amendments and additions to the technical assignment for the execution of engineering- geological surveys for construction . In the event that amendments to the technical assignment for engineering- geological surveys for construction, introduced at the initiative of the customer, require revision, an additional agreement to the contract shall be concluded, taking into account the volume of work performed.

2) in accordance with the Law of the Republic of Kazakhstan dated December 4, 2015 On Public Procurement, select organizations to perform engineering- geological surveys for construction, except for cases when the customer is financed by non-state investments and concluded contracts with them;

3) provide the contractor with resources for engineering-geological surveys for the construction and layouts of external engineering network routes.

4) accept from the contractor a technical report (conclusion) in at least two paper and two electronic copies.

8. After conclusion of the contract, the contractor shall draw up a programme of engineering- geological surveys based on the customer's technical assignment in accordance with the regulatory documents' requirements and with the maximum use of materials of previously completed engineering surveys and other information on the natural conditions of the area, construction site, land site, survey route, also taking into account the results of the field survey of the area, if it was carried out.

9. The programme shall contain the composition and scope, methodology, technology and sequence of work, ensuring completeness and reliability of the reporting materials, and also provide for the rational organization of work and completion of surveys on time.

10. A copy of the technical assignment and other documentation required for execution of survey works shall be attached to the programme of engineering site surveys for construction.

11. In the absence of the customer's requirement to draw up the programme of engineering- geological surveys, it shall be allowed instead of the programme to draw up an order for engineering surveys execution.

12. Upon the performed engineering- geological surveys' results, a technical report (conclusion) shall be drawn up for transfer to the customer. The technical report (conclusion) shall contain the data provided for by the technical assignment and the programme for engineering- geological surveys, as well as the rationale for the changes made.

13. For improper performance of engineering-geological surveys and the technical report (opinion) made in violation of the requirements of the legislation of the Republic of Kazakhstan and state standards in architectural, urban planning and construction activity, as well as deliberate provision of unreliable data or information that does not correspond to reality, the customer and the contractor shall be held liable in accordance with the legislation of the Republic of Kazakhstan.

14. The validity period of the technical report (conclusion) of engineering and geological surveys from the moment of their approval and until the start of development of project documentation shall be:

unique objects - 6 (six) months;

architectural, urban planning and construction projects - 36 (thirty-six) months.

Footnote. Paragraph 14 is in the wording of the order of the Minister of Industry and Infrastructural Development of the Republic of Kazakhstan dated 10.02.2023 No. 87 (shall be enforced upon expiry of ten calendar days after the day of its first official publication).

Chapter 2. Engineering- geological surveys for development of pre-design documentation and urban planning projects

15. Engineering-geological surveys for the development of pre-design documentation shall provide for the study of the geotechnical conditions of the territory (area, site, route) of the projected construction and forecasting of changes in these conditions during the construction and operation of enterprises, buildings and structures.

16. Engineering- geological surveys for the development of urban planning projects (master plan, design of detailed planning and design of the development) shall be carried out on the scale of engineering- geological surveys corresponding to the scale of an urban planning project.

Chapter 3. Engineering- geological surveys for design development

17. Engineering- geological surveys for the development of a design for construction of enterprises, buildings and structures shall provide a complex study of the geotechnical conditions of the selected area (site, route) and forecast their changes during the period of construction and operation in detail sufficient for development of design solutions.

18. Engineering- geological surveys shall provide the receipt of materials and data for the rationale for configuration of buildings and structures, structural and space-planning solutions , drawing up of master plan for a projected facility, developing measures and structures for engineering protection, protecting the geological environment and creating safe living conditions for the population, construction management plan.

19. In a comprehensive study of the geotechnical conditions of the territory of the selected site (route), the composition and scope of survey work should be sufficient to identify engineering-geological elements in terms of plan and depth with determination of the strength and deformation characteristics of soils for them by laboratory and (or) field methods , their normative and calculated values, as well as establishment of hydrogeological parameters, quantitative indicators of the intensity of the development of geological and

engineering-geological processes, taking into account the requirements, aggressiveness of groundwater to concrete and corrosiveness to metals in the interaction of the designed object with the geological environment.

20. To develop a detailed design for the construction of industrial and housing and civil facilities, for which materials are available of engineering- geological surveys for pre-design documentation with the necessary detail, the survey works shall be performed in accordance with paragraphs 21, 22 and 23 of these Rules.

Chapter 4. Engineering-geological survey for development of design documentation

21. Engineering- geological survey for the development of design documentation shall provide detailing and clarification of the geotechnical conditions of specific construction sites of the projected buildings and structures and the forecast of their changes during the construction and operation period with the detail necessary and sufficient for the rationale for final design solutions.

22. Engineering-geological surveys shall be carried out at specific sites for the placement of buildings and structures in accordance with the design, including at sites for individual design and trajects through natural and artificial obstacles of linear structures routes.

23. The composition and scope of survey work shall be established in the survey programme, taking into account the type (purpose) of buildings and structures (routes), their criticality rating, complexity of geotechnical conditions, availability of data from previously performed surveys and the need to ensure the final selection of engineering and geological elements, establishment for them of normative and calculated indicators based on laboratory and (or) field definitions and methods of physical, strength, deformation, filtration and other characteristics of soil properties, clarification of hydrogeological parameters of aquifers, quantitative characteristics of the dynamics of geological processes and obtaining other data for calculating the bases, foundations and constructions of buildings and structures, rationale for their engineering protection, also for solving individual issues that have arisen during the design development, coordination and approval.

Chapter 5. Engineering-geological surveys during construction, operation and post-utilization of buildings and structures

24. Engineering-geological surveys during the construction, operation and post-utilization of enterprises, buildings and structures shall ensure the receipt of materials and data on the state and changes of individual components of the geological environment on the site territory .

25. During the construction period, geological documentation of construction excavations and foundations of structures shall be maintained, as well as geotechnical supervision of the earthworks execution. Other types of work, including field supervision by the survey

organization shall be carried out, if necessary on the technical assignment of the design organization carrying out field supervision of construction.

26. The technical assignment for engineering-geological surveys during the construction period shall contain data on the stages and timing of the construction work, on the technical means used, tasks and required sequence of control at each construction stage, procedure for submitting survey products and promptly resolving issues of linking the obtained data with the construction work execution, procedure for coordination, examination and approval of acts of acceptance of work, as well as participation in their preparation.

27. In the surveys during the construction period, the correspondence of the engineering-geological conditions adopted in the design documentation to the actual ones shall be established on the basis of the survey and engineering-geological documentation of pits, tunnels, cuts and other excavations based on the results of studying the nature of bedding, soil composition, and groundwater seepage, condition and properties of soils in these excavations.

28. Engineering-geological surveys during the operation of buildings and structures shall be carried out in the following cases:

preparation of design documentation for reconstruction (overhaul) associated with increased loads on the foundations and (or) expansion of the capital construction facility;

occurrence of a pre-emergency situation and the need to stabilize the base and (or) underpin the foundation; designing of engineering protection measures;

investigation of the accident causes and (or) minimization of its consequences.

29. When surveying during the operation of facilities (if necessary during the construction too in accordance with the customer's assignment), an examination of the soils of the foundations of existing buildings and structures shall be carried out pursuant to the following tasks:

establishing the possibility of superstructure, reconstruction of buildings and structures with an increase in temporary and permanent loads on the foundations;

establishing the deformations causes and working out measures to prevent their further development, also restoring conditions for normal operation of buildings and structures;

determining the state of the foundation soils, the possibility and conditions of the extension to buildings and structures after long-term conservation of their construction;

determining the state of the junctions of buildings-extensions to existing buildings and developing measures to stabilize them;

clarification of the reasons for flooding and inundation of basements and other underground structures.

30. When examining the soils of the foundations of buildings and structures, pits and wells must be checked, soil samples and groundwater samples shall be taken for laboratory tests, sounding, geophysical research and other engineering-geological work shall be performed, as well as stationary observations of soil deformations of the foundations of buildings and structures and groundwater regime.

31. In the technical report on survey of the foundation bases' soils, additional information shall be provided on changes in the geological environment during the period of construction and operation of buildings (structures) and their compliance with the forecast, including changes in hydrogeological conditions, strength and deformation characteristics of soils, standard and calculated indicators shall be provided of soils of the selected engineering-geological elements separately under the foundations and outside their influence area, as well as their values before the construction and operation of these buildings and structures based on the materials of the previous years' surveys.

32. Engineering-geological surveys in the post-utilization period of a facility (enterprises, buildings or structures) shall provide the receipt of materials and data for design solutions rationale for detoxification (rehabilitation) and remediation (restoration of soil, land) of territories.

33. In geotechnical surveys during the post-utilization period of a facility, the presence of pollutants in the geological environment that are hazardous to the population's health shall be spotted, with proposals developed for utilization and neutralization of these substances, a survey of the soil cover condition shall be carried out with recommendations offered for replacing subsoil and soil on separate sections of the territory, assessment of the hazard and risk from post-utilization of the facility.

34. When conducting a comprehensive non-departmental examination of feasibility studies and design estimates intended for the construction of new and alterations (reconstruction, expansion, technical re-equipment, upgrade and overhaul) of existing buildings and structures, their complexes, engineering and transport communications, regardless of funding sources, an assessment of the technical report (conclusion) of engineering surveys of the construction site shall be carried out in accordance with the Rules for conducting a comprehensive non-departmental examination of feasibility studies and design - estimate documentation intended for the construction of new, as well as alterations (reconstruction, expansion, technical re-equipment, upgrade and overhaul) of existing buildings and structures, their complexes, engineering and transport communications, regardless of the funding sources, approved by Order No. 299 of the Minister of National Economy of the Republic of Kazakhstan as of April 1, 2015 (registered in the Register of State Registration of Regulatory Legal Acts under No. 10722).