Kansas Administrative Regulations

Kansas Department of Agriculture—Division of Water Resources

Article 40.—Design of Earth Dams

5-40-42. Geotechnical investigation of a high-impact dam.

(a) In addition to meeting the requirements of K.A.R. 5-40-40, each proposed high-impact dam shall have at least the following number of geotechnical test holes:

(1) A sufficient number of properly placed test holes to be representative of the geology under the proposed dam embankment, with an average of at least one test hole every 100 feet along and as close to the centerline of the dam as practical and a minimum of three test holes; and

(2) a test hole as close as practical to the anticipated location of the following:

(A) The base of the drop inlet; and

(B) the support of the outlet pipe.

(b) At least one representative sample of undisturbed soil shall be tested to determine shear strength parameters, permeability, and compressability.

(c) The geotechnical investigation shall determine the following for at least one representative sample:

(1) Atterberg limits;

(2) the settlement characteristics of the proposed embankment materials and the foundation of the dam;

(3) the Proctor compaction curves of soils;

(4) gradation tests of foundation materials, especially where drain systems could be located; and

(5) any other properties necessary to design a dam to meet the requirements of the regulations of the chief engineer, sound engineering principles, and commonly accepted engineering practices.

(d) Each existing unpermitted, illegal dam shall have the same level of geotechnical investigation as that required for a proposed dam, except that testing the borrow area

shall not be required, before a permit may be issued. In addition, the following properties shall be determined:

(1) The condition of all conduits passing through the embankment and the condition of the embankment in the vicinity of the conduits;

(2) the in situ density of the existing embankment and its foundation;

(3) the condition of the embankment, including any slides, seeps, saturated areas, sloughs, and other visible anomalies in the embankment; and

(4) a slope stability analysis of the existing embankment, which shall be performed according to the requirements of K.A.R. 5-40-46.

(Authorized by and implementing K.S.A. 2006 Supp. 82a-303a; effective May 18, 2007.)