**Section 1784.16 Reclamation Plan: Siltation Structures**, **Impoundments, Banks, Dams, and Embankments**

a) General. Each application shall include a general plan and a detailed design plan for each proposed siltation structure, water impoundment, and coal processing waste bank, dam, or embankment within the proposed permit area.

1) Each general plan shall:

A) Be prepared by, or under the direction of, and sealed by a qualified registered professional engineer licensed under the Professional Engineering Practice Act of 1989 [225 ILCS 325] with assistance from experts in related fields such as land surveying, geology and landscape architecture;

B) Contain a description, map, and cross-section of the structure and its location;

C) Contain preliminary hydrologic and geologic information required to assess the hydrologic impact of the structure;

D) Contain a survey describing the potential effect on the structure from subsidence of the subsurface strata resulting from past underground mining operations if underground mining has occurred; and

E) Contain a certification statement which includes a schedule setting forth the dates when any detailed design plans for structures that are not submitted with the general plan will be submitted to the Department. The Department shall have approved, in writing, the detailed design plan for a structure before construction of the structure begins.

2) Impoundments meeting the Class B or C criteria for dams in the U.S. Department of Agriculture, Soil Conservation Service Technical Release No. 60 (210-VI-TR60, Oct. 1985), "Earth Dams and Reservoirs," shall comply with the requirements of this Section for structures that meet or exceed the size or other criteria of the Mine Safety and Health Administration (MSHA). Each detailed design plan for a structure that meets or exceeds the size or other criteria of 30 CFR 77.216(a) shall:

A) Be prepared by, or under the direction of, and sealed by a qualified registered professional engineer licensed under the Professional Engineering Practice Act of 1989 [225 ILCS 325] with assistance from experts in related fields such as geology, land surveying and landscape architecture;

B) Include any geotechnical investigation design and construction requirements for the structure;

C) Describe the operation and maintenance requirements for each structure; and

D) Describe the timetable and plans to remove each structure, if appropriate.

3) Each detailed design plan for a structure not included in subsection (a)(2) shall:

A) Be prepared by, or under the direction of, and sealed by a qualified registered professional engineer licensed under the Professional Engineering Practice Act of 1989 [225 ILCS 325] with assistance from experts in related fields such as geology, land surveying, and landscape architecture;

B) Include any design and construction requirements for the structure, including any required technical investigation;

C) Describe the operation and maintenance requirements for each structure; and

D) Describe the timetable and plans to remove each structure, if appropriate.

b) Siltation structures.

1) Siltation structures shall be designed in compliance with the requirements of 62 Ill. Adm. Code 1817.46. Any sedimentation pond or earthen structure which will remain on the proposed permit areas as a permanent water impoundment shall also be designed to comply with the requirements of 62 Ill. Adm. Code 1817.49.

2) Each detailed plan shall, at a minimum, comply with the requirements of MSHA, 30 CFR 77.216-1 and 77.216-2.

c) Permanent and temporary impoundments. Permanent and temporary impoundments shall be designed to comply with the detailed requirements of 62 Ill. Adm. Code 1817.49. Each plan shall comply with the requirements of 30 CFR 77.216-1 and 77.216-2.

d) Coal processing waste banks. Coal processing waste banks shall be designed to comply with the requirements of 62 Ill. Adm. Code 1817.81 through 1817.84.

e) Coal processing waste dams and embankments. Coal processing waste dams and embankments shall be designed to comply with the detailed requirements of 62 Ill. Adm. Code 1817.81 through 1817.84. Each plan shall comply with the requirements of MSHA, 30 CFR 77.216-1 and 77.216-2, and shall contain the results of a geotechnical investigation of the proposed dam or embankment foundation area, to determine the structural competence of the foundation which will support the proposed dam or embankment structure and the impounded material. The geotechnical investigation shall be planned and supervised by an engineer or engineering geologist, according to the following:

1) The number, location, and depth of borings and test pits shall be determined using current prudent engineering practice for the size of the dam or embankment, quantity of material to be impounded, and subsurface conditions;

2) The character of the overburden and bedrock, the proposed abutment sites, and any adverse geotechnical conditions which may affect the particular dam, embankments, or reservoir site shall be considered;

3) All springs, seepage, and ground water flow observed or anticipated during wet periods in the area of the proposed dam or embankment shall be identified on each plan; and

4) Consideration shall be given to the possibility of mudflows, rock debris falls, or other landslides into the dam, embankment, or impounded material.

f) If the structure meets the Class B or C criteria for dams in TR-60 or meets the size or other criteria of 30 CFR 77.216(a), each detailed plan under subsections (b), (c), and (e) shall include a stability analysis of each structure. The stability analysis shall include, but not be limited to, strength parameters, pore pressures, and long-term seepage conditions. The plan shall also contain a description of each engineering design assumption and calculation with a discussion of each alternative considered in selecting the specific design parameters and construction methods.

g) Submission of MSHA certification documents for a detailed design plan under this Section shall satisfy the requirements of this Section insofar as the MSHA informational design standard requirements are duplicative of the requirements of this Section.

(Source: Amended at 24 Ill. Reg. 5998, effective March 21, 2000)