PART V - F. Ponds, Impoundments, Banks, Dams and Embankments

§2725. Reclamation Plan: Ponds, Impoundments, Banks, Dams and Embankments

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

1. Each general plan shall:

a. be prepared by, or under the direction of, and certified by a qualified registered professional engineer, or by a professional geologist with assistance from experts in related fields such as land surveying 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 that any detailed design plans for structures that are not submitted with the general plan will be submitted to the office. The office 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 Number 60 (210-VI-TR60, Oct. 1985), *Earth Dams and Reservoirs*, Technical Release Number 60 (TR-60) 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). The technical release is hereby incorporated by reference. This incorporation by reference was approved by the Director of the *Federal Register* in accordance with 5 U.S.C. 552(a) and 1 CFR Part 51. Copies may be obtained from the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, Virginia 22161, order Number PB 87-157509/AS. Copies can be inspected at the OSM Headquarters Office, Office of Surface Mining Reclamation and Enforcement, Administrative Record, Room 660, 800 North Capitol Street, Washington, D.C. or at the Office of the *Federal Register*, 800 North Capitol Street, NW, Suite 700, Washington, D.C. Each detailed design plan for a structure that meets or exceeds the size or other criteria of MSHA, Sec. 77.216(a) of this chapter shall:

a. be prepared by, or under the direction of, and certified by a qualified registered professional engineer, experienced in the design of similar earth and waste structures, 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 §2725.A.2 shall:

a. be prepared by, or under the direction of, and certified by a qualified registered professional engineer, experienced in the design of similar earth and waste structures; except that all coal processing waste dams and embankments covered by §§5375-5395 shall be certified by a qualified, registered, professional engineer;
b. include any design and construction requirements for the structure, including any required geotechnical information;
c. describe the operation and maintenance requirements for each structure; and
d. describe the timetable and plans to remove each structure, if appropriate.
B. Sedimentation Ponds. Sedimentation ponds, whether temporary or permanent, shall be designed in compliance with the requirements of §5327. Any sedimentation pond or earthen structure which will remain on the proposed mine plan area as a permanent water impoundment shall also be designed to comply with the requirements of §5333. Each plan shall, at a minimum, comply with the requirements of the Mine Safety and Health Administration, 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 requirements of §5333. Each plan shall comply with the requirements of the Mine Safety and Health Administration, 30 CFR 77.216-1 and 77.216-2.
1. For impoundments not included in §2725.A.2, engineering design standards shall ensure stability comparable to a 1.3 minimum static safety factor in lieu of engineering tests to establish compliance with the minimum static safety factor of 1.3 specified in §5333.
D. Coal Processing Waste Banks. Coal processing waste banks shall be designed to comply with the requirements of §§5375-5381.
E. Coal Processing Waste Dams and Embankments. Coal processing waste dams and embankments shall be designed to comply with the requirements of §§5391-5395. Each plan shall comply with the requirements of the Mine Safety and Health Administration, 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, embankment 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;
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 plan under §2725.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 alternatively considered in selecting the specific design parameters and construction methods.

RESPONSE: Locations of sedimentation ponds and associated collection ditches for the Five Forks Mine are shown on Exhibit 2703-1. Detailed designs for sedimentation ponds and collection ditches are included in the Appendices of this section, as identified in Table 2725-1.

All ponds include, at a minimum, sufficient capacity to detain water from the runoff volume of the 10-year, 24-hour storm event in addition of sediment volume equivalent to 0.1 acre-feet of sediment per acre of the drainage area. Ponds will be managed such that adequate sediment storage will be maintained.

Emergency spillways for non-MSHA ponds are designed to safely pass the peak outflow during the 25-year, 6-hour storm event routed with the normal pool elevation corresponding to the crest of the emergency spillway. The ponds will be dewatered with a pump and/or drawdown pipe to the permanent pool elevation at a minimum.

All collection ditches were designed to safely pass the peak flow rate of the 10-year, 6-hour storm event.

Sedimentation ponds, collection ditches, and associated spillways have been prepared under the direction of, and certified by a qualified Louisiana registered professional engineer.

Ponds will be designed and constructed using storage created with dams and/or incisions. If ponds meet or exceed the size or other criteria of MSHA, then MSHA and Office requirements will be considered in the design and specifications.

Designs for other sedimentation ponds identified on Exhibit 2703-1 that do not require Mine Safety and Health Administration (MSHA) approval will be provided

to the Office at least six months prior to construction. Ponds that do require MSHA approval will be submitted to MSHA at least 18 months before their scheduled construction and to the Office at least 6 months before their scheduled construction.

All sedimentation ponds will meet the requirements of Section 5327 and 5333 of the Regulations. Any permanent impoundments will be designed by a qualified Louisiana registered professional engineer in accordance with Section 5333 of the Regulations and MSHA requirements found in 30 CFR 77.216-1 and 77.216-2, if applicable.

All ponds, unless approved by the Office to remain as a permanent impoundment, will remain in use until the water quality from reclaimed lands meets the requirements of the LPDES permit at such point, and with approval from the Office, they will be removed.

No buildings or public roads are located immediately downstream of the proposed ponds. All ponds are located in areas where failure will impact only rural wooded areas. All dams fall into category “A” under the criteria for dams in the U.S. Department of Agriculture, Soil Conservation Service Technical Release Number 60 (210-VI-TR60, Oct. 1985), *Earth Dams and Reservoirs.*

There are no underground mine workings in the area and thus all sediment control structures are located in areas where no voids exist.

Five Forks will not construct coal processing waste ponds covered by Sections 5375 through 5395 of the Regulations.

Table 2725-1. Sedimentation Pond Schedule

Appendix	Permit Term	Name/Description	Status
2725-1	1	SP-001	Approved *
2725-2	1	SP-002	A, C1, C2
2725-3	1	SP-003	A, C1, C2
2725-4	2	SP-004	Approved *
2725-5	2	SP-005	A, C1, C2
2725-6	2	SP-006	Pending
2725-7	3	SP-007	Planned

* Approved, but construction has not occurred.

A= Approved C1 = Constructed C2 = Certified