to certify the construction or reconstruction of primary roads, a qualified registered professional land surveyor, with experience in the design and construction of roads. The report shall indicate that the primary road has been constructed or reconstructed as designed and in accordance with the approved plan.

(b) *Safety factor.* Each primary road embankment shall have a minimum static factor of 1.3 or meet the requirements established under § 784.24(c).

(c) *Location.* (1) To minimize erosion, a primary road shall be located, insofar as is practicable, on the most stable available surface.

(2) Fords of perennial or intermittent streams by primary roads are prohibited unless they are specifically approved by the regulatory authority as temporary routes during periods of road construction.

(d) *Drainage control.* In accordance with the approved plan—

(1) Each primary road shall be constructed or reconstructed, and maintained to have adequate drainage control, using structures such as, but not limited to bridges, ditches, cross drains, and ditch relief drains. The drainage control system shall be designed to safely pass the peak runoff from a 10-year, 6-hour precipitation event, or greater event as specified by the regulatory authority;

(2) Drainage pipes and culverts shall be installed as designed, and maintained in a free and operating condition and to prevent or control erosion at inlets and outlets;

(3) Drainage ditches shall be constructed and maintained to prevent uncontrolled drainage over the road surface and embankment;

(4) Culverts shall be installed and maintained to sustain the vertical soil pressure, the passive resistance of the foundation, and the weight of vehicles using the road;

(5) Natural stream channels shall not be altered or relocated without the prior approval of the regulatory authority in accordance with applicable §§ 816.41 through 816.43 and 816.57 of this chapter; and

(6) Except as provided in paragraph (c)(2) of this section, structures for perennial or intermittent stream channel crossings shall be made using bridges, culverts, low-water crossings, or other structures designed, constructed, and maintained using current, prudent engineering practices. The regulatory authority shall ensure that low-water crossings are designed, constructed, and maintained to prevent erosion of the structure or streambed and additional contributions of suspended solids to streamflow.

(e) *Surfacing.* Primary roads shall be surfaced with material approved by the regulatory authority as being sufficiently durable for the anticipated volume of traffic and the weight and speed of vehicles using the road.

[53 FR 45213, Nov. 8, 1988]

§ 817.180 Utility installations.

All underground mining activities shall be conducted in a manner which minimizes damage, destruction, or disruption of services provided by oil, gas, and water wells; oil, gas, and coal-slurry pipelines, railroads; electric and telephone lines; and water and sewage lines which pass over, under, or through the permit area, unless otherwise approved by the owner of those facilities and the regulatory authority.

[48 FR 20401, May 5, 1983]

§ 817.181 Support facilities.

(a) Support facilities shall be operated in accordance with a permit issued for the mine or coal preparation plant to which it is incident or from which its operation results.

(b) In addition to the other provisions of this part, support facilities shall be located, maintained, and used in a manner that—

(1) Prevents or controls erosion and siltation, water pollution, and damage to public or private property; and

(2) To the extent possible using the best technology currently available—

(i) Minimizes damage to fish, wildlife, and related environmental values; and

(ii) Minimizes additional contributions of suspended solids to streamflow or runoff outside the permit area. Any such contributions shall not be in excess of limitations of State or Federal law.

[48 FR 20401, May 5, 1983]