

567—73.20(455B) Spillway design requirements.

73.20(1) Spillways shall be designed to operate safely for the life of the structure and at the discharges and pressures that would be experienced under all flow conditions, including the freeboard design flood.

73.20(2) Spillways shall be provided with a means of piping and seepage control (e.g., drainage diaphragms), antivortex devices, trash racks, or other inlet debris control measures, and stable outlets capable of handling design exit flow velocities.

73.20(3) When a conduit is proposed to be used in a high hazard or significant hazard dam, detailed hydraulic, hydrologic, and structural computations supporting selection of the size and type of pipe to be used shall be provided by the applicant.

73.20(4) Detailed drawings and specifications relating to the installation of the pipe shall include, but not be limited to, construction measures that adequately address critical load bedding, backfill, compaction, joints, and seepage precautions related to installation of the pipe.

73.20(5) Structural computations and drawings shall be submitted for all proposed concrete structures. Drawing details, as necessary, shall be provided showing reinforcement, cutoffs, underdrains/filters, waterstops, construction joints, control joints, and any other details necessary to construct.

73.20(6) If an auxiliary spillway is proposed, it shall be analyzed, designed, and constructed adequately to establish and maintain stability during the passage of design flows without blockage or breaching. Open-channel auxiliary spillways shall have a minimum depth of 2 feet and minimum width of 10 feet and be designed with appropriate curvature and slopes to prevent excessive erosion.

73.20(7) A gated low-level outlet shall be provided for high hazard and significant hazard dams. The gated low-level outlet shall be capable of draining at least 50 percent of the permanent storage behind the dam within ten days. The pipe conduit shall be designed so that negative pressures will not occur at any point.

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