

## 405 KAR 16:080. Diversions.

RELATES TO: KRS 350.085, 350.100, 350.405, 350.420, 350.465

STATUTORY AUTHORITY: KRS Chapter 13A, 350.028, 350.100, 350.420, 350.465

NECESSITY, FUNCTION, AND CONFORMITY: KRS Chapter 350 in pertinent part requires the cabinet to promulgate rules and administrative regulations establishing performance standards for protection of people and property, land, water and other natural resources, and aesthetic values, during surface mining activities and for restoration and reclamation of surface areas affected by mining activities. This administrative regulation sets forth requirements for design and construction of temporary and permanent diversions of overland flow, shallow groundwater flow, ephemeral streams, and intermittent and perennial streams.

Section 1. General Requirements. (1) Surface flow from mined areas abandoned before May 3, 1978 and any flow from undisturbed or reclaimed areas, after meeting the criteria of 405 KAR 16:070 and 405 KAR 16:090 for siltation structure removal, may be diverted around the disturbed area and water treatment facilities by means of temporary or permanent diversions.

(2) Diversions shall not be constructed or operated to divert water into underground mines without the approval of the cabinet under 405 KAR 16:060, Section 9.

(3) The design, construction, and maintenance of diversion ditches shall insure public health and safety, protect property, be stable, minimize adverse impacts to the hydrologic balance, and prevent additional contributions of suspended solids to stream flow and to run off outside the permit area to the extent possible using the best technology currently available. The following criteria are to be incorporated in the design and construction of a diversion ditch:

(a) Freeboard shall be no less than three-tenths (0.3) foot. Protection shall be provided for transition of flows and for critical areas such as swales and curves. Where the area protected is a critical area as determined by the cabinet, the cabinet may require that the design freeboard be increased.

(b) Excess excavated material not necessary for diversion channel geometry or regrading of the channel shall be disposed of in accordance with 405 KAR 16:130 and 405 KAR 16:190.

(c) Topsoil shall be handled in compliance with 405 KAR 16:050.

(d) Channel protection shall be used to prevent erosion of the ditch. The following criteria shall be used unless the cabinet specifies otherwise:

1. Except when located in solid rock or when riprap or other nonerodible, nondegradable materials are used, diversion ditches are to be fertilized, seeded, and mulched to comply with the requirements of 405 KAR 16:200 after the ditch is constructed.

2. Riprap or other nonerodible, nondegradable materials shall be used when a diversion ditch is not located in solid rock and the design velocity is five (5) feet per second or greater for the peak discharge used in the design of the ditch. Material used shall be free of acid-forming material and toxic-forming material and riprap shall comply with the durability requirements of 405 KAR 16:130, Section 1(6)(c)2, except that sand and gravel shall not be used.

(e) Side slopes shall be no steeper than 1h:4v for solid rock, 1h:1v for riprap lined, and 2h:1v for grass protected ditches.

(f) Diversion ditch design capacity shall comply with the provisions of this paragraph, except where a larger capacity is required by other administrative regulations of 405 KAR Chapters 7 through 24 for specific types of diversions or where a larger capacity is required by the cabinet.

1. The channel of any diversion ditch which diverts run-off around a sediment control structure, water treatment facility, or impoundment, excluding dugout structures, shall be adequate to pass the peak discharge from the design storm for the hydraulic capacity of the sediment control structure, water treatment facility, or impoundment (i.e. if the impoundment is designed to pass the 100 year, twenty-four (24) hour storm event so shall the ditch). This size requirement shall not apply if the hy-

draulic capacity of the sediment control structure, water treatment facility, or impoundment takes into account the entire area contributing drainage, as though the bypass diversion ditch did not exist.

2. The channel of any diversion ditch which diverts run-off to a sediment control structure or water treatment facility shall be adequate, at a minimum, to pass the peak discharge of a ten (10) year, twenty-four (24) hour storm event.

3. The channel, bank, and flood plain configuration of any diversion ditch, which diverts a perennial or intermittent stream, shall be adequate to pass the peak discharge of a ten (10) year, twenty-four (24) hour storm event for temporary ditches and the 100 year, twenty-four (24) hour event for permanent ditches. However, the capacity of the channel itself shall be equal to or greater than the capacity of the unmodified stream channel immediately upstream and downstream of the diversion.

4. The channel of any other diversion ditch which diverts ephemeral streams or overland flow shall be adequate to pass the peak discharge of the two (2) year, twenty-four (24) hour storm for temporary ditches and the ten (10) year, twenty-four (24) hour storm for permanent ditches.

(4) No diversion shall be located so as to increase the potential for land slides. No diversion shall be constructed on existing land slides, unless approved by the cabinet.

(5) Diversions of perennial streams and intermittent streams shall be designed and certified by a registered professional engineer and after construction shall be inspected and certified by the responsible registered professional engineer as having been constructed in accordance with the approved design plans. The certifications required by this subsection shall be made pursuant to 405 KAR 7:040, Section 10.

(6) Diversion ditches shall be maintained to pass their respective design storms.

(7)(a) When no longer needed to achieve the purpose for which they were authorized, all temporary diversions shall be removed and the affected land regraded and revegetated, in accordance with 405 KAR 16:050, Sections 4 and 5; 405 KAR 16:190; and 405 KAR 16:200. At the time diversions are removed, downstream water treatment facilities previously protected by the diversion shall be modified or removed to prevent overtopping or failure of the facilities. This requirement shall not relieve the permittee from maintenance of a water treatment facility otherwise required under 405 KAR or the permit.

(b) Each ephemeral stream channel affected by surface coal mining and reclamation operations shall be reclaimed or permanently diverted in a channel designed and constructed so as to restore or approximate the premining characteristics of the original stream channel (including natural riparian vegetation) to promote the recovery and enhancement of the aquatic habitats, except for situations in which a reach of a stream channel cannot be restored to such characteristics:

1. Because of the existence of an excess spoil fill, permanent stream-crossing, permanent impoundment, or coal mine waste disposal area constructed in accordance with 405 KAR 16:100, 405 KAR 16:130, 405 KAR 16:140, 405 KAR 16:160, and 405 KAR 16:220 as applicable; or

2. For areas affected by mountaintop removal, because such restoration is inconsistent with the requirements of 405 KAR 20:050.

Section 2. Diversions of Perennial and Intermittent Streams. (1) Flow from perennial and intermittent streams within the permit area may be diverted, if the diversions:

(a) Are approved by the cabinet after making the findings called for in 405 KAR 16:060, Section 11(1);

(b) Comply with other requirements of 405 KAR Chapters 7 through 24; and

(c) Comply with applicable local, state, and federal statutes and regulations.

(2) When permanent diversions are constructed or stream channels restored, after temporary diversions, the permittee shall:

(a) Restore, enhance where practicable, or maintain natural riparian vegetation on the banks of the stream;

(b) Establish or restore the stream to an environmentally acceptable alignment, as determined by the cabinet;

(c) Establish or restore the stream to a longitudinal profile and cross-section, including aquatic habitats (usually a pattern of riffles, pools, and drops rather than uniform depth) that approximate premining stream channel characteristics; and

(d) Comply with 405 KAR 16:180.

(3) Where the cabinet approves the placement of a coal refuse pile, coal waste impoundment, or an excess spoil fill in an intermittent or perennial stream under 405 KAR 16:060, Section 11, and it is not practicable to comply with subsection (2) of this section, then the diversion of the stream channel shall comply with the requirements for diversions set forth in the performance standards for those structures.

Section 3. Applicability of Amendments to this Administrative Regulation. (1) Except as provided in subsection (2) of this section, the amendments to this administrative regulation that became effective on February 4, 1986 shall apply to permits issued on or after July 1, 1986. Permittees conducting surface coal mining and reclamation operations under permits issued before that date shall comply with the requirements which preceded the 1986 amendments, the approved permit application and the conditions of permit issuance.

(2) The provisions of Section 1(3)(f)1 of this administrative regulation shall apply on and after May 5, 1986 to each surface coal mining and reclamation operation which includes an impoundment classified, pursuant to 405 KAR 7:040, Section 5, as a (B) or (C) structure. Permits issued before that date shall be revised as necessary. (8 Ky.R. 1534; eff. 1-6-1983; 12 Ky.R. 936; 1319; eff. 2-4-1986; 15 Ky.R. 457; 1074; eff. 12-13-1988; Crt eff. 7-3-2018.)