



# VIRGINIA SOIL AND WATER CONSERVATION BOARD GUIDANCE DOCUMENT ON SPECIAL LOW HAZARD IMPOUNDING STRUCTURE REQUIREMENTS

(Approved XXXXXX, 2010)  
Working Draft Version January 14, 2010

## **Summary:**

This guidance document specifies the decision process to be utilized by the Virginia Soil and Water Conservation Board in determining whether the owner of an impounding structure needs to perform a dam break analysis in order to certify the dam as a special low hazard classification pursuant to Section 4VAC50-20-51 of the Virginia Impounding Structure Regulations.

## **Electronic Copy:**

An electronic copy of this guidance in PDF format is available on the Regulatory TownHall under the Virginia Soil and Water Conservation Board at <http://townhall.virginia.gov/L/GDocs.cfm>.

## **Contact Information:**

Please contact the Department of Conservation and Recreation's Division of Dam Safety and Floodplain Management at [dam@dcr.virginia.gov](mailto:dam@dcr.virginia.gov) or by calling 804-371-6095 with any questions regarding the application of this guidance.

## **Disclaimer:**

This document is provided as guidance and, as such, sets forth standard operating procedures for the Virginia Soil and Water Conservation Board and the Department of Conservation and Recreation that administers the program on behalf of the Board. This guidance provides a general interpretation of the applicable Code and Regulations but is not meant to be exhaustive in nature. Each situation may differ and may require additional interpretation of the Dam Safety Act and attendant regulations.

## **Special Low Hazard Impounding Structure Requirements**

### **I. Background:**

Section 4VAC50-20-51 of the Impounding Structure Regulations provides special criteria applicable to an impounding structure should a licensed professional engineer certify that the impounding structure is a low hazard potential impounding structure and eligible to utilize the provisions of this section. This guidance document shall explain the owner's requirements should their professional engineer be unable to make such a certification.

### **II. Definitions (pursuant to § 10.1-604 and 4VAC50-20-30):**

"Dam break inundation zone" means the area downstream of a dam that would be inundated or otherwise directly affected by the failure of a dam.

### **III. Authority:**

The Dam Safety Act in the Code of Virginia contains the following authorities applicable to this guidance:

#### **§ 10.1-605. Promulgation of regulations by the Board.**

The Board shall promulgate regulations to ensure that impounding structures in the Commonwealth are properly and safely constructed, maintained and operated.

The Impounding Structure Regulations contain the following authorities applicable to this guidance:

#### **4VAC50-20-51. Special criteria for certain low hazard impounding structures.**

A. Notwithstanding the requirements of this chapter, should the failure of a low hazard potential impounding structure cause no expected loss of human life and no economic damage to any property except property owned by the impounding structure owner, then the owner may follow the below requirements instead of the requirements specified in this chapter:

1. No map required pursuant to 4VAC50-20-54 shall be required to be developed for the impounding structure should a licensed professional engineer certify that the impounding structure is a low hazard potential impounding structure and eligible to utilize the provisions of this section; **[NOTE: Department staff must concur.]**
2. The spillway design flood for the impounding structure is recommended as a minimum 50-year flood; however, no specific spillway design flood shall be mandatory for an impounding structure found to qualify under the requirements of this section;
3. No emergency preparedness plan prepared pursuant to 4VAC50-20-177 shall be required. However, the impounding structure owner shall notify the local emergency services coordinator in the event of a failure or emergency condition at the impounding structure;
4. An owner shall perform inspections of the impounding structure annually in accordance with the requirements of 4VAC50-20-105. No inspection of the impounding structure by a licensed professional engineer shall be required, however, so long as the owner certifies at the time of operation and maintenance certificate renewal that conditions at the impounding structure and downstream are unchanged since the last inspection conducted by a licensed professional engineer; and
5. No certificate or permit fee established in this chapter shall be applicable to the impounding structure.

B. Any owner of an impounding structure electing to utilize the requirements of subsection A of this section shall otherwise comply with all other requirements of this chapter applicable to low hazard impounding structures.

C. The owner shall notify the department immediately of any change in circumstances that would cause the impounding structure to no longer qualify to utilize the provisions of this section.

**4VAC50-20-40. Hazard potential classifications of impounding structures.**

A. Impounding structures shall be classified in one of three hazard classifications as defined in subsection B of this section and Table 1.

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C. The hazard potential classification shall be proposed by the owner and shall be subject to approval by the board. To support the appropriate hazard classification, dam break analysis shall be conducted by the owner's engineer. Present and planned land-use for which a development plan has been officially approved by the locality in the dam break inundation zones downstream from the impounding structure shall be considered in determining the classification.

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**IV. Discussion and Interpretation:**

Per Section 4VAC50-20-51 of the Virginia Impounding Structure Regulations, if the dam owner's professional engineer certifies that the impounding structure is a low hazard potential impounding structure and that said dam is eligible to utilize the provisions of Section 4VAC50-20-51 of the Regulations, then the following are not required for the impounding structure:

1. No dam break inundation zone map (required pursuant to 4VAC50-20-54) shall be required to be developed;
2. The spillway design flood for the impounding structure is recommended as a minimum 50-year flood; however, no specific spillway design flood shall be mandatory;
3. No emergency preparedness plan prepared pursuant to 4VAC50-20-177 shall be required. However, the impounding structure owner shall notify the local emergency services coordinator in the event of a failure or emergency condition at the impounding structure; and
4. No certificate or permit fee established in the Regulations shall be applicable to the impounding structure.

The dam owner's professional engineer must certify, with concurrence of Department staff, that the impounding structure is a low hazard dam that is eligible to utilize the provisions of Section 4VAC50-20-51. If the dam owner's professional engineer is initially unable to certify that the impounding structure is eligible to utilize the provisions of Section 4VAC50-20-51, then the engineer must perform a dam break analysis and/or an engineering analysis adequate to determine the hazard potential classification. If, based on this analysis, the engineer decides that there is enough information to certify the dam as a special criteria low hazard classification, the work is complete upon Department staff concurrence. However, should the engineer not be able to certify the impounding structure, the dam owner must conform to all requirements of the Impounding Structure Regulations applicable to their dam.

For those dams that are certified as eligible to utilize 4VAC50-20-51, owners are advised that other requirements of the Impounding Structure Regulations which are not specifically exempted by that section remain applicable and must be complied with (for example, a dam owner of a dam that is eligible for 4VAC50-20-51 who wishes to alter their dam must still obtain an Alteration Permit). Owners are also advised that, while no dam break inundation zone map is required for their dam, failure to file a dam break inundation zone map with their locality may

result in the owner's inability to receive compensation to upgrade their spillway from a prospective downstream developer that may alter the hazard classification of their dam in accordance with § 10.1-606.3 and § 15.2-2243.1 of the Code of Virginia.

**V. Adoption, Amendments, and Repeal:**

This document was adopted by the Board on XXXX, 2010 and may be amended or repealed as necessary by the Board.