

1 H.242

2 Introduced by Representative Deen of Westminster

3 Referred to Committee on

4 Date:

5 Subject: Conservation and development; agriculture; water resources; tile  
6 drainage

7 Statement of purpose of bill as introduced: This bill proposes to require the  
8 Secretary of Natural Resources and the Secretary of Agriculture, Food and  
9 Markets to conduct an inventory and create a map of tile drain systems in the  
10 State; to require farms certified under 6 V.S.A. chapter 215 to adopt best  
11 management practices for tile drainage; and to expand water quality training or  
12 programs to include information concerning tile drainage. The bill would also  
13 establish minimum installation requirements for tile drain systems.

14 An act relating to tile drains

15 It is hereby enacted by the General Assembly of the State of Vermont:

16 Sec. 1. FINDINGS

17 The General Assembly finds that:

18 (1) To prevent degradation of waters and to preserve the uses, benefits,  
19 and values of the lakes, rivers, and streams of Vermont, the Vermont Water

1 Quality Standards provide that it is the policy of the State to prevent, abate, or  
2 control all activities harmful to water.

3 (2) In the total maximum daily load (TMDL) for the control of  
4 phosphorus in the Vermont segments of Lake Champlain, the U.S.  
5 Environmental Protection Agency set mandatory limits on the phosphorus load  
6 to Lake Champlain in order to meet the Vermont Water Quality Standards.

7 (3) Under the Lake Champlain TMDL, the State must reduce the  
8 phosphorus load to the Lake from the current level of 631 to 418 metric tons  
9 annually, a 34 percent reduction.

10 (4) Excessive phosphorus contributes to toxic cyanobacteria and  
11 attendant negative impacts on the ecosystem, human health, recreation, and the  
12 economy.

13 (5) Agriculture is the single largest contributor of phosphorus to the  
14 Vermont segments of Lake Champlain, accounting for approximately  
15 40 percent of the load.

16 (6) One agricultural conveyance of phosphorus to waters of the State is  
17 subsurface tile drains. Phosphorus levels in subsurface tile drainflow are  
18 significant.

19 (7) More information is needed on the location of tile drainage systems  
20 in the State.

1           (8) Tile drains can cause significant environmental impacts, including  
2           changes in hydrology, permanent loss of wetlands, and phosphorus loading to  
3           State waters.

4           (9) Tile drains are currently unregulated. The Agency of Agriculture,  
5           Food and Markets is required to adopt rules on tile drains in 2018.

6           Sec. 2. 6 V.S.A. chapter 215, subchapter 11 is added to read:

7                               Subchapter 11. Tile Drain Systems

8           § 4997. PURPOSE

9           The purpose of this subchapter is to:

10           (1) provide guidance to the Agency of Agriculture, Food and Markets in  
11           anticipation of the 2018 rulemaking on tile drains; and

12           (2) assist the State to achieve the mandates of the Lake Champlain  
13           TMDL and attainment of the Vermont Water Quality Standards.

14           § 4997a. DEFINITIONS

15           As used in this subchapter:

16           (1) “Tile drain” means a single tube, pipe, or other similar conduit that  
17           drains subsurface water.

18           (2) “Tile drain system” means a single tile drain or network of tile drains  
19           that drains subsurface water into navigable waters, or ditches and conveyances  
20           that are connected to navigable waters.

1     § 4997b. TILE DRAIN INVENTORY AND MAPPING

2           (a) The Secretary of Agriculture, Food and Markets, after consulting with  
3     the Secretary of Natural Resources, shall conduct an inventory and map the  
4     location of functioning tile drain systems in Vermont. The Agency may  
5     employ GIS analysis, targeted aerial imagery, and ground penetrating radar, as  
6     appropriate, to identify areas equipped with tile drains.

7           (b) The Secretary of Agriculture, Food and Markets shall update the tile  
8     drain map at least once every five years.

9           (c) The Secretary of Agriculture, Food and Markets shall direct large,  
10    medium, and small farm operations to provide an annual inventory of their  
11    functioning tile drain systems.

12    § 4997c. TILE DRAIN OUTFLOW MONITORING

13           (a) Establishment of program. The Secretary of Natural Resources and the  
14    Secretary of Agriculture, Food and Markets shall establish a program to  
15    monitor the outflow from tile drain systems. The program shall, at a  
16    minimum, include:

17            (1) year-round monitoring of tile drainage outflow; and

18            (2) continuous data collection on tile drainage outflow.

19           (b) Report. The Secretary of Natural Resources and the Secretary of  
20    Agriculture, Food and Markets shall submit an annual joint report to the House  
21    Committee on Natural Resources, Fish and Wildlife, the Senate Committee on  
22    Natural Resources and Energy, the House Committee on Agriculture and

1 Forestry, and the Senate Committee on Agriculture that includes tile drainage  
2 outflow monitoring data.

3 § 4997d. BEST MANAGEMENT PRACTICES

4 (a) The Secretary of Agriculture, Food and Markets, after consulting with  
5 the Secretary of Natural Resources, shall require small, medium, and large  
6 farm operations to adopt best management practices to mitigate adverse  
7 impacts to water quality from tile drain systems. These best management  
8 practices shall include:

9 (1) nutrient management practices that minimize manure and fertilizer  
10 application during periods of elevated line flows;

11 (2) treatment requirements for the end of tile drain systems that drain  
12 fields with greater than 20 parts per million phosphorus, as demonstrated by  
13 soil analyses; and

14 (3) a requirement that when manure is applied to a field with tile  
15 drainage, the manure shall be incorporated into the soil.

16 (b) The Secretary of Agriculture, Food and Markets may require additional  
17 best management practices for a farm on a case-by-case basis under subsection  
18 4810(c) of this title.

19 (c) The Secretary of Agriculture, Food and Markets shall not grant a  
20 seasonal exemption from manure management requirements under subsection  
21 4816(c) of this title to a field with tile drains.

1     § 4997e. TILE DRAIN DESIGN AND INSTALLATION REQUIREMENTS

2             A tile drain installed after July 1, 2017 shall be installed:

3                     (1) with a lateral tile drain spacing of at least 35 feet;

4                     (2) at a tile drain depth of at least four feet; and

5                     (3) according to additional minimum requirements that the Secretary of

6     Agriculture, Food and Markets may require by rule.

7     § 4997f. WATER QUALITY EDUCATION

8             The Secretary of Agriculture, Food and Markets, in conjunction with the  
9     Secretary of Natural Resources, shall expand agricultural water quality training  
10    to include annual training classes, or programs for owners or operators of  
11    small, medium, and large farm operations permitted or certified under this  
12    chapter. The training classes or programs shall include research on best  
13    management practices, the monitoring results of tile drainage, and new  
14    research and science on practice implementation and the potential impacts of  
15    tile drains on water quality. One class shall be developed specifically for  
16    owners or operators of a small, medium, or large farm certified or permitted  
17    under this chapter who plan to install tile drain systems.

18    Sec. 3. EFFECTIVE DATE

19             This act shall take effect on July 1, 2017.