## The Problem

Farmers often install tile drains, or networks of underground pipes, to remove excess water from fields. Typically installed a few feet beneath the surface, these tile drains convey water that seeps through the ground directly to ditches or streams. Nutrients, such as phosphorus, and pesticides applied to the surface leach into tile drain water and discharge into local waterways. Research suggests tile drains can contribute as much as 40 to 80 percent of the annual phosphorus load in agricultural watersheds.[1]

Where water pools on a field, farmers sometimes install surface inlets. Surface inlets are aboveground structures that redirect field runoff water to underground tile drainage systems. Surface inlets create a direct conduit from the field's surface to nearby waters. One recommendation to reduce phosphorus loads in tile drain flow is to eliminate surface inlets.[2]

*A note on research:* In 2016, ANR Secretary Julie Moore, acting as the lead engineer for Stone Environmental, prepared a literature review on subsurface tile drainage and phosphorus losses from agricultural land. The statistics and recommendations cited herein are from this literature review.[3]

## What Bill XX Does

- Recognizes in the Findings section that surface inlets are point sources under the Clean Water Act
- Clarifies the definition of a surface inlet, which aligns with the Agency of Agriculture, Food, and Market's definition in the Subsurface Tile Drain Rule[4]
- Requires the elimination of all surface inlets that discharge waste into waters of the State by November 1, 2019
- Requires the Agency of Natural Resources to submit a report by January 15, 2020 that outlines how the Agency ensured the elimination of surface inlets, including the location of each surface inlet, the location of each subsurface tile drainage outlet, the date when each surface inlet was eliminated, and how each surface inlet was eliminated

## How Bill XX Relates to the Subsurface Tile Drain Rule

Recognizing the negative impact of surface inlets on water quality, the Agency of Agriculture, Food, and Markets created a prohibition on the installation of new surface inlets in the Subsurface Tile Drain Rule.[5] However, ***existing*** surface inlets were not prohibited.

Bill XX expands beyond the Subsurface Tile Drain Rule by requiring the elimination of existing surface inlets that discharge to waters of the State.

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[1] Stone Environmental, Literature Review: Tile Drainage and Phosphorus Losses from Agricultural Land (November 2016), http://www.lcbp.org/wp-content/uploads/2017/01/83_TileDrainage_LitReview.pdf.

[2] *Id*.

[3] *Id*.

[4] Agency of Agriculture, Food, and Markets, Required Agricultural Practices Rule for the Agricultural Nonpoint Source Pollution Control Program (October 2018), https://agriculture.vermont.gov/sites/agriculture/files/documents/FP-Required%20Agricultural%20Practices%20Regulations%2010-29-2018%20CLEAN%20_Tile.pdf.

[5] Agency of Agriculture, Food, and Markets, RAP Rule Revision for Subsurface Tile Drainage (October 2018), https://agriculture.vermont.gov/sites/agriculture/files/documents/Annotated-Text-RAP-Rule-Subsurface-Tile-Drainage-08212018-final.pdf.