



State of Vermont

Web: <https://vtrans.vermont.gov/operations>

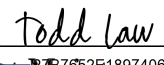
District Maintenance & Fleet Division

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Best Management Practices: “State Highway System Ditching”

Effective Date: 4/22/2022

VTrans Authorized Signature:

DocuSigned by:  
  
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 Director, District Maintenance & Fleet Division

## VTRANS STATE HIGHWAY SYSTEM DITCHING BEST MANAGEMENT PRACTICES (BMPs)

### PURPOSE STATEMENT & GUIDING PRINCIPLES

- ∞ Maintain safety of the traveling public and long-term infrastructure protection.
- ∞ Prevent infrastructure deterioration by allowing effective drainage of stormwater.
- ∞ Reduce cost (energy, equipment, and personnel costs).
- ∞ Create consistent ditching requirements throughout the state.
- ∞ Form the basis for contractor specifications.
- ∞ Comply with all federal and state environmental regulations.
- ∞ Protect water quality, wildlife habitats and natural ecology of the highway corridor.
- ∞ Create mechanisms and standards for addressing environmentally sensitive areas, steep slopes, unique natural areas, and wildlife habitats.

### TARGET AUDIENCE

- ∞ District Maintenance staff
- ∞ Contractors working for the Agency

### ACKNOWLEDGEMENTS

Prepared by VTrans District Maintenance & Fleet Division, Pollution Prevention & Compliance Section with input from:

- ∞ VTrans District Project Managers and General Managers
- ∞ VTrans Project Delivery Bureau, Environmental Section
- ∞ VTrans Construction & Materials Bureau, Construction Environmental Engineer

### LEVEL OF SERVICE & PERFORMANCE EXPECTATIONS

- ∞ Ditch 10% of State Highway and Interstate roads annually. This is considered a year-round activity, but is generally completed in the spring, summer, and fall seasons.
- ∞ Ensure water flows from the road to the ditches and then away from the road edge.
- ∞ Ditching activities will be compliant with all applicable Safety and Environmental Regulations.



# GENERAL STANDARDS, POLICY, AND REGULATORY REQUIREMENTS

Implementation and management of the Statewide Ditching BMPs is intended to provide a uniform guidance for all types of transportation facilities. Review and permitting responsibilities will reside within the VTrans Highway Division, Project Delivery Bureau (PDB) Environmental Section. This will enhance consistency across the state. The following guidelines will be applied to all ditching operations to ensure statewide uniform resource protection and regulatory compliance.

## 1. RESOURCE PROTECTION & PERMITTING COORDINATION

### A. OFF-SITE ACTIVITIES (DITCHING WASTE AND BORROW)

Each Maintenance District is responsible for identifying locations where surplus ditching materials waste and borrow can be placed throughout their respective District. Re-use, waste or storage of ditched materials is only permissible on VTrans property or within VTrans ROW.

- Surplus materials will not be placed within 50' of any wetlands or their buffer zones, or 100' from the top of bank of any river, stream, lake, or pond, and will not be disposed of in areas known to contain archeological sites, or areas that have been determined to be archeologically sensitive.
- Avoid disposing ditch waste material in areas on state property that are providing natural treatment of stormwater discharging from state owned impervious surfaces, including infiltration, sheet flow, stormwater conveyance.
- Further considerations or restrictions related to ditching and re-use or disposal of ditched soils are noted in the following sections of this BMP.

Proposed waste and borrow areas will be submitted by each Maintenance District to the VTrans HWY PDB Environmental Section Administrative Assistant via the [Off-Site Activity Submittal Form](#).

- The VTrans PDB Environmental Section Administrative Assistant will then coordinate with VTrans Biologists and Archaeologists for review of cultural and/or natural resource impacts prior to their use.
- Use of a site shall not commence until a Review Form with an acceptance of use for both Natural and Cultural Resources is provided by the PDB Environmental Section to the District.

### B. ENVIRONMENTAL REVIEW REQUESTS

Every effort will be made to perform ditching activities while maintaining original dimensions of the existing ditch and while remaining within the existing road surface or fill slopes. When it is necessary to have equipment and materials beyond the existing roadway slopes, if ditch dimensions need to be modified, or if new ditches are proposed, the District must coordinate with PDB Environmental Section for review and request clearance regarding cultural and natural resources or any other permitting requirements.

- This is done by submitting a NERD Environmental Review Request (fed into VPINS).
- For the purposes of non-programmed projects an Environmental/Hydraulic Request must be completed using the Environmental Resource Database (NERD), which can be found [here](#).

Maintenance of ditches can be defined as mowing grass lined ditches and cleaning out and disposing of waste material from existing ditches to achieve original ditch depth and dimensions. Refer to the [Vermont Better Roads Manual](#) for details and specifications regarding new ditch construction and existing ditch maintenance.

The construction of new or realigned ditches will always require review by the VTrans PDB Environmental Section. Each Maintenance District must coordinate review and request clearance regarding cultural and natural resources or any other permitting requirements. For the purposes of non-programmed projects an Environmental/Hydraulic Request must be completed using the Environmental Resource Database a.k.a. NERD. The submittal should include at a minimum: the location of ditches to be constructed (by town name, route number, and mile marker); the length of the proposed ditch(es); photos of existing site conditions; and a detailed description of the proposed waste disposal. A site visit by the VTrans Biologist, Historic Preservation Officer, and/or Archeologist may be necessary.

### C. STORMWATER PERMIT AREAS

**OPERATIONAL:** Prior to ditching operations, the District Maintenance & Fleet Division (DMF), Pollution Prevention & Compliance (PPC) Operational Stormwater Permit [Map](#) should be checked to determine if the proposed ditching is planned to be within an operational stormwater permit area.

- If ditching is necessary in a stormwater permit area, the PPC Regional Stormwater Technician shall be contacted prior to operations to discuss if preserving the original ditch geometry in these areas is feasible.

**CONSTRUCTION:** Construction stormwater permits should also be referenced prior to ditching operations. Current Construction Stormwater Permits, their locations, and issue dates can be found [here](#). The Environmental Notice Bulletin could also be used for identification of construction stormwater permits, found [here](#).

- If a Construction Stormwater Permit has jurisdiction over the area to be ditched, or if new ditches are planned to be constructed in the area, the Construction Environmental Engineer shall be contacted to discuss if ditching is feasible within these areas.

### D. WETLANDS

Ditches that are in wetlands, or wetland buffers, can be maintained without wetlands permitting if the original ditch dimensions are kept. New ditches or substantial ditch modifications may need permitting from the VT ANR Wetlands Office.

- Ditches that were constructed within wetlands are regulated by the U.S. Corps of Engineers (USCOE), whereas ditches constructed in uplands are not considered wetlands and are therefore not regulated by the USCOE; in both cases they can be maintained to original dimensions without review.
- If ditches are made wider and/or deeper than originally constructed or new ditches are created, resource clearance and wetland permitting through PDB Environmental Section must be obtained before ditching can occur.
- One-time ditch expansion up to 20% of the original width and depth of the ditch, in order to stabilize with rip-rap for erosion control purposes

Each Maintenance District is responsible for screening ditching locations for the presence of coinciding wetland areas. Locations can be reviewed using the [ANR Natural Resource Atlas](#) with the “Watershed Management” - “Wetlands Advisory Layer”, and “VSWI Wetlands Layer” turned on. The Natural Resource Atlas Wetland Advisory and VSWI Layers are a valid reference, but not necessarily the final say on whether a wetland is present. If there is any doubt on whether an existing or proposed new ditch is in a wetland area, contact, the VTans PDB Environmental Biologist for the [region](#) in question for clarification.

### E. RARE, THREATENED, AND ENDANGERED SPECIES

Prior to ditching operations, the [ANR Natural Resource Atlas](#), “Fish and Wildlife” - “Rare, Threatened, and Endangered Species” layer must be checked by the District. This layer must be checked regardless of if the ditching is within an existing ditch or not. If the proposed ditching is within one of these areas containing Rare, Threatened, or Endangers Species, coordination with the VTans PDB Environmental Biologist is required prior to ditching.

### F. NON-STORMWATER (ILLICIT) DISCHARGES AND ILLEGAL CONNECTIONS

Illicit (non-stormwater) connections in the form of pipes and off-site ditches discharging to ROW are likely to be discovered within the VTans ROW during ditching activities. These illicit discharges must be dealt with appropriately. Refer to the District Maintenance & Fleet Division [Illicit Discharge Standard Operating Procedure](#) and the [Illicit Discharge Policy](#) for detailed guidance on dealing with such connections or discharges.

All non-VTrans stormwater and suspected illicit (non-stormwater) discharges originating outside the State ROW and entering the VTrans stormwater collection and conveyance system must be reported to the VTrans DMF PPC Regional Stormwater Technician for investigation, corrective action consideration, and potential enforcement action if the discharge is causing a “nuisance” under Vermont Statutes. Corrective actions may require property owner(s) to obtain Title 19, Section 1111 Permit, implementation of acceptable erosion prevention and sediment controls to treat stormwater prior to entering the State ROW or disconnecting the non-authorized connection/discharge.

## 2. SUSPECTED CONTAMINATED SOIL

The liability associated with improper disposal is generally a result of either petroleum contamination, urban background contamination or solid waste. For the purposes of this BMP, examples of solid waste include buried construction or demolition debris, ash, asphalt shards, painted items, or unusually discolored or textured earthen material that appears unique and different than the surrounding material. To ensure that VTrans does not expose itself to the liability associated with improper disposal or failure to notify of a known release (2 gallons or more of petroleum), Maintenance Districts are required to conduct additional review of ditching areas to ensure ditching material is disposed of properly.

Each Maintenance District is responsible for screening ditching locations for hazardous sites, hazardous spills history and urban soils. Locations can be reviewed using the [ANR Natural Resource Atlas](#) with the “Hazardous Site” and “Underground Storage Tank (working)” and “Urban Soil Background Area” (USBA) layers turned on.

- Each ditching site should undergo visual inspection prior to commencement of ditching activities. The visual inspection is intended to identify unknown petroleum contamination or solid waste observed in the ROW.
- If petroleum contamination or significant solid waste are identified during inspection or ditching, do not ditch the section in question and contact the VTrans Hazardous Material Unit for further guidance and instruction.
- VTrans is obligated to properly sample and characterize suspected contaminated material coming from mapped Urban Soils Background Areas (USBA’s) before it is re-used or disposed of outside of a mapped USBA. Soils ditched from outside of a mapped USBA do not have to undergo this additional level of review and, with an approved “Off-Site Activity” Form and if the soils are not considered suspect for petroleum contamination, unusual circumstances, or solid waste, should be considered clean for the purposes of re-use in our ROW or on VTrans property.
- The following guidelines will be applied when maintaining ditches in a mapped USBA:
  - Re-use or dispose of ditched soils in the ROW or at VTrans Property, within the same mapped USBA, and in close proximity to where ditching occurred, or
  - Re-use or dispose of ditched soils in the ROW or at VTrans Property within the same mapped USBA, or
  - Re-use or dispose of ditched soils in the ROW or at VTrans Property within any mapped USBA.
  - If you are planning to ditch in a mapped USBA and cannot re-use or dispose ditched soils as noted above then contact VTrans Hazardous Material Unit prior to submitting the “Off-Site Activity” Form and well in advance of ditching as additional review and consideration of off-site activity may result in further restrictions, limitations, or conditions for wasting or re-using ditching soils. Ditching in an Urban Soils Background Area may require soil sampling and coordination with DEC Waste Management and Prevention Division, Sites Management Section.

There are no known resources for performing pre-review or pre-inspection of ROW solid waste dump locations (buried or roadside dumped debris or solid waste). Each Maintenance District is responsible for providing adequate oversight during ditching activities to ensure that evidence of solid waste is neither excavated nor staged for later use.

- Upon discovery of solid waste or debris during ditching activities, stop ditching the area and contact the VTrans Hazardous Material Unit for further guidance and instruction.

### 3. INVASIVE TERRESTRIAL SPECIES AND NON-NATIVE “NOXIOUS WEEDS”

If invasive plants (Japanese knotweed, poison parsnip, giant hogweed, etc.) can be identified as present within areas to be ditched, refer to the [Roadside Terrestrial Invasive Plants BMP](#) for guidance.

Vermont’s 2002 [Plant Quarantine Rule](#), has a complete list of noxious weeds and outlines restrictions on them regarding transportation and disposal. Finally, [Vermont Invasives](#) has an extensive library on identification and management.

### 4. EROSION CONTROL MEASURES USED FOR DITCH MAINTENANCE AND CONSTRUCTION

Acceptable permanent and temporary erosion prevention and sedimentation control practices must be in place to control construction stormwater discharges and protect water quality. Refer to the following links for guidance in erosion protection and sediment control:

- [Low Risk Site Handbook for Erosion Prevention and Sediment Control](#)
- [VTrans Standard Specifications for Erosion Control](#)

### 5. SAFETY AND DUST CONTROL CONSIDERATIONS

Ditching activities have the potential to create employee exposure to specific safety and health risks if proper protocols are not adhered to. One such risk is the creation and potential inhalation of respirable crystalline silica dust during the operation of heavy excavation equipment or other disturbances of earthen material under dry conditions. Inhalation of respirable crystalline silica dust can lead to respiratory illnesses such as Silicosis as well as increase the risk of Lung Cancer. Though not all excavation, ditching, use of heavy equipment, or utility vehicles for earthmoving tasks (such as grading) generate respirable crystalline silica dust, safety precautions and controls must be considered to prevent potential exposures.

Controls include application of water and/or dust suppressants, as necessary, to minimize dust emissions or operating equipment from within an enclosed cab. Contact a VTrans Occupational Safety Technician if you require additional information or if dust suppression is a concern during ditching. The use of a Job Safety Analysis form is required when performing ditching activities to identify, control and communicate hazards that may occur while performing ditching activities, including an attached Silica Control Plan.

## VTRANS CONTACT INFORMATION

### HWY PROJECT DELIVERY BUREAU – ENVIRONMENTAL [Project Delivery Environmental](#)

ENVIRONMENTAL SPECIALISTS: [Environmental Specialist Region Map](#)

ENVIRONMENTAL BIOLOGISTS: [Environmental Biologist Region Map](#)

ENVIRONMENTAL CULTURAL RESOURCES: [Environmental Archaeologist and Historic Preservation Officer Region Map](#)

ENVIRONMENTAL STORMWATER ENGINEERS: [VTrans Environmental Stormwater Program](#)

### CONSTRUCTION AND MATERIALS BUREAU – ENVIRONMENTAL

CONSTRUCTION ENVIRONMENTAL ENGINEER: [VTrans Construction Environmental Program](#)

### DISTRICT MAINTENANCE & FLEET DIVISION –

POLLUTION PREVENTION & COMPLIANCE [Pollution Prevention & Compliance](#)

WATER QUALITY UNIT STORMWATER TECHNICIANS: [Stormwater Technician Region Map](#)

HAZARDOUS MATERIALS & WASTE MANAGEMENT UNIT HAZMAT COORDINATORS: [HazMat & Waste Management](#)

### STRUCTURES & HYDRAULICS – HYDRAULICS [Hydraulics Program](#)

### FINANCE AND ADMINISTRATION – VTRANS HEALTH & SAFETY [Health & Safety](#)