

AGENCY OF NATURAL RESOURCES
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
WATERSHED MANAGEMENT DIVISION
ONE NATIONAL LIFE DRIVE, DAVIS 3
MONTPELIER, VT 05620-3522

Permit No.: 3-1566
PIN: RU17-0192
NPDES No.: VT0120059

AMENDED¹ DISCHARGE PERMIT

In compliance with the provisions of the Vermont Water Pollution Control Act as amended (10 V.S.A. chapter 47), the Vermont Water Pollution Control Permit Regulations as amended, and the federal Clean Water Act as amended (33 U.S.C. §1251 *et seq.*),

Vermont Agency of Transportation
1 National Life Drive
Montpelier, Vermont 05633

(hereinafter referred to as the "Permittee") is authorized by the Secretary of the Agency of Natural Resources (Secretary) to discharge from a facility located at:


Main Street and Merchants Row
Middlebury, Vermont

to Otter Creek, Class B(2) at the point of discharge in accordance with the following conditions.

This permit shall become effective on **May 1, 2020**.

This permit and the authorization to discharge shall expire on December 31, 2022.

Peter Walke, Commissioner
Department of Environmental Conservation

By:  _____

Date: 4/23/2020

Amy Polaczyk, Wastewater Program Manager

¹

Amended sections of the permit are in bold and italics. Sections deleted from previous version are marked with a single strikethrough line (deleted-text).

I.

A. EFFLUENT LIMITS and MONITORING REQUIREMENTS

1. Following completion of construction of outfall S/N 003, discharge from outfalls S/N 001 (44.01346N, 73.16843W) and S/N 002 (44.01448N, 73.16914W) are prohibited.
2. During the term of this permit and following completion of construction of S/N 003 (44.01433N, 73.16897W), the Permittee is authorized to discharge from outfall S/N 003: treated contaminated groundwater and comingled stormwater to Otter Creek. Such discharges shall be limited and monitored by the Permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
	Annual Average	Monthly Average	Weekly Average	Maximum Day	Measurement Frequency	Sample Type
Flow				0.300 MGD	Daily	Total
Turbidity ^{1,2}	25 NTU		25 NTU	25 NTU	Daily	Grab
Total Suspended Solids ²		30 mg/L			2 x month	Grab
Total Phosphorus ²		0.2 mg/L			2 x month	Grab
Arsenic ²		0.03 mg/L			2 x month	Grab
Chromium (III) ²		0.05 mg/L			2 x month	Grab
Lead ²		0.15 mg/L			2 x month	Grab
Volatile Organic Compounds ^{2,3}		Monitor only ug/L			1 x month	Grab
pH ²				6.5 to 8.5 Standard Units	2 x month	Grab

Samples collected in compliance with the monitoring requirements specified above shall be collected from the sample port after the final sediment filter in the treatment train(s) prior to discharge to the outfall.

1. Turbidity is an annual average under dry weather base flow conditions. **Weekly average to be calculated based upon a week starting Sunday and ending Saturday. Sum the results of each turbidity test conducted that week and divide by the number of tests.**
2. **If there are multiple treatment trains with separate discharges to outfall S/N 003, a proportional volume of sample from each treatment train shall be collected and combined into one composite sample for analysis, observing appropriate hold times. pH should be measured and reported separately for each treatment train.**
3. Volatile Organic Compounds shall be analyzed by EPA Method 8021B.

3. **During the term of this permit, the Permittee is authorized to discharge from outfall S/N 004 (44.01146N, 73.16716W): treated contaminated groundwater and comingled stormwater to Otter Creek. Such discharges shall be limited and monitored by the Permittee as specified below:**

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
	Annual Average	Monthly Average	Weekly Average	Maximum Day	Measurement Frequency	Sample Type
Flow				0.100 MGD	Daily	Total
Turbidity ^{1,2}	25 NTU		25 NTU	25 NTU	Daily	Grab
Total Suspended Solids ²		30 mg/L			2 x month	Grab
Total Phosphorus ²		0.2 mg/L			2 x month	Grab
Arsenic ²		0.03 mg/L			2 x month	Grab
Chromium (III) ²		0.05 mg/L			2 x month	Grab
Lead ²		0.15 mg/L			2 x month	Grab
Volatile Organic Compounds ^{2,3}		Monitor only ug/L			1 x month	Grab
pH ²				6.5 to 8.5 Standard Units	2 x month	Grab

Samples collected in compliance with the monitoring requirements specified above shall be collected from the sample port after the final sediment filter in the treatment train(s) prior to discharge to the outfall.

1. **Turbidity is an annual average under dry weather base flow conditions. Weekly average to be calculated based upon a week starting Sunday and ending Saturday. Sum the results of each turbidity test conducted that week and divide by the number of tests.**
2. **If there are multiple treatment trains with separate discharges to outfall S/N 004, a proportional volume of sample from each treatment train shall be collected and combined into one composite sample for analysis, observing appropriate hold times. pH should be measured and reported separately for each treatment train.**
3. Volatile Organic Compounds shall be analyzed by EPA Method 8021B.

4. **During the term of this permit, the Permittee is authorized to discharge from outfall S/N 005 (44.01725N, -73.17499W): treated contaminated groundwater and comingled stormwater to Otter Creek. Such discharges shall be limited and monitored by the Permittee as specified below:**

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
	Annual Average	Monthly Average	Weekly Average	Maximum Day	Measurement Frequency	Sample Type
Flow				0.100 MGD	Daily	Total
Turbidity ^{1,2}	25 NTU		25 NTU	25 NTU	Daily	Grab
Total Suspended Solids ²		30 mg/L			2 x month	Grab
Total Phosphorus ²		0.2 mg/L			2 x month	Grab
Arsenic ²		0.03 mg/L			2 x month	Grab
Chromium (III) ²		0.05 mg/L			2 x month	Grab
Lead ²		0.15 mg/L			2 x month	Grab
Volatile Organic Compounds ^{2,3}		Monitor only ug/L			1 x month	Grab
pH ²				6.5 to 8.5 Standard Units	2 x month	Grab

Samples collected in compliance with the monitoring requirements specified above shall be collected from the sample port after the final sediment filter in the treatment train(s) prior to discharge to the outfall.

1. ~~Turbidity is an annual average under dry weather base-flow conditions.~~ **Weekly average to be calculated based upon a week starting Sunday and ending Saturday. Sum the results of each turbidity test conducted that week and divide by the number of tests.**
2. **If there are multiple treatment trains with separate discharges to outfall S/N 005, a proportional volume of sample from each treatment train shall be collected and combined into one composite sample for analysis, observing appropriate hold times. pH should be measured and reported separately for each treatment train.**
3. **Volatile Organic Compounds shall be analyzed by EPA Method 8021B.**

5. Special Conditions

- a. **The Permittee has notified the Secretary (Wastewater Management Program) in writing on July 30, 2019 that they intend to discontinue discharges from S/N 001 and S/N 002 and to begin discharging from S/N 003. Discharges shall not occur from S/N 003 prior to August 30, 2019 and no discharges from S/N 001 and S/N 002 after August 30, 2019.**
- b. The dates that the sediment filters are changed or cleaned shall be reported on the monthly DMR report.
- c. Any material removed from the sediment filters by the Permittee shall be disposed of in accordance with the Corrective Action Plan for the project prepared by VHB dated July 25, 2017, and applicable state and federal regulations.
- d. The Permittee shall maintain sufficient rip-rap at the outfalls to prevent erosion during discharge.
- e. The Permittee shall inspect the area downgradient of the discharge points regularly (at least quarterly) for signs of erosion. The Permittee shall take prompt action to correct any instances of erosion resulting from the discharge.
- f. These discharges shall not cause erosion or contain sediment which causes or contributes to a violation of the Vermont Water Quality Standards in the receiving water.
- g. These discharges shall not contain a visible sheen, foam, or floating solids at any time in the receiving water.
- h. These discharges shall not cause a visible discoloration of the receiving water.
- i. These discharges shall not cause a violation of the Vermont Water Quality Standards in the receiving water.
- j. Based on the results of the analyses conducted on this discharge, this permit may be amended to require additional analyses or to establish specific or alternate effluent limitations.
- k. **~~No flocculation polymers shall be used. Any flocculation polymers or other chemicals intended to remove suspended solids must be reviewed and approved by the Secretary must to ensure that the receiving water is not adversely impacted. Flocculation and coagulation chemicals may be used, and if used, shall be used as described in the permit amendment application dated February 26, 2020 and the Amended Fact Sheet dated March 2020. Systems consisting of a mixing tank with flow paced chemical feed pumps, manifold systems to contain coagulant filter socks, frac tanks and sand filters shall be used to dose comingled stormwater and groundwater with flocculants and coagulants and to settle and/or filter suspended solids from the treated water prior to discharge.~~**

Either PPS-750 or PPS-2400 will be used in conjunction with PPS-500 in each batch of comingled water treated. PPS-750 will not be used with PPS-2400. The concentrations of PPS-750 and PPS-2400 shall not exceed 50 mg/L. The concentration of PPS-500 shall not exceed 10 mg/L.

- 1. Records of the amount of each chemical used, the quantity of water treated and the calculations showing the concentration of each chemical shall be provided as an attachment to the WR-43.*

B. REAPPLICATION

If the Permittee desires to continue to discharge after the expiration of this permit, the Permittee shall reapply on the application forms then in use at least 180 days before this permit expires.

Reapply for a Discharge Permit by: **June 30, 2022**

C. OPERATING FEES

This discharge is subject to operating fees as required by 3 V.S.A. § 2822.

D. MONITORING AND REPORTING

1. Sampling and Analysis

The sampling, preservation, handling, and analytical methods used shall conform to the test procedures published in 40 C.F.R. Part 136.

The permittee shall use sufficiently sensitive test procedures (i.e., methods) approved under the Code of Federal Regulations, Title 40, Part 136 for the analysis of the pollutants or pollutant parameters specified in Condition I.A. above.

Samples shall be representative of the volume and quality of effluent discharged over the sampling and reporting period. All samples are to be taken during normal operating hours. The Permittee shall identify the effluent sampling location used for each discharge.

2. Reporting

The Permittee is required to submit monthly reports of monitoring results on DMR form WR-43. Reports are due on the 15th day of each month, beginning with the month following the issuance date of this permit.

The Permittee shall electronically submit its DMRs via Vermont's online electronic reporting system. The Permittee shall electronically submit additional compliance

monitoring data and reports specified by the Secretary. When the Permittee submits DMRs using an electronic system designated by the Secretary, it is not required to submit hard copies of DMRs.

The link to submit DMRs via Vermont's online electronic reporting system is:

<https://anronline.vermont.gov/>

If, in any reporting period, there has been no discharge, the Permittee must submit that information by the report due date.

All reports shall be signed:

- a. In the case of corporations, by a principal executive officer of at least the level of vice president, or his/her duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge described in the permit form originates and the authorization is made in writing and submitted to the Secretary;
- b. In the case of a partnership, by a general partner;
- c. In the case of a sole proprietorship, by the proprietor; or
- d. In the case of a municipal, State, or other public facility, by either a principal executive officer, ranking elected official, or other duly authorized employee.

3. Recording of Results

The Permittee shall maintain records of all information resulting from any monitoring activities required, including:

- a. The exact place, date, and time of sampling or measurements;
- b. The individual(s) who performed the sampling or measurements;
- c. The dates and times the analyses were performed;
- d. The individual(s) who performed the analysis;
- e. The analytical techniques and methods used including sample collection handling and preservation techniques;
- f. The results of such analyses.
- g. The records of monitoring activities and results, including all instrumentation and calibration and maintenance records; and

- h.** The original calculation and data bench sheets of the operator who performed analysis of the influent or effluent pursuant to requirements of Section I.A of this permit.
- i.** The results of monitoring requirements shall be reported (in the units specified) on the DMR WR-43 or other forms approved by the Agency.

4. Additional Monitoring

If the Permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the DMR WR-43. Such increased frequency shall also be indicated.

II. GENERAL CONDITIONS

A. MANAGEMENT REQUIREMENTS

1. Facility Modification / Change in Discharge

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant more frequently than, or at a level in excess of, that identified and authorized by this permit shall constitute a violation of the terms and conditions of this permit. Such a violation may result in the imposition of civil and/or criminal penalties pursuant to 10 V.S.A. chapters 47, 201, and/or 211. Any anticipated facility alterations or expansions or process modifications which will result in new, different, or increased discharges of any pollutants must be reported by submission of a new permit application or, if such changes will not violate the effluent limitations specified in this permit, by notice to the Secretary of such changes. Following such notice, the permit may be modified to specify and limit any pollutants not previously limited.

2. Noncompliance Notification

- a.** The Permittee shall give advance notice to the Agency of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
- b.** In the event the Permittee is unable to comply with any of the conditions of this permit due, among other reasons, to:
 - i.** Breakdown or maintenance of waste treatment equipment (biological and physical-chemical systems including all pipes, transfer pumps, compressors, collection ponds or tanks for the segregation of treated or untreated wastes, ion exchange columns, or carbon absorption units);
 - ii.** Accidents caused by human error or negligence;

- iii. Any unanticipated bypass or upset which exceeds any effluent limitation in the permit;
- iv. Violation of a maximum day discharge limitation for any of the pollutants listed by the Secretary in this permit; or
- v. Other causes such as acts of nature,

the Permittee shall provide notice as specified in subdivisions (c) and (d) of this subsection.

- c. Pursuant to 10 V.S.A. §1295, notice for “untreated discharges,” as defined.
 - i. Public notice. For “untreated discharges” an operator of a wastewater treatment facility or the operator’s delegate shall as soon as possible, but no longer than one hour from discovery of an untreated discharge from the wastewater treatment facility, post on a publicly accessible electronic network, mobile application, or other electronic media designated by the Secretary an alert informing the public of the untreated discharge and its location, except that if the operator or his or her delegate does not have telephone or Internet service at the location where he or she is working to control or stop the untreated discharge, the operator or his or her delegate may delay posting the alert until the time that the untreated discharge is controlled or stopped, provided that the alert shall be posted no later than four hours from discovery of the untreated discharge.
 - ii. Agency notification. For “untreated discharges” an operator of a wastewater treatment facility shall within 12 hours from discovery of an untreated discharge from the wastewater treatment facility notify the Secretary and the local health officer of the municipality where the facility is located of the untreated discharge. The operator shall notify the Secretary through use of the Department of Environmental Conservation’s online event reporting system. If, for any reason, the online event reporting system is not operable, the operator shall notify the Secretary via telephone or e-mail. The notification shall include:
 - (1) The specific location of each untreated discharge, including the body of water affected. For combined sewer overflows, the specific location of each untreated discharge means each outfall that has discharges during the wet weather storm event.
 - (2) Except for discharges from a wastewater treatment facility to a separate storm sewer system, the date and approximate time the untreated discharge began.
 - (3) The date and approximate time the untreated discharge ended. If the untreated discharge is still ongoing at the time of reporting, the entity

reporting the untreated discharge shall amend the report with the date and approximate time the untreated discharge ended within three business days of the untreated discharge ending.

- (4) Except for discharges from a wastewater treatment facility to a separate storm sewer system, the approximate total volume of sewage and, if applicable, stormwater that was released. If the approximate total volume is unknown at the time of reporting, the entity reporting the untreated discharge shall amend the report with the approximate total volume within three business days.
 - (5) The cause of the untreated discharge and a brief description of the noncompliance, including the type of event and the type of sewer structure involved.
 - (6) The person reporting the untreated discharge.
- d. For any non-compliance not covered under Section II.A.2.b. of this permit, an operator of a wastewater treatment facility or the operator's delegate shall notify the Secretary within 24 hours of becoming aware of such condition and shall provide the Secretary with the following information, in writing, within five days:
- i. Cause of non-compliance;
 - ii. A description of the non-complying discharge including its impact upon the receiving water;
 - iii. Anticipated time the condition of non-compliance is expected to continue or, if such condition has been corrected, the duration of the period of non-compliance;
 - iv. Steps taken by the Permittee to reduce and eliminate the non-complying discharge; and
 - v. Steps to be taken by the Permittee to prevent recurrence of the condition of non-compliance.

3. Operation and Maintenance

All waste collection, control, treatment, and disposal facilities shall be operated in a manner consistent with the following:

- a. The Permittee shall, at all times, maintain in good working order and operate as efficiently as possible all treatment and control facilities and systems (and related appurtenances) installed or used by the Permittee to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This

provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by the Permittee only when the operation is necessary to achieve compliance with the conditions of this permit;

- b. The Permittee shall provide an adequate operating staff which is duly qualified to carry out the operation, maintenance, and testing functions required to insure compliance with the conditions of this permit.

4. Quality Control

The Permittee shall calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at regular intervals to ensure accuracy of measurements, or shall ensure that both activities will be conducted.

The Permittee shall keep records of these activities and shall provide such records upon request of the Secretary.

The Permittee shall demonstrate the accuracy of the effluent flow measurement device(s) monthly and report the results on the monthly report forms. The acceptable limit of error is $\pm 10\%$.

The Permittee shall analyze any additional samples as may be required by the Secretary to ensure analytical quality control.

5. Bypass

The bypass of facilities is prohibited, except where authorized under the terms and conditions of an Emergency Pollution Permit issued pursuant to 10 V.S.A. § 1268. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the activity in order to maintain compliance with the conditions of this permit.

6. Duty to Mitigate

The Permittee shall take all reasonable steps to minimize or prevent any adverse impact to waters of the State resulting from non-compliance with any condition specified in this permit, including accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge.

7. Records Retention

All records and information resulting from the monitoring activities required by this permit including all records of analyses performed, all calibration and maintenance of instrumentation records and all original chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit shall be retained for a minimum of three years, and

shall be submitted to the Secretary upon request. This period shall be extended during the course of unresolved litigation regarding the discharge of pollutants or when requested by the Secretary.

8. Solids Management

Collected screenings, sludges, and other solids removed in the course of treatment and control of wastewaters shall be stored, treated and disposed of in accordance with 10 V.S.A. chapter 159 and with the terms and conditions of any certification, interim or final, transitional operation authorization or order issued pursuant to 10 V.S.A. chapter 159 that is in effect on the effective date of this permit or is issued during the term of this permit.

9. Emergency Pollution Permits

Maintenance activities, or emergencies resulting from equipment failure or malfunction, including power outages, which result in an effluent which exceeds the effluent limitations specified herein, shall be considered a violation of the conditions of this permit, unless the Permittee immediately applies for, and obtains, an emergency pollution permit under the provisions of 10 V.S.A. § 1268. The Permittee shall notify the Secretary of the emergency situation by the next working day.

10 V.S.A. § 1268 reads as follows:

When a discharge permit holder finds that pollution abatement facilities require repairs, replacement or other corrective action in order for them to continue to meet standards specified in the permit, he may apply in the manner specified by the secretary for an emergency pollution permit for a term sufficient to effect repairs, replacements or other corrective action. The permit may be issued without prior public notice if the nature of the emergency will not provide sufficient time to give notice; provided that the secretary shall give public notice as soon as possible but in any event no later than five days after the effective date of the emergency pollution permit. No emergency pollution permit shall be issued unless the applicant certifies and the secretary finds that:

- (1) there is no present, reasonable alternative means of disposing of the waste other than by discharging it into the waters of the state during the limited period of time of the emergency;
- (2) the denial of an emergency pollution permit would work an extreme hardship upon the applicant;
- (3) the granting of an emergency pollution permit will result in some public benefit;
- (4) the discharge will not be unreasonably harmful to the quality of the receiving waters;

(5) the cause or reason for the emergency is not due to willful or intended acts or omissions of the applicant.

Application shall be made to the Secretary at the following address: Agency of Natural Resources, Department of Environmental Conservation, One National Life Drive, Main Building, 2nd Floor, Montpelier VT 05620-3522.

10. Power Failure

In order to maintain compliance with the effluent limitations and prohibitions of this permit, the Permittee shall either:

- a. Provide an alternative power source sufficient to operate the wastewater control facilities, or if such alternative power source is not in existence,
- b. Halt, reduce or otherwise control production and/or all discharges upon the reduction, loss, or failure of the primary source of power to the wastewater control facilities.

B. RESPONSIBILITIES

1. Right of Entry

The Permittee shall allow the Secretary or authorized representative, upon the presentation of proper credentials:

- a. To enter upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- b. To have access to and copy, at reasonable times, any records required to be kept under the terms and conditions of this permit;
- c. To inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
- d. To sample or monitor, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the federal Clean Water Act, any substances or parameters at any location.

2. Transfer of Ownership or Control

This permit is not transferable without prior written approval of the Secretary. All application and operating fees must be paid in full prior to transfer of this permit. In the event of any change in control or ownership of facilities from which the authorized discharges emanate, the Permittee shall provide a copy of this permit to the succeeding owner or controller and shall send written notification of the change in ownership or

control to the Secretary at least 30 days in advance of the proposed transfer date. The notice to the Secretary shall include a written agreement between the existing and new Permittees containing a specific date for transfer of permit responsibility, coverage, and liability between them. The Permittee shall also inform the prospective owner or operator of their responsibility to make an application for transfer of this permit.

This request for transfer application must include as a minimum:

- a. A properly completed application form provided by the Secretary and the applicable processing fee.
- b. A written statement from the prospective owner or operator certifying:
 - i. The conditions of the operation that contribute to, or affect, the discharge will not be materially different under the new ownership;
 - ii. The prospective owner or operator has read and is familiar with the terms of the permit and agrees to comply with all terms and conditions of the permit; and
 - iii. The prospective owner or operator has adequate funding to operate and maintain the treatment system and remain in compliance with the terms and conditions of the permit.
- c. The date of the sale or transfer.

The Secretary may require additional information dependent upon the current status of the facility operation, maintenance, and permit compliance.

3. Confidentiality

Pursuant to 10 V.S.A. § 1259(b):

Any records, reports or information obtained under this permit program shall be available to the public for inspection and copying. However, upon a showing satisfactory to the secretary that any records, reports or information or part thereof, other than effluent data, would, if made public, divulge methods or processes entitled to protection as trade secrets, the secretary shall treat and protect those records, reports or information as confidential. Any records, reports or information accorded confidential treatment will be disclosed to authorized representatives of the state and the United States when relevant to any proceedings under this chapter.

Claims for confidentiality for the following information will be denied:

- a. The name and address of any permit applicant or Permittee.
- b. Permit applications, permits, and effluent data.

- c. Information required by application forms, including information submitted on the forms themselves and any attachments used to supply information required by the forms.

4. Permit Modification, Suspension, and Revocation

After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including the following:

- a. Violation of any terms or conditions of this permit;
- b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts;
or
- c. A change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge.

The filing of a request by the Permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance shall not stay any permit condition.

The Permittee shall provide to the Secretary, within a reasonable time, any information which the Secretary may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The Permittee shall also furnish to the Secretary upon request, copies of records required to be kept by this permit

5. Toxic Effluent Standards

If a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under section 307(a) of the Clean Water Act for a toxic pollutant which is present in the Permittee's discharge and such standard or prohibition is more stringent than any limitation upon such pollutant in this permit, then this permit shall be modified or revoked and reissued in accordance with the toxic effluent standard or prohibition and the Permittee so notified.

6. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of legal action or relieve the Permittee from any responsibilities, liabilities, or penalties to which the Permittee is or may be subject under 10 V.S.A. §1281.

7. Civil and Criminal Liability

Except as provided in, “Bypass” (Section II.A.5), “Emergency Pollution Permits” (Section II.A.9), and “Power Failure” (Section II.A.10), nothing in this permit shall be construed to relieve the Permittee from civil or criminal penalties for noncompliance. Civil and criminal penalties for non-compliance are provided for in 10 V.S.A. Chapters 47, 201 and 211.

8. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the Permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by Section 510 of the Clean Water Act.

9. Property Rights

Issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations.

10. Other Information

If the Permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Secretary, it shall promptly submit such facts or information.

11. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

12. Authority

This permit is issued under authority of 10 V.S.A. §§1258 and 1259 of the Vermont Water Pollution Control Act, the Vermont Water Pollution Control Permit Regulation, and Section 402 of the Clean Water Act, as amended.

III.

A. OTHER REQUIREMENTS

This permit shall be modified, suspended or revoked to comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:

1. Contains different conditions or is otherwise more stringent than any effluent limitation in the permit, or
2. Controls any pollutant not limited in the permit.

The permit as modified under this paragraph shall also contain any other requirements of the Vermont Water Pollution Control Act then applicable.

B. DEFINITIONS

For purposes of this permit, the following definitions shall apply.

Agency – The Vermont Agency of Natural Resources

Annual Average - The highest allowable average of daily discharges calculated as the sum of all daily discharges (mg/L, lbs or gallons) measured during a calendar year divided by the number of daily discharges measured during that year.

Average – The arithmetic means of values taken at the frequency required for each parameter over the specified period.

Bypass – The intentional diversion of waste streams from any portion of the treatment facility

The Clean Water Act – The federal Clean Water Act, as amended (33 U.S.C. § 1251, *et seq.*).

Composite Sample – A sample consisting of a minimum of one grab sample per hour collected during a 24-hour period (or lesser period as specified in the section on Monitoring and Reporting) and combined proportionally to flow over that same time period.

Daily Discharge – The discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling.

For pollutants with limitations expressed in pounds the daily discharge is calculated as the total pounds of pollutants discharged over the day.

For pollutants with limitations expressed in mg/L the daily discharge is calculated as the average measurement of the pollutant over the day.

Discharge – Any wastes, directly or indirectly, that are placed, deposited or emitted into waters of the state.

Grab Sample – An individual sample collected in a period of less than 15 minutes.

Incompatible Substance – Any waste being discharged into the treatment works which interferes with, passes through without treatment, or is otherwise incompatible with said works

or would have a substantial adverse effect on these works or on water quality. This includes all pollutants required to be regulated under the Clean Water Act.

Instantaneous Maximum – A value not to be exceeded in any grab sample.

Major Contributing Industry – One that: (1) has a flow of 50,000 gallons or more per average work day; (2) has a flow greater than five percent of the flow carried by the municipal system receiving the waste; (3) has in its wastes a toxic pollutant in toxic amounts as defined in standards issued under Section 307(a) of the Clean Water Act; or (4) has a significant impact, either singly or in combination with other contributing industries, on a publicly owned treatment works or on the quality of effluent from that treatment works.

Maximum Day (maximum daily discharge limitation) – The highest allowable "daily discharge" (mg/L, lbs or gallons).

Mean – The mean value is the arithmetic mean.

Monthly Average (average monthly discharge limitation) – The highest allowable average of daily discharges (mg/L, lbs or gallons) over a calendar month, calculated as the sum of all daily discharges (mg/L, lbs or gallons) measured during a calendar month divided by the number of daily discharges measured during that month.

NPDES – The National Pollutant Discharge Elimination System.

Secretary – The Secretary of the Agency of Natural Resources

State Certifying Agency	Agency of Natural Resources Department of Environmental Conservation Watershed Management Division One National Life Drive, Davis 3 Montpelier VT 05620-3522
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Waste -- Effluent, sewage or any substance or material, liquid, gaseous, solid or radioactive, including heated liquids, whether or not harmful or deleterious to waters.

Waste Management Zone – A specific reach of Class B waters designated by a permit to accept the discharge of properly treated wastes that prior to treatment contained organisms pathogenic to human beings. Throughout the receiving waters, water quality criteria must be achieved but increased health risks exist due to the authorized discharge.

Weekly Average - (Average weekly discharge limitation) - The highest allowable average of daily discharges (mg/L, lbs or gallons) over a calendar week, calculated as the sum of all daily discharges (mg/L, lbs or gallons) measured during a calendar week divided by the number of daily discharges measured during that week.

AGENCY OF NATURAL RESOURCES
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
WATERSHED MANAGEMENT DIVISION
ONE NATIONAL LIFE DRIVE, DAVIS 3
MONTPELIER, VT 05620-3522

AMENDED¹ FACT SHEET
(March 2020)

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES

PERMIT NO: 3-1566
PIN: RU17-0192
NPDES NO: VT0120059

NAME AND ADDRESS OF APPLICANT:

Vermont Agency of Transportation
1 National Life Drive
Montpelier, Vermont 05633

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Main Street and Merchants Row
Middlebury, Vermont

RECEIVING WATER: Otter Creek

CLASSIFICATION: Class B(2). Class B waters are suitable for swimming and other forms of water-based recreation and irrigation of crops and other agricultural uses without treatment; good aesthetic value; aquatic biota and wildlife sustained by high quality aquatic habitat; suitable for boating, fishing, and other recreational uses; acceptable for public water supply with filtration and disinfection.

I. Proposed Action, Type of Facility, and Discharge Location

The Secretary of the Vermont Agency of Natural Resources (Secretary) received an application to amend the discharge permit from the above named applicant on April 8, 2019. The facility is engaged in the treatment of comingled groundwater and stormwater from a construction excavation project. The discharge is from three stormwater outfalls to Otter Creek.

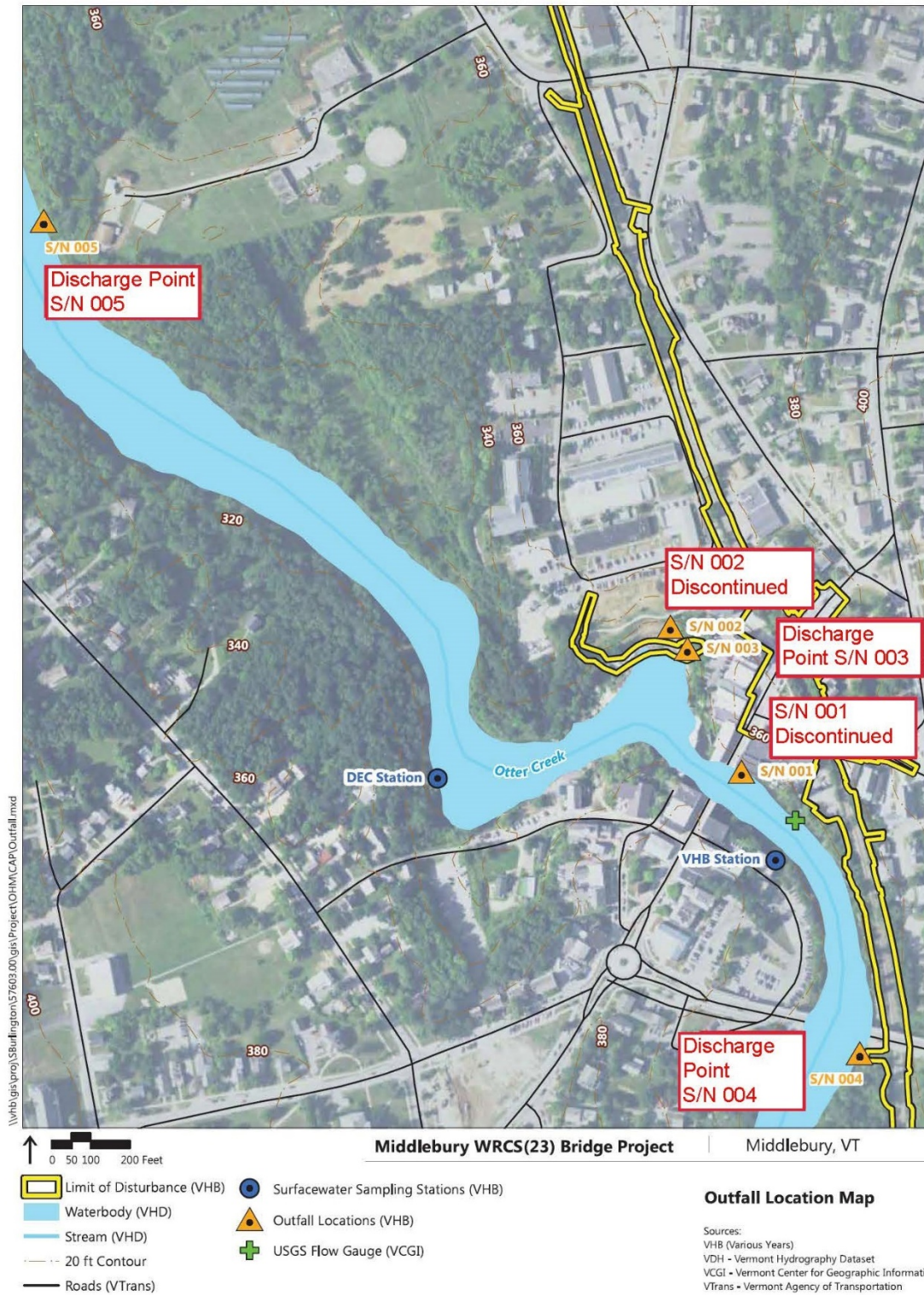
The applicant has requested a decrease in the maximum daily flow limitation for outfall S/N 003 from 0.500 MGD to 0.300 MGD and the addition of two stormwater outfalls, S/N 004 and S/N 005, each with a maximum daily flow limitation of 0.100 MGD. The combined total daily flow limitation for the three outfalls remains at 0.500 MGD. Discharges from S/N 001 and S/N 002 will be discontinued prior

~~to the initiation of flows at S/N 003. No other changes to the current permit are requested. At this time, the Secretary has made a tentative decision to amend the discharge permit as requested.~~

The Secretary of the Vermont Agency of Natural Resources (Secretary) received an application to amend the discharge permit from the above-named applicant on February 26, 2020. The facility is engaged in the treatment of comingled groundwater and stormwater from a construction excavation project. The discharge is from three stormwater outfalls to Otter Creek.

The applicant has requested permission to use flocculating and coagulating chemicals to treat comingled groundwater and stormwater from construction excavations. Systems consisting of a mixing tank with flow paced chemical feed pumps, manifold systems to contain coagulant filter socks, frac tanks and sand filters will be used to dose comingled stormwater and groundwater with flocculants and coagulants and to settle and/or filter suspended solids from the treated water prior to discharge. The combined total daily flow limitation for the three outfalls remains at 0.500 MGD. No other changes to the current permit are requested. At this time, the Secretary has made a tentative decision to amend the discharge permit as requested.

Figure 1: Location Map for Stormwater Outfalls to Otter Creek in Middlebury, Vermont



II. Description of Discharge

The facility is engaged in the treatment of comingled groundwater and stormwater from a construction excavation project. The discharge is from treatment systems to remove sediment and contaminants. The discharge will flow through the stormwater collection system in Middlebury to three stormwater outfalls to Otter Creek.

III. Limitations and Conditions

The draft permit contains limitations for flow, Turbidity, Total Suspended Solids, Total Phosphorus, Arsenic, Chromium (III), Lead, and pH. It also contains a monitoring requirement for Volatile Organic Compounds. The effluent limitations of the draft permit and the monitoring requirements may be found on the following pages of the draft permit:

Effluent Limitations: Pages 2-4 of 18

Monitoring Requirements Pages 2-4 of 18

In order to be protective of water quality the performance of the sediment removal treatment will be monitored using Turbidity. Properly treated effluent will have low turbidity, while effluent that was treated with either too much or too little of the chemicals will have greater turbidity. A weekly average and maximum day limit of 25 NTU has been added to the permit in order to require more frequent monitoring and to assure that the treated effluent will not violate Vermont Water Quality Standards. The Annual Average limit for Turbidity was removed because the new Weekly Average requirement is stricter.

IV. Statutory and Regulatory Authority

A. Clean Water Act and NPDES Background

Congress enacted the Clean Water Act (CWA or Act), “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” CWA § 101(a). To achieve this objective, the CWA makes it unlawful for any person to discharge any pollutant into the waters of the United States from any point source, except as authorized by specified permitting sections of the Act, one of which is Section 402. CWA §§ 301(a), 402(a). Section 402 establishes one of the CWA’s principal permitting programs, the National Pollutant Discharge Elimination System (NPDES). Under this section of the Act, the U.S. Environmental Protection Agency (EPA) may “issue a permit for the discharge of any pollutant, or combination of pollutants” in accordance with certain conditions. CWA § 402(a). The State of Vermont has been delegated by EPA to administer the NPDES Program in Vermont. NPDES permits generally contain discharge limitations and establish related monitoring and reporting requirements. CWA § 402(a)(1) - (2).

Section 301 of the CWA provides for two types of effluent limitations to be included in NPDES permits: “technology-based” limitations and “water quality-based” limitations. CWA §§ 301, 303, 304(b); 40 C.F.R. Parts 122, 125, 131. Technology-based limitations, generally developed on an industry-by-industry basis, reflect a specified level of pollutant-reducing technology available and economically achievable for the type of facility being permitted. CWA § 301(b). As a class, WWTFs must meet performance-based requirements based on

available wastewater treatment technology. CWA § 301(b)(1)(B). The performance level for WWTFs is referred to as “secondary treatment.” Secondary treatment is comprised of technology-based requirements expressed in terms of BOD5, TSS, and pH. 40 C.F.R. Part 133.

Water quality-based effluent limits, on the other hand, are designed to ensure that state water quality standards are achieved, irrespective of the technological or economic considerations that inform technology-based limits. Under the CWA, states must develop water quality standards for all water bodies within the state. CWA § 303. These standards have three parts: (1) one or more “designated uses” for each water body or water body segment in the state; (2) water quality “criteria,” consisting of numerical concentration levels and/or narrative statements specifying the amounts of various pollutants that may be present in each water body without impairing the designated uses of that water body; and (3) an antidegradation provision, focused on protecting high quality waters and protecting and maintaining water quality necessary to protect existing uses. CWA § 303(c)(2)(A); 40 C.F.R. § 131.12. The applicable water quality standards for this permit are the 2017 Vermont Water Quality Standards (Environmental Protection Rule, Chapter 29a).

A permit must include limits for any pollutant or pollutant parameter (conventional, non-conventional, toxic, and whole effluent toxicity) that is or may be discharged at a level that causes or has “reasonable potential” to cause or contribute to an excursion above any water quality standard, including narrative water quality criteria. See 40 C.F.R. § 122.44(d)(1). An excursion occurs if the projected or actual in-stream concentration exceeds the applicable criterion. A NPDES permit must contain effluent limitations and conditions in order to ensure that the discharge does not cause or contribute to water quality standard violations.

Receiving stream requirements are established according to numerical and narrative standards adopted under state law for each stream classification. When using chemical-specific numeric criteria from the State’s water quality standards to develop permit limits, both the acute and chronic aquatic life criteria are used and expressed in terms of maximum allowable in stream pollutant concentrations. Acute aquatic life criteria are generally implemented through maximum daily limits and chronic aquatic life criteria are generally implemented through average monthly limits.

Where a state has not established a numeric water quality criterion for a specific chemical pollutant that is present in the effluent in a concentration that causes or has a reasonable potential to cause a violation of narrative water quality standards, the permitting authority must establish effluent limits in one of three ways: based on a “calculated numeric criterion for the pollutant which the permitting authority demonstrates will attain and maintain applicable narrative water quality criteria and fully protect the designated use;” on a “case-by-case basis” using CWA Section 304(a) recommended water quality criteria, supplemented as necessary by other relevant information; or, in certain circumstances, based on an “indicator parameter.” 40 C.F.R. § 122.44(d)(1)(vi)(A-C).

The state rules governing Vermont’s NPDES permit program are found in the Vermont Water Pollution Control Permit Regulations (Environmental Protection Rule, Chapter 13).

B. Reasonable Potential Determination

Due to the proposed limits for the pollutants of concern in the discharge, the flow rate of the discharge, and the 7Q10 receiving water flows, there is not a reasonable potential for exceedance of the Vermont Water Quality Standards at these conditions,

The previous Reasonable Potential Determination is attached to the Fact Sheet as Attachment A. The only changes resulting from this amendment are the addition of coagulation and flocculation chemicals. In order to facilitate the review of these changes a supplemental Reasonable Potential Determination memo has been prepared that exclusively addresses the new chemicals. This supplemental memo is attached as Attachment B and addresses the potential of flocculation and coagulation chemicals to violate water quality standards. Other pollutants were addressed in the previous memo which remains valid.

~~The Reasonable Potential Determination is attached to the Fact Sheet as Attachment A. There only changes resulting from this amendment are minor changes in the location of the discharges with total flow volumes and allowable pollutant loads remaining the same. For these reasons it is not necessary to update the Reasonable Potential Determination memo at this time.~~

~~A review of state listed endangered and threatened species indicates that fluted shell mussels, a Vermont listed endangered species, may be present in the vicinity of the discharge points, and a mussel survey conducted as part of this project's Environmental Assessment confirmed the presence of this species near S/N 003. As a result of this a permit condition has been added to prohibit the use of flocculation polymers. Any proposed use of flocculation polymers or other chemicals used to remove suspended solids will require the review and approval of the Secretary to ensure that the receiving water will not be adversely impacted.~~

V. Receiving Water

The receiving water for this discharge is Otter Creek, a designated Warm Water Fish Habitat.

VI. Facility History and Background

The Vermont Agency of Transportation has a multi-year construction project in downtown Middlebury to replace two roadway bridges on Main Street and Merchants Row that span the Vermont Railway, Inc. railroad track. The project will replace the two bridges with a single pre-cast concrete box tunnel, and the existing grade of the railroad track will be lowered by approximately 12 feet to accommodate the new tunnel. The grade along the railroad track to the north and south will also be lowered.

Groundwater dewatering from the deeper excavation areas is anticipated to be necessary during construction to maintain a safe working environment. The soil in the project area has been impacted with contaminants associated with the former railroad operations and from a historic gasoline release. The excavation will also proceed through the Middlebury Train Derailment hazardous waste site #2009-3912, related to a 2007 accidental train derailment that occurred between the Otter Creek truss bridge and the Merchants Row bridge. The gasoline spill from the

derailment impacted soil, groundwater, and the Otter Creek near the derailment area. This site underwent active remediation in 2009 and 2010, and is currently undergoing natural attenuation. The accumulated groundwater and comingled stormwater in the excavation areas will be pumped and treated in fractionation tanks and sediment filters to remove sediment and contaminants prior to discharge to the stormwater collection system to three stormwater outfalls to Otter Creek.

Outfall S/N 001 is an existing stormwater outfall located at 44.01346N, 73.16843W and ~~was is proposed to be~~ used for dewatering operations during Fall 2017 and the 2018 construction season (see Figure 1). **Outfall S/N 001 was not used after Outfall S/N 003 became operational.** ~~Outfall S/N 001 will not be used after Outfall S/N 003 is constructed and becomes operational.~~

Outfall S/N 002 is an existing stormwater outfall located at 44.01448N, 73.16914W and ~~was is proposed to be~~ used for dewatering operations during Fall 2017 and the 2018 construction season (see Figure 1). **Outfall S/N 002 was not used after Outfall S/N 003 became operational.** ~~Outfall S/N 002 will not be used after Outfall S/N 003 is constructed and becomes operational.~~

Outfall S/N 003 is ~~a new outfall~~ located at 44.01433N, 73.16897W and is ~~proposed to be~~ used for dewatering operations during the 2019 and 2020 construction seasons (see Figure 1). ~~Outfall S/N 003 will be installed during the 2018 construction season and will replace Outfalls S/N 001 and S/N 002.~~ **Outfall S/N 003 replaced Outfalls S/N 001 and S/N 002.** There may be multiple treatment trains, each with a fractionation tank and sediment filters, with separate discharges to outfall S/N 003. *The Vermont Agency of Transportation (VTrans) requested a decrease in the maximum daily flow limitation from 0.500 MGD to 0.300 MGD to accommodate the addition of two stormwater outfalls, each with a flow limitation of 0.100 MGD. The combined total daily flow limitation remains at 0.500 MGD. Based on experience from the 2018 construction season, VTrans requested to discharge from existing outfall S/N 003 and two new discharge locations, S/N 004 and S/N 005, simultaneously due to construction logistics.*

Outfall S/N 004 is an existing stormwater outfall located at 44.01146N and 73.16716W and is ~~proposed to be~~ used for dewatering operations beginning in the 2019 construction season.

Outfall S/N 005 is an existing stormwater outfall to be located at 44.01725N and 73.17499W and is ~~proposed to be~~ used for dewatering operations beginning in the 2019 construction season.

Permit Basis and Explanation of Effluent Limitation Derivation

This permit was evaluated under the 2017 Vermont Water Quality Standards

Flow – The draft permit proposes a total daily flow limitation of 0.500 MGD. Monitoring is required daily.

Turbidity – The draft permit proposes an annual average limit of 25 NTU under dry weather base-flow conditions. Monitoring is required daily when a discharge occurs.

Total Suspended Solids (TSS) – The draft permit proposes a monthly average limit of 30 mg/L. Monitoring is required twice per month when a discharge occurs.

Total Phosphorus – The draft permit proposes a monthly average limit of 0.2 mg/L. Monitoring is required twice per month when a discharge occurs.

Arsenic – The draft permit proposes a monthly average limit of 0.03 mg/L. Monitoring is required twice per month when a discharge occurs.

Chromium (III) – The draft permit proposes a monthly average limit of 0.05 mg/L. Monitoring is required twice per month when a discharge occurs.

Lead – The draft permit proposes a monthly average limit of 0.15 mg/L. Monitoring is required twice per month when a discharge occurs.

Volatile Organic Compounds (VOCs) - The draft permit proposes monitoring for VOCs once per month when a discharge occurs.

pH – The pH limitation is proposed at 6.5 - 8.5 Standard Units as specified in Section 3-01 B.9. in the Vermont Water Quality Standards. Monitoring is required twice per month when a discharge occurs.

VII. Procedures for Formulation of Final Determinations

The public comment period for receiving comments on this draft permit was from March 19, 2020 to April 20, 2020. The Agency received no comments from the public concerning this draft permit.

Any person who has commented on the draft permit may, within 30 days of the final ruling by the Department of Environmental Conservation to grant or deny authorization to discharge, appeal the ruling to the Environmental Division of the Superior Court pursuant to 10 V.S.A. Chapter 220.

ATTACHMENT A

Agency of Natural Resources
Department of Environmental Conservation

Watershed Management Division
1 National Life Drive 2 Main
802-828-1535

MEMORANDUM

To: Liz Dickson, Wastewater Program (WWP)

From: Rick Levey, Monitoring, Assessment and Planning Program (MAPP) *Rick Levey 09/22/17*

Cc: Pete LaFlamme, Director, WSMD
Jessica Bulova, Manager, WWP

Date: September 22, 2017

Subject: VTrans Middlebury Bridge and Rail Project Reasonable Potential Determination Decision

Project:

VTrans Middlebury Bridge and Rail Project

Hydrology for Middlebury Bridge Project:

Design Flow: 345 GPM= 0.50 MGD = 0.76 CFS

Receiving Water: Otter Creek; 7Q10 = 146 CFS, LMM = 325 CFS

MAPP has evaluated the request to waive the Reasonable Potential Determination for the Middlebury Bridge Project and has determined that it is not necessary due to the size of the discharge and the significant available dilution of the receiving water which is the Otter Creek. The proposed discharge is for construction-phase dewatering of groundwater and stormwater accumulating in excavation areas. Pre-Construction groundwater monitoring identified arsenic and lead as contaminants of concern.

The Middlebury Bridge Project proposed industrial discharge is permitted to discharge 0.50 MGD (0.76 CFS). The available dilution of the Otter Creek at critical 7Q10 flow of 146 CFS provides sufficient dilution to prevent exceedances of VWQS. Specifically, the Instream Waste Concentration (IWC) at full discharge is calculated to be 0.5 percent, this relates to 1:200 dilution.

Total Phosphorus:

At maximum discharge flow (0.5 MGD), and at permit limit of 0.2 mg/L-TP, the calculated TP concentration at LMM flow (325 cfs) attributable to the discharge is 0.46 µg/L-TP; less than 1 microgram TP, a very minor nutrient addition that is within the analytical error of phosphorus analysis for surface waters. The TP concentrations within this section of the Otter Creek average 38 µg/L-TP.

ATTACHMENT A

Sediment, Hardness and Metals:

Instream total suspended solids were calculated using the 7Q10 of 146 CFS at design flow of 0.76 CFS (0.5 MGD), assuming the maximum permit limit of 30 mg/L-TSS. The calculated suspended sediment concentration at these conditions is 0.15 mg/l, indicating a very slight increase of instream ambient suspended sediment concentrations in receiving waters.

The proposed limits for lead (Pb) and other metals of concern will not pose a risk to the receiving waters. To illustrate, using the proposed limit of 150 µg/L for lead (Pb) at maximum flow (0.50 MGD) the calculated Pb concentration attributable to the discharge is 0.75 µg/L- Pb, this is about 1/3 of the most stringent chronic criteria for Pb which is 1.92 µg/L-Pb at receiving water hardness of 78 mg/L-CaCO₃.

Conclusion:


The calculations shown above also illustrates the de minimus impact other pollutants within this discharge would pose to receiving waters, and the proposed permit limits provide further assurance that VWQS will not be exceeded. Considering these factors, MAPP concurs with the Wastewater Program that this project and its discharge as proposed and permitted, does not have the potential to cause measurable change in the receiving water.

Attachment B

Agency of Natural Resources
Department of Environmental Conservation
Watershed Management Division
1 National Life Drive Davis 3
802-828-1535

MEMORANDUM

To: Amy Polaczyk, Manager, Wastewater Program (WWP)

From: John Merrifield, Wastewater Program 

Cc: Rick Levey, Monitoring, Assessment and Planning Program
Jamie Bates, Wastewater Program

Date: March 11, 2020

Subject: Supplemental VTrans Middlebury Bridge and Rail Project Reasonable Potential Determination Decision

Project:

VTrans Middlebury Bridge and Rail Project
Permit No. 3-1566
NPDES No. VT0120059

Hydrology used in this evaluation:

Design flow = 0.5 MGD, 0.77 CFS
Receiving Water: Otter Creek
7Q10 = 146 CFS
IWC = 0.0053

The Reasonable Potential Determination for the VTrans Middlebury Bridge and Rail Project discharge has been examined and it has been determined that a full assessment is not necessary because the previous Reasonable Potential Determination dated September 22, 2017 addressed the project's potential impacts on the receiving water and remains valid for all activities proposed in the initial permit application and the subsequent amendment application received in October 2019. This supplemental RPD memo is being prepared to address the proposed use of flocculation and coagulation chemicals as proposed in the February 26, 2020 amendment application.

The project has proposed the use of flocculation and coagulation chemicals to facilitate the treatment of comingled stormwater and groundwater from excavations. A pilot study was conducted that proposed two chemical treatment processes. Both processes would use the same mechanical mixing, settling and filtering systems prior to discharge.

The physical treatment system would consist of a mixing tank with flow paced chemical feed pumps, a pipe manifold that would be used to add coagulants to the water being treated by passing flow over filter socks containing the coagulant, a frac tank to allow for suspended solids to settle and a sand filter to polish the treated water. Solids would be managed in the frac tank and would be disposed of in accordance with requirements for contaminated soils.

Two chemical dosing schedules are proposed for use. The schedule used on any particular day will be based upon the characteristics of the water to be treated. This will vary as the excavated soil types change based upon their location.

*Supplemental
Reasonable Potential Determination Decision for VTrans Middlebury Bridge and Rail Project*

Attachment B

The first proposed dosing schedule is 50 mg/L of PPS-750 (flocculant) with 10 mg/L of PPS-500 (coagulant). PPS-500 will be supplied as a product called APS 706b Floc Log. APS 706b Floc Log has a NOEC (Reproduction) for *C. dubia* of 105 ppm. PPS-750 does not have any known toxicity.

The second proposed dosing schedule is 50 mg/L of PPS-2400 (flocculant) with 10 mg/L of PPS-500 (coagulant)(APS 706b Floc Log). The toxicity of PPS-500 is as noted above and PPS-2400 does not have any known toxicity.

Copies of the SDS sheets for the proposed chemicals are attached.

The Instream Waste Concentration for this project at full design flow and 7Q10 is 0.0053. This is the ratio of the effluent flow to the sum of the effluent flow and receiving water flow.

The concentration of a pollutant in the receiving water can be calculated by multiplying the IWC by the concentration of the pollutant in the effluent.

$10 \text{ mg/L} * 0.0053 = 0.053 \text{ mg/L}$ (PPS-500)

$50 \text{ mg/L} * 0.0053 = 0.265 \text{ mg/L}$ (PPS-750 & PPS-2400)

The calculated receiving water concentration for PPS-500 is approximately 5 orders of magnitude lower than the reported NOEC. It should be noted that this calculation assumes that all of the flocculant and coagulant chemicals pass through the treatment system. In actuality, the majority of chemicals will be bound up in the settled sludge or will be caught in the sand filter, making the calculated receiving water concentrations extremely conservative. Choosing the appropriate flocculant (PPS-750 or PPS-2400) based upon the soil conditions will require careful attention to the performance of treatment process. Too little or too much of the chemicals will result in poor solids removal and therefore increased turbidity in the effluent. In order to ensure that the system is being operated in a manner that is protective of water quality standards the turbidity of the effluent should be measured and reported on a weekly basis. The existing limit of 25 NTU should be retained, and the permittee should be conditioned to use the dosing schedule they provided. This limit and reporting frequency should be included in the revised permit.

Considering these factors, the Wastewater Program concludes this facility and its discharge as currently operated and permitted, does not have the potential to cause, or contribute to an instream toxic impact or instream excursion above the water quality criteria.

Attachment B

Middlebury Bridge and Rail Project (NPDES #3-1566)
Direct Discharge Permit -Amendment Application
Ref: 57603.00
February 11, 2019



use of polymers, and results of the Treatability Study demonstrate that the proposed use of polymers will enhance the ability of the existing treatment system to remove phosphorous.

Summary of Polymer Safety Data Sheets

The Safety Data Sheets ("SDS") for the proposed polymers are included in Attachment 2 and applicable ecological considerations are summarized in the subsections below, including responses to potential concerns.

PPS-500 (under product name "APS 706b Floc Log")

SDS Section 11 – "Taxological/Ecological Information", lists known chronic and acute toxicities for micro-organisms.

Comment: The toxic threshold for all species listed is significantly above the proposed dosage rate of 10 mg/L. As a conservative measure, the dosage rate can be considered the greatest possible concentration potentially entering Otter Creek in a scenario where mechanical filtration was inadvertently bypassed. However, the majority of PPS-500 (and active ingredient of all polymers) is expected to be entrained in flocculant sludge and/or mechanically filtered from the treatment effluent, as described above.

PPS-750

SDS Section 3 – "Composition/Information on Ingredients", states that the manufacturer does not list any ingredients of the product as hazardous according to OSHA 29 CFR 1910.1200.

SDS Section 6 – "Accidental Release Measures", provides environmental precautions in the case of accidental release, to include avoiding discharge to drains or water courses.

Comment: All polymers will be stored in secondary containment and appropriate precautions will be taken to avoid inadvertent discharge of pure polymer to any drainage feature or waterway.

SDS Section 8 – "Exposure Controls", states that no biological exposure limits are noted for the ingredients.

SDS Section 12 – "Ecological Information", states that the product is not classified as environmentally hazardous, excluding the potential for harmful effects to the environment resulting from large spills. This section also states that no additional data is available on the persistence or bioaccumulative potential of the product, besides that the product is not an endocrine disruptor.

PPS-2400

Section 6 – "Accidental Release Measures", recommends preventing entry of product to sewers and public water during an accidental release.

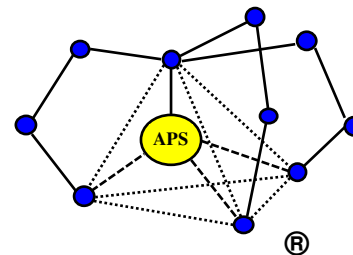
Comment: All polymers will be stored in secondary containment and appropriate precautions will be taken to avoid inadvertent discharge of pure polymer to any drainage feature or waterway.

Section 12 – "Ecological Information", states that no additional information is available regarding product toxicity, persistence or bioaccumulative potential.

This is the trade name for
PPS-500

Updated July 23, 2010

Applied Polymer Systems, Inc.



Material Safety Data Sheet

1. IDENTIFICATION OF THE PRODUCT AND THE COMPANY

Product Name: APS 706b Flocc Log ®

Supplied: 519 Industrial Drive
Woodstock, GA 30189
Tel. 678-494-5998
Fax. 678-494-5298
www.siltstop.com

2. COMPOSITION/INFORMATION ON INGREDIENTS

Identification of the preparation: Anionic water-soluble Co-polymer gel mix

3. HAZARD IDENTIFICATION

Placement of these materials on wet walking surface will create extreme slipping hazard.

4. FIRST AID MEASURES

Inhalation: None

Skin contact: Contact with wet skin can cause dryness and chapping. Wash with water and soap.

Eye contact: Rinse thoroughly with plenty of water, also under the eyelids, seek medical attention in case of persistent irritation.

Ingestion: Consult a physician

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Water, water spray, foam, carbon dioxide, dry powder.

Special fire-fighting precautions: Flocc Logs that become wet render surfaces extremely slippery.

Protective equipment for firefighters: No special equipment required.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: No special precautions required.

Methods for cleaning up: Dry wipe as well as possible. Keep in suitable and closed containers for disposal.
After cleaning, flush away traces with water.

7. HANDLING AND STORAGE

Handling: Avoid contact with skin and eyes. Wash hands after handling.

Storage: Keep in a cool, dry place.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering controls: Use dry handling areas only.

Personal protection equipment

Respiratory Protection: None
 Hand protection: Dry cloth, leather or rubber gloves.
 Eye Protection: Safety glasses with side shields. Do not wear contact lenses.
 Skin protection: No special protective clothing required.
 Hygiene measures: Wash hands before breaks and at end of work day.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form: Granular semi-solid gel
 Color: Blue
 Odor: None
 pH: 7.66
 Melting point: N/A
 Flash point: N/A
 Vapor density: N/A

10. STABILITY AND REACTIVITY

Stability: Product is stable, no hazardous polymerization will occur.
 Materials to avoid: Oxidizing agents may cause exothermic reactions.
 Hazardous decomposition products: Thermal decomposition may produce nitrogen oxides (NOx), carbon oxides.

11. TOXILIGICAL / ECOLOGICAL INFORMATION**Acute toxicity**

LC 50 / *Daphnia magna* / 48h / >420mg/L
 LC 50 / *Oncorhynchus mykiss* / 96h / 637 ppm

Chronic toxicity

IC 25 (Survival) / <i>P. promelas</i> / 7 day / >1680 ppm	IC 25 (Survival) / <i>C. dubia</i> / 7 day / 257.3 ppm
NOEC (Survival) / <i>P. promelas</i> / 7 day / 1680 ppm	NOEC (Survival) / <i>C. dubia</i> / 7 day / 210 ppm
IC 25 (Growth) / <i>P. promelas</i> / 7 day / >1680 ppm	IC 25 (Reproduction) / <i>C. dubia</i> / 7 day / 91.6 ppm
NOEC (Survival) / <i>P. promelas</i> / 7 day / 1680 ppm	NOEC (Reproduction) / <i>C. dubia</i> / 7 day / 105 ppm

Bioaccumulation: The product is not expected to bioaccumulate.

Persistence / degradability: Not readily biodegradable: (85% after 180 days).

12. TRANSPORT AND REGULATORY INFORMATION

Not regulated by DOT, RCRA status-Not a hazardous waste

NFPA and HMIS ratings:

NFPA Health: 1	Flammability: 0	Reactivity: 0
HMIS Health 1	Flammability 0	Reactivity 0

Attachment B

SAFETY DATA SHEET

1. Identification

Product identifier	PPS-750	
Other means of identification		
Product Number	2811355	
Recommended use	Not available.	
Recommended restrictions	None known.	
Manufacturer/Importer/Supplier/Distributor information		
Manufacturer		
Company name	Pure Polymer Solutions	
Address	3602 S 78th Street Tampa, FL 33619 United States	
Telephone	General Assistance 8-5	(801) 972-4587
E-mail	Not available. Chemtrec	
Emergency phone number	(CCN 22106)	(800) 424-9300

2. Hazard(s) identification

Physical hazards	Not classified.
Health hazards	Not classified.
Environmental hazards	Not classified.
OSHA defined hazards	Not classified.
Label elements	
Hazard symbol	None.
Signal word	None.
Hazard statement	The mixture does not meet the criteria for classification.
Precautionary statement	
Prevention	Observe good industrial hygiene practices.
Response	Wash hands after handling.
Storage	Store away from incompatible materials.
Disposal	Dispose of waste and residues in accordance with local authority requirements.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	Not applicable.

3. Composition/information on ingredients

Mixtures

The manufacturer lists no ingredients as hazardous according to OSHA 29 CFR 1910.1200.

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Direct contact with eyes may cause temporary irritation.

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Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.
5. Fire-fighting measures	
Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.
6. Accidental release measures	
Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.
7. Handling and storage	
Precautions for safe handling	Avoid prolonged exposure. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).
8. Exposure controls/personal protection	
Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.
Individual protection measures, such as personal protective equipment	
Eye/face protection	If contact is likely, safety glasses with side shields are recommended.
Skin protection	
Hand protection	For prolonged or repeated skin contact use suitable protective gloves.
Other	Wear suitable protective clothing.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Material name: PPS-750

2811355 Version #: 03 Revision date: 07-01-2015 Issue date: 03-25-2014

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Physical state	Liquid.
Form	Liquid.
Color	Not available.
Odor	Not available.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	11.18 lb/gal estimated

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity	Not available.
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Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.
Respiratory or skin sensitization	
Respiratory sensitization	Not available.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)	
Not listed.	
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not available.
Chronic effects	Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Persistence and degradability	No data is available on the degradability of this product.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not available.

15. Regulatory information

US federal regulations All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

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CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. Massachusetts RTK - Substance List

Not regulated.

US. New Jersey Worker and Community Right-to-Know Act

Not regulated.

US. Pennsylvania RTK - Hazardous Substances

Not regulated.

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed.

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes

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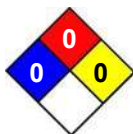
Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	03-25-2014
Revision date	07-01-2015
Version #	03
NFPA ratings	Health: 0 Flammability: 0 Instability: 0

NFPA ratings



Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Revision Information

Product and Company Identification: Alternate Trade Names

**PPS-2400****Safety Data Sheet**

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 11/21/2016

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Product form : Mixtures
 Product name : PPS-2400
 Product code : PPS240

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Water Treatment Agent

1.3. Details of the supplier of the safety data sheet

Pure Polymer Solutions
 3602 South 78th Street
 Tampa, FL 33619
 T 813-374-2457

1.4. Emergency telephone number

Emergency number : 1-800-255-3924 / 1-813-248-0585
 ChemTel

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****GHS-US classification**

Not classified

2.2. Label elements**GHS-US labeling**

No labeling applicable

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable.

SECTION 3: Composition/Information on ingredients**3.1. Substances**

Not applicable

3.2. Mixtures

Full text of H-phrases: see section 16

SECTION 4: First aid measures**4.1. Description of first aid measures**

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
 First-aid measures after inhalation : Allow victim to breathe fresh air. Allow the victim to rest.
 First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.
 First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists.
 First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries : Not expected to present a significant hazard under anticipated conditions of normal use.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

PPS-2400**Safety Data Sheet**

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 5: Firefighting measures**5.1. Extinguishing media**

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.
 Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
 Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures****6.1.1. For non-emergency personnel**

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.
 Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container in a cool, well-ventilated place. Keep container closed when not in use.
 Incompatible products : Strong bases. Strong acids.
 Incompatible materials : Sources of ignition. Direct sunlight.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection**8.1. Control parameters**

PPS-2400	
ACGIH	Not applicable
OSHA	Not applicable

8.2. Exposure controls

Personal protective equipment : Avoid all unnecessary exposure.
 Hand protection : Wear protective gloves/protective clothing/eye protection/face protection protective gloves.
 Eye protection : Chemical goggles or safety glasses.
 Respiratory protection : Wear appropriate mask.
 Other information : Do not eat, drink or smoke during use.

PPS-2400**Safety Data Sheet**

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state	: Liquid
Appearance	: gel.
Color	: Tan to Dark Brown
Odor	: mild
Odor threshold	: No data available
pH	: 4.8 @ 1% dilution
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: No data available
Freezing point	: NA
Boiling point	: No data available
Flash point	: NA
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: NA
Relative vapor density at 20 °C	: NA
Relative density	: 1.283
Specific gravity / density	: 1.283 g/ml
Solubility	: Water: 100 %
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: 320 cP
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosion limits	: No data available

9.2. Other information

VOC content	: 56.15 %
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SECTION 10: Stability and reactivity**10.1. Reactivity**

No additional information available

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

Fume. Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information**11.1. Information on toxicological effects**

Acute toxicity	: Not classified
Skin corrosion/irritation	: Not classified
	pH: 4.8 @ 1% dilution

PPS-2400**Safety Data Sheet**

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Serious eye damage/irritation	: Not classified pH: 4.8 @ 1% dilution
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
Potential Adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.

SECTION 12: Ecological information**12.1. Toxicity**

No additional information available

12.2. Persistence and degradability

PPS-2400	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

PPS-2400	
Bioaccumulative potential	Not established.

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Effect on global warming	: No known effects from this product.
Other information	: No other effects known.

SECTION 13: Disposal considerations**13.1. Waste treatment methods**

Waste disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations.
Ecology - waste materials	: None known.

SECTION 14: Transport information

UN-No.(DOT)	: Non Regulated
UN-No. (IMDG)	: Non Regulated
UN-No. (IATA)	: Non Regulated

14.2. UN proper shipping name

Proper Shipping Name (DOT)	: Not applicable.
Proper Shipping Name (IMDG)	: Not applicable.
Proper Shipping Name (IATA)	: Not applicable.

14.3. Transport hazard class(es)

Class (DOT)	: Not applicable.
	:

PPS-2400**Safety Data Sheet**

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Transport hazard class(es) (IMDG) : Not applicable.

Transport hazard class(es) (IATA) : Not applicable.

14.4. Packing group

Packing group (DOT) : Not applicable.

Packing group (IMDG) : Not applicable.

Packing group (IATA) : Not applicable.

14.5. Environmental hazards

Marine pollutant(IMDG) : No

Marine pollutant(IATA) : No

SECTION 15: Regulatory information**15.1. US Federal regulations**

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

This product or mixture does not contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

Cationic Starch Ether (56780-58-6)

EPA TSCA Regulatory Flag	XU - XU - indicates a substance exempt from reporting under the Inventory Update Reporting Rule, i.e, Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(C))
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Polysaccharide (65996-63-6)

EPA TSCA Regulatory Flag	XU - XU - indicates a substance exempt from reporting under the Inventory Update Reporting Rule, i.e, Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(C))
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5-Chloro-2-methyl-4-isothiazolin-3-one (26172-55-4)

EPA TSCA Regulatory Flag	P - P - indicates a commenced PMN substance SP
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15.2. International regulations**CANADA**

No additional information available

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

Other information : None.

NFPA health hazard : 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.

NFPA fire hazard : 0 - Materials that will not burn.

NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.

NFPA specific hazard : NA - Not Applicable



PPS-2400

Safety Data Sheet

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HMIS III Rating

Health	: 1 Slight Hazard - Irritation or minor reversible injury possible
Flammability	: 0 Minimal Hazard
Physical	: 0 Minimal Hazard
Personal protection	: B

Dober SDS US

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.