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

Permit No.: 3-1570
PIN: RU98-0029
NPDES No.: VT0120087

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*.),

Casella Construction, Inc.
25 Industrial Lane,
Mendon, VT 05701

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

1058 VT Rt. 133
Clarendon, VT 05759

to the Clarendon River, Class B at the point of discharge in accordance with the following conditions.

This facility is unclassified and does not require a certified operator.

This permit shall become effective on the December 1, 2021.

This permit and the authorization to discharge shall expire on September 30, 2026.

Peter Walke, Commissioner
Department of Environmental Conservation

By: _____ Date: _____
Amy Polaczyk, Wastewater Program Manager
Watershed Management Division

I. SPECIAL CONDITIONS

A. EFFLUENT LIMITS and MONITORING REQUIREMENTS

1. Until September 30, 2026, the Permittee is authorized to discharge from outfall serial number S/N 004 (located at approximately 43.5639° N, 73.0297° W): a combination of stormwater and treated mineral processing water to the Clarendon River. Such discharges shall be limited and monitored by the Permittee as specified below:

Discharge Monitoring						
Constituent; Sampling Point and Sample Type	**Season and Sampling Frequency**	**Limit 1**	**Limit 2**	**Limit 3**	**Limit 4**	**Limit 5**
Flow; Effluent; Continuous	**Year Round Daily**	**Monitor mgd Monthly Avg**	**Monitor mgd Daily Max**			
Turbidity Effluent; Grab	**Year Round Weekly**					**10 NTU Instant Max**
pH; Effluent; Grab	**Year Round Weekly**			**6.5 s.u. Min**		**8.5 s.u. Max**
Suspended Solids,Total; Effluent; 24 Hour Comp	**Year Round Monthly**		**Monitor lbs/day Daily Max**			**10 mg/l Instant Max**
Phosphorus, Total; Effluent; 24 Hour Comp	**Year Round Monthly**	**Monitor lbs/day Monthly Avg**			**0.8 mg/l Monthly Avg**	
Nitrite Plus Nitrate Total; Effluent; 24 Hour Comp	**Year Round Monthly**		**Monitor lbs/day Daily Max**			**Monitor mg/l Daily Max**
Nitrogen, Kjeldahl Total; Effluent; 24 Hour Comp	**Year Round Monthly**		**Monitor lbs/day Daily Max**			**Monitor mg/l Daily Max**
Nitrogen, Total; Effluent; Calculated	**Year Round Monthly**		**Monitor lbs/day Daily Max**			**Monitor mg/l Daily Max**
Sediment Removed from Ponds Calculated	**Year Round Monthly**					**Monitor, Tons Monthly Total**

2. Special Conditions

a. Samples do not need to be collected during months without a discharge. Monthly reports must be submitted even if no discharge occurs.

b. While quarry operations are in progress, water recycling shall be maximized to the extend feasible in order to reduce the volume of water discharged.

c. Settled solids shall be removed from the sump and settling ponds as necessary to maintain compliance with the effluent limitations specified in Condition 1 above. The volume of solids removed shall be reported monthly.

d. Any settled solids removed from the sump and settling ponds shall be disposed of properly and not within 100 feet of waters of the State.

e. Sediment removed from the ponds may be calculated using an assumed unit weight of 1.4 tons per cubic yard and an estimate of the removed sediment volume. If a different unit weight is used justification should be provided as an attachment to the monthly report.

f. The discharge shall not cause a violation of the Vermont Water Quality Standards in the receiving waters.

g. The effluent shall not cause visible discoloration of the receiving waters.

h. The Permittee shall have the effluent flow measurement device calibrated annually and shall report the date of the calibration as an attachment to the monthly monitoring report.

i. The discharge shall be free from substances in kind or quantity that settle to form harmful benthic deposits; float as foam, debris, scum or other visible substances; produce odor, color, taste or turbidity that is not naturally occurring and would render the surface water unsuitable for its designated uses; result in the dominance of nuisance species; or interfere with recreational activities; or which would cause a violation of the Vermont Water Quality Standards.

j. Any action on the part of the Secretary in reviewing, commenting upon or approving plans and specifications for the construction of WWTFs shall not relieve the Permittee from the responsibility to achieve effluent limitations set forth in this permit and shall not constitute a waiver of, or act of estoppel against any remedy available to the Secretary, the State of Vermont or the federal government for failure to meet any requirement set forth in this permit or imposed by state or federal law.

3. Metals Analyses

Analyses for priority metals shall be conducted annually during the permit cycle. Results of these analyses shall be submitted by December 31st of each year.

The Permittee shall collect and analyze a 24-hour composite sample from S/N 004 for the following total metals: antimony, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, thallium and zinc.

Based upon the results of these analyses or any other analyses conducted on the effluent this permit may be amended to require additional analyses or to establish specific effluent limits.

In the event this permit is administratively continued pursuant to 3 V.S.A. § 814, the Permittee shall continue to complete analyses for priority metals and report by December 31 each year.

Due Date	Event Description
12/31/2022	Permittee shall submit the results of priority metals testing
12/31/2023	Permittee shall submit the results of priority metals testing
12/31/2024	Permittee shall submit the results of priority metals testing
12/31/2025	Permittee shall submit the results of priority metals testing

4. Quality Assurance Report/Proficiency Testing

In accordance with 10 V.S.A. § 1263.d.2, the Secretary may require a laboratory quality assurance sample program to ensure qualification of laboratory analysts. For purposes of demonstrating compliance with the requirements of this permit regarding adequate laboratory controls and appropriate quality assurance procedures, the Permittee shall conduct and pass an annual laboratory proficiency test, via an accredited laboratory, for the analysis of all pollutant parameters performed within their facility laboratory and reported as required by this permit. This can be carried out as part of an EPA DMR-QA study.

In the event this permit is administratively continued pursuant to 3 V.S.A. § 814, the Permittee shall continue to complete annual proficiency tests and report by December 31 each year.

The Permittee shall report on quality assurance according to the following table:

Due Date	Event Description
12/31/2022	Permittee shall submit passing results for proficiency testing
12/31/2023	Permittee shall submit passing results for proficiency testing
12/31/2024	Permittee shall submit passing results for proficiency testing
12/31/2025	Permittee shall submit passing results for proficiency testing

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: **March 31, 2026**

C. OPERATING FEES

This discharge is subject to operating fees as required by 3 V.SA. § 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 Discharge Monitoring Report (DMR) form WR-43. Reports are due on the 15th day of each month, beginning with the month following the effective date of this permit.

The Permittee shall electronically submit its DMRs via Vermont's on-line 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 below shall be used for electronic submittals:

https://anronline.vermont.gov/

If, in any reporting period during which the quarry is operational, 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 Agency;

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. For analyses performed by contract laboratories:

a. The detection level reported by the laboratory for each sample; and

b. The laboratory analytical report including documentation of the QA/QC and analytical procedures.

The results of monitoring requirements shall be reported (in the units specified) on the DMR form WR-43 or other forms approved by the Secretary.

When "non-detects" are recorded, the method detection limit shall be reported and used in calculating any time-period averaging for reporting on DMRs.

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 Agency 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 Agency in this permit; or

v. Other causes such as acts of nature,

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

c. 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 Agency within 24 hours of becoming aware of such condition and shall provide the Agency 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 include adequate laboratory controls and appropriate quality assurance procedures; and

b. The Permittee shall provide an adequate operating staff which is duly qualified to carry out the operation, maintenance, and testing functions required to ensure 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.

5. Bypass

The bypass of facilities (including pump stations) 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 Agency upon request. This period shall be extended during the course of unresolved litigation regarding the discharge of pollutants or when requested by the Agency.

8. 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 Agency 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, Davis 3, Montpelier VT 05620-3522.

9. 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 Agency 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 Agency. 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 Agency **at least 30 days in advance of the proposed transfer date**. The notice to the Agency 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 Agency 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 Agency 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 Agency, within a reasonable time, any information which the Agency 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 Agency 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 Agency, 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.

13. Appeals.

Pursuant to 10 V.S.A. Chapter 220, an aggrieved person shall not appeal this permit unless the person submitted to the Secretary a written comment during the applicable public comment period or an oral comment at the public meeting conducted by the Secretary. Absent a determination to the contrary, an aggrieved person may only appeal issues related to the person's comments to the Secretary as prescribed by 10 V.S.A. § 8504(d)(2).

Renewable Energy Plants or Telecommunications Facility – Right to Appeal to Public Utility Commission. If this decision relates to a renewable energy plant for which a certificate of public good is required under 30 V.S.A. § 248 or a telecommunications facility for which the applicant has applied or has served notice under 30 V.S.A. § 248a(e) that it will apply for approval under 30 V.S.A. § 248a, any appeal of this decision must be filed with the Public Utility Commission pursuant to 10 V.S.A. § 8506. This section does not apply to a facility that is subject to 10 V.S.A. § 1004 (dams before the Federal Energy Regulatory Commission), 10 V.S.A. § 1006 (certification of hydroelectric projects) or 10 V.S.A. Chapter 43 (dams). Any appeal of this permit must be filed with the Clerk of the Public Utility Commission within 30 days of the date of this decision; the appellant must file with the Clerk an original and six copies of its appeal. The appellant shall provide notice of the filing of an appeal in accordance with 10 V.S.A. § 8504(c)(2) and the Rules and General Orders of the Public Utility Commission. For further information, see the Rules and General Orders of the Public Utility Commission available at https://puc.vermont.gov/ The address for the Public Utility Commission is: 112 State Street, Montpelier, VT 05620-2701 Telephone #: 802-828-2358.

All Other Facilities or Projects – Right to Appeal to Environmental Division. Any appeal of this permit must be filed with the clerk of the Environmental Division of the Superior Court within 30 days of the date of the decision. The notice of appeal must specify the parties taking the appeal and the statutory provision under which each party claims party status; must designate the act or decision appealed from; must name the Environmental Division; and must be signed by the appellant or the appellant's attorney. In addition, the appeal must give the address or location and description of the property, project, or facility with which the appeal is concerned and the name of the applicant or any permit involved in the appeal. The appellant must also serve a copy of the notice of appeal in accordance with Rule 5(b)(4)(B) of the Vermont Rules for Environmental Court Proceedings. For further information, see the Vermont Rules for Environmental Court Proceedings available at www.vermontjudiciary.org. The address for the Environmental Division is: 32 Cherry Street; 2nd Floor, Suite 303; Burlington, VT 05401 Telephone #: 802-951-1740.

III. ADDITIONAL CONDITIONS

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 – means the Vermont Agency of Natural Resources.

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

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

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

Composite Sample – means 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 – means 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 – means the placing, depositing, or emission of any wastes, directly or indirectly, into an injection well or into the waters of the State.

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

Incompatible Substance – means 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 the works or on water quality. This includes all pollutants required to be regulated under the Clean Water Act.

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

Major Contributing Industry – means 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 § 307(a) of the Clean Water Act; or (4) has a significant impact, either singly or in combination with other contributing industries, on a treatment works or on the quality of effluent from that treatment works.

Maximum Day or **Maximum Daily Discharge Limitation** – means the highest allowable "daily discharge" (mg/L, lbs or gallons).

Mean – means the arithmetic mean.

Monthly Average or **Average Monthly Discharge Limitation** – means 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.

Monthly Average Flow - Monthly average flow shall be calculated by summing the daily effluent flow for each day in the given month and dividing the sum by the number of days of discharge in that month.

NPDES –means the National Pollutant Discharge Elimination System.

Secretary – means the Secretary of the Agency of Natural Resources or the Secretary's duly authorized representative.

Septage – means the liquid and solid material pumped from a septic tank, cesspool, or similar domestic sewage treatment system, or a holding tank when the system is cleaned or maintained.

Total Nitrogen - Total Nitrogen (TN) shall be reported as pounds TN and calculated as: TN (mg/L) × Total Daily Flow (MGD) × 8.34; where TN (mg/L) = TKN (mg/L) + NO_x (mg/L).

Ultimate Oxygen Demand (UOD)_ - UOD shall be reported in pounds and calculated with the following formula: UOD (lbs/day) = [(BOD_5 (lbs/day) × 1.43) + (TKN (lbs/day) × 4.57)]

Untreated Discharge – means (1) combined sewer overflows from a WWTF; (2) overflows from sanitary sewers and combined sewer systems that are part of a WWTF during dry weather flows, which result in a discharge to waters of the State; (3) upsets or bypasses around or within a WWTF during dry or wet weather conditions that are due to factors unrelated to a wet weather storm event and that result in a discharge of sewage that has not been fully treated to waters of the State; and (4) discharges from a WWTF to separate storm sewer systems.

Waste – means 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 – means 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 in a waste management zone due to the authorized discharge.

Waters – means all rivers, streams, creeks, brooks, reservoirs, ponds, lakes, springs, and all bodies of surface waters, artificial or natural, which are contained within, flow through, or border upon the State or any portion of it.

Weekly Average or **Average Weekly Discharge Limitation** – means 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.

Whole Effluent Toxicity (WET) – means the aggregate toxic effect of an effluent measured directly by a toxicity test.

Wastewater Treatment Facility (WWTF) – means a treatment plant, collection system, pump station, and attendant facilities permitted by the Secretary for the purpose of treating domestic, commercial, or industrial wastewater.

IV. TABLE OF PERMITTED DISCHARGE POINTS					
Discharge ID	Discharge Activity	Discharge Status	Receiving Water	Latitude	Longitude
004	Industrial Waste Outfall – Comingled Stormwater and Quarry Process Water	A	CLARENDON RIVER	43.5639° N,	73.0297° W

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

FACT SHEET
(September 2021)

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

PERMIT NO: 3-1570
PIN: RU98-0029
NPDES NO: VT0120087

NAME AND ADDRESS OF APPLICANT:

Casella Construction, Inc.
25 Industrial Lane,
Mendon, VT 05701

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

1058 VT Rt. 133
Clarendon, VT 05759

RECEIVING WATER: Clarendon River

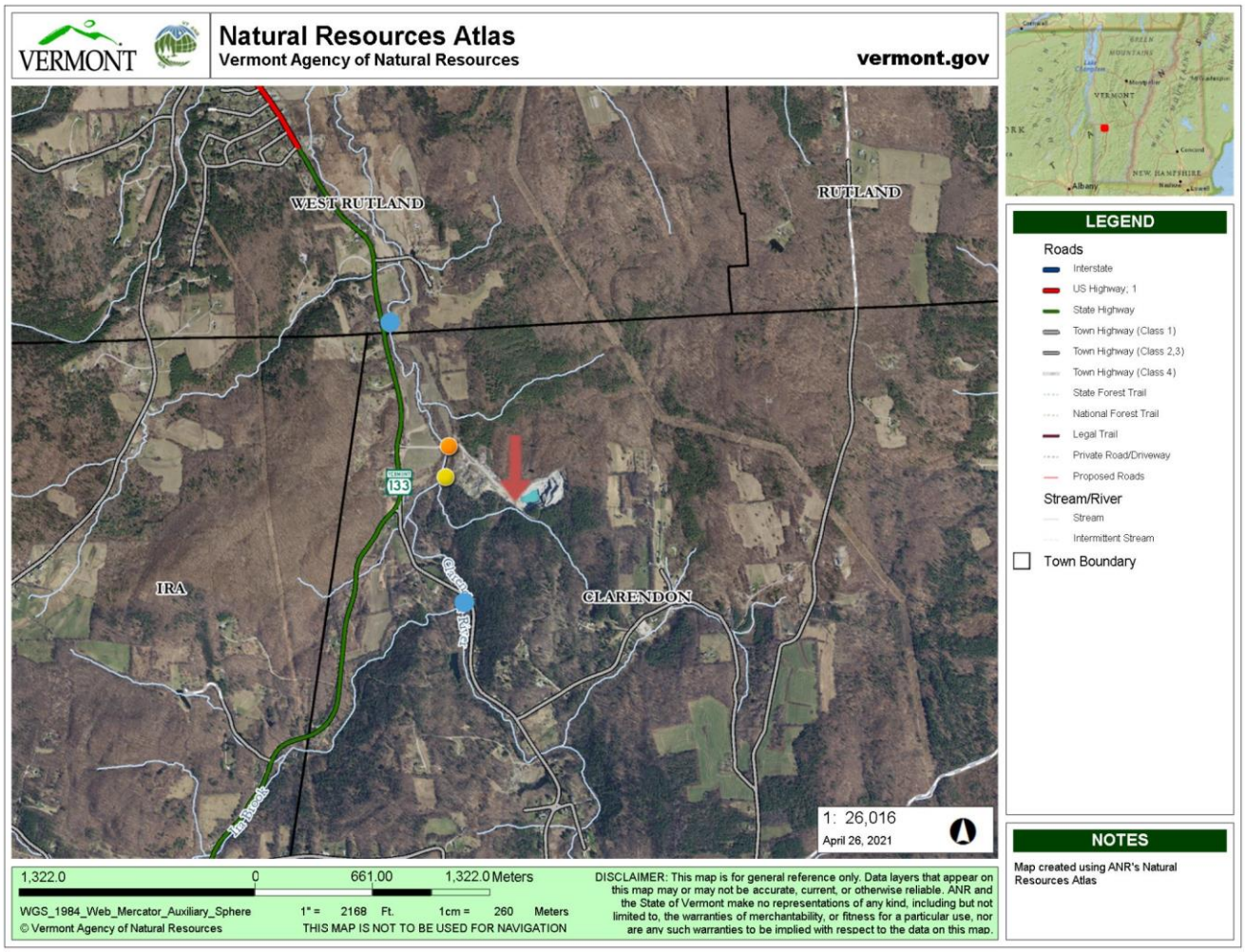
CLASSIFICATION: Class B(2). Class B(2) waters are suitable for swimming and other forms of water-based recreation and irrigation of crops and other agricultural uses without treatment; good aesthetic value; aquatic biota and wildlife sustained by high quality aquatic habitat; suitable for boating, fishing,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

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

The Vermont Agency of Natural Resources (Agency) received an application for the permit to discharge into the designated receiving water from the above-named applicant on March 29, 2021. At this time, the Secretary has made a tentative decision to issue the discharge permit.

The facility is engaged in the quarrying and processing of crushed stone (SIC 1429) and discharges of wastewater associated with crushing, washing and dust control that is comingled with stormwater.

A location map is shown below. The approximate direct discharge location is represented by a yellow circle, the approximate MSGP stormwater discharge location is represented by an orange circle, and the facility location is denoted by the red arrow. Blue circles represent water quality monitoring stations.



A copy of the Reasonable Potential Determination is attached as Attachment A.

II. Description of Discharge

This permit authorizes the discharge of a commingled wastewater consisting of crushing water, washing water, dust control water and stormwater runoff.

III. Limitations and Conditions

The effluent limitations of the draft permit, the monitoring requirements, and any implementation schedule (if required), 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

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 approved by the 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 CFR 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 CFR §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 CFR § 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).

1. Reasonable Potential Determination

In determining whether this permit has the reasonable potential to cause or contribute to an impairment, Vermont has considered:

1) Existing controls on point and non-point sources of pollution as evidenced by the Vermont surface water assessment database;

2) Pollutant concentration and variability in the effluent as determined from the permit application materials, monthly discharge monitoring reports (DMRs), or other facility reports;

3) Receiving water quality based on targeted water quality and biological assessments of receiving waters, as applicable, or other State or Federal water quality reports;

4) Toxicity testing results based on the Vermont Toxic Discharge Control Strategy, and compelled as a condition of prior permits;

5) Available dilution of the effluent in the receiving water, expressed as the instream waste concentration. In accordance with the applicable Vermont Water Quality Standards, available dilution for rivers and streams is based on a known or estimated value of the lowest average flow which occurs for seven (7) consecutive days with a recurrence interval of once in ten (10) years (7Q10) for aquatic life and human health criteria for non-carcinogens, or at all flows for human health (carcinogens only) in the receiving water. For nutrients, available dilution for stream and river discharges is assessed using the low median monthly flow computed as the median flow of the month containing the lowest annual flow. Available dilution for lakes is based on mixing zones of no more than 200

feet in diameter, in any direction, from the effluent discharge point, including as applicable the length of a diffuser apparatus.

6) All effluent limitations, monitoring requirements, and other conditions of the proposed draft permit.

The Reasonable Potential Determination for this facility is attached to this Fact Sheet as Attachment A.

B. Anti-Backsliding

Section 402(o) of the CWA provides that certain effluent limitations of a renewed, reissued, or modified permit must be at least as stringent as the comparable effluent limitations in the current permit. EPA has also promulgated anti-backsliding regulations which are found at 40 C.F.R. § 122.44(l). Unless applicable anti-backsliding exemptions are met, the limits and conditions in the reissued permit must be at least as stringent as those in the current permit.

This facility has existed since the mid 1980s and has been discharging into the receiving water via the adjacent wetlands. This permit application was submitted as part of an upgrade process (including the installation of a washing plant) which will result in the process water being separated from the majority of the stormwater and treated through a series of settling ponds, with the final pond providing filtration and discharge through an underdrain. The new sitework has been designed to maintain the existing runoff rates and to recycle process water to the degree possible. The addition of the washing process will enable this facility to capture fine sediment in the settling ponds rather than allowing it to be washed or blown off of the crushed aggregates during storms and transport.

On November 17, 2020, authorization for this facility to discharge under the Multi Sector General Permit (Permit 9125-9003). A Total Suspended Solids (TSS) limit of 100 mg/l is included. This permit covers stormwater discharges, but no provisions were made to separate out process waters. In this quarry stormwater and process waters are comingled in the quarry sump and discharges result from storms. The discharges covered under the proposed NPDES Direct Discharge permit will have a reduced peak flow rate and will be subject to a lower TSS limit. New limits will be included for turbidity, pH, and phosphorus. Additionally, information will be gathered about total nitrogen discharged from this facility and a flowmeter will record the volumes discharged.

This facility upgrade will result in permit coverage ender both a NPDES Direct Discharge Permit and a revised Industrial Stormwater Multi-Sector General Permit (MSGP)). The additional regulation will reduce the potential for this site to discharge wastewaters that would cause or contribute to a violation of Vermont Water Quality Standards. Additionally, this facility processes crushed stone which does not generally pose a threat to aquatic biota or human health. For these reasons it has been determined that this permit does not pose a reasonable threat to the receiving water and an anti-backsliding study is not required. A discussion of how the proposed wastewater treatment system will improve the effluent from this site is included below in the Anti-degradation Policy section.

V. Receiving Water

The receiving water for this discharge is the Clarendon River, which is a class B(2) water and is Cold-Water Fish Habitat. At the point of discharge, the river has a contributing drainage area of approximately 38.8 square miles. The 7Q10 flow of the river is estimated to be 6.73 cubic feet per second (CFS) and the Low Median Monthly flow is estimated to be 18.1 CFS. The proposed wastewater treatment system will only discharge during storm events or during springtime dewatering. Storm flows from the facility for pre and post development conditions were provided by the applicant. USGS Streamstats was used to calculate flows resulting from the 10%. 4% and 1% annual exceedance probability storms and this data was extrapolated to determine the 100% annual exceedance probability storm, or 1-year storm. Storm flows are the critical conditions for this facility and values are shown in the table below in the next section.

VI. Antidegradation Policy

Section 29A-105 of the Vermont Water Quality Standards describes the Antidegradation Policy. The Secretary has implemented this policy regarding this permitting decision in accordance with the Agency's 'Interim Anti-Degradation Implementation Procedure' in order to protect and maintain water quality in high quality waters (Tier 2). This is an existing facility that currently discharges under the authority of the Multi-Sector General Permit for stormwater (9125-9003). An analysis of the proposed conditions of the NPDES Direct Discharge permit indicates that the proposed draft permit will be more protective of water quality in the receiving water. The addition of a wastewater treatment system will reduce peak flows and will also improve the effluent quality which will result in improved water quality in the Clarendon River. There will be no anticipated reduction in receiving water quality due to this discharge.

The water quality of the effluent is predicted to improve during storm flows as shown in the following table. The current discharge only has a limit for TSS (100 mg/l). The new permit would decrease the allowable TSS discharge (10 mg/l), limit Turbidity and pH to the water quality standards for this fishery type (10 NTU, 6.5-8.5 s.u.), would limit Total Phosphorus to 0.80 mg/l and would also collect flow and nitrogen information. Flow monitoring requirements will allow loading estimates to be calculated, providing additional data that would not be available with coverage solely by a stormwater permit. This facility's proposed discharges are storm driven and discharge will not occur under dry weather conditions with the possible exception of springtime dewatering.

Comparison of IWC and TSS Loading - Pre and Post Development										
Storm Event		Flows (CFS)			Instream Waste Concentration			TSS Loading (lbs/Million Gallons)		
"Storm Name"	Annual Exceedance Probability	Stream Flow	Pre-development	Post-Development	Pre-development	Post-Development	Proposed IWC Reduction	Pre-development	Post-Development	Proposed Load Reduction
1-year*	100%	353	1.06	0.51	0.0030	0.0014	52%	834	83	90%
10-year	10%	1960	5.45	0.7	0.0028	0.0004	87%	834	83	90%
25-year	4%	2560	8.03	0.76	0.0031	0.0003	91%	834	83	90%
100-year	1%	3590	12.33	4.78	0.0034	0.0013	61%	834	83	90%
Notes: Stormflows for 10, 25 and 100 year storms obtained from StreamStats. Stormflow for 1 year storm was extrapolated from that data. Discharge flows are from the Stormwater Design Brief prepared by TCE. Pre-devlopment loads are based upon a TSS limit of 100 mg/l and Post-development loads are based upon a TSS limit of 10 mg/l.										

As shown in the table above the proposed discharge reduces TSS loading by 90% and reduces the peak flow rate which reduces the instream waste concentration or proportion of the stream flow resulting from the discharge by between 52% and 91%. These reductions, plus the new conditions providing limits on pH, turbidity and total phosphorus will improve the water quality of the effluent and the receiving water. Reducing the peak flow will also reduce downstream erosion and flooding.

Based upon the above analysis, the Secretary finds that the proposed effluent from this facility will improve the water quality in the receiving water, and that therefore it is not necessary to further analyze cumulative negative impacts to water quality or the socio-economic benefit to the region and state.

VII. Discharge Policy

The proposed permit for this facility has been drafted to comply with the Discharge Policy contained in the Vermont Water Quality Standards (Environmental Protection Rule, Chapter 29-106). The proposed discharge is in conformance with all applicable provisions of these rules as described below.

§ 29A-106 Discharge Policy (a) Discharge Criteria. In addition to the other provisions of these rules, new discharges of wastes may be allowed only when all the following criteria are met:

(1) The proposed discharge is in conformance with all applicable provisions of these rules including the classification of the receiving waters adopted by the Secretary as set forth in Appendix F of these rules.

The proposed discharge is in conformance with all applicable provisions of these rules including the classification of the receiving waters adopted by the Secretary as set forth in Appendix F of the Vermont Water Quality Standards.

(2) There is neither an alternative method of waste disposal, nor an alternative location for

waste disposal, that would have a lesser impact on water quality including the quality of groundwater, or if there is such an alternative method or location, it would be clearly unreasonable to require its use.

Waste discharges are driven by storm events, and this facility has been designed to maintain the existing runoff rates after construction up to the 10-year, 24 hour storm. This design should result in no change in water quality (ground or surface) due to volumetric changes, and the addition of treatment prior to discharge will improve the quality of the effluent. No alternative methods or locations for disposing of this storm driven discharge is available, and it would be unreasonable to require that the facility be designed for a storm with a larger recurrence interval due to the infrequent nature of such events.

(3) The design and operation of any waste treatment or disposal facility is adequate and sufficiently reliable to ensure the full support of uses and to ensure compliance with these rules and with all applicable state and federal treatment requirements and effluent limitations.

This facility has been designed to comply with applicable VWQS (turbidity, pH and total suspended solids) and requirements to maintain the treatment system capacity have been included in the permit. The addition of a washing process will improve the ability of this facility to capture fine pollutants before they run off during storms or when crushed aggregate is transported.

(4) Except as provided for in 10 V.S.A. § 1259(d) and (f), the discharge of wastes other than nonpolluting wastes and stormwater runoff is prohibited in Class A(1) and A(2) waters regardless of the degree of treatment provided.

This is a Class B water.

(5) Except as provided for in 10 V.S.A. § 1259, the discharge of wastes that, prior to treatment, contained organisms pathogenic to human beings into waters is prohibited.

This facility does not treat wastes containing domestic sewage or other human wastes and is unlikely to contain organisms pathogenic to humans prior to treatment.

(6) The receiving waters will have sufficient assimilative capacity to accommodate the proposed discharge.

The effluent from this site will be reduced from o the existing runoff rates and will be of improved quality, and therefore the receiving water is considered to have sufficient assimilative capacity to accommodate the proposed discharge. The addition of washing equipment will enable the facility to capture and retain the finer components of sediment which could otherwise pose the most risk to the environment.

(7) Assimilative capacity has been allocated to the proposed discharge consistent with the classification set forth in Appendix F of these rules.

Effluent limits for this discharge have been set that are consistent with the classification set forth in Appendix F of the VWQS and that are supportive of all designated uses.

(8) The discharge of wastes to the thermocline or hypolimnion of any lake in manner that may prevent the full support of uses is prohibited.

This facility will not discharge wastes into either the thermocline or hypolimnion of any lake.

(9) The discharge of sewage into Class B(1) or B(2) waters shall not pose more than a negligible risk to public health. Compliance with this criterion shall include an assessment of both the level and reliability of treatment achieved and the impact of the discharge on the water quality of the receiving waters.

This facility will not discharge sewage or pose a risk to the public health from human pathogens.

(b) Assimilative Capacity. The capacity of waters to assimilate both the discharge of wastes and the impact of other activities that may adversely affect water quality, and at the same time to be maintained at a level of water quality that is compatible with their classification, is finite. The Secretary may hold a portion of the assimilative capacity in reserve to provide for future needs, including the abatement of future sources of pollution and future social and economic development. Accordingly, the assimilative capacity of waters shall be carefully allocated in accordance with the "Wasteload Allocation Process" as adopted by the Secretary.

This facility will not discharge pollutants that are toxic or exert an oxygen demand. The quantities of sediment transported by stormwaters will be reduced from the current quantities by the addition of treatment ponds and improvements to grading. It is not necessary to develop a wasteload allocation for this facility.

(c) Compliance Schedules. A permit issued pursuant to Vermont's federally-delegated National Pollutant Discharge Elimination System (NPDES) program may, when appropriate, specify a schedule leading to compliance with the Vermont and Federal Clean Water Acts and regulations. The purpose of a schedule of compliance generally is to afford a permittee adequate time to comply with one or more permit requirements or limitations that are based on new, newly interpreted or revised water quality standards that became effective after both issuance of the initial permit for a discharge and July 1, 1977. For a permit requirement or limitation that is based on such a new, newly interpreted, or revised water quality standard, the Secretary may include a schedule of compliance in a permit at the time of permit reissuance or modification where the permittee either cannot comply with the permit requirement or limitation, or there is insufficient information available to determine whether the permittee can comply with the permit requirement or limitation. A schedule of compliance shall require compliance at the earliest possible time, as determined by the Secretary. A schedule of compliance shall include dates for specified tasks or activities leading to compliance and may include interim effluent limitations, as the Secretary deems appropriate. This provision does not limit the Secretary's authority to include compliance schedules in permits as provided by state law.

This facility will not require a compliance schedule. All limits and conditions will be applicable beginning the permit effective date.

VIII. Facility History and Background

The existing Clarendon Quarry is located off Vermont Route 133 in Clarendon, Vermont approximately two miles south of the intersection of the VT-133/VT-4A intersection in West Rutland. The quarry is owned by Casella Group, LLC and operated by Casella Construction, Inc.

The quarry has existed since the mid 1980s, permitted under Land Use Permit Series #1R0489, and is operated for crushed stone (aggregate) products. The existing site consists of an open quarry pit, gravel surfaced operational support areas, and gravel haul roads.

Wash plant machinery, including a sand screw and screen, is proposed to be located adjacent to the crusher, west of the quarry pit. Crushed stone will be screened and washed for particle size separation. A catch basin is proposed adjacent to the wash plant machinery, allowing runoff from the washing operation to be routed to a series of wash settlings ponds located southwest of the wash plant. After settling, water will be recycled from these ponds to be reused for washing, dust suppression, or other quarry operations.

During normal operations, process water will be entirely recycled through the series of settling ponds (SP-1-SP-3) with no discharge offsite. A portable pump will be utilized to pump water from settling pond #3 (SP-3) to the wash plant at a rate of 1000 gpm (2.22 cfs). Process water from the wash plant will be conveyed through a new catch basin structure to the settling pond forebay, SP-1 where it will be cycled through the settling pond system (SP1-SP3). Stone check dams will be provided within settling pond #2 (SP-2), allowing for additional mechanical treatment of process water.

During storms water will be conveyed to settling pond #4 (SP-4) where it will infiltrate and be collected by an underdrain. This underdrain will connect to a control structure and water will be discharged through an 18-inch pipe to the discharge to the tributary to and Clarendon River, S/N 004. Compliance samples will be collected at the outlet of the 18-inch pipe.

The Agency has determined that the commingled discharge of process generated wastewater from this operation is subject to 40 CFR Part 436. The term "process generated wastewater" shall mean any wastewater used in the slurry transport of mined material, air emissions control, or processing exclusive of mining. The term shall also include any other water which becomes commingled with such wastewater in a pit, pond, lagoon, mine, or other facility used for the treatment of such wastewater.

IX. Permit Basis and Explanation of Effluent Limitation Derivation (S/N004)

A. Flow – The permit contains a monitoring and reporting requirement for flows discharged from this facility. Continuous monitoring is required with monthly average and daily maximum reporting requirements. Due to the storm driven nature of the flows no limit has been included.

B. Conventional Pollutants

pH – The pH limitation is 6.5 - 8.5 Standard Units as specified in Section 3-01 B.9. in the Vermont Water Quality Standards. The Federal Effluent guidelines for SIC 1422, Crushed Stone establish Best Available Technology (BAT) limits for pH that range from 6.0 to 9.0. Since the applicant indicated that effluent will meet the VWQS of 6.5 to 8.5 no mixing zone is needed. Monitoring is required weekly.

Total Suspended Solids (TSS) – The draft permit requires a monthly average limit of 10 mg/L TSS. Monitoring is required monthly This requirement is based on best professional judgement and upon Section 3-03.A and Appendix A (Fish Habitat Designation) of the 2017 Vermont Water Quality Standards. The receiving waters are designated as Cold Water Fish Habitat. The addition of washing equipment to this facility will help capture fine sediments and retain them in the settling ponds.

C. Non-Conventional and Toxics

Turbidity – The draft permit requires a instantaneous maximum limit of 10 NTU. Monitoring is required weekly. This requirement is based upon Section 3-04.A and Appendix A (Fish Habitat Designation) of the 2017 Vermont Water Quality Standards. The addition of washing equipment to this facility will help capture fine sediments associated with turbidity and retain them in the settling ponds

Nitrate Plus Nitrate (NOx) –Nitrite Plus Nitrate as Nitrogen (NOx) – Nitrite (NO2-) and Nitrate (NO3-) are oxidized forms of Nitrogen. NOx is needed to calculate Total Nitrogen (TN). To gather data on the amount of Total Nitrogen in this discharge, Nitrite (NO2-) plus Nitrate (NO3-) monitoring is proposed in the renewed permit. The sum of Nitrite (NO2-) and Nitrate (NO3-) is represented as NOx to simplify the notation in wastewater chemistry. The x represents the number of Oxygen atoms (2 or 3) and the negative charge notation (-) is dropped. This notation is also used in atmospheric chemistry where other oxidation states are possible.

$NO2^- + NO3^- = NOx$

Test results are reported in terms of Nitrogen (N) because water quality standards are generally expressed in terms of Nitrogen for simplicity and consistency. This constituent (NOx) is sometimes also shown as (NO2/NO3), Nox, NOX, Nitrate/Nitrite Nitrogen, and Nitrite Plus Nitrate Total 1 Det. (As N). To gather data on the amount of NOx in this discharge and its potential impact on the receiving water, "monitor only" sampling requirements are included in the draft permit. Sampling is required monthly.

Total Kjedahl Nitrogen (TKN) –TKN is the sum of nitrogen in the forms of ammonia (un-ionized (NH_3) and ionized (NH_4^+)), soluble organic nitrogen, and particulate organic nitrogen. To gather data on the amount of TKN in this discharge and its potential impact on the receiving water, a "monitor only" sampling requirement is included in the draft permit. Sampling is required monthly.

Total Nitrogen (TN) –TN is the sum of nitrate, nitrite, ammonia, soluble organic nitrogen, and particulate organic nitrogen. To gather data on the amount of Total Nitrogen (TN) in this

discharge and its potential impact on the receiving water, a "monitor only" requirement for TN has been included in this permit. TN is a calculated value based on the sum of NOx and TKN, and, shall be reported as pounds, calculated as:

Average TN (mg/L) x Total Daily Flow x 8.34

where, TN (mg/L) = TKN (mg/L) + NOx (mg/L)

Per EPA excess nitrogen (N) and phosphorus (P) are the leading cause of water quality degradation in the United States. Historically, nutrient management focused on limiting a single nutrient—phosphorus or nitrogen—based on assumptions that production is usually phosphorus limited in freshwater and nitrogen limited in marine waters. Scientific research demonstrates this is an overly simplistic model. The evidence clearly indicates management of both phosphorus and nitrogen is necessary to protect water quality. The literature shows that aquatic flora and fauna have differing nutrient needs: some are P dependent, others N dependent and others are co-dependent on these two nutrients. Like P, N promotes noxious aquatic plant and algal growth. High concentrations of P and N together cause greater growth of algae than P alone. The relative abundance of these nutrients also influences the type of species within the community. Furthermore, a high N-to-P ratio may exacerbate the growth of cyanobacteria, while elevated levels of nitrogen increase toxicity in some cyanobacteria species. Given the dynamic nature of all aquatic ecosystems, for the State to fully understand the degradation to water quality it is necessary to limit P and monitor bioavailable N (including nitrate, ammonium, and certain dissolved organic nitrogen compounds).

For more information, see:
https://www.epa.gov/sites/production/files/documents/nandpfactsheet.pdf.

Total Nitrogen monitoring is proposed monthly due to the fact that the storm driven discharges will occur at irregular intervals and with unpredictable volumes/concentrations.

Total Phosphorus (TP) – The draft permit contains a requirement for monthly monitoring of Total Phosphorus and a monthly average limit of 0.80 mg/L. This is a requirement that is based upon 10 V.S.A. § 1266a which prohibits the discharge of wastes containing a monthly average concentration of total phosphorus in excess of 0.80 mg/L in the Lake Champlain basin.

Sediment Removal from Settling Ponds – The draft permit requires that the quantity of materials removed from the settling ponds be recorded each month. The treatment system for this facility has been designed to accommodate a 10 year, 24 hour storm, and regular cleaning of the ponds is required to maintain this capacity. In order to accommodate this parameter in the EPA ICIS database reporting units will be tons. The permittee may calculate the tons by multiplying the estimated volume of material removed by an assumed unit weight of 1.4 tons/cubic yard.

Mass (Tons) = Volume (Cubic Yards) x Unit Weight (Tons per Cubic Yard)

X. Discharge Special Conditions

A. Priority Metals Analyses – The draft permit requires annual effluent sampling for the priority pollutant metals: arsenic, antimony, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, thallium and zinc. Metals are occasionally associated with rock formations in the state and can pose threats to both human and aquatic life. This is a monitor only condition. Results shall be submitted to the Secretary by December 31, annually.

B. Quality Assurance Report / Proficiency Testing – To ensure there are adequate laboratory controls and appropriate quality assurance procedures, the Permittee shall conduct an annual laboratory proficiency test for the analysis of all pollutant parameters performed within their facility laboratory and reported as required by their NPDES permit. Proficiency Test samples must be obtained from an accredited laboratory or as part of an EPA DMR-QA study. Results shall be submitted to the Secretary by December 31, annually, beginning in 2022.

XI. Procedures for Formulation of Final Determinations

The public comment period for receiving comments on this draft permit is from **October 15, 2021 through November 15, 2021** during which time interested persons may submit their written views on the draft permit. All written comments received by 4:30 PM on **November 15, 2021,** will be retained by the Secretary and considered in the formulation of the final determination to issue, deny or modify the draft permit. The period of comment may be extended at the discretion of the Secretary.

Per Vermont Act 150, public comments concerning draft permits must be submitted via the Environmental Notice Bulletin (ENB) for all applications deemed administratively complete after January 1, 2018. In addition to providing a portal for submitting public comments, the ENB website presents details on the processing history, draft permit documents for review, and can be used to request public meetings. The ENB public site is http://enb.vermont.gov and the DEC ENB information page is http://dec.vermont.gov/permits/enb.

NPDES permits are considered Type 1 permits under Act 150 and are subject to a 30-day public comment period. All comments received within the period described above will be considered by the Department of Environmental Conservation in its final ruling to grant or deny authorization to discharge. 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 Court pursuant to 10 V.S.A. Chapter 220.

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

MEMORANDUM

Cc: Pete LaFlamme, Director, WSMD
Rick Levey, Monitoring and Assessment Program (MAP)
Amy Polaczyk, Manager, WWP
Bethany Sargent, Manager, MAP

Date: **July 20, 2021**

Subject: Reasonable Potential Determination for the Casella Clarendon Quarry

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I. Facility Information:

Casella Clarendon Quarry

1058 VT Rte. 133
Clarendon, VT
Permit No. 3-1570
NPDES No. VT0120084
Facility Location: 43.56296, -73.0240 (NAD 83)
Approximate Outfall Location (S/N004): 43.5639, -73.0297(NAD 83)

II. Hydrology:

Receiving water: Clarendon River
Facility Design Flow: N/A – Storm Driven
Estimated 7Q10[1] = 6.7 CFS
Estimated LMM[2] = 18.0 CFS
Instream Waste Concentration at 7Q10 Flow (IWC-7Q10) = N/A – Storm Driven
Instream Waste Concentration at Low Median Monthly Flow (IWC-LMM) = N/A – Storm Driven

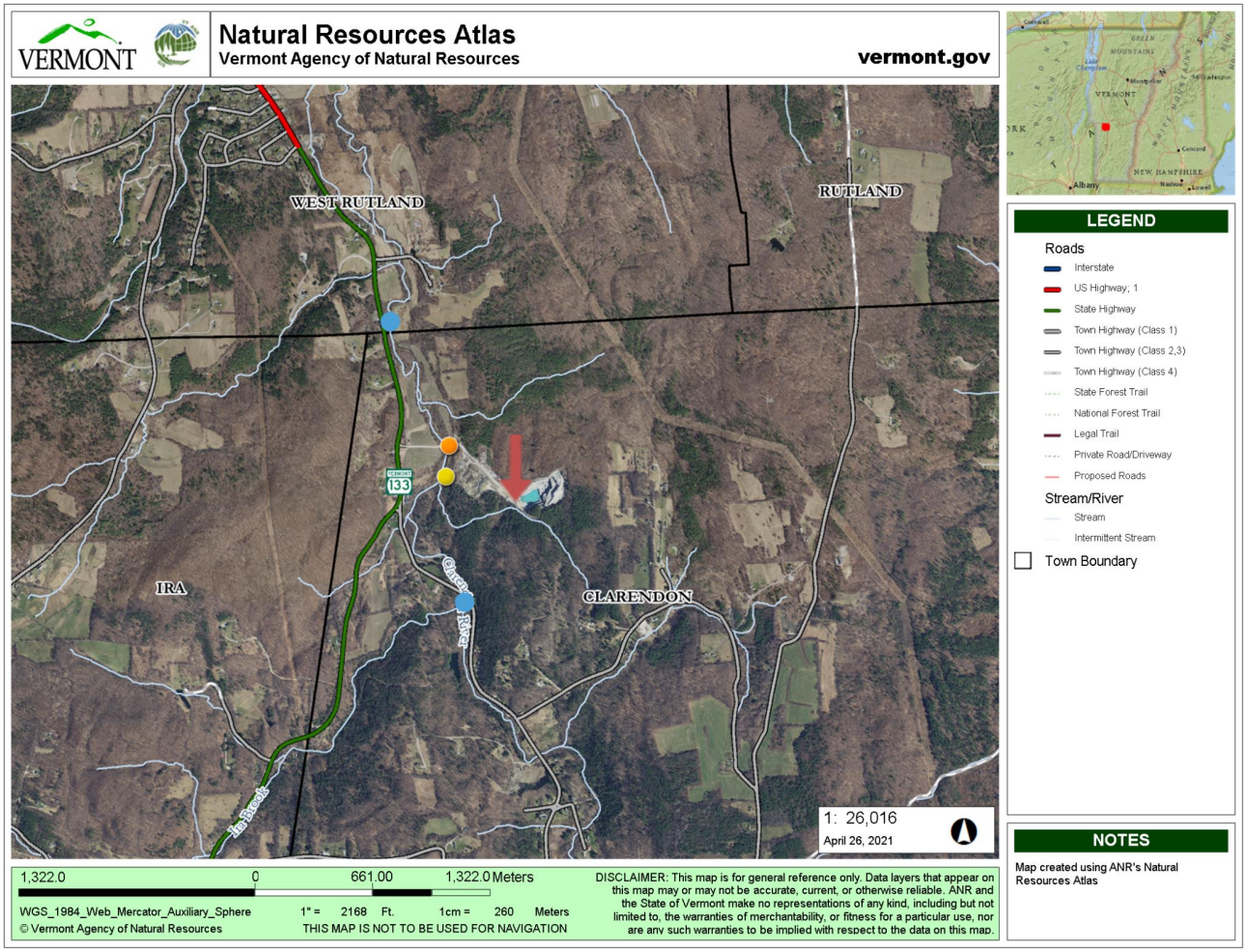
[1] Using daily mean streamflows, the flow of the receiving water equal to the minimum mean flow for seven consecutive days, that has a 10% probability of occurring in any given year.

[2] "Low Median Monthly Flow". Using daily mean streamflows, the median monthly flow of the receiving water for that month having the lowest median monthly flow.

The Casella Group, LLC owns the Casella Clarendon Quarry. Comingled process wastes from a crushing operation and stormwater are treated through a series of settling ponds designed to recycle process water and control runoff for the 10 year, 24 hour storm to predevelopment rates.

The Clarendon River downstream of the Casella Clarendon Quarry discharge is a Class B (2) water and is designated as Cold Water Fish Habitat. At the point of discharge, the river has a contributing drainage area of 38.8 square miles. No Waste Management Zone or Mixing Zone are proposed.

Figure 1. Clarendon River near the Casella Clarendon Quarry
*The facility location is represented by a red arrow. Outfall S/N003 is represented by an orange dot, and outfall S/N004 is represented by a yellow dot. The upstream monitoring station 500893 is shown south of the facility as a blue dot and downstream monitoring station 500894 is shown north of the facility as a blue dot. Figure produced with the Vermont Integrated Watershed Assessment System on the VT Agency of Natural Resources Atlas (*https://*anrweb.vt*.gov/*DEC/IWIS/*).*



This memo is organized into the following sections:

- Summary of Effluent Data for the Casella Clarendon Quarry
- Summary of Instream Ambient Chemistry Data for the Clarendon River
- Assessment of Reasonable Potential of the Casella Clarendon Quarry discharge to exceed Vermont Water Quality Standards (VWQSs)

III. Effluent Data for the Casella Clarendon Quarry

Table 1. Effluent Data for the Casella Clarendon Quarry WWTF included with the application.

Test results submitted with Application	
Parameter	Value/Units
Nitrate as N	2.0 mg/L
Nitrite as N	< 0.025 mg/L
TKN	< 0.5 mg/L
Total Nitrogen as N	2.52 mg/L
pH	7.8 SU
Phosphorus, Total	0.19 mg/L
Solids, Total Suspended	5 mg/L
Turbidity	0.8 NTU
Antimony, Total	< 0.0020 mg/L
Arsenic, Total	< 0.0010 mg/L
Beryllium, Total	< 0.0010 mg/L
Cadmium, Total	< 0.0020 mg/L
Chromium, Total	< 0.0050 mg/L
Copper, Total	< 0.020 mg/L
Lead, Total	< 0.0010 mg/L
Mercury, Total	< 0.0002 mg/L
Nickel, Total	< 0.0050 mg/L
Selenium, Total	< 0.0020 mg/L
Silver, Total	< 0.010 mg/L
Thallium, Total	< 0.0010 mg/L
Zinc, Total	< 0.020 mg/L
Oil & Grease	< 2.0 mg/L
C7-C10 TPH	< 0.59 mg/L
C10-C28 TPH-DRO	< 0.59 mg/L
C28-C40 TPH	< 0.59 mg/L
Tot. Petroleum Hydrocarbons	< 0.59 mg/L

IV. Ambient Chemistry Data near Casella Clarendon Quarry

The available data for the Clarendon River in the vicinity of the Casella Clarendon Quarry is more than 10 years old and provides information on a limited number of pollutants. New data should be collected by the VT DEC during the first permit for use in evaluating renewal applications.

More recent monitoring efforts have been conducted to evaluate the West Rutland WWTF which is approximately 2 miles downstream from this facility. For that section of the Clarendon River, the DEC MAP data indicates that the receiving water supports all designated uses.

Water chemistry measures of relevant parameters for this assessment are summarized in Table 3.

Table 3. Surface-water quality data upstream and downstream of the Casella Clarendon Quarry Wastewater Treatment Facility collected by La Rosa Volunteers.

Visit Date	Upstream or Downstream	Location ID	E. Coli Bacteria (#/100ml)	Total Nitrogen (mg/l)	Total Phosphorus (ug/l)	Total Suspended Solids (mg/l)	Turbidity (NTU)
6/15/2004	Upstream	500893	64	0.26	11.4	2.5	0.5
6/29/2004	Upstream	500893	613	0.35	14.8	5.7	2.59
7/13/2004	Upstream	500893	260	0.3	7.82	2.1	1.19
7/27/2004	Upstream	500893	199	0.42	24.9	7.45	1.64
7/27/2004	Upstream	500893	118	0.42	24.1	7.62	1.56
8/10/2004	Upstream	500893	33	0.26	13	1.9	0.74
8/24/2004	Upstream	500893	26	0.29	12.4	2.86	0.59
7/29/2010	Upstream	500893	140	0.34	18.6		1.59
8/12/2010	Upstream	500893	115	0.29	13.2		1.11
8/26/2010	Upstream	500893	124	0.23	16.1		0.49
6/15/2004	Downstream	500894	41	0.28	7.84	1.6	0.7
6/29/2004	Downstream	500894	411	0.37	9.85	4.4	1.58
7/13/2004	Downstream	500894	79	0.36	5.89	1.3	0.4
7/27/2004	Downstream	500894	140	0.4	21.2	6.53	1.17
8/10/2004	Downstream	500894	44	0.27	11.5	1.08	0.33
8/10/2004	Downstream	500894	40	0.29	10.4	1.08	0.26
8/24/2004	Downstream	500894	33	0.32	9.61	1.75	0.72

A. Total Residual Chlorine:

This facility does not treat human waste or have any requirements for disinfection. No chlorine use has been indicated on the application and no limits or monitoring requirements should be included in the permit.

B. Whole Effluent Toxicity:

This facility processes rock extracted from the site. The chemical composition of the storm runoff is expected to be similar to the runoff from other areas of the watershed and chemical toxicity is not expected. It is possible that sediment or a hydrocarbon surface film from the discharge could create physical conditions that would be detrimental to aquatic biota by creating conditions unfavorable to larval stages. The permit contains limits on both turbidity and Total Suspended Solids, and a monitoring requirement for Total Petroleum Hydrocarbons. No WET limits or tests are proposed for this facility.

C. Flow:

This facility's flows are storm driven and the settling pond system has been designed to control runoff from the 10 year, 24 hour storm to pre-development conditions. No limit is necessary at this point for flow. However, in order to calculate the pollutant loadings of other parameters flow information is necessary. The plans provided with the application indicate that flows from S/N 004 will be controlled by a structure capable of automation. The permit should contain a requirement to continuously monitor flow and to report the daily maximum and monthly total flow volumes.

D. pH:

The draft permit should contain a weekly sampling requirement for pH. Effluent should be limited to between 6.5 and 8.5 in order to match VWQS. The application indicated that the effluent will be in this range.

E. Total Suspended Solids:

The draft permit should contain an instantaneous maximum limit of 10 mg/L TSS and a monthly monitoring requirement. Monthly total and daily maximum loadings should also be reported. This limit is based on professional judgement and upon Section 3-03.A and Appendix A (Fish Habitat Designation) of the 2017 Vermont Water Quality Standards.

F. Turbidity:

The draft permit should contain a Turbidity limit equal to the VWQS for Cold Water fisheries (Instantaneous Maximum limit of 10 NTU). Monitoring should be conducted weekly. This requirement is based upon Section 3-04.A and Appendix A (Fish Habitat Designation) of the 2017 Vermont Water Quality Standards.

G. Sediment Removed from Settling Ponds:

This facility's flows are storm driven and the settling pond system has been designed to control runoff from the 10 year, 24 hour storm to pre-development conditions. In order to maintain this capacity it will be necessary to periodically remove settled materials from the settling ponds. In order to facilitate the recording of this maintenance a monthly requirement to record the quantity of settled materials from the ponds should be included in the permit.

H. Metals

No priority pollutant metals were above the detection limit in the effluent data supplied with the permit application. This data is shown above in Table 1. This facility is not expected to discharge toxic levels of priority pollutant metals based upon the results, however annual monitoring for these metals should be conducted since it is possible that quarrying operations will expose different geological formations or groundwater which contain these metals.

40 CFR Part 122.44(d)(1) requires the Secretary to assess whether the discharge causes or has the reasonable potential to cause or contribute to an excursion above any narrative or numeric water quality criteria.

To provide additional data for future assessments of metals toxicity reasonable potential, the effluent should be analyzed for the priority pollutant metals included in Appendix J, Table 2 of 40 CFR Part 122, a minimum of four times during the next permit.

I. Nutrients

Table 1 above shows the results for Nitrogen and Phosphorus that were submitted with the application. This facility is located in the Lake Champlain basin and discharges to the Otter Creek Lake Segment which is impaired for Total Phosphorus. The results for Nitrogen and Phosphorus do not suggest the need for Water-Quality Based Effluent Limits, but monitoring should be conducted in order to better quantify the impact this facility may have on nutrient loading in the Clarendon River and downstream waters, including Lake Champlain.

a. Total Nitrogen:

TN is the sum of nitrate, nitrite, ammonia, soluble organic nitrogen, and particulate organic nitrogen. To gather data on the amount of Total Nitrogen (TN) in this discharge and its potential impact on the receiving water, monthly "monitor only" requirements for Nitrate/Nitrite (NOx), Total Nitrogen (TN) and Total Kjeldahl Nitrogen (TKN) are suggested for inclusion in this permit.

TN is a calculated value based on the sum of NOx and TKN, and, shall be reported as pounds, calculated as:

Average TN (mg/L) x Total Daily Flow (MGD) x 8.34 = Pounds TN/day
where, TN (mg/L) = TKN (mg/L) + NOx (mg/L)

Per EPA excess nitrogen (N) and phosphorus (P) are the leading cause of water quality degradation in the United States. Historically nutrient management focused on limiting a single nutrient—phosphorus or nitrogen—based on assumptions that production is usually phosphorus limited in freshwater and nitrogen limited in marine waters. Scientific research demonstrates this is an overly simplistic model. The evidence clearly indicates management of both phosphorus and nitrogen is necessary to protect water quality. The literature shows that aquatic flora and fauna have differing nutrient needs, some are P dependent, others N dependent and others are co-dependent on these two nutrients.

Like P, N promotes noxious aquatic plant and algal growth. High concentrations of P and N together cause greater growth of algae than P alone. The relative abundance of these nutrients also influences the type of species within the community. Furthermore, a high N-to-P ratio may exacerbate the growth of cyanobacteria, while elevated levels of nitrogen increase toxicity in some cyanobacteria species. Given the dynamic nature of all aquatic

ecosystems, for the State to fully understand the degradation to water quality it is necessary to limit P and monitor bioavailable N (including nitrate, ammonium, and certain dissolved organic nitrogen compounds).

Total Ammonia:

This facility does not process organic wastes which have the potential to contain TAN, and there is no reasonable potential for effluent TAN concentrations to cause or contribute to an excursion above any narrative or numeric water quality criteria. No TAN monitoring is required.

b. Total Phosphorus:

As shown in Table 1 this facility's effluent contains phosphorus. The available data for the Clarendon River suggests that TP levels are generally in compliance with the numeric criteria for a Medium High Gradient Class B2 Stream of 15 ug/l. Due to the storm driven nature of flows from this facility Total Phosphorus loading can not currently be calculated. A monthly monitoring requirement for TP should be included in the permit. The MAP program should also conduct in stream monitoring and bioassessment to provide more information about the receiving water's compliance with VWQS.

This facility is subject to 10 V.S.A. 1266a, which reads "No person directly discharging into the drainage basins of Lake Champlain or Lake Memphremagog shall discharge any waste that contains a phosphorus concentration in excess of 0.80 milligrams per liter on a monthly average basis. Discharges of less than 200,000 gallons per day, permitted on or before July 1, 1991, shall not be subject to the requirements of this subsection." Therefore, the permit must include a Total Phosphorus limit of 0.8 mg/L.

V. Summary of Reasonable Potential Determinations

The data available for this facility do not indicate that it has a reasonable potential to violate VWQS. Limits for the effluent should be set to comply with VWQS at the outlet pipe.

A. Recommended Biological and Water Quality Monitoring:

No biomonitoring in proposed for inclusion in the draft permit.

B. Recommended Effluent Monitoring:

In addition to the monitoring required in the current permit, the following monitoring is suggested for inclusion in the renewed permit to provide additional data to support future Reasonable Potential Determinations:

- To provide additional data for future assessments and for loading calculations, a continuous flow monitoring requirement should be included in the draft permit.
- To ensure that the receiving water remains compliant with VWQS, a monthly monitoring requirement and instantaneous maximum limit of 10 mg/l for Total Suspended Solids should be included in the draft permit. Monthly total and daily maximum loads should be reported.
- To ensure that the receiving water remains compliant with VWQS, a weekly monitoring requirement and instantaneous maximum limit of 10 NTU for Turbidity should be included in the draft permit.
- To ensure that the receiving water remains compliant with VWQS, a weekly monitoring requirement and instantaneous minimum and maximum limits of 6.5 and 8.5 Standard pH Units should be included in the draft permit.

- To ensure that the settling ponds are maintained in a condition capable of controlling storm flows up to the 10 year, 24 hour storm to predevelopment conditions a monthly monitor only condition for the volume of settled solids removed from the settling ponds should be included in the draft permit.
- To provide additional data for future assessments of metals toxicity reasonable potential, the priority pollutant metals included in Appendix J, Table 2 of 40 CFR Part 122 should be analyzed a minimum of four times during the next permit.
- To gather data on the amount of Total Nitrogen (TN) in this discharge and its potential impact on the receiving water, monthly "monitor only" requirements for Nitrate/Nitrite (NOx), Total Nitrogen (TN) and Total Kjeldahl Nitrogen (TKN) are suggested for inclusion in this permit.
- The new permit should contain a monthly average concentration limit of 0.8 mg/l for Total Phosphorus. Sampling should occur monthly.
- The new permit should contain a requirement to conduct QA proficiency testing for pollutants measured by the permittee.

C. Conclusion:

After review of all available information, it has been determined that there is not a reasonable potential for the discharge to cause or contribute to a water quality violation.