STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
KNOXVILLE ENVIRONMENTAL FIELD OFFICE
3711 MIDDLEBROOK PIKE
KNOXVILLE, TENNESSEE 37921-6538
PHONE (865) 594-6035 STATEWIDE 1-888-891-8332 FAX (865) 594-6105

January 9, 2017

Mr. Mark C. Elizer, CEO/President
Calcium Silicate Corporation, Inc.
P.O. Box 405
Lake Harbor, Florida 33459

RE: Transmittal of NPDES Permit and Certification Approval
Calcium Silicate Corporation, Inc.
Columbia Plant
NPDES Permit TN0070149
Maury County

Dear Mr. Elizer:

In accordance with the provisions of *The Tennessee Water Quality Control Act* (*Tennessee Code Annotated Section 69-3-101 et seq.*) and regulations of the Tennessee Division of Water Resources the enclosed permit is hereby issued. The continuance and/or reissuance of this permit are contingent upon your meeting the conditions and requirements as stated therein.

This NPDES permit renewal is based upon your certification statement that existing approved plans are representative of the current operations at this site. These plans shall continue to be representative until renewal, termination, or modification of this NPDES permit. At such time, you will notify the Division requesting instructions before further action.

If changes in the mining plan or procedure which affect wastewater treatment and/or runoff control are necessary, the Division must approve them in writing prior to their initiation. Failure of your company's strict adherence to approved plans could jeopardize the continuation of your permit.

Please be advised that a petition for permit appeal may be filed, pursuant to *T.C.A. Section 69-3-105, subsection (i)*, by the permit applicant or by any aggrieved person who participated in the public comment period or gave testimony at a formal public hearing whose appeal is based upon any of the issues that were provided to the commissioner in writing during the public comment period or in testimony at a formal public hearing on the permit application.

Additionally, for those permits for which the Department gives public notice of a draft permit, any permit applicant or aggrieved person may base a permit appeal on any material change to conditions in the final permit from those in the draft, unless the material change has been subject to additional opportunity for public comment.

Any petition for permit appeal under this subsection (i) shall be filed with the technical secretary of the Board of Water Quality, Oil and Gas within thirty (30) days after public notice of the commissioner's decision to issue or deny the permit. A copy of the filing should also be sent to TDEC's Office of General Counsel. The mailing addresses follow:

Tisha Calabrese Benton
Acting Technical Secretary
Board of Water Quality, Oil and Gas
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 12th Fl
Nashville, TN 37243-1102

Jenny L. Howard, General Counsel
Office of General Counsel
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 2nd Fl
Nashville, TN 37243-1102

If you have any questions concerning this correspondence, contact Gary Mullins at (865) 594-5536.

Sincerely,

for Tisha Calabrese Benton
Director
Division of Water Resources

TCB:BWE:GWM:JIF

cc: Gary Horne, TDEC, Jackson EFO
NPDES Permit File

STATE OF TENNESSEE

NPDES PERMIT

NPDES Permit TN0070149
New

Authorization to discharge under the
National Pollutant Discharge Elimination System

Issued By

Tennessee Department of Environment and Conservation
Division of Water Resources
3711 Middlebrook Pike
Knoxville, Tennessee 37921-6538

Under authority of the *Tennessee Water Quality Control Act of 1977* (*T.C.A. 69-3-101 et seq.*) and the delegation of authority from the United States Environmental Protection Agency under the *Federal Water Pollution Control Act*, as amended by the *Clean Water Act of 1977* (*33 U.S.C. 1251, et seq.*)

Discharger: **Calcium Silicate Corporation, Inc.**
Columbia Plant

is authorized to discharge treated wastewater and storm water:

from a facility located in **Maury** County at latitude **35°39′21.99″**, longitude **87°07′10.91″**

consisting of **13.0 acres**

to receiving waters named: **Greenlick Creek - 001**

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective on: **January 1, 2017**

This permit shall expire on: **December 31, 2021**

Issuance date: **January 9, 2017**

for Tisha Calabrese Benton
Director
Division of Water Resources

CN-0759

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PART I

A. WASTEWATER LIMITATIONS AND MONITORING REQUIREMENTS (Limestone Quarry and Processing Facility)

1. During the period beginning with the effective date of this permit and lasting through the expiration date of this permit, the permittee is authorized to discharge treated wastewater from all point sources associated with the mining and related facilities indicated on the approved area maps.

   Such wastewater shall be limited and monitored by the permittee as specified below until the site has been closed and stabilized according to plans approved by the Division. Additionally, conditions stipulated in Part III B., *Termination of Monitoring*, shall be met.

WASTEWATER LIMITATIONS[1]
(001)

Wastewater Characteristics	Discharge Limitations Maximum for any 1 Day	Monitoring Requirements Measurement Frequency	Sample Type
Total Suspended Solids	40.0 mg/L	Two per Month	Grab
Flow (GPM)	Report	Two per Month	Estimate
pH	6.0 to 9.0 Standard Units	Two per Month	Grab

[1] These effluent limitations do not apply to discharges that occur as a result of a precipitation event that exceeds the 10-year/24-hour storm design provided the wastewater treatment facilities are designed, constructed, and maintained to contain or treat the volume of wastewater which would result from a 10-year/24-hour precipitation event. See Rationale Section VIII.

Note The pH value of the receiving stream shall lie within the range of 6.0 to 9.0 and shall not fluctuate more than 1.0 unit in this range over a period of twenty-four (24) hours.

2. There shall be no distinctly visible floating scum, oil, or other matter contained in the wastewater discharge. The wastewater discharge must not cause an objectionable color contrast in the receiving stream.

3. The wastewater discharge shall result in no other materials in concentrations sufficient to be hazardous or otherwise detrimental to humans, livestock, wildlife, plant life, or fish and aquatic life in the receiving stream.

4. Sludge or any other material removed by any treatment works shall be disposed of in a manner which prevents its entrance into or pollution of any surface or subsurface waters. Additionally, the disposal of such sludge or other material shall be in compliance with the *Tennessee Solid Waste Disposal Act, TCA 68-211-101, et seq.* and the *Tennessee Hazardous Waste Management Act, TCA 68-212-101, et seq.*

5. Representative samples shall be taken according to the following established sampling frequencies unless otherwise approved by the Division subsequent to a specific written request by the permittee: (see Part I, E. 1. for a definition of representative sampling)

   a. Gravity Discharges from Sediment Control Structures and/or Treatment Facilities

      A minimum of two samples shall be collected per month. These samples shall be taken as follows:

      1) One sample of the first discharge during the first half of the month and
      2) One sample of the first discharge during the second half of the month.

   b. Batch, Siphon, or Pump Discharges

      Batch, siphon, or pump discharge(s) of any treated mine wastewater from approved treatment structures shall comply with effluent standards set forth herein and shall be directed to a splashpad or the pond's spillway constructed of non-erosive material. Pumpage or batch discharge of wastewater is a prohibited bypass if the sampling procedures as stated herein are not followed.
      A minimum of two samples shall be collected per month. These samples shall be taken as follows:

      1) One sample of the first discharge during the first half of the month and
      2) One sample of the first discharge during the second half of the month.

   c. Duration of the discharge shall be noted on the Discharge Monitoring Report.

   d. The permittee must take proper measures to ensure that the pump intake does not stir up solids or take in sediment materials from the bottom of the treatment structure during the discharge period.

6. Any change or modification in sampling frequency will be based on the nature and effect of the discharge and its impact on the receiving waters. Impacts on the receiving waters will include any impairment of the stream use classification. These classifications are specified under *Rules of the Tennessee Department of Environment and Conservation, Chapter 0400-40-03-.03. Criteria for Water Uses, (3) Fish and Aquatic Life*. This provision applies to applicable discharges of treated wastewater and stormwater covered in Part I, A and B.

B. Storm Water Reporting Levels and Monitoring Requirements

Storm water discharges associated with access and haul roads and other discharges composed entirely of storm water shall be monitored by the permittee as specified below until the site has been closed and stabilized according to plans approved by the Division. Additionally, conditions stipulated in Part III B., Termination of Monitoring, shall be met.

NOTE: Part I B. entitled, "Storm Water Reporting Levels and Monitoring Requirements," is not applicable if all storm water discharges associated with access and haul roads and/or other areas of the permit requiring storm water coverage are routed to and adequately treated by approved wastewater treatment structures. Sufficient documentation (i.e. narrative, drainage maps, etc.) of such treatment shall be provided to the Division before this exemption is valid.

STORMWATER DISCHARGES

Parameters	Reporting Levels	Monitoring Requirements	
		Measurement Frequency	Sample Type
pH	5.0 to 9.0 Standard Units at all times	Annually	Grab
Total Suspended Solids	150 mg/L	Annually	Grab
Oil and Grease	15 mg/L	Annually	Grab

*Note: Applies only if all access and haul road drainage is not being routed to approved treatment structures. If the storm water discharge is from an area not associated with an access road or haul road or is not a source for vehicular traffic, monitoring for Oil and Grease is not required.

1. Samples shall be collected from discharges resulting from a storm event that is greater than 0.1 inch in magnitude and that occurs at least seventy-two (72) hours after any previous storm event of 0.1 inch or greater.

2. Grab samples shall be collected as soon as practicable during a storm event discharge.

3. In addition to the information contained in Part I, Section E (3), the monitoring report form shall include:

   a. The exact location from which the sample was taken, i.e., culvert, sump, etc.

   b. The duration (in hours), starting and ending times, and magnitude (in inches) of the storm event sampled.

C. Sediment Control Structures and/or Treatment Facilities Construction Schedule

1. Full compliance and operational levels shall be attained from the effective date of this permit.

2. All pollution control equipment required to meet the conditions of this permit shall be installed, be in operational condition, and shall be "started-up" prior to discharge.

3. Prior to receiving drainage from disturbance of the permitted mine area, wastewater treatment structures and/or treatment facilities shall be constructed according to approved plans and certified after construction by a Tennessee Registered Professional Engineer or an authorized responsible representative of the company. Such certifications shall be submitted to and approved by the Division.

D. Reporting of Monitoring Results

1. Monitoring Requirements

   a. Wastewater Discharges

      1) Monitoring results for wastewater discharges shall be recorded monthly and submitted quarterly.

         The first Discharge Monitoring Report (DMR) is due on: **April 15, 2017**

      2) Each subsequent DMR shall be due no later than fifteen (15) days after completion of each quarterly reporting period.

      3) DMRs shall be submitted for each outfall number listed on the permit. If a wastewater treatment structure(s) listed on the permit has not been constructed, this shall be noted on the DMR as "not constructed."

   b. Storm Water Discharges

      Monitoring results for storm water discharges shall be recorded and submitted annually. The Report is due no later than fifteen (15) days after completion of the quarterly reporting period in which the sample was taken.

   c. Definition of "Quarter" for Reporting Purposes

      For the purpose of this permit, a "quarter" is defined as any of the following three month periods: January 1 through March 31; April 1 through June 30; July 1 through September 30; and October 1 through December 31.

2. Submittal of Monitoring Reports

Prior to December 21, 2016, the permittee may elect to electronically submit DMRs instead of mailing paper DMRs. Starting on December 21, 2016, the permittee shall electronically report DMRs (see "Electronic Submissions" section below). **The permittee may request a Waiver from Electronic Reporting (See Section 4).**

3. Types of DMR Submissions

a. Electronic Submissions

The permittee shall use the NetDMR electronic reporting tool for electronic submissions of DMR data. Instructions on how to access and use NetDMR can be obtained from the following website:

http://www.tn.gov/environment/article/wr-netdmr-electronic-reporting-getting-started

Electronic submissions shall start by the date listed in Section 2 "Submittal of Monitoring Reports". The permittee shall electronically submit compliance monitoring data and reports no later than the 15th of the month following the completion of each quarterly reporting period. The permittee shall sign and certify all electronic submissions in accordance with the requirements of Section 5 ("Signature Requirements for DMR Forms").

b. Paper Submissions

Paper submissions shall use the forms provided by the Division of Water Resources and shall be received by the 15th day of the month following the completion of each quarterly reporting period. The permittee shall sign and certify all submissions in accordance with the requirements of Section 5 "Signature Requirements for DMR Forms". The permittee shall submit the legible originals of these documents to Division of Water Resources, Mining Section. A copy shall be submitted to the respective Environmental Field Office (EFO) and the permittee shall retain a copy for his file.

4. How to Request a Waiver from Electronic Reporting

The permittee may seek a temporary waiver from electronic reporting. To obtain an electronic reporting waiver, a permittee shall first submit an electronic reporting waiver request to the Division of Water Resources, Mining Section. The waiver request shall contain the following details:

- Facility name;
- NPDES permit number;
- Facility address;

- Name, address and contact information for the owner, operator, or duly authorized facility representative; and
- Brief written statement regarding the basis for claiming such a temporary waiver.

The Division will either approve or deny this electronic reporting waiver request within 120 days. The duration of a temporary waiver may not exceed 5 years, which is the normal period for an NPDES permit term. Approved electronic reporting waivers are not transferrable. Only permittees with an approved reporting waiver request may submit monitoring data and reports on paper for the period that the approved reporting waiver request is effective.

5. Signature Requirements for DMR Forms

Discharge Monitoring Reports (DMRs) shall be signed and certified by a principal corporate officer of at least the level of vice-president, a general partner or proprietor, or his duly authorized representative. Such authorization shall be submitted in writing, signed by the permittee, and shall explain the duties and responsibilities of the authorized representative.

6. Address for Submittal of DMR Forms

Discharge Monitoring Reports (DMRs) and any communication regarding compliance with the conditions of this permit shall be sent to:

Tennessee Department of Environment and Conservation
Division of Water Resources
3711 Middlebrook Pike
Knoxville, TN 37921-6538
ATTENTION: Mining Compliance
Telephone (865) 594-6035 Fax (865) 594-6105

7. Additional Monitoring by Permittee

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 herein, the results of such monitoring shall be included in the calculation and reporting of the values required on the Discharge Monitoring Report (DMR). Such increased frequency shall also be indicated.

8 Falsifying Reports

Knowingly making any false statement on any report required by this permit may result in the imposition of criminal penalties as provided for in *Section 309* of *The Federal Clean Water Act of 1977*, as amended, and in *Section 69-3-115(c)* of *The Tennessee Water Quality Control Act of 1977*, as amended.

E. Monitoring Procedures

1. Representative Sampling

   Samples and measurements taken in compliance with the monitoring requirements specified above shall be representative of the volume and nature of the monitored discharge and shall be taken at the following location(s): nearest accessible point after final treatment but prior to actual discharge(s) to or mixing with the receiving waters.

2. Test Procedures

   a. Test procedures for the analysis of pollutants shall conform to regulations published pursuant to *Section 304(h)* of *The Federal Clean Water Act of 1977*, as amended, under which such procedures may be required.

   b. Unless otherwise noted in the permit, all pollutant parameters shall be determined according to methods prescribed in *Title 40, CFR, Part 136,* as amended, promulgated pursuant to *Section 304 (h)* of *The Federal Clean Water Act of 1977*, as amended.

3. Recording of Results

   For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

   a. The date, exact place, and time of sampling or measurements;

   b. The individual(s) who performed the sampling or measurements;

   c. The date(s) analyses were performed;

   d. The individual(s) who performed the analyses;

   e. The analytical techniques or methods used; and

   f. The results of such analyses.

4. Records Retention

   All records and information resulting from the monitoring activities required by this permit, including all records of analyses performed and calibration and maintenance of instrumentation, shall be retained for a minimum of three (3) years, or longer, if requested by the Division of Water Resources, and be readily available to the Division's representative for review.

PART II

A. General Provisions

1. Duty to Reapply

   Permittee is not authorized to discharge after the expiration date of this permit. In order to receive authorization to discharge beyond the expiration date, the permittee shall submit such information and forms as are required to the Director no later than 180 days prior to the expiration date.

2. Right of Entry

   The permittee shall allow the Director, the Regional Administrator of the U.S. Environmental Protection Agency, or their authorized representatives, upon the presentation of credentials to:

   a. Enter upon the permittee's premises where an effluent source is located or where records are required to be kept under the terms and conditions of this permit, and copy these records;

   b. Inspect any monitoring equipment or method or any collection, treatment, pollution management, or discharge facilities required under this permit and;

   c. Sample any discharge of pollutants.

3. Availability of Reports

   Except for data determined to be confidential under *Section 308* of *The Federal Clean Water Act of 1977*, as amended, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the Division of Water Resources. As required by the Federal Act, effluent data shall not be considered confidential.

4. Proper Operation and Maintenance

   a. Proper operation and maintenance shall be implemented at this site to control and minimize pollutants from entering the wastewater treatment structure(s). The permittee shall visually inspect the wastewater treatment structure(s) daily to ensure that no floating scum, oil, or other matter is contained in the wastewater discharge. The daily visual inspection requirement extends to BMPs or other treatment devices established to control storm water discharges associated with access roads and haul roads.

   b. The permittee shall at all times properly operate and maintain all facilities and systems (and related appurtenances) for collection and treatment 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 and process controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

c. Dilution water shall not be added to comply with effluent requirements.

5. Property Rights

The 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 right, nor any infringement of federal, state, or local laws or regulations.

6. Severability

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

7. Other Information

If the permittee becomes aware that he failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application, or in a report to the Director, then he shall promptly submit such facts or information.

8. Best Management Practices (BMPs)

The permittee shall utilize Best Management Practices (BMPs) to prevent or minimize erosion and the contribution of suspended solids and sediment to surface waters and/or adjacent properties. Such practice(s) shall be implemented to reduce the impacts caused by disturbances created by the installation of culverts, the construction of haulroads, access roads, spoil storage, and stockpile areas, and other related activities.

BMPs include, but are not limited to, rapid grading, mulching, and revegetation of disturbed areas, sediment traps and swells, vegetative buffer zones, erosion control structures, and rock check dams. BMPs are to be utilized as supplemental or auxiliary erosion control measures, not as substitutes for monitoring requirements of point source discharges.

Additional information regarding acceptable practices may be found in the *Tennessee Erosion and Sediment Control Handbook, 4th Edition, August 2012,* which is available from the Division.

B. Changes Affecting the Permit

1. Planned Changes

   The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

   a. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in *40 CFR 122.29(b)*; or

   b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to requirements under *40 CFR 122.42 (a) (1)*.

2. Permit Modification, Revocation, or Termination

   a. This permit may be modified, revoked and reissued, or terminated for cause as described in *40 CFR 122.62* and *122.64*.

   b. The permittee shall furnish to the Director, within a reasonable time, any information which the Director 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 Director, upon request, copies of records required to be kept by this permit.

   c. If any applicable effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established for any toxic pollutant under *Section 307(a)* of *The Federal Clean Water Act of 1977*, as amended, the Director shall modify or revoke and reissue the permit to conform to the prohibition or to the effluent standard, providing that the effluent standard is more stringent than the limitation in the permit on the toxic pollutant. The permittee shall comply with these effluent standards or prohibitions within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified or revoked and reissued to incorporate the requirement.

3. Transfer of Ownership

   Individual permits are not transferable to any person except after notice to the commissioner, as specified below.

   a. The permittee notifies the Commissioner of the proposed transfer at least thirty (30) days in advance of the proposed transfer date;

b. The notice includes a written agreement between the existing and new permittee containing a specified date for transfer of the permit responsibility, coverage, and liability between them;

c. The permittee must provide the following information to the commissioner in their formal notice of intent to transfer ownership:

(1) The permit number of the subject permit;
(2) The effective date of the proposed transfer;
(3) The name and address of the transferor;
(4) The name and address of the transferee;
(5) The names of the responsible parties for both the transferor and transferee;
(6) A statement that the transferee assumes responsibility for the subject permit;
(7) A statement that the transferor relinquishes responsibility for the subject permit;
(8) The signatures of the responsible parties for both the transferor and transferee pursuant to the signatory requirements of this part; and
(9) A statement regarding any proposed modifications to the facility, its operations, or any other changes, which might affect the permit, limits and conditions contained in the permit.

d. The Commissioner, within thirty (30) days, does not notify the existing permittee and the proposed new permittee of his intent to modify, revoke and reissue, or terminate the permit and to require that a new application be filed rather than agreeing to the transfer of the permit.

NOTE: To expedite and facilitate the permit transfer process and provide the required information, the Division has prepared two documents, "Notice of Transfer: National Pollutant Discharge Elimination System Permit" and "NPDES Permit Application Addresses Transfer of Ownership." These documents may be obtained by contacting the Division at telephone number **(865) 594-5460**.

4. Change of Mailing Address

The permittee shall promptly provide to the Director written notice of any change of mailing address. In the absence of such notice, the original address of the permittee will be assumed to be correct.

C. Non-Compliance

1. Effect of Non-Compliance

All discharges shall be consistent with the terms and conditions of this permit. Any permit non-compliance constitutes a violation of applicable state and federal laws and is grounds for enforcement action, permit termination, permit modification, or denial of permit reissuance.

2. Reporting of Non-Compliance

   a. 24-Hour Reporting

      In the case of any non-compliance which could cause a threat to the public drinking water supplies, or any other discharge which could constitute a threat to human health or the environment, a required notice of non-compliance shall be provided to the Division of Water Resources within twenty-four (24) hours from the time the permittee becomes aware of the circumstances.

      Telephone No. (865) 594-6035 **Fax No. (865) 594-6105**

      Additionally, written submission shall be provided within five (5) days of the time the permittee becomes aware of the circumstances unless the Director on a case-by-case basis waives this requirement. The permittee shall provide the Director with the following information:

      (1) A description of the discharge and cause of non-compliance;

      (2) The period of non-compliance, including exact dates and times, or, if not corrected, the anticipated time non-compliance is expected to continue; and

      (3) The steps being taken to monitor, reduce, eliminate, and prevent recurrence of the non-complying discharge.

      This written notice shall not be considered as excusing or justifying the failure to comply with the effluent limitations. This non-compliance shall also be reported on the Discharge Monitoring Report (DMR). The details may be incorporated by reference to the written five (5) day notification.

   b. Scheduled Reporting

      For instances of non-compliance which are not reported under subparagraph 2(a) above, the permittee shall report the non-compliance on the Discharge Monitoring Report (DMR). The report shall contain all information concerning the steps taken, or planned, to monitor, reduce, eliminate, and prevent recurrence of the violation and the anticipated time the violation is expected to continue.

3. Bypassing

   a. "Bypass" means the intentional diversion of wastes from any portion of a treatment facility. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which could cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. Bypass is prohibited and the Director may take enforcement action against a permittee for bypass, unless the following three (3) conditions are met:

(1) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

(2) There are no feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

(3) The permittee submits notice of an unanticipated bypass to the Division of Water Resources within twenty-four (24) hours of becoming aware of the bypass (if this information is provided orally, a written submission shall be provided within five (5) days). When the need for the bypass is foreseeable, prior notification shall be submitted for approval to the Director, if possible, at least ten (10) days before the date of the bypass.

c. The Director may prohibit bypass in consideration of the adverse effect of the proposed bypass or if the proposed bypass does not meet the conditions set forth in subparagraphs 3(b)(1) and (2).

d. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of subparagraph b. above.

4. Upset

a. "Upset" means an exceptional incident in which there is unintentional and temporary non-compliance with technology-based effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include non-compliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

b. Conditions necessary for the demonstration of an upset. An upset shall constitute an affirmative defense to an action brought for non-compliance with such technology-based permit effluent limitations if the permittee demonstrates, through properly signed, contemporaneous operating logs, or other relevant evidence that:

(1) An upset occurred and that the permittee can identify the cause(s) of the upset;

(2) At the time the permitted facility was being operated in a prudent and workmanlike manner and in compliance with proper operation and maintenance procedures;

(3) The permittee submitted information required under "Reporting of Non-Compliance" within twenty-four (24) hours of becoming aware of the upset (if this information is provided orally, a written submission shall be provided within five (5) days); and

(4) The permittee complied with any remedial measures required under "Adverse Impact."

c. In any enforcement preceding the permittee seeking to establish the occurrence of an upset has the burden of proof.

5. Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact to the waters of Tennessee resulting from non-compliance with this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge. In an enforcement action it shall not be a defense for the permittee that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

D. Liabilities

1. Civil and Criminal Liability

Except as provided in permit conditions for "Bypassing," nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for non-compliance. Notwithstanding this permit, the permittee shall remain liable for any damages sustained by the state of Tennessee including, but not limited to, fish kills and losses of aquatic life and/or wildlife, as a result of the discharge of wastewater to any surface or subsurface waters. Additionally, notwithstanding this permit, it shall be the responsibility of the permittee to conduct its wastewater treatment and/or discharge activities in a manner such that public or private nuisances or health hazards will not be created.

2. Liability under State Law

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 *The Federal Clean Water Act of 1977*, as amended.

3. Liability to Obtain Required Permits

It is a violation of this permit to fail to obtain a permit or permit coverage for any activity that requires a permit under *The Tennessee Water Quality Control Act of 1977.*

PART III

A. General Requirements

1. Prior to the creation of any disturbed area or point source discharge within the projected area of operation, and prior to changes, corrections, modifications, or adjustments in the location of any point source discharge, an Engineering Plan shall be submitted to and approved by the Division of Water Resources.

2. No mining activity shall be conducted within the projected area of operation unless the detailed Engineering Plan for the specific area of operation or disturbance has been approved in advance. The Engineering Plan shall include those documents, maps, drawings, and other materials as required by the Division.

B. Termination of Monitoring

Monitoring of a discharge may be terminated when all of the following have been satisfactorily completed:

1. Sufficient data has been accumulated to show to the satisfaction of the Director of the Division of Water Resources that the untreated discharge from an area where mining is completed shall meet limitations established by the Division as stated herein [Part I, A(1), Page 1] and water quality standards. Other factors such as watershed or background characteristics may be taken into consideration if sufficient data and documentation are provided to the Division by the permittee.

2. The permittee or his duly authorized representative submits proof of final bond release, where applicable or equivalent documentation and a letter to the Division of Water Resources requesting permit termination.

3. The site has been closed and stabilized to the satisfaction of the Division.

4. After a thirty-day (30) public notice, there is no adverse public comment to uphold termination.

C. Examples of Discharges Covered by This Permit

Examples of discharges which are covered by *The Federal Clean Water Act of 1977*, as amended, and this permit include, but are not limited to, the following:

1. Pumped or gravity drainage from the permitted area including, but not limited to, the mine, overburden storage and stockpile areas; and other adjacent areas which are associated with or incidental to the extraction of a natural resource or related activities.

2. Discharges from sediment control structures and/or treatment facilities.

D. Duration and Reissuance of Permits *(Rule 0400-40-05-.11 [3])*

The Commissioner shall review the permit and other available information to insure:

1. That the permittee is in compliance with or has substantially complied with all terms, conditions, requirements, and schedules of compliance of the expired permit;

2. That the Commissioner has up-to-date information on the permittee's production levels, permittee's waste treatment practices, nature, contents, and frequency of permittee's discharge, either pursuant to monitoring records and reports submitted to the Commissioner by the permittee; and,

3. That the discharge is consistent with applicable effluent standards and limitations, water quality standards, and other legally applicable requirements including any additions to, or revisions or modifications of such effluent standards and limitations, water quality standards, or other legally applicable requirements during the term of the permit.

E. Reopener Clause for Permits Issued to Sources in Primary Industries

If an applicable standard or limitation is promulgated under the *Clean Water Act*, as amended, *Sections 301 (b)(2) (C) and (D), 304 (B)(2), and 307(a)(2)* and that effluent standard or limitation is different from an effluent limitation in the permit or controls a pollutant not limited in the permit, the permit shall be promptly modified or revoked and reissued to conform to that effluent standard or limitation(s).

F. Toxic Pollutants

The permittee shall notify the Division of Water Resources as soon as it knows or has reason to believe:

1. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant (listed in *40 CFR, Part 122, Appendix D, Table II and III*) which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

   a. One hundred micrograms per liter (100 µg/L);

   b. Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;

   c. Five (5) times the maximum concentration value reported for that pollutant in the permit application; in accordance with *122.21(g)(7)*; or

   d. The level established by the Director in accordance with *122.44(f)*.

2. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

   a. Five hundred micrograms per liter (500 µg/L);

   b. One milligram per liter (1 mg/L) for antimony;

   c. Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with *122.21(g)(7)*; or

   d. The level established by the Director in accordance with *122.44(f)*.

3. They have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant which was not reported in the permit application under *122.21(g)(9)*.

G. Antidegradation Statement

Pursuant to the *Rules of the Tennessee Department of Environment and Conservation, Chapter 0400-40-03-.06*, titled "Tennessee Antidegradation Statement," and in consideration of the Department's directive in attaining the greatest degree of effluent reduction achievable in municipal, industrial, and other wastes, the permittee shall further be required, pursuant to the terms and conditions of this permit, to comply with the effluent limitations and schedules of compliance required to implement applicable water quality standards, to comply with a State Water Quality Plan or other state or federal laws or regulations, or where practicable, to comply with a standard permitting no discharge of pollutants.

H. Definitions

1. *"Access Road/Haul Road"* is any road constructed, maintained, or used by the operator of a mining facility primarily for the purpose of transporting raw materials, equipment, manufactured products, waste material, or by-products, and is located within the affected area.

2. *"Batch Discharge"* for the purpose of this permit means the controlled release through a pipe (valve) of a known quantity and quality of treated wastewater that has been pumped to a treatment structure after such water has undergone physical and/or chemical treatment to meet permit limits.

3. *"Best Management Practices (BMPs)"* means a practice or a combination or series of practices designed to prevent or minimize the amount of pollution generated by non-point sources, such as haulroads, access roads, spoil storage and stockpile areas, site preparation, installation of culverts, and other related activities.

4. *"Bypass"* means the intentional diversion of wastes from any portion of a treatment facility.

5. *"Calendar Day"* is defined as any 24-hour period.

6. *"Clean Water Act" or "Act"* means *The Federal Clean Water Act* (formerly referred to as *The Federal Water Pollution Control Act* or *The Federal Water Pollution Control Act Amendments of 1972*), as amended.

7. *"Commissioner"* means the Commissioner of the Tennessee Department of Environment and Conservation.

8. *"Director"* means the Regional Administrator or the State Director, as the context requires or an authorized representative.

9. *"Discharge Limitation"* means any restriction, established by Federal or State law and regulation, or developed as the result of the Best Professional Judgment of the Division, on the constituents which are discharged into waters of the state or adjacent to waters of the state.

10. *"Discharge of a Pollutant"* means: "(a) Any addition of any 'pollutant' or combination of pollutants to 'waters of the United States' from any 'point source,'... This definition includes additions of pollutants into waters of the United States from: surface runoff which is collected or channeled by man ..."(see *40 CFR 122.2*)

11. *"Division"* means the Division of Water Resources.

12. *"Grab Sample"* means an individual sample of at least 100 milliliters collected at a randomly selected time over a period not exceeding fifteen (15) minutes.

13. *"Industrial Waste"* means any liquid, solid, gaseous substance, or combination thereof, or form of energy including heat, resulting from any process of industry, manufacture, trade, or business or from the development of any natural resource.

14. *"Maximum for any 1 day"* means a limitation of the total concentration by weight in milligrams per liter (mg/L) of any pollutant in the discharge during any time of a calendar day or (for clay only) during any time of the discharge cycle.

15. *"Mine"* shall mean an area of land, surface or underground, which is used for the development of a natural resource. Such areas include any adjacent land, the uses of which are incidental to any such mining activities including excavations, workings, impoundments, dams, dumps, stockpiles, overburden piles, holes or depressions, repair areas, storage areas, and other areas upon which are sited structures, or other property or materials on the surface, resulting from or incidental to such activities. The term "mine" also includes all lands affected by the construction of new roads or the improvement or use of existing roads, except maintained public roads, to gain access to the site of such activities and for haulage.

16. *"Mine Dewatering"* is any water that is impounded or that collects in the mine or quarry that is pumped, drained, or otherwise removed from the mine through the efforts of the mine operator. The term also includes wet pit overflows caused solely by direct rainfall, groundwater seepage, or surface runoff entering the mine area.

17. *"Monthly Average Concentration"* is a limitation on the discharge concentration in milligrams per liter, as the arithmetic mean of all daily concentrations determined in a one-month period.

18. *"National Pollutant Discharge Elimination System (NPDES)"* means the Federal Environmental Protection Agency's (EPA) national program for issuing, modifying, revoking and reissuing, terminating, monitoring, and enforcing water quality permits. The term includes an "approved state program."

19. *"Other Storm Water Discharge"* means a discharge composed entirely of storm water that is not treated or monitored in the approved mine wastewater treatment system.

20. *"Per Discharge"* as used in this permit refers to the duration of treated mine wastewater discharge. Any single continuous discharge lasting more than seventy-two hours (72) represents a new discharge cycle and must be sampled each additional day beyond the seventy-two (72) hours.

21. *"Pollutant"* for the purpose of this permit means industrial waste.

22. *"Processing Facility"* is all or any part of the process involved in treating a mineral or raw material to improve properties and/or remove impurities. Processing may include any or all of the following activities: sizing, screening, crushing, separating, and washing.

23. *"Process Generated Wastewater"* is any wastewater used in the slurry transport of mined material, air emissions control, or processing exclusive of mining. The term also includes any other water which becomes commingled with such wastewater in a pit, pond, lagoon, mine, or other facility used for treatment of such wastewater.

24. *"Regional Administrator"* means the Administrator for the Environmental Protection Agency or his authorized representative.

25. *"Sediment Control Structure"* means a designed device, constructed or manufactured, used in controlling the subsidence and deposition process of suspended matter, carried by water, wastewater, or other liquids. The structure reduces the velocity of the liquid below the point at which it can transport the suspended materials (sand, silt, gravel, clay, etc.) to allow settling. These structures may be called settling lagoons, silt ponds, detention basins, holding ponds, or settling ponds/basins.

26. *"Storm Water Application Rule"* is the EPA Regulation promulgated on November 16, 1990, and amended March 21, 1991, November 5, 1991, and April 2, 1992, requiring that application be made for an NPDES permit for storm water discharges associated with industrial activity.

27. *"Storm Water Discharges Associated with Industrial Activity"* means the discharge from any conveyance which is used for collecting and conveying storm water and which is directly related to manufacturing, processing, or raw materials storage areas at industrial plants. The term includes storm water discharges from immediate access roads and haulroads.

28. *"Storm Water"* means storm water runoff, snow melt runoff, and surface runoff and drainage.

29. *"Tennessee Water Quality Control Act of 1977,"* as amended, *TCA 69-3-101* et seq., is the act that sets forth the guidelines and procedures for the abatement and prevention of pollution to the waters of the state. The act enables the state of Tennessee to qualify for full participation in the NPDES permit program.

30. The term *"10 year, 24 hour precipitation event"* means the maximum 24-hour precipitation event with a probable recurrence interval of once in ten (10) years as defined by the National Weather Service and Technical Paper No. 40, "Rainfall Frequency Atlas of the U.S.," May 1961, and subsequent amendments or equivalent regional or rainfall probability information developed therefrom.

31. The term *"closed and stabilized"* means the approved measures, procedures, and activities implemented to assure that any and all discharges from a facility that has completed mining and processing operations meet state water quality standards before NPDES permit termination. These activities include, but are not limited to, revegetation, removal of wastewater treatment structures, regrading, dismantling and removal of processing facilities and structures, equipment, machinery, and transport vehicles.

32. The term with *"asphalt plant"* means a mining facility whose treatment system receives surface runoff and/or drainage from an asphalt concrete plant located within the boundaries of the NPDES permit.

33. *"Upset"* means an exceptional incident in which there is unintentional and temporary non-compliance with technology-based effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include non-compliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

34. *"Waters"* means any and all water, public or private, on or beneath the surface of the ground, that are contained within, flow through, or border upon Tennessee or any portion thereof, except those bodies of water confined to and retained within the limits of private property in single ownership that do not combine or effect a junction with natural surface or underground waters.

RATIONALE

Limestone Quarry and Processing Facility

Calcium Silicate Corporation, Inc.
Columbia Plant
NPDES Permit TN0070149
Columbia, Maury County, Tennessee

November 21, 2016

Permit Writer: Joshua I. Frazier

I. DISCHARGER

Calcium Silicate Corporation, Inc.
P.O. Box 405
Lake Harbor, FL 33459

Contact: Mr. Mark C. Elizer, CEO/President

Facility Location: 2656 Harlan Farm Road
Columbia, TN 38402

Nature of Business: Crushed and Broken Limestone Mining

SIC Code: 1422; 1475;1499

Industrial Classification: Crushed and Broken Limestone,
Phosphate Rock,
Miscellaneous Nonmetallic Minerals, Except Fuels

Discharger Rating: Minor

II. PERMIT STATUS

NPDES Permit TN0070149 issued January 1, 2017

NPDES Permit TN0070149 expires December 31, 2021

Application for issuances received August 8, 2016

III. FACILITY DISCHARGES AND RECEIVING WATERS

The Columbia Plant proposes to discharge treated wastewater and storm water from Outfall 001 into Greenlick Creek in Maury County, Tennessee. The classified uses for Greenlick Creek are Fish and Aquatic Life, Irrigation, Livestock Watering and Wildlife, and Recreation. See *Rules of the Tennessee Department of Environment and Conservation, Chapter 0400-40-04.*

IV. APPLICATION TYPE AND BACKGROUND INFORMATION

This NPDES application is for the issuance of individual coverage for a 13.0 acre existing limestone quarry with secondary operations of phosphate screening and recycling of reclaimed furnace slag. The applicant, Calcium Silicate Corporation, Inc. (CSC), currently has coverage under a Tennessee Multi-Sector Permit (TMSP) (TNR054514) for storm water discharges associated with industrial activities. If individual coverage is authorized, TMSP coverage will be terminated upon issuance of this permit.

During an inspection in February 2016, the Division observed processing of limestone aggregate and miscellaneous nonmetallic minerals. These processing actions require coverage under an individual NPDES permit. As such, appropriate application materials were submitted, reviewed, and deemed complete on November 16, 2016.

V. APPLICABLE EFFLUENT LIMITATIONS GUIDELINES

Background

The United States Environmental Protection Agency (EPA) has adopted effluent limitations guidelines for point source discharges at facilities engaged in mineral mining and processing. These guidelines were adopted in pursuance of the *Federal Water Pollution Control Act Amendments of 1972, Public Law 92-500.* Permits for discharges will contain limitations and standards in accordance with these guidelines, when such are in effect.

EPA promulgated effluent limitations guidelines for the crushed and broken stone industry in 1977. The regulations established effluent limitations for Total Suspended Solids and pH. The rule also included a precipitation exemption. However, in 1979 the effluent limitations for TSS were invalidated and remanded to EPA as a result of federal court action. Subsequently, EPA amended the final rule and invalidated the remanded limitations for TSS. The promulgated limits for pH and precipitation event exemption were not invalidated or remanded.

A. Total Suspended Solids (TSS)

Effluent limitations guidelines for this parameter are based upon the Best Professional Judgment (BPJ) of the Division. BPJ based effluent limitations are

established if promulgated guidelines are not available or if a particular pollutant is not regulated. The regulations authorizing the use of BPJ in developing effluent guidelines include *Section 402 (a)(1) of the Federal Clean Water Act (CWA)*, the NPDES regulations in *40 CFR 125.3* and applicable state regulations contained in *Rule 0400-40-05-.09(1)(b)(2)* of the Tennessee Department of Environment and Conservation.

BPJ effluent guidelines are developed and established by permit writers using reasonable available and relevant data and information. In establishing BPJ limits for TSS, the Division used data and information from the following sources:

- Effluent data and information from crushed and broken stone and processing facilities with sedimentation ponds or equivalent technology,
- EPA documents, including the "Development Document for Effluent Limitations Guidelines and New Source Performance Standards for the Mineral Mining and Processing Point Source Category, July, 1979",
- State rules and regulations, including *Chapter 0400-40-05, Permit Effluent Limitations and Standards; Chapter 0400-40-03, General Water Quality Criteria; and Chapter 0400-40-04, Use Classifications for Surface Waters,*
- Stream survey data and information obtained from field studies conducted in accordance with the *Tennessee Antidegradation Statement* found in *Chapter 0400-40-03-.06,*
- Review and analysis of monitoring data and information submitted with NPDES Permit applications,
- Data obtained in field investigations, inspection reports, and historical monitoring and
- Technical journals, books, and other relevant literature.

In the exercise of BPJ, the Division has determined that the following effluent limitations for TSS provide the Best Conventional Technology (BCT) treatment for this industry:

Monthly Average Concentration	N/A
Maximum for Any 1 Day Concentration	40.0 mg/L

The historical record of NPDES permitting for this industry indicates that the 40 mg/L limitations is achievable by the industry and protective of water quality.

B. pH

Federally promulgated effluent limitations guidelines for pH are in effect for the crushed and broken stone industry (See *40 CFR 436.22 Subpart B*). The Division has determined that the Federal guidelines for pH adequately protect the classified uses of the receiving stream. The following effluent limitations guidelines are established for pH:

pH 6.0 - 9.0 Standard Units*

NOTE: *Rules of Tennessee Department of Environment and Conservation,* Chapter *0400-40-03-.03, General Water Quality Criteria* establishes criteria for uses of state waters. To protect and maintain the classified use of the receiving stream for fish and aquatic life, the pH value shall not fluctuate more than 1.0 unit over a period of 24 hours and shall not be outside the following ranges: 6.0 – 9.0 in wadeable streams and 6.5 – 9.0 in larger rivers, lakes, reservoirs, and wetlands.

C. General Water Quality Criteria

This NPDES permit includes the following provisions:

1) There shall be no visible floating scum, oil, or other materials contained in the wastewater discharge. The wastewater discharge must not cause an objectionable color contrast.

2) The wastewater discharge shall result in no other materials in concentrations sufficient to be hazardous or otherwise detrimental to humans, livestock, wildlife, plant life, or fish and aquatic life in the receiving stream.

These provisions are based on Tennessee water quality standards contained in *Rules of the Tennessee Department of Environment and Conservation, Chapter0400-40-03, General Water Quality Criteria.*

VI. PREVIOUS PERMIT LIMITS AND MONITORING REQUIREMENTS

This is new permit with no previously established permit limits and monitoring requirements.

VII. NEW NPDES PERMIT LIMITS

Monitoring Point (001)

	Discharge Limitations	Monitoring Requirements	
Wastewater Characteristics	Maximum for any 1 Day	Measurement Frequency	Sample Type
Total Suspended Solids	40.0 mg/L	Two per Month	Grab
Flow (GPM)	Report	Two per Month	Estimate
pH	6.0 to 9.0 Standard Units	Two per Month	Grab

VIII. PRECIPITATION EVENTS

Any overflow from facilities (i.e. wastewater treatment structures) governed by *40 CFR 436.22 (b)* shall not be subject to the effluent limitations guidelines covered by this regulation. The effluent limitations for pH governed by *40 CFR 436.22* shall not apply to discharges that occur as a result of a precipitation event that exceeds the 10- year/24-hour storm design.

The federal effluent limitations guidelines promulgated for this industry are applicable to pH only. In the exercise of Best Professional Judgment (BPJ), the Division is also applying the precipitation event provision of this permit to the effluent limitations for Total Suspended Solids. This determination is supported by an analysis and review of available legal documents and technical information. See Rationale Section V. A.

Any permittee seeking to qualify for the overflow exemption has the burden to demonstrate conclusively that a given storm event exceeded the 10-year/24-hour design. In addition, the permittee must provide evidence that the wastewater treatment facilities were adequately sized and maintained. Sampling and submittal of effluent monitoring information is still required even if the permittee qualifies for the overflow exemption.

IX. MONITORING REQUIREMENTS FOR WASTEWATER DISCHARGES

EPA regulations require that monitoring and sampling frequencies be sufficient to yield data that are representative of the monitored activity including, if appropriate, continuous monitoring. See *40 CFR 122.48*. A measurement schedule of twice per month for total suspended solids, flow and pH will be established at this facility. We believe these monitoring frequency levels are protective of water quality and will provide sufficiently representative data of the monitored activity.

The nature and effect of the discharge and its impact on the receiving waters will be the basis for any change or modification in monitoring frequency. Impacts on the

receiving waters will include any impairment of the stream use classifications. These classifications are specified under *Rules of the Tennessee Department of Environment and Conservation Chapter 0400-40-03-.03, (3) Fish and Aquatic Life.*

X. STORM WATER DISCHARGES

Access Roads and Haul Roads and Other Areas or Sources for Storm Water

Limitations on Coverage

Most stormwater runoff at mining facilities enters the mine treatment system (i.e., sediment control ponds). The combined runoff is considered mine wastewater/process wastewater and must meet the applicable effluent limitations for the discharge of treated mine wastewater. Applicable effluent limitations guidelines also cover runoff associated with access roads and haul roads that are constructed of mine waste materials and/or where mine wastewater is used for dust suppression.

The storm water provision applies only to discharges composed entirely of storm water runoff that is not directed to and/or controlled by existing or proposed treatment structures/systems for mine wastewater. Sufficient documentation (i.e., application plans, maps, addendums, etc.) of such treatment must be provided to the Division before the exemption is valid. Storm water is defined as stormwater runoff, snow melt runoff, and surface runoff and drainage. *40 CFR 122.26.*

Background

In the *Water Quality Control Act of 1987*, Congress established controls on stormwater discharges and authorized EPA to promulgate NPDES permit application rules for storm water discharges associated with industrial activities. These rules cover active and inactive mining operations within the meaning of stormwater discharges associated with industrial activities. *40 CFR 122.26.*

The definition of stormwater discharges associated with industrial activities also covers access roads and haul roads. These areas are likely sources for pollutants associated with raw materials, intermediate products, and finished products that are transported to and from the facility. These roads will also be sources for pollutants such as oil and grease from vehicles and machinery using these roads. *55 FR 48065, November 16, 1990.* These provisions also cover other areas or sources on the NPDES permit boundary that include discharges composed entirely of stormwater. *40 CFR 122.26.*

In accordance with EPA and state regulations, the Division has added these provisions to the NPDES to cover monitoring and reporting requirements for stormwater discharges associated with access roads and haul roads and other areas or sources on the permit that include discharges composed entirely of stormwater. These requirements are as follows:

Parameter	Reporting Level	Monitoring Requirements	
		Measurement Frequency	Sample Type
Total Suspended Solids	150 mg/L*	Annually	Grab
Oil & Grease	15 mg/L	Annually	Grab
pH	5.0 to 9.0 Standard Units	Annually	Grab

* *If the storm water discharge is from an area not associated with an access road and haul road or is not a source for vehicular traffic monitoring for Oil and Grease is not required.*

The permittee shall monitor at least once a year the designated storm water outfalls (or demonstrated representative outfalls) associated with access roads and haul roads and/or any other area requiring storm water coverage. The sample shall be collected during any period (quarter) of the calendar year, as long as the samples are representative of the quantity and quality of the storm water runoff being discharged from the facility. The once per year monitoring requirement is based on *40 CFR 122.44, TNR050000, Sector AD, 5.1.1* and Best Professional Judgment (BPJ) of the Division.

Sources for the parameter reporting levels for storm water discharges include *Sector AD of the Tennessee Stormwater Multi-Sector General Permit (TMSP), TNR050000* and Best Professional Judgment (BPJ) of the Division. The *TMSP* was reissued on April 14, 2015, and became effective on April 15, 2015. Sector AD includes reporting levels for pH, Oil and Grease, and Total Suspended Solids, the pollutants of primary concern relating to mine access roads and mine haul roads.

Total Suspended Solids (TSS) reporting level is based on Best Professional Judgment (BPJ) after evaluating available monitoring data. The importance of the TSS reporting parameter is expressed as follows: TSS is a reasonable screen or indicator of stormwater discharge quality since many stormwater pollutants are themselves suspended solids, or enter receiving waters attached to solids

XI. MONITORING, INSPECTION, AND COMPLIANCE INFORMATION

The Columbia Plant was inspected once during the application process. General overview of daily operations, procedures for wastewater discharge, and treatment structure capacities were all investigated. No compliance issues were discovered.

XII. STATE OF TENNESSEE ANTIDEGRADATION POLICY

Tennessee's Antidegradation Statement is found in *Chapter 0400-40-03-.06* of the *Rules of the Department of Environment and Conservation.* The primary purpose of the antidegradation policy is to establish a greater level of protection for those waters that are identified to be of high quality.

Generally, there are two types of high quality waters. Outstanding National Resource Waters (ONRW's) are specifically designated by the Board of Water Quality, Oil and Gas and are afforded the greatest level of protection. No new discharges or expansion of existing discharges are allowed that will result in measurable degradation of the existing water quality. See *0400-40-03-.06 (5)*. Other high quality waters are identified by the Department as Exceptional Tennessee Waters and are also protected against degradation. Some degradation may be allowed only if the Board of Water Quality, Oil and Gas deems it economically and socially necessary. See *0400-40-03-.06 (4)*.

"Available parameters" occur where water quality is better than the applicable criterion for a specific parameter. In available conditions, new or additional degradation for that parameter will only be allowed if the applicant has demonstrated to the department that reasonable alternatives to degradation are not feasible. See *0400-40-03-.06 (3)*.

"Unavailable parameters" exist where water quality is at, or fails to meet, the criterion for one or more parameters. In unavailable conditions, new or increased discharges of a substance that would cause or contribute to impairment will not be allowed. See *0400-40-03-.06 (2)*.

The Columbia Plant proposes to discharge treated wastewater and storm water from Outfall 001 into Greenlick Creek in Columbia, Tennessee. According to available GIS information and the "EPA Approved Final Version Year 2014 303(d) List", Greenlick Creek is fully supporting its designated uses, and thus, is not listed as impaired. Additionally, Greenlick Creek is not identified or designated as Exceptional Tennessee Waters or Outstanding National Resource Waters.

At the point of discharge, Greenlick Creek is approximately 1.25 miles from the confluence of the Duck River. The Duck River is listed as impaired for total phosphorus and dissolved oxygen in the "EPA Approved Final Version Year 2014 303(d) List". The pollutant source has been traced to Municipal Point Source discharges and discharges from Municipal Separate Storm Sewer Systems (MS4).

A Total Maximum Daily Load (TMDL) for siltation and habitat alteration has been developed for the Lower Duck River Watershed. Greenlick Creek is not impaired for siltation or habitat alterations. However, this TMDL provides a mechanism for NPDES permit issuance. For further details please see Section XIII.

Impairments on this section of the Duck River have not been correlated to mining or mining recycling activities. The Columbia Plant is removing and recycling phosphate (raw phosphorus ore) from the terrestrial environment left over from previous industrial activities, thus removing a likely source of the total phosphorus impairment on the Duck River. This phosphate material at the facility is unearthed, screened, loaded onto railcars, and shipped where needed. Additionally, CSC is recycling and reusing other miscellaneous nonmetallic minerals left in the present pit from previous

mining operations. Again, this practice could possibly remove other sources of future impairment to the surrounding aquatic environment.

The entire Lower Duck River, from Kentucky Lake to the beginning of the Upper Duck River, is Exceptional Tennessee Waters. Portions of this waterway lay within the Tennessee National Wildlife Refuge.

Sections of the Duck River are federally designated as critical habitat for Purple Bean (*Villosa perpurpurea*) and Cumberlandian Combshell (*Epioblasma brevidens*). Additionally, federal endangered Clubshell (*Pleurobema clava*), Pygmy Madtom (*Noturus stanauli*), Birdwing Pearlymussel (*Lemiox rimosus*), Oyster Mussel (*Epioblasma capsaeformis*) and state threatened Coppercheek Darter (*Nothonotus aquali*) and Water Stitchwort can all be found within the aquatic habitat of the Duck River.

The applicant has analyzed the reasonable alternatives to degradation and has developed a plan to minimize the possibility of degradation to the surrounding aquatic environment. The operator plans to divert drainage from non-disturbed areas. By diverting drainage in these areas, the quality of water will be maintained by not allowing it to mix with treated wastewater. The operator agrees to use the quarry pit for primary treatment in addition to using Settling Basin 1 in series to treat wastewater. These engineered measures will ensure that processed wastewater is treated as much as possible before it is discharged into the unnamed tributary.

Furthermore, the operator intends to recycle and reuse treated process water. By using the storm water and process water that is retained on-site, the facility can reduce the need and cost of obtaining other sources of water for use in wet suppression activities and processing of aggregate. This will also reduce the need and volume of treated water in the system to be discharged. It is important to note that available discharge records indicate 30 years of no discharge events.

The operator will be required to use certain techniques common of mining procedures which are intended to reduce the loading of Total Suspended Solids (TSS) to the receiving waters. These techniques include:

(1). Mining will be from the downstream point and will proceed upstream. Mined areas will be protected by berms.
(2). Construction of diversion and interception ditches, installation of hay bale barriers, and the erection of rock check dams which will carry storm water to treatment structures.
(3). Immediate and proper seeding of disturbed areas to allow revegetation.

The Division has concluded that the Columbia Plant is capable of achieving the applied effluent limitations of 40 mg/L TSS for any one day and a pH balance between 6.0 and 9.0 S.U's at Outfall 001. These limits are achievable with proper operation, general maintenance, and daily quality control measures.

XIII. TOTAL MAXIMUM DAILY LOAD /PROCESS AND IMPLEMENTATION

Section *303 (d)* of the federal *Clean Water Act* (CWA) requires each state to develop Total Maximum Daily Loads (TMDLs) for those waterbodies within its boundaries that are not attaining water quality standards. The TMDL process quantifies the amount of a pollutant, identifies the sources of the pollutant, and establishes the maximum allowable loadings of a pollutant for a waterbody that will allow the waterbody to maintain water quality standards. TMDLs are developed on a watershed basis and are prioritized based on the severity of pollution. In accordance with *40 CFR 130.7* proposed TMDLs are placed on public comment and review. The final TMDL is approved by EPA.

An approved TMDL has been developed for siltation and habitat alteration in the Lower Duck River Watershed. The receiving stream, Greenlick Creek, for this discharge is located in the Lower Duck River Watershed. The Waste Load Allocation (WLA) for existing and future mining sites discharging to the impaired Lower Duck River Watershed is implemented through the NPDES permit requirements for this site.

The NPDES permit limit of 40.0 mg/L for TSS is considered to be protective of water quality and is within the margin of safety for the WLA for siltation established in the approved TMDL.

XIV. PUBLIC PARTICIPATION OPPORTUNITIES

Applicant and Permittee Responsibilities

Applicants for new NPDES permits to discharge and existing permittees who wish to modify permits by expanding discharges shall notify the public of the application by posting a sign near the point of entrance to the facility and within view of a public road. Expanded discharges include new treatment and monitoring points, additional acreage, and major changes to the treatment system affecting the volume and quantity of the discharge.

The sign shall be of such size that is legible from the public road. The sign must be maintained for at least thirty (30) days following submittal of the application to the Division. The sign posting for new and expanded discharges is a requirement of *Rule 0400-40-05-.06 of* the Department of Environment and Conservation.

How to Comment:

Comments may be submitted to the address below until the expiration date listed on the Division's public notice announcing the proposed permit activity.

State of Tennessee
Department of Environment and Conservation
Division of Water Resources
3711 Middlebrook Pike
Knoxville, Tennessee 37921-6538
Telephone (865) 594-6035 Fax (865) 594-6105
Attn: Public Notice Coordinator
E-mail Gary.Mullins@tn.gov

How to Request a Public Hearing

Interested persons may request in writing that the Director of the Division of Water Resources hold a public hearing on any application. The request must be filed within the comment period and must indicate the interest of the party filing it and the reasons for a hearing. When there is significant public interest for a hearing, a hearing will be conducted according to *Chapter 0400-40-05-.06 (12)* of the Department of Environment and Conservation.

How the Department Will Proceed

The Director of the Division of Water Resources will determine the final permit action after considering comments submitted during the comment period, the hearing record, if any, and the requirements of the Federal and State acts and regulations.

To Obtain Permit Application Details and Additional Information

Copies of the application, draft permit, and supporting documentation are in the permit files maintained at the Mining Section's office. These files are available for public inspection during normal visiting hours by contacting Kara.Blevins@tn.gov or calling (865) 594-5460.

XIV. PERMIT DURATION

The proposed limitations meet the requirements of *Section 301(b)(2)(A), (C), (D), (E), and (F)* of *The Federal Clean Water Act of 1987.* This permit will be issued for a five (5) year term.

303(d) Permitting Checklist

1. Indicate the status of this discharge. ☐ Existing ☒ New ☐ Recommencing

2. Indicate the NPDES permit number, if assigned. TN0070149

3. List the receiving stream and discharge point(s) in stream miles. Greenlick Creek - 001

4. List the HUC and watershed name. TN06040003024_0200 - Duck Lower

5. Is the receiving stream on the State of Tennessee's 303(d) list? ☐ Yes ☒ No

If the answer to 5 above is "no", then stop. Sign and date the bottom of the form. Route to the NPDES permit file and/or the Planning limits file.

6. List the known causes of impairment. _____

7. Does this discharge represent an increase in pollutants that have caused the stream to be included in the 303(d) list? ☐ Yes ☐ No

If the answer to 7 above is "no", complete 8 and 9 below. Sign and date the form. Route to the NPDES permit file. If the answer to 7 above is "yes", go on to number 10 below.

8. Explain why the proposed discharge is not expected to cause an increase in the pollutants listed in the 303(d) report or known causes of impairment listed in (6).

_____

9. Identify the source of the information in 8 above (i.e. permit file, application, literature).

_____

10. If oxygen-demanding substances are involved, does D.O. modeling indicate further degradation?
☐ Yes ☐ No ☐ N/A Attach modeling results, if applicable.

11. If nutrients are involved, is effluent data available? ☐ Yes ☐ No ☐ N/A Attach data, if applicable.

If effluent nutrient data is not available, indicate the expected effluent concentrations and the source of that information (i.e. data from similar facilities, literature).

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12. If metals or toxics are involved, does the WLA calculation indicate a measurable instream increase? (Use the RDLs from the Water Quality Standards to determine)
☐ Yes ☐ No ☐ N/A Attach the WLA calculation,if applicable.

13. For each parameter identified in 10 and/or 13, indicate and justify the permit condition(limit, compliance schedule, monitoring, TMDL, etc.) selected. Use additional sheets as necessary

PARAMETER	PERMIT CONDITION	RATIONALE

14. Signature of person completing this form: _____ Date: 11/23/2016

15. Signature of reviewer: _____ Date: 11/23/16