Giant Resource Recovery – Harleyville, Inc.

Giant Cement Kiln

Harleyville, SC

654 Judge St, Harleyville, SC 29448
Phone (800) 786-0477

by elementia

TABLE OF CONTENTS

1

GENERAL INFORMATION

Facilities: Giant Cement Company (GCC) / **G**iant **R**esource **R**ecovery – Harleyville, Inc. (Grr-Harleyville)

Physical/Manifest Address: Giant Cement Company 654 Judge Street Harleyville, SC 29448

Sample Approvals Address: Sample Approvals Grr-Harleyville 482 Seven Mile Rd. Harleyville, SC 29448

Facility Phone Number: (800) 786-0477 / (803) 496-2200

Hours: Open: 24/7/365

Loads Accepted: 7:00am – 4:00pm Monday - Friday

Facility Contact Name, Title and Phone Numbers: Tammy Hamilton, Customer Service Chemist (803) 496-2221 / (843) 636-0332

Permit Status: RCRA PART B for storage, May 2005

EPA Identification Number: SCD 003 351 699

EPA Region: IV

Lead Regulatory Agency (EPA or State): State (DHEC)

NAICS/SIC Codes:

- Primary: NAICS 327310 (Cement Kiln) SIC 3241
- Secondary: NAICS 562211 (Hazardous Waste Processing) SIC 4953

Giant Cement Company and **G**iant **R**esource **R**ecovery Company are wholly owned subsidiaries of Giant Cement Holding, Inc. (GCHI) also owns Keystone Cement, Bath, PA, **G**iant **R**esource **R**ecovery, Sumter, SC, **G**iant **R**esource **R**ecovery, Attalla, AL. and Dragon Products Company, LLC., Maine

2

VIA ELECTRONIC MAIL AND CERTIFIED MAIL
RETURN RECEIPT REQUESTED

February 1, 2022

Ms. Lillian McFadden
Compliance and Enforcement Division
Bureau of Land and Waste Management
South Carolina Department of Health and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Re: Annual Adjustment of Closure Cost Estimate (2022)
Giant Cement Company
Harleyville, South Carolina
EPA ID Number SCD 003 351 699

Dear Ms. McFadden:

Pursuant to South Carolina Hazardous Waste Management Regulation R.61-79.264.142(b), Giant Cement Company (Giant) submits its annual closure cost estimate update. The closure cost estimate was calculated using an inflation factor derived by a ratio of the 2021 3rd Quarter[1] and 2020 3rd Quarter[2] Implicit Price Deflators for Gross Domestic Product (119.093/113.801)[3] provided in Table 1.1.9 of the *Bureau of Economic Analysis Gross Domestic Product Report*. The updated closure cost estimate for fiscal year 2022 for the Giant facility totals $814,616.

Should you have any questions or require additional information, please contact Mr. Edward F. "Sonny" Dougherty at (803) 496-2855 or me at (803) 496-2284.

Sincerely,

Lane H. Smith, P.E.
Manager, Environmental, Health, and Safety Affairs

cc: US EPA Region IV
Ricardo Yllescas Alvarez, Giant
Edward F. "Sonny" Dougherty, Giant
Roberto E. Polit, Giant

[1] The 3rd Quarter 2021 factor is the most recent available. It was last updated on January 27, 2022.
[2] The 3rd Quarter 2020 factor is the factor as published on January 28, 2021.
[3] Line 27 (Gross National Product) of Table 1.1.9.

Giant Resource Recovery, Inc.

Giant Resource Recovery-Harleyville, Inc. / 654 Judge St., Harleyville, SC 29448
(800) 786-0477 / Fax (803) 496-2214 / 888-Grr-GCHI /
www.giantresourcerecovery.com

RE: INSURANCE COVERAGE – Giant Resource Recovery-Harleyville, Inc (GRR)

To Whom it May Concern:

Please be advised that Giant Resource Recovery-Harleyville, Inc. works with insurance brokers to maintain a comprehensive property and casualty insurance program utilizing insurance markets in the United States. We maintain coverage for general, automobile, worker's compensation, environmental sites, excess and damage to our property. Our limits and retentions are consistent with a company of GRR's relative size.

Questions pertaining to this letter of insurance coverage can be directed to my attention.

Sincerely,

James Plemons
Harleyville Sales Manager
jplemons@gchi.com

3

SITE BACKGROUND

HISTORY OF GIANT CEMENT COMPANY:

Giant Cement Company, first known as the American Improved Cements Company, is one of the oldest cement manufacturing companies in America. It was organized in 1883 for the purpose of constructing and operating a cementplant at Egypt (now called Bath), Pennsylvania, at which location the company still operates a plant.

It is interesting to note that during that same year, the Brooklyn Bridge was opened, the Federal Civil Service Act was adopted, the Metropolitan Opera opened, and standard time first came into use.

The name of the company was later changed to American Cement Company and in 1913 the Giant Portland Cement Company was organized to acquire the assets of the American Cement Company.

Portland cement was so named when it was first discovered in 1824; it resembled the color of a well-known building stone on the Isle of Portland in the English Channel. Today some sixty companies in the United States produce Portland cement at 160 plants. It is made by burning to a clinker and grinding to extreme fineness, a carefully proportioned artificial mixture of limestone and clay or other calcareous and aluminous materials. After the burning process, a small percentage of gypsum is added to control the setting time of the cement.

Portland cement is the principle ingredient in concrete, an easily recognized and well-known construction material which all of us encounter daily in our streets, roads, bridges, buildings and homes. Concrete made from Portland cement has been likened to liquid stone because it may be caused to take any shape or form desired. The manufacturing process has been aptly described as passing a mountain through a sieve because the raw materials, after being burned into a clinker are then reduced to fineness so that the material will pass through a sieve with 40,000 openings per square inch - a sieve finer than a silk scarf.

Giant, South Carolina, originally an alumina plant, was acquired from the WarAssets Administration in 1947. It was converted to a cement manufacturing plant and the first Portland cement was produced in December 1948.

Several types of Portland cement are produced at Giant: Type I Air Entraining, Type II and Type Ill or Hi-early Portland cement. Each type is of a different chemical composition to satisfy the varying purposes and requirements of the construction industry. Giant also produces a masonry cement that is used jointly with concreted cinder block or brick construction, as well as other types.

HISTORICAL USE OF SITE:

The U.S Defense Administration constructed the original plant buildings at the present site on previously undeveloped land in 1944. During World War II, the plant site was used for mining and production of aluminum oxide. In 1947 the facility was purchased by Giant Cement Company and converted to cement. In 1959,1965 and 1973 new kilns were constructed. The original kiln was taken out of service in 1973. The plant was converted from oil and natural gas to coal in 1981.

The company began to use waste oil in 1979. A water substitution program began in 1985, and waste solvents were added after completion of the tank storage area in late 1987. A new dry kiln replaced all the wet kilns in 2004.

SITE USE AND LENGTH OF OPERATION:

Giant Cement Company located in rural Harleyville, South Carolina specializes in the manufacturing of Portland and masonry cement. Natural resources such as coal and gas are used to fire its rotary kiln. And as part of their resource recovery program, waste solids, waste oils and waste solvents are also used as fuels to supplement the natural resources.

In 1987 Giant Cement began operating under interim status as a RCRA hazardous waste TSD Facility for tank, waste pile and container storage of hazardous waste fuels (both liquidsand solids). Their Part B was issued on September 30, 1992.

Giant Cement and it's sister organization, Giant Resource Recovery – Harleyville, Inc. (Grr-Harleyville) operate on 60 acres of an approximately 1,700 acre site which is located 1.5 miles north of the town of Harleyville, South Carolina.

Giant Resource Recovery was formed for the purpose of marketing and processing waste supplement fuels for energy, and contaminated soils for materials recovery in the cement manufacturing process.

4

GEOLOGICAL AND HYDROGEOLOGICAL

REGIONAL GEOLOGY:

A veneer of Cenozoic and Cretacous coastward thickening sediments, of mainly marine and marginal origin, covers the Lower Mesozoic and Paleozoicbasement rock from the fall line to the Atlantic coast in South Carolina (Steel and Colquhoun, undated). This wedge of Coastal Plain sediments which dip gently to the southeast increase in thickness from 0 feet at the Fall Line to approximately 4000 feet in extreme southern South Carolina (Newcome, 1988).

Cretaceous Formation underlies virtually all of the South Carolina Coastal Plain, but the Cenozoic deposits (with the exception of the Pliocene and Pleistocene) were eroded to the northeast due to·positive relief of the Cape Fear Arch. The arch became an active structure during the post-Econe, thereby preventing deposition of middle Cenozoic deposits and causing erosion of post-Cretaceous strata across its axis. Thus, the areal extent of Lower Cenozoic sediments in South Carolina became progressively compressed towards the southwest as the arch developed. During the Late Cenozoic, uplift on the arch ceased and by the Pliocene, marine deposits were uncomfortably deposited across the feature (Newcome, 1988).

A test well drilled in central Dorchester County about nine miles southwest of the site encountered the crystalline basement at, 1860 feet MSL (Newcome, 1988). Strata beneath Dorchester County include the Upper Cretaceous Middendorf, Black Creek, and Pee Dee Formations, the Paleocene Black Mingo Formation, the Eocene Santee Limestone and Cooper Formation. The Late Cenozoic marine terraces and unnamed Pleistocene deposits: These sediments resulted from marine to marginal marine depositions. The Eocene deposits are near- surface in much of the Middle Coastal Plain and are generally buried beneath several tens of feet of the Late Cenozoic dastic cover.

The Eocene carbonate formations, the Santee Limestone and the Cooper Formation, are replaced up-dip of the Middle Coastal plain by generally age-equivalent Upper Cretaceous and Paleocene formations of the South Carolina Coastal Plain are elastic sediments of delta to marginal marine to marine origin (Goon, 1988) that lays hundreds of feet below the surface inthe Middle Coastal Plain.

REGIONAL HYDROGEOLOGY:

The aquifer systems of the South Carolina Coastal Plain are highly permeable sand and carbonate zones confined by lower permeability elastic and carbonates (Aucott,1988). Relatively minor water beating zones in the Upper Cretaceous Pee Dee Formation and Paleocene Black Mingo Formation lie between the Black Creek and the Floridian aquifer (Meadows, 1987). The surficial aquifer system overlies the confining Cooper Formation of the Floridian aquifer system.

In the eastern Coastal Plain of South Carolina, the late- Cenozoic, Pliocene and Pleistocene marine deposits comprise surficial aquifer of the region.

The surficial aquifer system includes alternating, discontinuous layers of sand, silt, and clay which together commonly have an average thickness of less that 50 feet (Park, 1985). Ground water of the surficial aquifer occurs under water table conditions, and water levels are commonly 3 to 15 feet below land surface and generally reflect variations in local topography. Ingeneral, water levels of the

surflcial aquifer are deepest at areas of high elevation and are near land surface at low elevations. Swampy areas result where the water table is at or near land surface. The water table rises and falls in response to fluctuations in rainfall, seasonal variations in the rate of evapotranspiration, the topography, and the local hydraulic characteristics of the surficial aquifer system. Locally, ground water of the surficial aquifer moves by gravity from areas of high elevation to areas of low elevation at rates that depends on the hydraulic gradient of the water table and the permeability of the aquifer (Park, 1985).

Eocene age Santee Limestone Ocala Limestone and Cooper Formation comprise the geologic framework of the Floridian Aquifer system which represents the principal artesian aquifer in the eastern Coastal Plain in South Carolina. The major flow zones are present in the Santee and the Ocala, while clay content of up to 50 percent (Taber, 1939). In the Cooper Formation generally makes it a confining unit, even when it is only a few feet thick (Park, 1985). The Santee Limestone is continuous and forms the lower part of the system, with the Cooper Formation overlaying the Santee except in extreme southern South Carolina where the Ocala Limestone becomes the stratigraphic equivalent of the Cooper (Newcome, 1988). The Tertiary Sand Aquifer is the up-dip dastic equivalent of the down-dip Floridian carbonate aquifer (Aucott, 1988). In the Dorchester County area, the confining Cooper Formation. The Cooper Formation is relatively impermeable and acts as a confining bed between the overlying Pliocene Pleistocene sediments of the surficial aquifer and for the underlying Santee Limestone.

Hydraulic characteristics of the Floridian vary principally with porosity. The primary porosity is highest in areas with coquina, particularly in the Ocala, and secondary fracture or solution porosity is present in some areas. Clay content of the upper Cross Member of the Santee is higher than that of the underlying Moultrie Member (Meadows, 1987). Lower clay content in the Moultrie Member gives its greater primary porosity and a tendency to develop solution and fracture porosity, generally making it the more productive water bearing zone of the Santee Limestone. The direction of ground-water flow is generally southeastward.

GROUNDWATER MONITORING:

Giant Cement Company uses solid non-hazardous materials as raw material substitutes. Wastes are stored in containers, tanks or as a waste pile within a building. GCC does not place any waste upon the land, therefore groundwater monitoring is not required.

Groundwater and stormwater discharges are to the quarry. Excess water in the quarry is discharged to Huttos Lake through permitted outfalls. WWTP discharge is through permitted outfall 001 to permitted outfall 002 to Four Hole Swamp. All discharge water from the plant is discharged under the NPDES permit. All discharge water is tested monthly.

GROUND WATER QUALITY:

Ground water of the surficial aquifer of the region usually contains low concentrations of dissolved solids and is acidic to slightly alkaline, with relatively high amounts of iron. The chemical quality of water from the shallow aquifer is generally acceptable for domestic use and most industrial purposes (Park, 1985).

5

HSWA PORTION OF THE RCRA PERMIT

OWNER/OPERATOR: Giant Cement Company
654 Judge Street
P.O. Box 218
Harleyville, South Carolina 29448

EPA I.D. No. SCD 003 351 699

Pursuant to the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA) of 1976, 42 USC Section 6901 et seq., and the Hazardous and Solid Waste Amendments (HSWA) of 1984, P.L. 98-616, and regulations promulgated thereunder by the U.S. Environmental Protection Agency (EPA) (codified and to be codified in Title 40 of the Code of Federal Regulations), a permit is issued to Giant Cement Company (hereafter called the Permittee) to operate a hazardous waste treatment facility located in Harleyville, South Carolina at latitude 33°12' 49" and longitude 80°26' 55".

This Permit, in conjunction with the Hazardous Waste Management Permit issued by the State of South Carolina, constitutes the full RCRA Permit for this facility. The Permittee, pursuant to this permit, is authorized to treat hazardous waste in an industrial furnace and to utilize direct burn equipment subject to the terms, conditions, limitations and requirements contained herein. The permit also requires the Permittee to comply with all land disposal restrictions applicable to this facility.

The Permittee must comply with all terms and conditions of this permit. This permit consists of the conditions contained herein (including those in any attachments) and applicable regulations contained in 40 CFR Parts 260 through 264, 266, 268, 270, and 124 as specified in the permit and statutory requirements of RCRA, as amended by HSWA. Nothing in this permit shall preclude the Regional Administrator from reviewing and modifying the permit at any time during its term in accordance with 40 CFR §270.41.

This permit is based on the premise that information and reports submitted by the Permittee prior to issuance of this permit are accurate. Any inaccuracies found in this information or information submitted as required by this permit may be grounds for termination or modification of this permit in accordance with 40 CFR §270.41, §270.42, and §270.43 and potential enforcement action. The Permittee must inform EPA of any deviation from or changes in the information in the application which would affect the Permittee's ability to comply with the applicable regulations or permit conditions.

The authority to perform all actions necessary to issue, modify, enforce, or revoke this permit has been delegated by the Regional Administrator to the RCRA Division Director.

This permit is effective 5/11/05, and shall remain in effect for ten years until 5/11/2015, unless revoked and reissued, or terminated under 40 CFR §270.41 and §270.43 or continued in accordance with 40 CFR §270.51(a). If any conditions of this permit are appealed in accordance with 40 CFR §124.19, the effective date of the conditions determined to be stayed in accordance with 40 CFR §124.16 shall be determined by final agency action as specified under 40 CFR §124.19.

April 11, 2005
Issued Date

June 20, 2007 Date Last Modified

G. Alan Farmer
Director
RCRA Division

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

HAZARDOUS WASTE PERMIT
SCD 003 351 699

Office of Environmental Quality Control
Bureau of Land and Waste Management

Issue Date: April 11, 2005

Effective Date: May 25, 2005

Expiration Date: May 25, 2015

Date Last Modified: June 20, 2007

This Permit is hereby issued to:

Owner/Operator: Giant Cement Company Facility Contact: Mr. Matt Allers, Plant Manager

Address: 654 Judge Street, P.O. Box 218, Harleyville, South Carolina 29448

Phone: (803) 496-5033

This Permit is for storage of hazardous waste in one containment building and two container storage areas as well as eleven storage tanks; treatment of hazardous waste in two shredder systems, nine storage tanks and an industrial furnace; and identification and corrective action for solid waste management units (SWMUs) located at 654 Judge Street, Harleyville, South Carolina in Dorchester County. The permit also requires the Permittee to comply with all land disposal restrictions, waste minimization guidelines, groundwater monitoring requirements and air emission standards applicable to this facility.

This Permit is issued pursuant to Section 44-56-10 et seq. Regulation 61-79 of the 1976 South Carolina Code of Laws, as amended. The authority granted hereunder is subject to the requirements of the aforementioned laws and regulations and the attached conditions.

Richard Haynes, P.E., Director
Division of Waste Management
Bureau of Land and Waste Management

This Permit is the property of the Bureau of Land and Waste Management and must be surrendered on demand. This signature page must be posted at all times in a conspicuous place on the premises.

D H E C

PROMOTE PROTECT PROSPER

Promoting and protecting the health of the public and the environment.

RECEIVED 14 Aug 07

August 8, 2007

CLINT ROBERTS
GIANT CEMENT COMPANY
PO BOX 218
HARLEYVILLE SC, 29448

Re : Completeness Determination of Part 70 Air Quality Permit Application
Giant Cement Company (Permit No. 0900-0002)
Dorchester County
Harleyville, South Carolina

Dear Mr. Roberts:

The South Carolina Department of Health and Environmental Control, Bureau of Air Quality (Bureau), on August 8, 2007, received the Part 70 Air Quality (Title V Operating) permit application submitted by All4 Inc. Consulting Firm for the above-referenced facility. The completeness review period for the application officially began on this date. Upon review, the application has been deemed complete and the application shield granted, effective August 8, 2007.

The permit application will now undergo a technical review by the assigned permit engineer. Please remember that any requests from the Bureau for additional technical information must meet specified deadlines. Failure to do so could result in the removal of the application shield.

Should you have any questions concerning the application shield or technical review, please contact the appropriate staff member, Veronica Barringer, of this office, at (803) 898-4127 or barrinv@dhec.sc.gov.

Sincerely,

Rhonda B. Thompson, P.E., Director
Division of Engineering Services
Bureau of Air Quality

cc: Veronica Barringer, BAQ
Susan Yates, Region 7, Charleston EQC Office
Title V Permit File: 0900-0002

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health
and Environmental Control

Part 70 Air Quality Permit

Giant Cement Company
Post Office Box 218
Harleyville, South Carolina 29448
(permit updated 6/8/06)

In accordance with the provisions of the Pollution Control Act, Sections 48-1-50(5) and 48-1-110(a), and the 1976 Code of Laws of South Carolina, as amended, Regulation 61-62, the above named permittee is hereby granted permission to discharge air contaminants into the ambient air. The Bureau of Air Quality authorizes the operation of this facility and its applicable equipment specified herein in accordance with valid construction permits, and the plans, specifications, and other information submitted in the Title V permit application dated September 3, 2002 and the PSD construction permit application dated June 24, 2002.

This permit is subject to and conditioned upon the terms, limitations, standards, and schedules contained in or specified on the 213 pages, with the accompanying attachments, of this permit.

Permit Number:	**TV-0900-0002**	**Effective Date:**	**April 1, 2003**
Issue Date:	**February 11, 2003**	**Expiration Date:**	**March 31, 2008**

, P.E.

Director, Engineering Services Division
Bureau of Air Quality

D H E C

PROMOTE PROTECT PROSPER

Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

RECEIVED 10-28-14

cc. S. Ervin
E. Gutierrez
S. Holt
A. Smith
L. Smith

October 23, 2014

EDWARD F DOUGHERTY JR
GIANT CEMENT COMPANY
PO BOX 218
HARLEYVILLE, SC 29448-0218

Re: GIANT CEMENT COMPANY INC
NPDES Permit # SC0022667
Dorchester County

Dear Edward F Dougherty Jr:

Acknowledgement is made of receipt of your Form 2C application on March 3, 2014, for renewal of your National Pollutant Discharge Elimination System (NPDES) Permit authorizing discharge of effluent to surface waters.

Your renewal application will carry NPDES #SC0022667, as was previously assigned to this facility. This application fulfills your statutory obligations at this point for the facility outlined therein. Your application is administratively complete and the discharge permit will be issued or denied in accordance with State priorities. If there is a delay in renewing your permit on or before the expiration of your existing permit, you are still authorized to discharge pursuant to Section 122.6 of SC Regulation 61-9. Therefore, unless we notify you in writing to the contrary, your present permit will remain fully effective and enforceable pending issuance of your new permit.

Please keep in mind that your application is still undergoing technical review and that additional technical comments may follow.

If you have any questions regarding this application, please feel free to call this office at 803-898-4232.

Sincerely,

Patty Barnes

Patty G Barnes
NPDES Administration

cc: Kristian Tucker, BOW/WPC Enforcement

D H E C

PROMOTE PROTECT PROSPER

Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

RECEIVED 1/21/15

CC: SONNY DONOGHEY
SANDRA ERVIN
EDMO GUTIERREZ
STEVE HUTT
AL SMITH

January 15, 2015

Mr. Lane Smith
Giant Cement Company
654 Judge Street
Harleyville, South Carolina, 29448

RE: Giant Cement Company
SCD 003 351 699
Resource Conservation and Recovery Act (RCRA)
Notice of Administrative Completeness

Dear Mr. Smith:

The Bureau of Land and Waste Management of the South Carolina Department of Health and Environmental Control (Department) has completed a review of the RCRA Part A & B permit application for the Giant Cement Company, which was received on November 10, 2014. Based on this review, the Department has determined that the application is administratively complete with respect to the regulatory requirements of RCRA and the South Carolina Hazardous Waste Management Regulations (SCHWMR) (R.61-79.124.3(c)). The Department will now begin review to determine if the application is technically adequate with respect to the specific requirements of the SCHWMR.

Please note that the Department may require additional information or revisions to these documents in the future.

If you have any questions, please contact me at 803-898-0258.

Sincerely,

Lynne Garner

Lynne D. Garner, Permit Engineer
Operations Engineering Section
Division of Waste Management
Bureau of Land and Waste Management

cc: Christine Sanfor-Coker, Director, Low Country EQC, Charleston
Rodney Wingard, Section Manager

dhec
Healthy People. Healthy Communities

June 26, 2017

CC: S. Holt
S. Jaramillo
K. Cedar
T. Shaw
A. Smith
L. Smith

GIANT CEMENT COMPANY
GIANT CEMENT COMPANY
654 JUDGE ST
HARLEYVILLE, SC 29448

RE: Reauthorization to Discharge
GIANT CEMENT COMPANY, ,
Coverage #: **SCR004214**

To Industrial Stormwater Program coordinator:

The Department has reissued the NPDES General Permit for "Stormwater Discharges Associated with Industrial Activity" (SCR000000) on September 1, 2016. Per 1.3 of the general permit, your site is authorized to discharge. Please note the Effective Date of the general permit is October 1, 2016 and that your coverage number has not changed.

A copy of the permit may be found at:
http://www.scdhec.gov/Environment/docs/stormwater/2016%20FINAL%20IGP.pdf

The Department may conduct periodic inspections of your facility to determine compliance with your stormwater pollution prevention plan (SWPPP) and the requirements of the general permit. Any violations found during these inspections may result in enforcement action. Therefore, it is incumbent upon you to make sure you are in compliance with the SWPPP and general permit at all times. Do not submit your site's SWPPP to the Department unless requested. Maintain your SWPPP on site at all times and ensure it is up to date.

If, in the future, your facility does not require this permit, you must submit a Notice of Termination (NOT) to cancel your coverage under this general permit. Please see 1.4 of the general permit for the NOT requirements. If the facility changes ownership and/or operator, then a Notice of Intent is required for the new owner/operator. The old owner/operator should submit an NOT. An annual fee is due for each fiscal year that you hold active coverage. The Department will send you an invoice for the fee each year until the NOT is submitted.

If you have any questions, please call or email either:

Mel Leaphart: mel.leaphart@dhec.sc.gov or (803) 898-4143 OR
Shawn Clarke: shawn.clarke@dhec.sc.gov or (803) 898-3544

Sincerely,

SM Clarke

Shawn Clarke, P.E., Manager
Stormwater Permitting Section

dhec
Healthy People. Healthy Communities

November 19, 2019

Mr. Sonny Dougherty
Giant Cement Company
P.O. Box 218
Harleyville, SC 29448

RE: Permit Modification (Mod 18-1)
Mine Permit I-000120, Harleyville Mine, Giant Cement Company
(BLWM File 50887), Dorchester County

Dear Mr. Dougherty:

The S.C. Department of Health and Environmental Control (DHEC) has approved the Application for Modifying a Mine Operating Permit and/or Reclamation Plan (Mod 18-1) for the Harleyville Mine effective November 19, 2019. This modification adds the Mims Tract which allows for an increase in the permitted acreage of 114.5 acres (from 1525.0 to 1639.5 acres), an increase in the affected acreage of 112.6 acres (from 1095.0 to 1207.6 acres), and revises the reclamation plan. The reclamation bond covering the Harleyville Mine is a blanket bond of $554,975.00. With this approval, DHEC is hereby modifying Mine Operating Permit I-000120 for the Harleyville Mine. The approved permit document, reclamation plan, and mine maps are enclosed.

If you have any questions concerning the modification of the mine operating permit, please contact Mr. Ed Haigler, Division of Mining and Solid Waste Management (803-898-1375 or *haiglewe@dhec.sc.gov*). Mr. Jeremy Eddy is the mine DHEC inspector for this site (803-898-7609 or *eddyje@dhec.sc.gov*).

Sincerely,

Juli E. Blalock

Juli E. Blalock, Director
Division of Mining and Solid Waste Management

enclosures

pc: Sonny Dougherty, , Giant Cement Company *(sdougherty@gchi.com)*
Rachel L. Odzer, Giant Cement Company (*rodzer@gchi.com*)
Joe Koon, Manager, Mining and Reclamation (*koonjm@dhec.sc.gov*)
Ed Haigler, Mining and Reclamation (*haiglewe@dhec.sc.gov*)
Jeremy Eddy, BLWM (*eddyje@dhec.sc.gov*)
Jonathan Summa, Lowcountry EA (Charleston) (*summjt@dhec.sc.gov*)
Jason Ward, Dorchester County Administrator (*wardj@dorchestercounty.net*)
Kiera Reinertsen, Dorchester Co Planning & Zoning Dir. (*kreinertsen@dorchestercounty.net*)
Brett Caswell, BOW (*caswelbm@dhec.sc.gov*)
BLWM File 50887

S.C. Department of Health and Environmental Control

MINE OPERATING PERMIT

PART I:

Harleyville Mine
Giant Cement Company

Giant Cement Company, a corporation, has been granted a Mine Operating Permit, Mine Permit Number I-000120, to operate the Harleyville Mine in accordance with the S.C. Mining Act (S.C. Code Sections 48-20-10 *et seq.*, 1976) and Regulations 89-10 *et seq.* The operator shall conduct this operation as represented in documents submitted to support the issuance of this permit.

JOE KOON, MANAGER
MINING AND RECLAMATION SECTION

PERMIT NUMBER: I-000120
ORIGINALLY ISSUED: December 16, 1974
MODIFIED: November 19, 2019

In accordance with Section 48-20-60 of the South Carolina Mining Act, this Mine Operating Permit will remain valid unless it terminates as set forth in R.89-270 or is revoked in accordance with Section 48-20-160 and R.89-280. The anticipated mining completion date is shown on the *Schedule for Conservation and Reclamation Practices* in the *Reclamation Plan.*

The approved *Permit Application, Reclamation Plan*, and all supplemental information referenced herein, are an integral part of this permit. *Land Entry Agreements and Mine Maps* as identified in Part II and Part IV, respectively, are also a part of this permit.

Giant Cement Company

Home Office Address:

Giant Cement Company
P.O. Box 218
Harleyville, SC 29448

Local Office Address:

Giant Cement Company
654 Judge Street
Harleyville, SC 29448

Address for Official Mail:

Giant Cement Company
P.O. Box 218
Harleyville, SC 29448

Company personnel and title to be the contact for official business and correspondence. [South Carolina Department of Health and Environmental Control (DHEC) should be notified in writing immediately of any change in contact, address, telephone or fax numbers]:

Edward "Sonny" Dougherty
Manager, Environmental Compliance

Telephone: 803-496-2855 Ext. 8288
Email: sdougherty@gchi.com

LOCATION: The mine is located on the Holly Hill/Harleyville, SC U.S.G.S. 7.5' Topographic Map. The approximate geographic coordinates for the site are:

Latitude: 33.2412 Longitude: -80.4382

DESCRIBE LOCATION: The operation is located in Dorchester County, approximately 1.5 miles north of Harleyville, S.C. Specifically, the site is located to the north of Interstate 26 and adjacent to S.C. Highway 453.

Wendy → File

S.C. Department of Health and Environmental Control
D H E C
PROMOTE PROTECT PROSPER

Office of Ocean and Coastal Resource Management
1362 McMillan Avenue, Suite 400
Charleston, SC 29405
(843) 744-5838 FAX (843) 744-5847

September 25, 2000

Ms. Joan Farver, Manager
Mining and Reclamation Section
Division of Mining and Solid Waste Management
S. C. Dept. of Health and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201-1708

Re: Giant Cement Harleyville Mine West(P/N # 120)
120-00-NJW
Dorchester County

Dear Colonel Held:

The Office of Ocean and Coastal Resource Management has reviewed the non-jurisdictional wetland impacts associated with the above referenced project and certifies that they are consistent with the State's Coastal Zone Management Program per the plans dated June 30, 1999, enclosed with a letter from Ecological Associates, Inc. dated September 11, 2000. Mitigation for these wetland impacts will be provided through the preservation of the remaining wetlands on-site along with upland buffers. These preserved areas will be protected in perpetuity through the placement of USACOE/OCRM-approved restrictive covenants. A copy of the stamped recorded plat and the stamped recorded restrictive covenants must be submitted to the Office of OCRM within 60 days of issuance of the permit or prior to any work commencing under the permit, whichever comes first.

Sincerely,

Robert D. Mikell
Manager, Planning and
Federal Certification Section

JLH/GCHMW42466
cc: Mr. Richard Chinnis
Mr. Jeff Thompson
Mr. Quinton Epps, SCDHEC
Mr. Mark Williams, SCDHEC
S. C. Department of Natural Resources
U. S. Fish and Wildlife Service
U. S. Environmental Protection Agency
Mr. Nick Roark, Ecological Associates, Inc
Applicant

dhec
Healthy People. Healthy Communities.

Coastal Zone Consistency Determination

To:	Ed Haigler, BLWM Mining and Reclamation Section
From:	Christopher M Stout, BOW Coastal Stormwater Permitting Section
Applicant:	Sonny Doughtery, Giant Cement Company
Project Name:	Giant Cement Co,
Finding:	Conditionally Consistent with the SC Coastal Zone Management Program
Site Location:	First Bend Road, Harleyville, Dorchester County, South Carolina (TMS#: 0260000012)
Reference #:	HNJ-3Y8R-664MK, I-000120
Date:	September 25, 2019

The staff of the Office of Ocean and Coastal Resource Management (OCRM) reviewed the above referenced Coastal Zone Consistency project request for modification of the existing mine permit. The expansion will consist of a 114.5 acre new area to expand the total mine area to 1639.5 acres, though only 94.6 acres will be affected by the expansion. The mine will not extend below -35 feet mean sea level and all mining will be confined to the Santee Limestone's Cross Member and the overlying unconsolidated sands and clays of Pliocene/Pleistocene age. The project will impact 0.31 acres of federally jurisdictional (approved under SAC-44-2018-00784), freshwater wetlands and 2.38 acres of isolated, freshwater wetlands. The 75' undisturbed mine buffer on eastern edge of Segments 8 and 9 and along the southern edge of Segment 6 will be relocated to the southern and eastern edge of the Mims Tract. All stormwater discharges will be routed to the existing pit and through the existing NPDES permitted outfalls per NPDES Permit No. SC022667.

We hereby certify that the above referenced project is **Conditionally Consistent** with the ***Guidelines for Evaluation of All Projects*** as well as the Coastal Industries *(Mining),* Wildlife and Fisheries Management, and Stormwater Management *(Mines and Landfills)* policies contained in the S.C. Coastal Zone Management Program provided the following conditions are included in the permits and adhered to by the applicant.

1. In the event that any historic or cultural resources and/or archaeological materials are found during the course of work, the applicant must notify the State Historic Preservation Office and the South Carolina Institute of Archaeology and Anthropology. Historic or cultural resources consist of those sites listed in the National Register of Historic Places and those sites that are eligible for the National

Register. Archaeological materials consist of any items, fifty years old or older, which were made or used by man. These items include, but are not limited to, stone projectile points (arrowheads), ceramic sherds, bricks, worked wood, bone and stone, metal and glass objects, and human skeletal materials.

2. Mitigation for the 2.38 acres of isolated, freshwater wetland impacts and 0.31 acres of federally-jurisdictional, freshwater wetlands will be provided through the purchase of 18.00 credits from an approved mitigation bank. Proof of purchase of the required mitigation credits must be submitted to this office prior to beginning work on the project.

3. The project must be fully consistent with local zoning and comprehensive plans prior to work being conducted.

This determination shall serve as the SCDHEC OCRM Coastal Zone Consistency Determination for the work described above. However, this determination ***does not*** serve as a Department permitting decision and ***does not*** alleviate the applicant's responsibility to obtain any applicable State or Federal permit(s) for the work. Local government authorizations ***may also*** be required.

D H E C PROMOTE PROTECT PROSPER	Mining Form MR-500	S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL BUREAU OF LAND AND WASTE MANAGEMENT DIVISION OF MINING AND SOLID WASTE MANAGEMENT 2600 Bull Street, Columbia, SC 29201 Telephone Number(803) 869-4261 Fax Number: (803) 896-4001

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
BUREAU OF LAND AND WASTE MANAGEMENT
DIVISION OF MINING AND SOLID WASTE MANAGEMENT
2600 Bull Street; Columbia, SC 29201
Telephone Number (803) 896-4261 Fax Number (803) 896-4001

RECLAMATION PLAN

FORM MR-500 DATE VERSION ADOPTED: 7/1/94

****

As required in Section 48-20-90 of the South Carolina Mining Act, "An operator shall submit with his application for an operating permit a proposed reclamation plan. The reclamation plan for an operating permit only must be furnished to the local soil and water conservation district in which the mining operation is to be conducted. The plan must include as a minimum each of the elements specified in the definition of 'reclamation plan' in Section 48-20-40 and information required by the department. The reclamation plan must provide that reclamation activities, particularly those relating to control of erosion, to the extent feasible, must be conducted simultaneously with mining operations and be initiated at the earliest practicable time after completion or termination of mining on a segment of the permitted land. The plan must provide that reclamation activities must be completed within two years after completion or termination of mining on each segment of the area for which an operation permit is requested unless a longer period specifically is permitted by the department."

****

I. APPLICANT INFORMATION

1. Name of Company: Giant Cement Company

2. Name of Proposed Mine: Harleyville Quarry County: Dorchester

3. Home Office Address: P.O. Box 218 (Street **and** P.O. Box) 803.496.2200 (Telephone No.)

Harleyville (City) SC (State) 29448 (Zip Code) 803.496.2195 (Fax. No.)

4. Local Office Address: Same as Home Office (Street **and** P.O. Box) (Telephone No.)

(City) (State) (Zip Code) (Fax. No.)

5. Designate to which office Official Mail is to be sent:

Home Office: x Local Office:

6. Name of company personnel and their title to be the contact for official business and correspondence: Edward "Sonny" Dougherty, Manager, Environmental Compliance

II. ENVIRONMENTAL PROTECTION

1. Describe practices to protect adjacent resources such as roads, wildlife areas, woodland, cropland and others during mining and reclamation.

The mine will have a minimum thirty (30) foot buffer along all sides – much wider in some areas. The buffer will be maintained in a natural condition. The buffers will be supplemented with tree and shrub plantings, where appropriate. Significant upland and wetland areas adjacent to the mine site will be protected for mitigation, as described in the attached mine Reclamation Plan.

2. Describe proposed methods to limit significant adverse effects on adjacent surface water and groundwater resources.

The mine site will be physically separated from adjacent surface water corridors to minimize the effects to surface water. Ground water will collect in the mine pits at near normal levels. Some pumping of ground water will be required in selected cells; however, this water will be pumped to adjacent wet cells on site whenever possible. Stormwater will be allowed to settle within the open pits, with excess water filtering through a wetland creation area to an existing permitted NPDES outfall. Suspended solids will have sufficient areas and distance/time to settle or be filtered by vegetated communities.

3. Describe proposed methods to limit significant adverse effects on known significant cultural or historic sites within the proposed permitted area.

There are no known cultural or historic resources within the proposed permitted area, however, if such resources are discovered, the facility will immediately cease operations and contract the South Carolina Department of Archives and History and South Carolina DHEC -- Division of Mining and Solid Waste Management. An evaluation of the find will be performed and authorization to continue mining will be received prior to beginning mine operations again.

4. Describe method to prevent or eliminate conditions that could be hazardous to animal or fish life in or adjacent to the permitted area.

Discharge of water from the mine site will be through dedicated discharge/permitted NPDES corridors. No additional impact is expected to occur to adjacent streams and wetlands. The mine walls will be sloped to prevent deterioration thereby reducing dangerous conditions for human or animal presence within the active portion of the site.

5. Describe how applicant will comply with State air quality and water quality standards as established by the S.C. Department of Health and Environmental Control.

The proposed operation is for the removal of limestone marl only, no additional processes are included in this operation. Standards established by existing air quality permits will be complied with. If dusting problems occur, access and haul roads will be watered down to minimize adverse effects. No additional air quality concerns are anticipated. Any discharges from the mine pit will be through existing permitted NPDES outfalls and will comply with existing State standards for these discharges.

YOU ARE NOTIFIED THAT:

1) you, the operator, must file an application to modify the reclamation plan in the event actual reclamation varies from the set forth hereinabove, and

2) if at any time it appears to the Department that the activities under the reclamation plan are failing to achieve the purposes and requirements of the S.C. Mining Act, the Department may modify the RECLAMATION PLAN in accordance to Section 48-20-150.

Stephen P. Holt

Signature of Applicant/Operator or his Authorized Representative

Stephen P. Holt, P.E.

Printed Name of Applicant/Operator or his Authorized Representative

Vice President, Environmental, Health & Safety

Title

June 12, 2019

Date

Department Use Only

Permit No. I-000120 Date ~~Application~~ Approved Mod 18-1 11/19/19 Date Bond Rec'd 8/27/18

Bond Amount $554,995 (Blanket) or Single Bond Permit Issuance Date 12/16/74

ACTION TAKEN ON THIS RECLAMATION PLAN

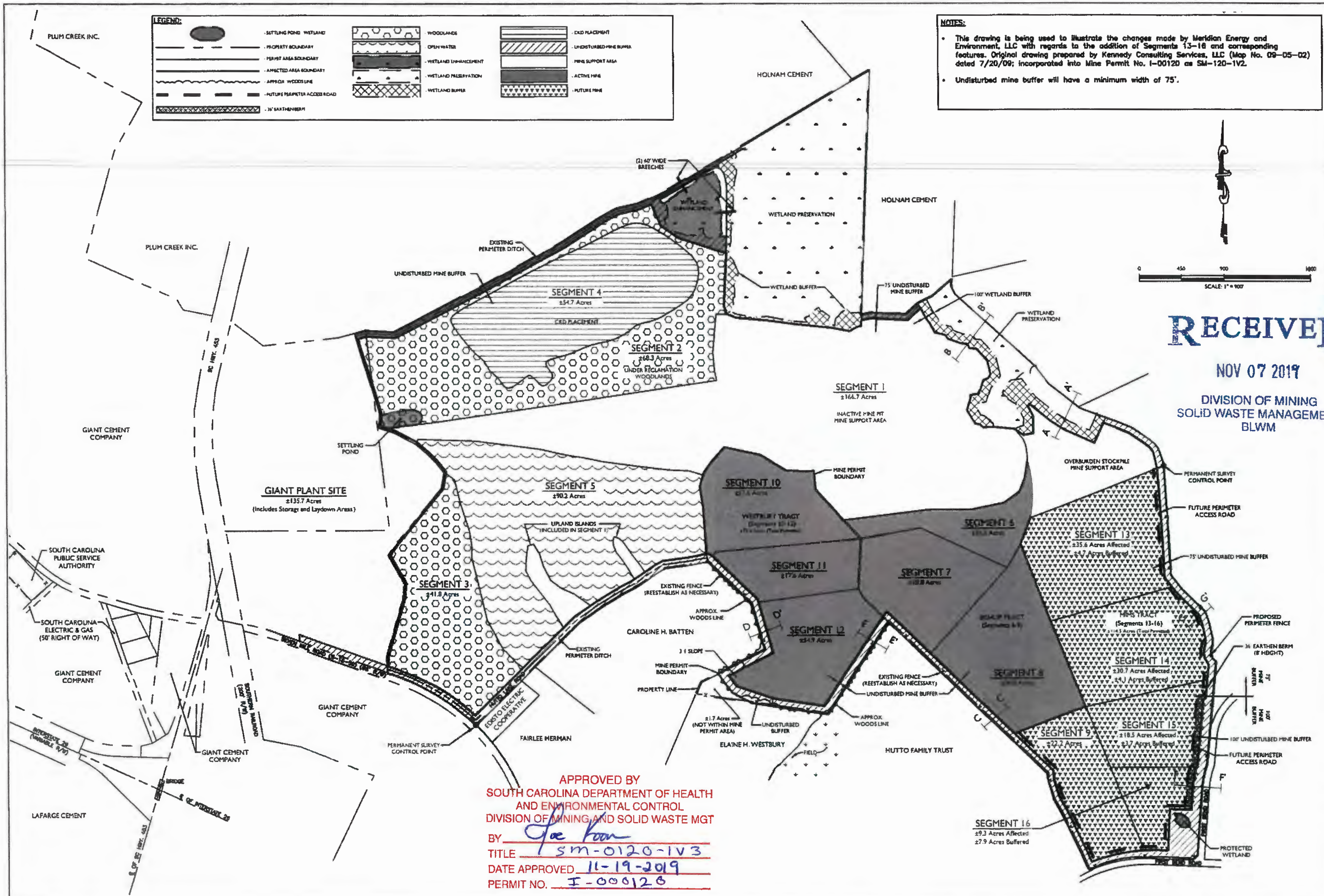
_____ Approved _____ Denied _✓_ Approved with Additional Terms and Conditions

By: _____

~~DIVISION DIRECTOR~~

Section Manager

Date: 11-19-2019



RECEIVED
NOV 07 2019
DIVISION OF MINING
SOLID WASTE MANAGEMENT
BLWM

APPROVED BY
SOUTH CAROLINA DEPARTMENT OF HEALTH
AND ENVIRONMENTAL CONTROL
DIVISION OF MINING AND SOLID WASTE MGT
BY Joe Koon
TITLE SM-0120-1V3
DATE APPROVED 11-19-2019
PERMIT NO. I-000120

REVISIONS

No.	Description	Date	By
1	Added segments 13-16 and corresponding 75' offsets	09/18/18	Meridian Energy and Environment, LLC
2	Modified undisturbed buffer width along eastern edge of Segments 15 and 16. Added 8' high earthen berm in Segments 15 and 16. Added location of protected wetland in northeast corner of Segment 16. Extended perimeter access road in Segments 16 and 9. Added cross sections for items from SM-120-1V1 and SM-120-1V2. Added cross-sections F-F' and G-G'. Added Details [illegible]	05/31/19	Meridian Energy and Environment, LLC

MERIDIAN
Energy & Environment, LLC

Meridian Energy and Environment, LLC

Office: 1876 Raoul Wallenberg Blvd. Charleston, SC 29407
Tel. 843.793.1504 • Fax 843.793.1505 • info@meridianee.com

Mine Map - East Side

Prepared for

GIANT CEMENT COMPANY

SC Hwy 453 and Seven Mile Road (S-18-50) - Harleyville - Dorchester County - South Carolina

Project No. gain0117
Date: 5/31/19
Approved by: MS
Drawn by: DD
Scale: 1"=900'
Map No.: N/A

Sheet No.
1 of 4

6

PERSONELL TRAINING

INTRODUCTION:
This section is primarily extracted from the Part B Permit Application. It addresses the documentation requirements related to the classroom instruction and on-the-job training given to facility WDF management personnel. The intent of the facility personnel training is to ensure that affected employees have the necessary training to perform their duties in a way that ensures the facility's compliance with applicable standards for the management of hazardous waste.

OUTLINE OF INTRODUCTORY AND CONTINUING TRAINING PROGRAMS:
Training consists of an initial training course followed by annual refresher training. Giant employees are trained based on their job duties and responsibilities. Initial training for affected employees addresses, as appropriate:

- Job responsibilities
- Hazard recognition
- Hazard communication,
- Health effects and physical hazards of WDF
- Facility communications and alarm systems
- Process safety controls and monitoring
- Inspection, repair, and replacement of emergency equipment
- Shutdown of equipment/operations
- Use of personal protective equipment (PPE)
- Emergency response procedures (including response to spills and fires) and review of the facility Contingency Plan
- Record keeping and reporting requirements

WDF management employees are also subject to annual refresher training reviewing the listed training topics, according to their job duties and responsibilities. There is initial training and annual refresher training provided to WDF management employees.

The personnel in the following list are provided with approximately 16 hours of initial training (including approximately 8 hours of classroom and 8 hours of on-the-job training) and 4 hours of annual refresher training (classroom):

- Safety Manager
- Coordinator, Environmental Compliance
- Solid Waste Fuel Material Handler
- Liquid Waste Fuel Material Handler
- Solid Waste Fuel Manager
- Liquid Waste Fuel Manager
- Grrl Laboratory Analyst/Technical *QA/QC* Coordinator
- Grr! Laboratory Manager

The following personnel may not receive the full 16-hour initial training or 4-hour refresh, training. However, they will at least be trained on the "Introduction and Overview" portion of the training program:

- Giant Cement Plant Manager
- Production Coordinator
- Production Supervisor
- Grr! Plant Manager
- Grr! Manifest Clerk / Customer Service (grouping includes Customer Service Representative, Customer Service Chemist, and Facility Sales Manager).

The Manager and Environmental Compliance may receive off-site/third party training in-lieu of thetraining provided in this training program. The off-site training program will provide relevant information in topics appropriate for this job function (e.g., RCRA regulatory review, chemicalhazards, etc.) that will reinforce the standards of practice at the facility.

IMPLEMENTATIONOF EMPLOYEE TRAINING PROGRAM:

Training methods include, but are not limited to, on-site and off-site lectures, discussions, hands- on skill training, on-the-job instruction/training, and video screening followed by discussions. The personnel responsible for coordinating the training program include the Manager of Environmental Compliance and Environmental Compliance Coordinator. These individuals' experience in hazardous waste management and health and safety issues includes the following:

- Knowledge of the chemical and physical characteristics of hazardous waste fuels
- Knowledge of hazardous waste storage, treatment, and disposal operations
- Knowledge of emergency preparedness and the Contingency Plan

Documentation of the qualifications and experience of the existing facility training coordinators are maintained in the facility operating record. Giant may also use the services of an appropriately qualified external organization or individual to provide training. Documentation of a contractor's training qualifications is maintained in the facility operating record.

The training program is designed to be relevant to each employee's job assignment. All employees associated with WDF management operations are trained in WDF emergency response procedures. The topic, "Contingency Plan Emergency Procedures," provides WDF personnel with the tools to respond effectively to emergencies. The procedures in the Contingency Plan are thoroughly reviewed and discussed for each of the possible types of emergencies that might occur at this facility.

The facility's emergency equipment and emergency systems, including facility alarms and automatic waste feed cutoffs are also reviewed and discussed. Other covered topics include spill response material locations; incident-specific responses for fires, explosions, spills, or materialreleases; and emergency communication, shutdown of operations, and evacuation procedures.

All newly hired, transferred or cross-trained personnel receive introductory instruction and on- the-job training related to their job assignments within six months of assignment or reassignment to an affected job. Employees are not allowed to work unsupervised in WDF-related operations until they have completed the required training for their job duties. Refresher training is provided to all current employees once every calendar year. The annual refresher training consists of an abbreviated review of relevant introductory training topics and a detailed review of appropriate Contingency Plan procedures. Written description of type and amountt of training is maintained until closure of facility.

7

GUIDELINES FOR APPROVALS

Please note that these are guidelines.

Per our Permit, all approvals require the submission of a representative sample along with Profile paperwork.

Send a 1-quart size liquid sample or a 2-gallon size solid sample (Ziploc bag or) to this common carrier address:

Giant Resource Recovery - Harleyville, Inc.Attn: Sample Approvals
482 Seven Mile Road Harleyville, SC 29448
803-496-2200

REGULATED (HAZARDOUS) AND NON-REGULATED LIQUID FUEL:

- > 5,000 BTUs/Lb.
- 2000 – 5000 BTU's/Lb if > 1% Total Organic Carbon
- < 2.5% Total Halogens
- < 10% Water
- <2% Sulfur (higher amounts may be accepted if low quantities)
- <20ppm PCBs (or <50ppm PCBs with State certified analysis; must not have been diluted)
- Metals must pass TCLP if non-regulated

REGULATED (HAZARDOUS) AND NON-REGULATED SOLID FUEL:

- No free liquids>
- Minimum 2,000 BTUs/Lb
- >1% Total Organic Carbon
- < 2.5% Total Halogens
- < 2% Sulfur (higher amounts may be accepted if low quantities)
- < 20ppm PCBs (or <50ppm PCBs with State certified analysis; must not have been diluted)
- <100ppm Benzene for (Must pass TCLP for Benzene if Non-Regulated)
- Metals must pass TCLP if non-regulated

NOTEWORTHY ITEMS:

- Steam may be able to be applied to both tankers and railcars pending prior approval.
- All loads are scheduled.
- Harlleyville has certified scales.
- Review of documentation is done for all incoming shipments.
- Visual checks are done prior to sampling, using a full-face respirator (or a higher level if needed). Loads passing the visual checks are then sampled using a full-face respirator (or a higher level of protection if needed).
- Fingerprint analysis is conducted at the on-site lab to verify the stream is the same one identified during pre-acceptance: Liquids are analyzed for BTU's/Lb., ash, total halogens, non-pourable solids, water content, sulfur, nitrogen, density, metals, and radioactivity. Solids are analyzed for BTU's/Lb., total halogens, sulfur, nitrogen, metals, free liquids, ash, burn progression, and radioactivity.
- Drivers are required to stay on-site with hazardous waste loads until lab analysis is confirmed.
- Cement kiln and fuels blending operations are entirely fenced.
- There are cameras at the front gate, the parking area, the tank farm, the control room, the laboratory, and at the front office.
- The facility has a written security plan and employees are trained to the security plan.

UNACCEPTABLE MATERIALS FOR SOLID FUELS PROGRAM AT HARLEYVILLE:

- **AEROSOL CANS**
- **CONSTRUCTION DEBRIS (CONCRETE, STEEL, ETC.)**
- **CONTAINERS FULL OF LIQUIDS (BUCKETS, BOTTLES, ETC. MUST BE SLIT AND EMPTIED)**
- **FREE LIQUIDS**
- **FULL, UNOPENED BAGS (BAGS MUST BE SPLIT AND CONTENTS READILY DISCERNIBLE)**
- **LAB PACKS**
- **LACQUER DUST OR NITROCELLULOSE-TYPE MATERIAL**
- **BATTERIES (ANY SIZE OR TYPE)**
- **MEDICAL WASTE (SYRINGES, NEEDLES, ETC.)**
- **OXYGEN GENERATING CANISTERS AND HOODS**
- **PCB WASTE**
- **RADIOACTIVE WASTE**
- **RAZOR BLADES**
- **REACTIVE OR EXPLOSIVE WASTE**
- **WET SLUDGES**
- **PESTICIDES AND/OR HERBICIDES (UNLESS THE SPECIFIC PESTICIDE(S)**
- **AND/OR HERBICIDE(S) HAS BEEN APPROVED)**
- **MATERIAL IN ANY TYPE OF SACK OR BAG**
- **ALCOHOL WIPES (OR OTHER TYPE WIPES) IN PACKETS**

Non-fuel value materials can be present only as residual contaminants. This list does not attempt to cover all items that may potentially pose process problems at our facility. Grr! may reject any material on a case-by-case basis if deemed as a significant handling problem.

Primary Waste Codes accepted at Giant Cement Harleyville

D001	F001	K001	K087	U001	U055	U108	U154	U210	P001
D002	F002	K002	K093	U002	U056	U109	U155	U211	P006
D003	F003	K003	K094	U003	U057	U110	U157	U212	P022
D004	F004	K004	K095	U004	U063	U111	U158	U213	P028
D005	F005	K005	K096	U005	U066	U112	U159	U214	P029
D006	F006	K006	K100	U006	U067	U113	U161	U215	P030
D007	F007	K007	K101	U007	U068	U114	U162	U216	P050
D008	F008	K008	K102	U008	U069	U115	U163	U217	P064
D009	F009	K009	K103	U009	U070	U116	U164	U218	P074
D010	F010	K010	K104	U010	U071	U117	U165	U219	P075
D011	F011	K011	K105	U011	U072	U118	U166	U220	P098
D012	F012	K013	K114	U012	U073	U119	U167	U221	P105
D013	F024	K014	K115	U014	U074	U120	U168	U222	P106
D014	F032	K015	K141	U015	U076	U121	U169	U223	P120
D015	F033	K016	K142	U016	U077	U122	U170	U225	P127
D016	F034	K017	K143	U017	U078	U123	U171	U226	P189
D017	F035	K018	K144	U018	U079	U124	U172	U227	
D018	F037	K019	K145	U019	U080	U125	U174	U228	
D019	F038	K020	K146	U020	U081	U126	U179	U230	
D020	F039	K021	K147	U021	U082	U127	U180	U231	
D021		K022	K148	U022	U083	U128	U181	U232	
D022		K023	K156	U023	U084	U129	U182	U235	
D023		K024	K157	U024	U085	U130	U183	U236	
D024		K025	K158	U025	U086	U131	U184	U237	
D025		K026	K159	U026	U087	U132	U185	U238	
D026		K027	K160	U027	U088	U133	U186	U239	
D027		K028	K161	U028	U089	U134	U187	U240	
D028		K029	K169	U029	U090	U136	U188	U242	
D029		K030	K170	U030	U091	U137	U190	U243	
D030		K035	K171	U031	U092	U138	U191	U244	
D031		K046	K172	U032	U093	U140	U192	U247	
D032		K048		U036	U094	U141	U193	U328	
D033		K049		U037	U095	U143	U194	U359	
D034		K050		U039	U096	U144	U196	U367	
D035		K051		U043	U097	U145	U200		
D036		K052		U044	U098	U146	U201		
D037		K060		U045	U099	U147	U202		
D038		K061		U047	U101	U148	U203		
D039		K062		U048	U102	U149	U204		
D040		K083		U050	U103	U150	U205		
D041		K084		U051	U105	U151	U207		
D042		K085		U052	U106	U152	U208		
D043		K086		U053	U107	U153	U209		

P Codes accepted cases by case; Solid only

8

CONTROLS

TANKFARM INFORMATION:

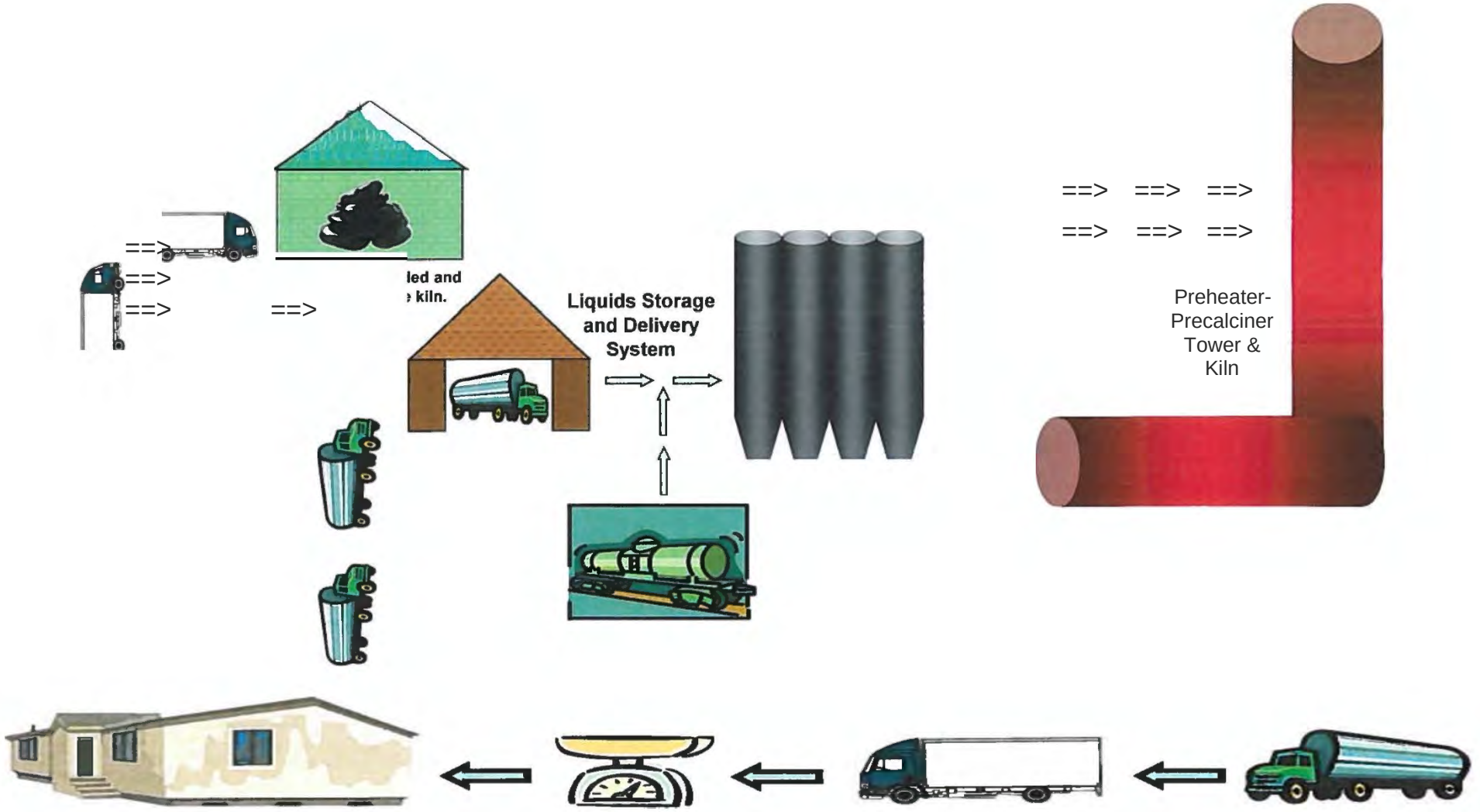
- A 14,000-gallon above ground tank is used for most non-hazardous materials. This tank is usually kept around 200^{o}F. A 49,000-gallon above ground tank and three 80,000-gallon above ground tanks are used for hazardous liquids (and occasionally a non-hazardous material).
- Storage tanks have microwave systems for fluid level measurements; there are high level alarms and high-high level alarms with automatic shutoffs. Liquids are moved from tanks to the cement kiln via above ground piping.
- Permitted for 588,250 Gallons (though if every tank was filled, there would only be 289,000 gallons in the haz tanks, 14,000 gallons in the non-haz tank).

SOLIDS BUILDING INFORMATION:

- The solids storage building is completely enclosed with metal flooring on 18" of concrete flooring and walls.
- Solids are shredded to a sufficient size, then transported by covered conveyor to be fed into the kiln.
- The solid waste storage and processing area is kept under negative pressure, and the solid waste shredder system has a nitrogen blanketing system. The dry cement kiln operation is fully automated with state-of-the art controls and instrumentation. Bob cats (skid-steer loaders) and a front-end loader are used in the solids building to move material to shredders and to move material from bins to hoppers which goes to a conveyor system to the kiln.
- Permitted for 2,000 tons in the storage building.

LABORATORY INSTUMENTS INFORMATION:

- Perkin Elmer FIMS 100 Mercury Analysis System;
- Perkin Elmer Optima-5300
- Perkin Elmer Avio 500
- CEM Mars 6 Microwave
- Parr Calorimeter
- Thermo Scientific Orion Star A211
- Perkin Elmer Clarus 500 Gas Chromatograph
- Perkin Elmer Turbo Mass Gas Chromatograph/Mass Spectrometer
- Hewlett-Packard 6890 GC/HP5973 MS
- Powder Train Mold (burn progression)
- Napco Vacuum Oven Model 5851
- Fisher Scientific Muffle Furnace
- Ludlum Model 3 Survey Meter
- Pensky-Martens Flash Tester
- Koehler Open Cup Flash Tester
- ERDCO Rapid Tester RT-1; 915 KF Ti Touch
- Karl Fischer Apparatus.


==>
==>
==>
==>
led and
kiln.
Liquids Storage
and Delivery
System
==> ==> ==>
==> ==> ==>
Preheater-
Precalciner
Tower &
Kiln