

MARYLAND DEPARTMENT OF THE ENVIRONMENT

**AIR AND RADIATION ADMINISTRATION
APPLICATION FOR A PERMIT TO CONSTRUCT**

DOCKET #04-21

COMPANY: The Quikrete Companies dba Pavestone Company
LOCATION: 11831 Hopewell Road, Hagerstown, MD 21740
APPLICATION: Installation of a 110 ton per hour, concrete batch plant with aggregate dryer equipped with a 25 million Btu per hour natural gas fired burner.

<u>ITEM</u>	<u>DESCRIPTION</u>
1	Notice of Application and Informational Meeting
2	Permit to Construct Application Forms – Forms 5, 5EP, 5T, 6, 11, emissions calculations, manufacturer information, MSDS, and site drawings.

**DEPARTMENT OF THE ENVIRONMENT
AIR AND RADIATION ADMINISTRATION**

NOTICE OF APPLICATION AND VIRTUAL INFORMATIONAL MEETING

The Maryland Department of the Environment, Air and Radiation Administration (ARA) received a permit-to-construct application from The Quikrete Companies on January 28, 2021 for the installation of a 110 ton per hour, concrete batch plant with aggregate dryer equipped with a 25 million Btu per hour natural gas fired burner. The proposed installation will be located at Pavestone Company, 11831 Hopewell Road, Hagerstown, MD 21740.

The application and other supporting documents are available for public inspection on the Department's website at the following link:

<https://mde.maryland.gov/programs/Permits/AirManagementPermits/Pages/index.aspx>

Pursuant to Environment Article, Sections 1-601 and 1-603, Annotated Code of Maryland, and as allowed under the Order of the Governor of the State of Maryland No. 21-03-09-03, a Virtual Informational Meeting has been scheduled so that citizens can discuss the application and the permit review process with the applicant and the Department.

VIRTUAL INFORMATIONAL MEETING

The Virtual Informational Meeting has been scheduled for Monday, June 28, 2021 at 7:00PM. In order to view or participate in the Virtual Informational Meeting, a participant must register using the following link:

<https://attendee.gotowebinar.com/register/1177945704677649419>

Once registered, directions to participate online or by phone will be electronically forwarded to the email provided.

Phone-only participants will not have the ability to ask questions or comment during the meeting; however, questions and comments may be sent to Ms. Shannon Heafey via e-mail to shannon.heafey@maryland.gov or by phone at 410-537-4433. Questions and comments must be received by June 25, 2021 in order to be read at the Virtual Informational Meeting.

The Department will provide an interpreter for deaf and hearing-impaired persons provided that a request is made for such service at least ten (10) days prior to the Informational Meeting.

Further information may be obtained by calling Ms. Shannon Heafey at 410-537-4433.

George S. Aburn, Jr., Director
Air and Radiation Administration



Maryland Department of the Environment
Air and Radiation Administration
Air Quality Permits Program
1800 Washington Blvd.
Baltimore, MD 21230

RE: Permit to Construct Application

To Whom This May Concern:

Please find enclosed a complete Permit to Construct application to construct a concrete batch plant and one aggregate dryer rated at 25 million British thermal units per hour (MMBtu/hr) at 11831 Hopewell Road, Hagerstown, Maryland. The Quikrete Companies (Quikrete) is the owner and Pavestone Company is the operator of this operation. This Permit to Construct application package consists of the following:

- Form 5
- Form 5T
- Form 5EP
- Form 6
- Form 11
- Emission Calculations
- Attachment 1: Manufacturer's Specifications
- Attachment 2: Safety Data Sheet (SDS)

If you have any questions or comments about the information presented in this application, please do not hesitate to contact Trevor Holland at (410) 920-5463 or trevor.holland@quikrete.com.

Sincerely,

Steven Pettitt
Vice President of Engineering, Quikrete

cc: Mr. Trevor Holland, Quikrete



AIR QUALITY PERMIT TO CONSTRUCT APPLICATION CHECKLIST

OWNER OF EQUIPMENT/PROCESS	
COMPANY NAME:	The Quikrete Companies
COMPANY ADDRESS:	5 Concourse Parkway, Suite 1900, Atlanta, GA 30328
LOCATION OF EQUIPMENT/PROCESS	
PREMISES NAME:	Pavestone Company
PREMISES ADDRESS:	11831 Hopewell Road, Hagerstown, MD 21740
CONTACT INFORMATION FOR THIS PERMIT APPLICATION	
CONTACT NAME:	Trevor Holland
JOB TITLE:	Manufacturing Engineer
PHONE NUMBER:	(410) 920-5463
EMAIL ADDRESS:	trevor.holland@quikrete.com
DESCRIPTION OF EQUIPMENT OR PROCESS	
Concrete batch plant and dryer	

Application is hereby made to the Department of the Environment for a Permit to Construct for the following equipment or process as required by the State of Maryland Air Quality Regulation, COMAR 26.11.02.09.

Check each item that you have submitted as part of your application package.

- Application package cover letter describing the proposed project
- Complete application forms (Note the number of forms included or NA if not applicable.)

No. <u> 1 </u> Form 5	No. <u> 1 </u> Form 11
No. <u> 10 </u> Form 5T	No. <u> NA </u> Form 41
No. <u> 1 </u> Form 5EP	No. <u> NA </u> Form 42
No. <u> 10 </u> Form 6	No. <u> NA </u> Form 44
No. <u> NA </u> Form 10	
- Vendor/manufacturer specifications/guarantees
- Evidence of Workman's Compensation Insurance
- Process flow diagrams with emission points
- Site plan including the location of the proposed source and property boundary
- Material balance data and all emissions calculations
- Material Safety Data Sheets (MSDS) or equivalent information for materials processed and manufactured.
- Certificate of Public Convenience and Necessity (CPCN) waiver documentation from the Public Service Commission ⁽¹⁾
- Documentation that the proposed installation complies with local zoning and land use requirements ⁽²⁾

(1) Required for emergency and non-emergency generators installed on or after October 1, 2001 and rated at 2001 kW or more.

(2) Required for applications subject to Expanded Public Participation Requirements.

APPLICATION FOR FUEL BURNING EQUIPMENT

Information Regarding Public Outreach

For Air Quality Permit to Construct applications subject to public review, applicants should consider the following information in the initial stages of preparing a permit application.

If you are not sure at the time you are applying for a permit whether public review of your application is required or for information on steps you can take to engage the surrounding community where your planned project will be located, please contact the Air Quality Permits Program at 410-537-3225 and seek their advice.

Communicating and engaging the local community as early as possible in your planning and development process is an important aspect of your project and should be considered a priority. Environmental Justice or "EJ" is a movement to inform, involve, and engage communities impacted by potential and planned environmental projects by affording citizens opportunities to learn about projects and discuss any concerns regarding impacts.

Although some permit applications are subject to a formal public review process prescribed by statute, the Department strongly encourages you to engage neighboring communities separate from and well ahead of the formal permitting process. Sharing your plans by way of community meetings, informational outreach at local gatherings or through local faith-based organizations can initiate a rewarding and productive dialogue that will reduce anxiety and establish a permanent link with your neighbors in the community.

All parties benefit when there is good communication. The Department can assist applicants in developing an outreach plan that fits the needs of both the company and the public.

MARYLAND DEPARTMENT OF THE ENVIRONMENT

1800 Washington Blvd ▪ Baltimore, Maryland 21230
(410) 537-3230 ▪ 1-800-633-6101 ▪ www.mde.state.md.us

Air and Radiation Management Administration ▪ Air Quality Permits Program

APPLICATION FOR PROCESSING/MANUFACTURING EQUIPMENT

Permit to Construct

Registration Update

Initial Registration

<p>1A. Owner of Equipment/Company Name The Quikrete Companies</p> <hr/> <p>Mailing Address 5 Concourse Parkway, Suite 1900 Street Address Atlanta, GA 30328 City State Zip</p> <p>Telephone Number (404) 926-3140</p> <p>Signature </p>	<p align="center">DO NOT WRITE IN THIS BLOCK</p> <p align="center">2. REGISTRATION NUMBER</p> <table style="width:100%; border: none;"> <tr> <td style="text-align: center;">County No.</td> <td style="text-align: center;">Premises No.</td> </tr> <tr> <td style="text-align: center;"> <table border="1" style="width: 100px; height: 20px; border-collapse: collapse;"> <tr><td style="width: 50px;"> </td><td style="width: 50px;"> </td></tr> </table> </td> <td style="text-align: center;"> <table border="1" style="width: 100px; height: 20px; border-collapse: collapse;"> <tr><td style="width: 25px;"> </td><td style="width: 25px;"> </td><td style="width: 25px;"> </td><td style="width: 25px;"> </td></tr> </table> </td> </tr> <tr> <td style="text-align: center;">1-2</td> <td style="text-align: center;">3-6</td> </tr> <tr> <td style="text-align: center;">Registration Class</td> <td style="text-align: center;">Equipment No.</td> </tr> <tr> <td style="text-align: center;"> <table border="1" style="width: 50px; height: 20px; border-collapse: collapse;"> <tr><td> </td></tr> </table> </td> <td style="text-align: center;"> <table border="1" style="width: 100px; height: 20px; border-collapse: collapse;"> <tr><td style="width: 25px;"> </td><td style="width: 25px;"> </td><td style="width: 25px;"> </td><td style="width: 25px;"> </td></tr> </table> </td> </tr> <tr> <td style="text-align: center;">7</td> <td style="text-align: center;">8-11</td> </tr> <tr> <td style="text-align: center;">Data Year</td> <td style="text-align: center;">Application Date</td> </tr> <tr> <td style="text-align: center;"> <table border="1" style="width: 100px; height: 20px; border-collapse: collapse;"> <tr><td style="width: 50px;"> </td><td style="width: 50px;"> </td></tr> </table> </td> <td style="text-align: center;"> </td> </tr> <tr> <td style="text-align: center;">12-13</td> <td style="text-align: center;"> </td> </tr> </table>	County No.	Premises No.	<table border="1" style="width: 100px; height: 20px; border-collapse: collapse;"> <tr><td style="width: 50px;"> </td><td style="width: 50px;"> </td></tr> </table>			<table border="1" style="width: 100px; height: 20px; border-collapse: collapse;"> <tr><td style="width: 25px;"> </td><td style="width: 25px;"> </td><td style="width: 25px;"> </td><td style="width: 25px;"> </td></tr> </table>					1-2	3-6	Registration Class	Equipment No.	<table border="1" style="width: 50px; height: 20px; border-collapse: collapse;"> <tr><td> </td></tr> </table>		<table border="1" style="width: 100px; height: 20px; border-collapse: collapse;"> <tr><td style="width: 25px;"> </td><td style="width: 25px;"> </td><td style="width: 25px;"> </td><td style="width: 25px;"> </td></tr> </table>					7	8-11	Data Year	Application Date	<table border="1" style="width: 100px; height: 20px; border-collapse: collapse;"> <tr><td style="width: 50px;"> </td><td style="width: 50px;"> </td></tr> </table>				12-13	
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<p>Steven Pettitt, Vice President of Engineering Print Name and Title</p>	<p>Steven.pettitt@quikrete.com Date</p>																															
<p>1B. Equipment Location and Telephone Number (if different from above) 11831 Hopewell Road Street Number and Street Name Hagerstown Maryland 21740 (410) 920-5463 City/Town State Zip Telephone Number Pavestone Company Premises Name (if different from above)</p>																																
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<p>4. Describe this Equipment: Make, Model, Features, Manufacturer (include Maximum Hourly Input Rate, etc.) Concrete batch plant with dryer, cooler, silos and loadout. Maximum facility throughput is 110 TPH. See flow diagrams for equipment details.</p>																																
<p>5. Workmen's Compensation Coverage WA7-65D-2900199-014 01/01/2021 Binder/Policy Number Expiration Date</p>																																
<p>Company NOTE: Before a Permit to Construct may be issued by the Department, the applicant must provide the Department with proof of worker's compensation coverage as required under Section 1-202 of the Worker's Compensation Act.</p>																																
<p>6A. Number of Pieces of Identical Equipment Units to be Registered/Permitted at this Time <small>(see equipment list in emission calculations)</small></p>																																
<p>6B. Number of Stack/Emission Points Associated with this Equipment See Flow Diagrams</p>																																

7. Person Installing this Equipment (if different from Number 1 on Page 1)

Name _____ Title _____

Company _____

Mailing Address/Street _____

City/Town _____ State _____ Telephone (____) _____

8. Major Activity, Product or Service of Company at this Location

Concrete batch plant.

9. Control Devices Associated with this Equipment

None

24-0

Simple/Multiple Cyclone

24-1

Spray/Adsorb Tower

24-2

Venturi Scrubber

24-3

Carbon Adsorber

24-4

Electrostatic Precipitator

24-5

Baghouse

24-6

Thermal/Catalytic Afterburner

24-7

Dry Scrubber

24-8

Other

Describe: Dust Collectors

24-9

10. Annual Fuel Consumption for this Equipment

Not Applicable.

OIL-1000 GALLONS

26-31

SULFUR %

32-33

GRADE

34

NATURAL GAS-1000 FT³

35-41

LP GAS-100 GALLONS

42-45

GRADE

COAL - TONS

46-52

SULFUR %

53-55

ASH%

56-58

WOOD-TONS

59-63

MOISTURE %

64-65

OTHER FUELS

66-1

ANNUAL AMOUNT CONSUMED

(Specify Units of Measure)

OTHER FUEL

66-2

ANNUAL AMOUNT CONSUMED

(Specify Units of Measure)

1=Coke 2= COG 3=BFG 4=Other

11. Operating Schedule (for this Equipment)

Continuous Operation

67-1

Batch Process

67-2

Hours per Batch

68-69

Batch per Week

Hours per Day

70-71

Days Per Week

72

Days per Year

73-75

Seasonal Variation in Operation:

No Variation

76

Winter Percent

77-78

Spring Percent

79-80

Summer Percent

81-82

Fall Percent

83-84

(Total Seasons= 100%)



12. Equivalent Stack Information- is Exhaust through Doors, Windows, etc. Only? (Y/N)

N

85

Refer to form 5EP for stack information.

If not, then

Height Above Ground (FT)

Inside Diameter at Top

Exit Temperature (°F)

Exit Velocity (FT/SEC)

--	--	--

86-88

--	--	--

89-91

--	--	--

92-95

--	--	--

96-98

NOTE:

Attach a block diagram of process/process line, indicating new equipment as reported on this form and all existing equipment, including control devices and emission points.

13. Input Materials (for this equipment only)

Is any of this data to be considered confidential? N (Y or N)

INPUT RATE

NAME	CAS NO. (IF APPLICABLE)	PER HOUR	UNITS	PER YEAR	UNITS
1. Natural Sand or Gravel	N/A	110	tons	963,600	tons
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					

TOTAL

14. Output Materials (for this equipment)

Process/Product Stream

OUTPUT RATE

NAME	CAS NO. (IF APPLICABLE)	PER HOUR	UNITS	PER YEAR	UNITS
1. Concrete	N/A	110	tons	963,600	tons
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					

TOTAL

15. Waste Streams- Solid and Liquid

OUTPUT RATE

NAME	CAS NO. (IF APPLICABLE)	PER HOUR	UNITS	PER YEAR	UNITS
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					

TOTAL



16. Total Stack Emissions (for this equipment only) in Pounds Per Operating Day

Refer to attached emission calculations

Particulate Matter

99-104

Oxides of Sulfur

105-110

Oxides of Nitrogen

111-116

Carbon Monoxide

177-122

Volatile Organic Compounds

123-128

PM-10

129-134

17. Total Fugitive Emissions (for this equipment only) in Pounds Per Operating Day

Refer to attached emission calculations

Particulate Matter

135-139

Oxides of Sulfur

140-144

Oxides of Nitrogen

145-149

Carbon Monoxide

150-154

Volatile Organic Compounds

155-159

PM-10

160-164

Method Used to Determine Emissions (1= Estimate 2= Emission Factor 3= Stack Test 4= Other)

TSP

165

SOX

166

NOX

167

CO

168

VOC

169

PM10

170

AIR AND RADIATION MANAGEMENT ADMINISTRATION USE ONLY

18. Date Rec'd. Local

Date Rec'd. State

Return to Local Jurisdiction

Date _____ By _____

Reviewed by Local Jurisdiction

Date _____ By _____

Reviewed by State

Date _____ By _____

19. Inventory Date

Month/Year

171-174

Equipment Code

175-177

SCC Code

178-185

20. Annual

Operating Rate

186-192

Maximum Design

Hourly Rate

193-199

Permit to Operate

Month

200-201

Transaction Date

(MM/DD/YR)

202-207

Staff Code

208-210

VOC Code

211 212

SIP Code

213 214

Regulation Code

215-218

Confidentiality

219

Point Description

220-238

Action

A: Add
C: Change

239

MARYLAND DEPARTMENT OF THE ENVIRONMENT
 Air and Radiation Management Administration • Air Quality Permits Program
 1800 Washington Boulevard • Baltimore, Maryland 21230
 (410)537-3225 • 1-800-633-6101 • www.mde.maryland.gov

FORM 5EP: Emission Point Data

Complete one (1) Form 5EP for EACH emission point (stack or fugitive emissions) related to the proposed installation.

Applicant Name: Quikrete Companies

1. Emission Point Identification Name/Number

List the applicant assigned name/number for this emission point and use this value on the attached required plot plan:
Bin Vent Filter 1 (Emission Point 5-A)

2. Emission Point Description

Describe the emission point including all associated equipment and control devices:
Cement Powders Silo

3. Emissions Schedule for the Emission Point

Continuous or Intermittent (C/I)?	C	Seasonal Variation Check box if none: <input checked="" type="checkbox"/> Otherwise estimate seasonal variation:	
Minutes per hour:	60	Winter Percent	
Hours per day:	24	Spring Percent	
Days per week:	7	Summer Percent	
Weeks per year:	52	Fall Percent	

4. Emission Point Information

Height above ground (ft):	67	Length and width dimensions at top of rectangular stack (ft):	Length:	Width:	
Height above structures (ft):	NA		0.83	0.83	
Exit temperature (°F):	120	Inside diameter at top of round stack (ft):	N/A		
Exit velocity (ft/min):	1,100	Distance from emission point to nearest property line (ft):			
Exhaust gas volumetric flow rate (acfm):	750	Building dimensions if emission point is located on building (ft)	Height NA	Length NA	Width NA

5. Control Devices Associated with the Emission Point

Identify each control device associated with the emission point and indicate the number of devices. **A Form 6 is also required for each control device.** If none check none:

- | | | | |
|---|-----------|--|--|
| <input type="checkbox"/> None | | <input type="checkbox"/> Thermal Oxidizer | No. _____ |
| <input type="checkbox"/> Baghouse | No. _____ | <input type="checkbox"/> Regenerative | |
| <input type="checkbox"/> Cyclone | No. _____ | <input type="checkbox"/> Catalytic Oxidizer | No. _____ |
| <input type="checkbox"/> Elec. Precipitator (ESP) | No. _____ | <input type="checkbox"/> Nitrogen Oxides Reduction | No. _____ |
| <input type="checkbox"/> Dust Suppression System | No. _____ | <input type="checkbox"/> Selective | <input type="checkbox"/> Non-Selective |
| <input type="checkbox"/> Venturi Scrubber | No. _____ | <input type="checkbox"/> Catalytic | <input type="checkbox"/> Non-Catalytic |
| <input type="checkbox"/> Spray Tower/Packed Bed | No. _____ | <input checked="" type="checkbox"/> Other | No. _____ |
| <input type="checkbox"/> Carbon Adsorber | No. _____ | Specify: Dust Collector | |
| <input type="checkbox"/> Cartridge/Canister | | | |
| <input type="checkbox"/> Regenerative | | | |

FORM 5EP: Emission Point Data

6. Estimated Emissions from the Emission Point

Criteria Pollutants	At Design Capacity (lb/hr)	At Projected Operations		
		(lb/hr)	(lb/day)	(ton/yr)
Particulate Matter (filterable as PM10)	Refer to Attached			
Particulate Matter (filterable as PM2.5)	Refer to Attached			
Particulate Matter (condensables)	--			
Volatile Organic Compounds (VOC)	--			
Oxides of Sulfur (SOx)	--			
Oxides of Nitrogen (NOx)	--			
Carbon Monoxide (CO)	--			
Lead (Pb)	--			
Greenhouse Gases (GHG)	At Design Capacity (lb/hr)	At Projected Operations		
		(lb/hr)	(lb/day)	(ton/yr)
Carbon Dioxide (CO ₂)	--			
Methane (CH ₄)	--			
Nitrous Oxide (N ₂ O)	--			
Hydrofluorocarbons (HFCs)	--			
Perfluorocarbons (PFCs)	--			
Sulfur Hexafluoride (SF ₆)	--			
Total GHG (as CO ₂ e)	--			
List individual federal Hazardous Air Pollutants (HAP) below:	At Design Capacity (lb/hr)	At Projected Operations		
		(lb/hr)	(lb/day)	(ton/yr)
N/A				

(Attach additional sheets as necessary.)

MARYLAND DEPARTMENT OF THE ENVIRONMENT
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FORM 5EP: Emission Point Data

Complete one (1) Form 5EP for EACH emission point (stack or fugitive emissions) related to the proposed installation.

Applicant Name: Quikrete Companies

1. Emission Point Identification Name/Number

List the applicant assigned name/number for this emission point and use this value on the attached required plot plan:
Bin Vent Filter 2 (Emission Point 5-B)

2. Emission Point Description

Describe the emission point including all associated equipment and control devices:
Cement Powders Silo

3. Emissions Schedule for the Emission Point

Continuous or Intermittent (C/I)?	C	Seasonal Variation Check box if none: <input checked="" type="checkbox"/> Otherwise estimate seasonal variation:	
Minutes per hour:	60	Winter Percent	
Hours per day:	24	Spring Percent	
Days per week:	7	Summer Percent	
Weeks per year:	52	Fall Percent	

4. Emission Point Information

Height above ground (ft):	67	Length and width dimensions at top of rectangular stack (ft):	Length:	Width:	
Height above structures (ft):	NA		0.83	0.83	
Exit temperature (°F):	120	Inside diameter at top of round stack (ft):	N/A		
Exit velocity (ft/min):	1,100	Distance from emission point to nearest property line (ft):			
Exhaust gas volumetric flow rate (acfm):	750	Building dimensions if emission point is located on building (ft)	Height NA	Length NA	Width NA

5. Control Devices Associated with the Emission Point

Identify each control device associated with the emission point and indicate the number of devices. **A Form 6 is also required for each control device.** If none check none:

- | | | | |
|---|-----------|--|--|
| <input type="checkbox"/> None | | <input type="checkbox"/> Thermal Oxidizer | No. _____ |
| <input type="checkbox"/> Baghouse | No. _____ | <input type="checkbox"/> Regenerative | |
| <input type="checkbox"/> Cyclone | No. _____ | <input type="checkbox"/> Catalytic Oxidizer | No. _____ |
| <input type="checkbox"/> Elec. Precipitator (ESP) | No. _____ | <input type="checkbox"/> Nitrogen Oxides Reduction | No. _____ |
| <input type="checkbox"/> Dust Suppression System | No. _____ | <input type="checkbox"/> Selective | <input type="checkbox"/> Non-Selective |
| <input type="checkbox"/> Venturi Scrubber | No. _____ | <input type="checkbox"/> Catalytic | <input type="checkbox"/> Non-Catalytic |
| <input type="checkbox"/> Spray Tower/Packed Bed | No. _____ | <input checked="" type="checkbox"/> Other | No. _____ |
| <input type="checkbox"/> Carbon Adsorber | No. _____ | Specify: <u>Dust Collector</u> | |
| <input type="checkbox"/> Cartridge/Canister | | | |
| <input type="checkbox"/> Regenerative | | | |

FORM 5EP: Emission Point Data

6. Estimated Emissions from the Emission Point

Criteria Pollutants	At Design Capacity (lb/hr)	At Projected Operations		
		(lb/hr)	(lb/day)	(ton/yr)
Particulate Matter (filterable as PM10)	Refer to Attached			
Particulate Matter (filterable as PM2.5)	Refer to Attached			
Particulate Matter (condensables)	--			
Volatile Organic Compounds (VOC)	--			
Oxides of Sulfur (SOx)	--			
Oxides of Nitrogen (NOx)	--			
Carbon Monoxide (CO)	--			
Lead (Pb)	--			
Greenhouse Gases (GHG)	At Design Capacity (lb/hr)	At Projected Operations		
		(lb/hr)	(lb/day)	(ton/yr)
Carbon Dioxide (CO ₂)	--			
Methane (CH ₄)	--			
Nitrous Oxide (N ₂ O)	--			
Hydrofluorocarbons (HFCs)	--			
Perfluorocarbons (PFCs)	--			
Sulfur Hexafluoride (SF ₆)	--			
Total GHG (as CO ₂ e)	--			
List individual federal Hazardous Air Pollutants (HAP) below:	At Design Capacity (lb/hr)	At Projected Operations		
		(lb/hr)	(lb/day)	(ton/yr)
N/A				

(Attach additional sheets as necessary.)

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FORM 5EP: Emission Point Data

Complete one (1) Form 5EP for EACH emission point (stack or fugitive emissions) related to the proposed installation.

Applicant Name: Quikrete Companies

1. Emission Point Identification Name/Number

List the applicant assigned name/number for this emission point and use this value on the attached required plot plan:
Bin Vent Filter 3 (Emission Point 5-C)

2. Emission Point Description

Describe the emission point including all associated equipment and control devices:
Cement Powders Silo

3. Emissions Schedule for the Emission Point

Continuous or Intermittent (C/I)?	C	Seasonal Variation Check box if none: <input checked="" type="checkbox"/> Otherwise estimate seasonal variation:	
Minutes per hour:	60	Winter Percent	
Hours per day:	24	Spring Percent	
Days per week:	7	Summer Percent	
Weeks per year:	52	Fall Percent	

4. Emission Point Information

Height above ground (ft):	67	Length and width dimensions at top of rectangular stack (ft):	Length:	Width:	
Height above structures (ft):	NA		0.83	0.83	
Exit temperature (°F):	120	Inside diameter at top of round stack (ft):	N/A		
Exit velocity (ft/min):	1,100	Distance from emission point to nearest property line (ft):			
Exhaust gas volumetric flow rate (acfm):	750	Building dimensions if emission point is located on building (ft)	Height NA	Length NA	Width NA

5. Control Devices Associated with the Emission Point

Identify each control device associated with the emission point and indicate the number of devices. **A Form 6 is also required for each control device.** If none check none:

- | | | | |
|---|-----------|--|--|
| <input type="checkbox"/> None | | <input type="checkbox"/> Thermal Oxidizer | No. _____ |
| <input type="checkbox"/> Baghouse | No. _____ | <input type="checkbox"/> Regenerative | |
| <input type="checkbox"/> Cyclone | No. _____ | <input type="checkbox"/> Catalytic Oxidizer | No. _____ |
| <input type="checkbox"/> Elec. Precipitator (ESP) | No. _____ | <input type="checkbox"/> Nitrogen Oxides Reduction | No. _____ |
| <input type="checkbox"/> Dust Suppression System | No. _____ | <input type="checkbox"/> Selective | <input type="checkbox"/> Non-Selective |
| <input type="checkbox"/> Venturi Scrubber | No. _____ | <input type="checkbox"/> Catalytic | <input type="checkbox"/> Non-Catalytic |
| <input type="checkbox"/> Spray Tower/Packed Bed | No. _____ | <input checked="" type="checkbox"/> Other | No. _____ |
| <input type="checkbox"/> Carbon Adsorber | No. _____ | Specify: <u>Dust Collector</u> | |
| <input type="checkbox"/> Cartridge/Canister | | | |
| <input type="checkbox"/> Regenerative | | | |

FORM 5EP: Emission Point Data

6. Estimated Emissions from the Emission Point

Criteria Pollutants	At Design Capacity (lb/hr)	At Projected Operations		
		(lb/hr)	(lb/day)	(ton/yr)
Particulate Matter (filterable as PM10)	Refer to Attached			
Particulate Matter (filterable as PM2.5)	Refer to Attached			
Particulate Matter (condensables)	--			
Volatile Organic Compounds (VOC)	--			
Oxides of Sulfur (SOx)	--			
Oxides of Nitrogen (NOx)	--			
Carbon Monoxide (CO)	--			
Lead (Pb)	--			
Greenhouse Gases (GHG)	At Design Capacity (lb/hr)	At Projected Operations		
		(lb/hr)	(lb/day)	(ton/yr)
Carbon Dioxide (CO ₂)	--			
Methane (CH ₄)	--			
Nitrous Oxide (N ₂ O)	--			
Hydrofluorocarbons (HFCs)	--			
Perfluorocarbons (PFCs)	--			
Sulfur Hexafluoride (SF ₆)	--			
Total GHG (as CO ₂ e)	--			
List individual federal Hazardous Air Pollutants (HAP) below:	At Design Capacity (lb/hr)	At Projected Operations		
		(lb/hr)	(lb/day)	(ton/yr)
N/A				

(Attach additional sheets as necessary.)

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FORM 5EP: Emission Point Data

Complete one (1) Form 5EP for EACH emission point (stack or fugitive emissions) related to the proposed installation.

Applicant Name: Quikrete Companies

1. Emission Point Identification Name/Number

List the applicant assigned name/number for this emission point and use this value on the attached required plot plan:
Bin Vent Filter 4 (Emission Point 5-D)

2. Emission Point Description

Describe the emission point including all associated equipment and control devices:
Cement Powders Silo

3. Emissions Schedule for the Emission Point

Continuous or Intermittent (C/I)?	C	Seasonal Variation Check box if none: <input checked="" type="checkbox"/> Otherwise estimate seasonal variation:	
Minutes per hour:	60	Winter Percent	
Hours per day:	24	Spring Percent	
Days per week:	7	Summer Percent	
Weeks per year:	52	Fall Percent	

4. Emission Point Information

Height above ground (ft):	67	Length and width dimensions at top of rectangular stack (ft):	Length:	Width:	
Height above structures (ft):	NA		0.83	0.83	
Exit temperature (°F):	120	Inside diameter at top of round stack (ft):	N/A		
Exit velocity (ft/min):	1,100	Distance from emission point to nearest property line (ft):			
Exhaust gas volumetric flow rate (acfm):	750	Building dimensions if emission point is located on building (ft)	Height NA	Length NA	Width NA

5. Control Devices Associated with the Emission Point

Identify each control device associated with the emission point and indicate the number of devices. **A Form 6 is also required for each control device.** If none check none:

- | | | | |
|---|-----------|--|--|
| <input type="checkbox"/> None | | <input type="checkbox"/> Thermal Oxidizer | No. _____ |
| <input type="checkbox"/> Baghouse | No. _____ | <input type="checkbox"/> Regenerative | |
| <input type="checkbox"/> Cyclone | No. _____ | <input type="checkbox"/> Catalytic Oxidizer | No. _____ |
| <input type="checkbox"/> Elec. Precipitator (ESP) | No. _____ | <input type="checkbox"/> Nitrogen Oxides Reduction | No. _____ |
| <input type="checkbox"/> Dust Suppression System | No. _____ | <input type="checkbox"/> Selective | <input type="checkbox"/> Non-Selective |
| <input type="checkbox"/> Venturi Scrubber | No. _____ | <input type="checkbox"/> Catalytic | <input type="checkbox"/> Non-Catalytic |
| <input type="checkbox"/> Spray Tower/Packed Bed | No. _____ | <input checked="" type="checkbox"/> Other | No. _____ |
| <input type="checkbox"/> Carbon Adsorber | No. _____ | Specify: <u>Dust Collector</u> | |
| <input type="checkbox"/> Cartridge/Canister | | | |
| <input type="checkbox"/> Regenerative | | | |

FORM 5EP: Emission Point Data

6. Estimated Emissions from the Emission Point

Criteria Pollutants	At Design Capacity (lb/hr)	At Projected Operations		
		(lb/hr)	(lb/day)	(ton/yr)
Particulate Matter (filterable as PM10)	Refer to Attached			
Particulate Matter (filterable as PM2.5)	Refer to Attached			
Particulate Matter (condensables)	--			
Volatile Organic Compounds (VOC)	--			
Oxides of Sulfur (SOx)	--			
Oxides of Nitrogen (NOx)	--			
Carbon Monoxide (CO)	--			
Lead (Pb)	--			
Greenhouse Gases (GHG)	At Design Capacity (lb/hr)	At Projected Operations		
		(lb/hr)	(lb/day)	(ton/yr)
Carbon Dioxide (CO ₂)	--			
Methane (CH ₄)	--			
Nitrous Oxide (N ₂ O)	--			
Hydrofluorocarbons (HFCs)	--			
Perfluorocarbons (PFCs)	--			
Sulfur Hexafluoride (SF ₆)	--			
Total GHG (as CO ₂ e)	--			
List individual federal Hazardous Air Pollutants (HAP) below:	At Design Capacity (lb/hr)	At Projected Operations		
		(lb/hr)	(lb/day)	(ton/yr)
N/A				

(Attach additional sheets as necessary.)

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FORM 5EP: Emission Point Data

Complete one (1) Form 5EP for EACH emission point (stack or fugitive emissions) related to the proposed installation.

Applicant Name: Quikrete Companies

1. Emission Point Identification Name/Number

List the applicant assigned name/number for this emission point and use this value on the attached required plot plan:
BH-50XX-5

2. Emission Point Description

Describe the emission point including all associated equipment and control devices:
Bin Vent Filter 5 (Emission Point 5-E)

3. Emissions Schedule for the Emission Point

Continuous or Intermittent (C/I)?	C	Seasonal Variation Check box if none: <input checked="" type="checkbox"/> Otherwise estimate seasonal variation:	
Minutes per hour:	60	Winter Percent	
Hours per day:	24	Spring Percent	
Days per week:	7	Summer Percent	
Weeks per year:	52	Fall Percent	

4. Emission Point Information

Height above ground (ft):	67	Length and width dimensions at top of rectangular stack (ft):	Length:	Width:	
Height above structures (ft):	NA		0.83	0.83	
Exit temperature (°F):	120	Inside diameter at top of round stack (ft):	N/A		
Exit velocity (ft/min):	1,100	Distance from emission point to nearest property line (ft):			
Exhaust gas volumetric flow rate (acfm):	750	Building dimensions if emission point is located on building (ft)	Height NA	Length NA	Width NA

5. Control Devices Associated with the Emission Point

Identify each control device associated with the emission point and indicate the number of devices. **A Form 6 is also required for each control device.** If none check none:

- | | | | |
|---|-----------|--|--|
| <input type="checkbox"/> None | | <input type="checkbox"/> Thermal Oxidizer | No. _____ |
| <input type="checkbox"/> Baghouse | No. _____ | <input type="checkbox"/> Regenerative | |
| <input type="checkbox"/> Cyclone | No. _____ | <input type="checkbox"/> Catalytic Oxidizer | No. _____ |
| <input type="checkbox"/> Elec. Precipitator (ESP) | No. _____ | <input type="checkbox"/> Nitrogen Oxides Reduction | No. _____ |
| <input type="checkbox"/> Dust Suppression System | No. _____ | <input type="checkbox"/> Selective | <input type="checkbox"/> Non-Selective |
| <input type="checkbox"/> Venturi Scrubber | No. _____ | <input type="checkbox"/> Catalytic | <input type="checkbox"/> Non-Catalytic |
| <input type="checkbox"/> Spray Tower/Packed Bed | No. _____ | <input checked="" type="checkbox"/> Other | No. _____ |
| <input type="checkbox"/> Carbon Adsorber | No. _____ | Specify: <u>Dust Collector</u> | |
| <input type="checkbox"/> Cartridge/Canister | | | |
| <input type="checkbox"/> Regenerative | | | |

FORM 5EP: Emission Point Data

6. Estimated Emissions from the Emission Point

Criteria Pollutants	At Design Capacity (lb/hr)	At Projected Operations		
		(lb/hr)	(lb/day)	(ton/yr)
Particulate Matter (filterable as PM10)	Refer to Attached			
Particulate Matter (filterable as PM2.5)	Refer to Attached			
Particulate Matter (condensables)	--			
Volatile Organic Compounds (VOC)	--			
Oxides of Sulfur (SOx)	--			
Oxides of Nitrogen (NOx)	--			
Carbon Monoxide (CO)	--			
Lead (Pb)	--			
Greenhouse Gases (GHG)	At Design Capacity (lb/hr)	At Projected Operations		
		(lb/hr)	(lb/day)	(ton/yr)
Carbon Dioxide (CO ₂)	--			
Methane (CH ₄)	--			
Nitrous Oxide (N ₂ O)	--			
Hydrofluorocarbons (HFCs)	--			
Perfluorocarbons (PFCs)	--			
Sulfur Hexafluoride (SF ₆)	--			
Total GHG (as CO ₂ e)	--			
List individual federal Hazardous Air Pollutants (HAP) below:	At Design Capacity (lb/hr)	At Projected Operations		
		(lb/hr)	(lb/day)	(ton/yr)
N/A				

(Attach additional sheets as necessary.)

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FORM 5EP: Emission Point Data

Complete one (1) Form 5EP for EACH emission point (stack or fugitive emissions) related to the proposed installation.

Applicant Name: Quikrete Companies

1. Emission Point Identification Name/Number

List the applicant assigned name/number for this emission point and use this value on the attached required plot plan:
Bin Vent Filter 6 (Emission Point 5-F)

2. Emission Point Description

Describe the emission point including all associated equipment and control devices:
Cement Powders Silo

3. Emissions Schedule for the Emission Point

Continuous or Intermittent (C/I)?	C	Seasonal Variation Check box if none: <input checked="" type="checkbox"/> Otherwise estimate seasonal variation:	
Minutes per hour:	60	Winter Percent	
Hours per day:	24	Spring Percent	
Days per week:	7	Summer Percent	
Weeks per year:	52	Fall Percent	

4. Emission Point Information

Height above ground (ft):	67	Length and width dimensions at top of rectangular stack (ft):	Length:	Width:	
Height above structures (ft):	NA		0.83	0.83	
Exit temperature (°F):	120	Inside diameter at top of round stack (ft):	N/A		
Exit velocity (ft/min):	1,100	Distance from emission point to nearest property line (ft):			
Exhaust gas volumetric flow rate (acfm):	750	Building dimensions if emission point is located on building (ft)	Height NA	Length NA	Width NA

5. Control Devices Associated with the Emission Point

Identify each control device associated with the emission point and indicate the number of devices. **A Form 6 is also required for each control device.** If none check none:

- | | | | |
|---|-----------|--|--|
| <input type="checkbox"/> None | | <input type="checkbox"/> Thermal Oxidizer | No. _____ |
| <input type="checkbox"/> Baghouse | No. _____ | <input type="checkbox"/> Regenerative | |
| <input type="checkbox"/> Cyclone | No. _____ | <input type="checkbox"/> Catalytic Oxidizer | No. _____ |
| <input type="checkbox"/> Elec. Precipitator (ESP) | No. _____ | <input type="checkbox"/> Nitrogen Oxides Reduction | No. _____ |
| <input type="checkbox"/> Dust Suppression System | No. _____ | <input type="checkbox"/> Selective | <input type="checkbox"/> Non-Selective |
| <input type="checkbox"/> Venturi Scrubber | No. _____ | <input type="checkbox"/> Catalytic | <input type="checkbox"/> Non-Catalytic |
| <input type="checkbox"/> Spray Tower/Packed Bed | No. _____ | <input checked="" type="checkbox"/> Other | No. _____ |
| <input type="checkbox"/> Carbon Adsorber | No. _____ | Specify: <u>Dust Collector</u> | |
| <input type="checkbox"/> Cartridge/Canister | | | |
| <input type="checkbox"/> Regenerative | | | |

FORM 5EP: Emission Point Data

6. Estimated Emissions from the Emission Point

Criteria Pollutants	At Design Capacity (lb/hr)	At Projected Operations		
		(lb/hr)	(lb/day)	(ton/yr)
Particulate Matter (filterable as PM10)	Refer to Attached			
Particulate Matter (filterable as PM2.5)	Refer to Attached			
Particulate Matter (condensables)	--			
Volatile Organic Compounds (VOC)	--			
Oxides of Sulfur (SOx)	--			
Oxides of Nitrogen (NOx)	--			
Carbon Monoxide (CO)	--			
Lead (Pb)	--			
Greenhouse Gases (GHG)	At Design Capacity (lb/hr)	At Projected Operations		
		(lb/hr)	(lb/day)	(ton/yr)
Carbon Dioxide (CO ₂)	--			
Methane (CH ₄)	--			
Nitrous Oxide (N ₂ O)	--			
Hydrofluorocarbons (HFCs)	--			
Perfluorocarbons (PFCs)	--			
Sulfur Hexafluoride (SF ₆)	--			
Total GHG (as CO ₂ e)	--			
List individual federal Hazardous Air Pollutants (HAP) below:	At Design Capacity (lb/hr)	At Projected Operations		
		(lb/hr)	(lb/day)	(ton/yr)
N/A				

(Attach additional sheets as necessary.)

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FORM 5EP: Emission Point Data

Complete one (1) Form 5EP for EACH emission point (stack or fugitive emissions) related to the proposed installation.

Applicant Name: Quikrete Companies

1. Emission Point Identification Name/Number

List the applicant assigned name/number for this emission point and use this value on the attached required plot plan:
Dryer (Emission Point 2)

2. Emission Point Description

Describe the emission point including all associated equipment and control devices:
Dryer

3. Emissions Schedule for the Emission Point

Continuous or Intermittent (C/I)?	C	Seasonal Variation Check box if none: <input type="checkbox"/> Otherwise estimate seasonal variation:	
Minutes per hour:	60	Winter Percent	
Hours per day:	16-20	Spring Percent	
Days per week:	5-6	Summer Percent	
Weeks per year:	52	Fall Percent	

4. Emission Point Information

Height above ground (ft):	50	Length and width dimensions at top of rectangular stack (ft):	Length:	Width:	
Height above structures (ft):	NA		N/A	N/A	
Exit temperature (°F):	Varies	Inside diameter at top of round stack (ft):	3		
Exit velocity (ft/min):	3,000	Distance from emission point to nearest property line (ft):			
Exhaust gas volumetric flow rate (acfm):	21,000	Building dimensions if emission point is located on building (ft)	Height NA	Length NA	Width NA

5. Control Devices Associated with the Emission Point

Identify each control device associated with the emission point and indicate the number of devices. **A Form 6 is also required for each control device.** If none check none:

- | | | | |
|---|-----------|--|--|
| <input type="checkbox"/> None | | <input type="checkbox"/> Thermal Oxidizer | No. _____ |
| <input type="checkbox"/> Baghouse | No. _____ | <input type="checkbox"/> Regenerative | |
| <input type="checkbox"/> Cyclone | No. _____ | <input type="checkbox"/> Catalytic Oxidizer | No. _____ |
| <input type="checkbox"/> Elec. Precipitator (ESP) | No. _____ | <input type="checkbox"/> Nitrogen Oxides Reduction | No. _____ |
| <input type="checkbox"/> Dust Suppression System | No. _____ | <input type="checkbox"/> Selective | <input type="checkbox"/> Non-Selective |
| <input type="checkbox"/> Venturi Scrubber | No. _____ | <input type="checkbox"/> Catalytic | <input type="checkbox"/> Non-Catalytic |
| <input type="checkbox"/> Spray Tower/Packed Bed | No. _____ | <input checked="" type="checkbox"/> Other | No. _____ |
| <input type="checkbox"/> Carbon Adsorber | No. _____ | Specify: <u>Dust Collector</u> | |
| <input type="checkbox"/> Cartridge/Canister | | | |
| <input type="checkbox"/> Regenerative | | | |

FORM 5EP: Emission Point Data

6. Estimated Emissions from the Emission Point

Criteria Pollutants	At Design Capacity (lb/hr)	At Projected Operations		
		(lb/hr)	(lb/day)	(ton/yr)
Particulate Matter (filterable as PM10)	Refer to Attached			
Particulate Matter (filterable as PM2.5)	Refer to Attached			
Particulate Matter (condensables)	Refer to Attached			
Volatile Organic Compounds (VOC)	Refer to Attached			
Oxides of Sulfur (SOx)	Refer to Attached			
Oxides of Nitrogen (NOx)	Refer to Attached			
Carbon Monoxide (CO)	Refer to Attached			
Lead (Pb)	Refer to Attached			
Greenhouse Gases (GHG)	At Design Capacity (lb/hr)	At Projected Operations		
		(lb/hr)	(lb/day)	(ton/yr)
Carbon Dioxide (CO ₂)	Refer to Attached			
Methane (CH ₄)	Refer to Attached			
Nitrous Oxide (N ₂ O)	Refer to Attached			
Hydrofluorocarbons (HFCs)	--			
Perfluorocarbons (PFCs)	--			
Sulfur Hexafluoride (SF ₆)	--			
Total GHG (as CO ₂ e)	Refer to Attached			
List individual federal Hazardous Air Pollutants (HAP) below:	At Design Capacity (lb/hr)	At Projected Operations		
		(lb/hr)	(lb/day)	(ton/yr)

(Attach additional sheets as necessary.)

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FORM 5EP: Emission Point Data

Complete one (1) Form 5EP for EACH emission point (stack or fugitive emissions) related to the proposed installation.

Applicant Name: Quikrete Companies

1. Emission Point Identification Name/Number

List the applicant assigned name/number for this emission point and use this value on the attached required plot plan:
Dryer (Emission Point 1)

2. Emission Point Description

Describe the emission point including all associated equipment and control devices:

Dryer

3. Emissions Schedule for the Emission Point

Continuous or Intermittent (C/I)?	C	Seasonal Variation Check box if none: <input type="checkbox"/> Otherwise estimate seasonal variation:	
Minutes per hour:	60	Winter Percent	
Hours per day:	16-20	Spring Percent	
Days per week:	5-6	Summer Percent	
Weeks per year:	52	Fall Percent	

4. Emission Point Information

Height above ground (ft):	50	Length and width dimensions at top of rectangular stack (ft):	Length:	Width:	
Height above structures (ft):	NA		N/A	N/A	
Exit temperature (°F):	Varies	Inside diameter at top of round stack (ft):	3		
Exit velocity (ft/min):	3,000	Distance from emission point to nearest property line (ft):			
Exhaust gas volumetric flow rate (acfm):	9,300	Building dimensions if emission point is located on building (ft)	Height NA	Length NA	Width NA

5. Control Devices Associated with the Emission Point

Identify each control device associated with the emission point and indicate the number of devices. **A Form 6 is also required for each control device.** If none check none:

- | | | |
|---|--|--|
| <input type="checkbox"/> None | <input type="checkbox"/> Thermal Oxidizer | No. _____ |
| <input type="checkbox"/> Baghouse | <input type="checkbox"/> Regenerative | No. _____ |
| <input type="checkbox"/> Cyclone | <input type="checkbox"/> Catalytic Oxidizer | No. _____ |
| <input type="checkbox"/> Elec. Precipitator (ESP) | <input type="checkbox"/> Nitrogen Oxides Reduction | No. _____ |
| <input type="checkbox"/> Dust Suppression System | <input type="checkbox"/> Selective | <input type="checkbox"/> Non-Selective |
| <input type="checkbox"/> Venturi Scrubber | <input type="checkbox"/> Catalytic | <input type="checkbox"/> Non-Catalytic |
| <input type="checkbox"/> Spray Tower/Packed Bed | <input checked="" type="checkbox"/> Other | No. _____ |
| <input type="checkbox"/> Carbon Adsorber | Specify: <u>Dust Collector</u> | |
| <input type="checkbox"/> Cartridge/Canister | | |
| <input type="checkbox"/> Regenerative | | |

FORM 5EP: Emission Point Data

6. Estimated Emissions from the Emission Point

Criteria Pollutants	At Design Capacity (lb/hr)	At Projected Operations		
		(lb/hr)	(lb/day)	(ton/yr)
Particulate Matter (filterable as PM10)	Refer to Attached			
Particulate Matter (filterable as PM2.5)	Refer to Attached			
Particulate Matter (condensables)	--			
Volatile Organic Compounds (VOC)	--			
Oxides of Sulfur (SOx)	--			
Oxides of Nitrogen (NOx)	--			
Carbon Monoxide (CO)	--			
Lead (Pb)	--			
Greenhouse Gases (GHG)	At Design Capacity (lb/hr)	At Projected Operations		
		(lb/hr)	(lb/day)	(ton/yr)
Carbon Dioxide (CO ₂)	--			
Methane (CH ₄)	--			
Nitrous Oxide (N ₂ O)	--			
Hydrofluorocarbons (HFCs)	--			
Perfluorocarbons (PFCs)	--			
Sulfur Hexafluoride (SF ₆)	--			
Total GHG (as CO ₂ e)	--			
List individual federal Hazardous Air Pollutants (HAP) below:	At Design Capacity (lb/hr)	At Projected Operations		
		(lb/hr)	(lb/day)	(ton/yr)

(Attach additional sheets as necessary.)

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FORM 5EP: Emission Point Data

Complete one (1) Form 5EP for EACH emission point (stack or fugitive emissions) related to the proposed installation.

Applicant Name: Quikrete Companies

1. Emission Point Identification Name/Number

List the applicant assigned name/number for this emission point and use this value on the attached required plot plan:
Aggregate Silo Bin Vent (Emission Point 4)

2. Emission Point Description

Describe the emission point including all associated equipment and control devices:
Aggregate Silo

3. Emissions Schedule for the Emission Point

Continuous or Intermittent (C/I)?	C	Seasonal Variation Check box if none: <input checked="" type="checkbox"/> Otherwise estimate seasonal variation:	
Minutes per hour:	60	Winter Percent	
Hours per day:	24	Spring Percent	
Days per week:	7	Summer Percent	
Weeks per year:	52	Fall Percent	

4. Emission Point Information

Height above ground (ft):	68	Length and width dimensions at top of rectangular stack (ft):	Length:	Width:	
Height above structures (ft):	NA		0.67	0.67	
Exit temperature (°F):	120	Inside diameter at top of round stack (ft):	N/A		
Exit velocity (ft/min):	3,700	Distance from emission point to nearest property line (ft):			
Exhaust gas volumetric flow rate (acfm):	1,635	Building dimensions if emission point is located on building (ft)	Height NA	Length NA	Width NA

5. Control Devices Associated with the Emission Point

Identify each control device associated with the emission point and indicate the number of devices. **A Form 6 is also required for each control device.** If none check none:

- | | | | |
|---|-----------|--|--|
| <input type="checkbox"/> None | | <input type="checkbox"/> Thermal Oxidizer | No. _____ |
| <input type="checkbox"/> Baghouse | No. _____ | <input type="checkbox"/> Regenerative | |
| <input type="checkbox"/> Cyclone | No. _____ | <input type="checkbox"/> Catalytic Oxidizer | No. _____ |
| <input type="checkbox"/> Elec. Precipitator (ESP) | No. _____ | <input type="checkbox"/> Nitrogen Oxides Reduction | No. _____ |
| <input type="checkbox"/> Dust Suppression System | No. _____ | <input type="checkbox"/> Selective | <input type="checkbox"/> Non-Selective |
| <input type="checkbox"/> Venturi Scrubber | No. _____ | <input type="checkbox"/> Catalytic | <input type="checkbox"/> Non-Catalytic |
| <input type="checkbox"/> Spray Tower/Packed Bed | No. _____ | <input checked="" type="checkbox"/> Other | No. _____ |
| <input type="checkbox"/> Carbon Adsorber | No. _____ | Specify: Dust Collector | |
| <input type="checkbox"/> Cartridge/Canister | | | |
| <input type="checkbox"/> Regenerative | | | |

FORM 5EP: Emission Point Data

6. Estimated Emissions from the Emission Point

Criteria Pollutants	At Design Capacity (lb/hr)	At Projected Operations		
		(lb/hr)	(lb/day)	(ton/yr)
Particulate Matter (filterable as PM10)	Refer to Attached			
Particulate Matter (filterable as PM2.5)	Refer to Attached			
Particulate Matter (condensables)	--			
Volatile Organic Compounds (VOC)	--			
Oxides of Sulfur (SOx)	--			
Oxides of Nitrogen (NOx)	--			
Carbon Monoxide (CO)	--			
Lead (Pb)	--			
Greenhouse Gases (GHG)	At Design Capacity (lb/hr)	At Projected Operations		
		(lb/hr)	(lb/day)	(ton/yr)
Carbon Dioxide (CO ₂)	--			
Methane (CH ₄)	--			
Nitrous Oxide (N ₂ O)	--			
Hydrofluorocarbons (HFCs)	--			
Perfluorocarbons (PFCs)	--			
Sulfur Hexafluoride (SF ₆)	--			
Total GHG (as CO ₂ e)	--			
List individual federal Hazardous Air Pollutants (HAP) below:	At Design Capacity (lb/hr)	At Projected Operations		
		(lb/hr)	(lb/day)	(ton/yr)
N/A				

(Attach additional sheets as necessary.)

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FORM 5EP: Emission Point Data

Complete one (1) Form 5EP for EACH emission point (stack or fugitive emissions) related to the proposed installation.

Applicant Name: Quikrete Companies

1. Emission Point Identification Name/Number

List the applicant assigned name/number for this emission point and use this value on the attached required plot plan:
Packaging Collector (Emission Point 3)

2. Emission Point Description

Describe the emission point including all associated equipment and control devices:

Interior packaging equipment

3. Emissions Schedule for the Emission Point

Continuous or Intermittent (C/I)?	C	Seasonal Variation Check box if none: <input checked="" type="checkbox"/> Otherwise estimate seasonal variation:	
Minutes per hour:	60	Winter Percent	
Hours per day:	24	Spring Percent	
Days per week:	7	Summer Percent	
Weeks per year:	52	Fall Percent	

4. Emission Point Information

Height above ground (ft):	50	Length and width dimensions at top of rectangular stack (ft):	Length:	Width:	
Height above structures (ft):	NA		1.33	1.58	
Exit temperature (°F):	Ambient	Inside diameter at top of round stack (ft):	N/A		
Exit velocity (ft/min):	2,800	Distance from emission point to nearest property line (ft):			
Exhaust gas volumetric flow rate (acfm):	9,500	Building dimensions if emission point is located on building (ft)	Height NA	Length NA	Width NA

5. Control Devices Associated with the Emission Point

Identify each control device associated with the emission point and indicate the number of devices. **A Form 6 is also required for each control device.** If none check none:

- | | | | |
|---|-----------|--|--|
| <input type="checkbox"/> None | | <input type="checkbox"/> Thermal Oxidizer | No. _____ |
| <input type="checkbox"/> Baghouse | No. _____ | <input type="checkbox"/> Regenerative | |
| <input type="checkbox"/> Cyclone | No. _____ | <input type="checkbox"/> Catalytic Oxidizer | No. _____ |
| <input type="checkbox"/> Elec. Precipitator (ESP) | No. _____ | <input type="checkbox"/> Nitrogen Oxides Reduction | No. _____ |
| <input type="checkbox"/> Dust Suppression System | No. _____ | <input type="checkbox"/> Selective | <input type="checkbox"/> Non-Selective |
| <input type="checkbox"/> Venturi Scrubber | No. _____ | <input type="checkbox"/> Catalytic | <input type="checkbox"/> Non-Catalytic |
| <input type="checkbox"/> Spray Tower/Packed Bed | No. _____ | <input checked="" type="checkbox"/> Other | No. _____ |
| <input type="checkbox"/> Carbon Adsorber | No. _____ | Specify: <u>Dust Collector</u> | |
| <input type="checkbox"/> Cartridge/Canister | | | |
| <input type="checkbox"/> Regenerative | | | |

FORM 5EP: Emission Point Data

6. Estimated Emissions from the Emission Point

Criteria Pollutants	At Design Capacity (lb/hr)	At Projected Operations		
		(lb/hr)	(lb/day)	(ton/yr)
Particulate Matter (filterable as PM10)	Refer to Attached			
Particulate Matter (filterable as PM2.5)	Refer to Attached			
Particulate Matter (condensables)	--			
Volatile Organic Compounds (VOC)	--			
Oxides of Sulfur (SOx)	--			
Oxides of Nitrogen (NOx)	--			
Carbon Monoxide (CO)	--			
Lead (Pb)	--			
Greenhouse Gases (GHG)	At Design Capacity (lb/hr)	At Projected Operations		
		(lb/hr)	(lb/day)	(ton/yr)
Carbon Dioxide (CO ₂)	--			
Methane (CH ₄)	--			
Nitrous Oxide (N ₂ O)	--			
Hydrofluorocarbons (HFCs)	--			
Perfluorocarbons (PFCs)	--			
Sulfur Hexafluoride (SF ₆)	--			
Total GHG (as CO ₂ e)	--			
List individual federal Hazardous Air Pollutants (HAP) below:	At Design Capacity (lb/hr)	At Projected Operations		
		(lb/hr)	(lb/day)	(ton/yr)
N/A				

(Attach additional sheets as necessary.)

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FORM 5T: Toxic Air Pollutant (TAP) Emissions Summary and Compliance Demonstration

Applicant Name: Quikrete

Step 1: Quantify premises-wide emissions of Toxic Air Pollutants (TAP) from new and existing installations in accordance with COMAR 26.11.15.04. Attach supporting documentation as necessary.

Toxic Air Pollutant (TAP)	CAS Number	Class I or Class II?	Estimated Premises Wide Emissions of TAP						
			Screening Levels ($\mu\text{g}/\text{m}^3$)			Actual Total Existing TAP Emissions	Projected TAP Emissions from Proposed Installation	Premises Wide Total TAP Emissions	
			1-hour	8-hour	Annual	(lb/hr)	(lb/hr)	(lb/hr)	(lb/yr)
<i>ex. ethanol</i>	64175	<i>II</i>	18843	3769	N/A	0.60	0.15	0.75	1500
<i>ex. benzene</i>	71432	<i>I</i>	80	16	0.13	0.5	0.75	1.00	400
Crystalline Silica (respirable)	14808607		N/A	0.25	N/A	N/A	0.0004	0.0004	3.54

(attach additional sheets as necessary.)

Note: Screening levels can be obtained from the Department's website (<http://www.mde.maryland.gov>) or by calling the Department.

Step 2: Determine which TAPs are exempt from further review. A TAP that meets either of the following Class I or Class II small quantity emitter exemptions is exempt from further TAP compliance demonstration requirements under Step 3 and Step 4.

Class II TAP Small Quantity Emitter Exemption Requirements (COMAR 26.11.15.03B(3)(a))

A Class II TAP is exempt from Step 3 and Step 4 if the Class II TAP meets the following requirements: Premises wide emissions of the TAP shall not exceed 0.5 pounds per hour, and any applicable 1-hour or 8-hour screening level for the TAP must be greater than $200 \mu\text{g}/\text{m}^3$.

Class I TAP Small Quantity Emitter Exemption Requirements (COMAR 26.11.15.03B(3)(b))

A Class I TAP is exempt from Step 3 and Step 4 if the Class I TAP meets the following requirements: Premises wide emissions of the TAP shall not exceed 0.5 pounds per hour and 350 pounds per year, any applicable 1-hour or 8-hour screening level for the TAP must be greater than $200 \mu\text{g}/\text{m}^3$, and any applicable annual screening level for the TAP must be greater than $1 \mu\text{g}/\text{m}^3$.

If a TAP meets either the Class I or Class II TAP Small Quantity Emitter Exemption Requirements, no further review under Step 3 and Step 4 are required for that specific TAP.

FORM 5T: Toxic Air Pollutant (TAP) Emissions Summary and Compliance Demonstration

Step 3: Best Available Control Technology for Toxics Requirement (T-BACT, COMAR 26.11.15.05)

In the following table, list all TAP emission reduction options considered when determining T-BACT for the proposed installation. The options should be listed in order beginning with the most effective control strategy to the least effective strategy. Attach supporting documentation as necessary.

Target Pollutants	Emission Control Option	% Emission Reduction	Costs		T-BACT Option Selected? (yes/no)
			Capital	Annual Operating	
<i>ex. ethanol and benzene</i>	<i>Thermal Oxidizer</i>	99	\$50,000	\$100,000	no
<i>ex. ethanol and benzene</i>	<i>Low VOC materials</i>	80	0	\$100,000	yes
Crystalline Silica	Dust Collectors and Best Operating Practices	Varies	N/A - Included in Design		Yes - Included in design

(attach additional sheets as necessary)

Step 4: Demonstrating Compliance with the Ambient Impact Requirement (COMAR 26.11.15.06)

Each TAP not exempt in Step 2 must be individually evaluated to determine that the emissions of the TAP will not adversely impact public health. The evaluation consists of a series of increasingly non-conservative (and increasingly rigorous) tests. Once a TAP passes a test in the evaluation, no further analysis is required for that TAP. "Demonstrating Compliance with the Ambient Impact Requirement under the Toxic Air Pollutant (TAP) Regulations (COMAR 26.11.15.06)" provides guidance on conducting the evaluation. Summarize your results in the following table. Attach supporting documentation as necessary.

Toxic Air Pollutant (TAP)	CAS Number	Screening Levels ($\mu\text{g}/\text{m}^3$)			Premises Wide Total TAP Emissions		Allowable Emissions Rate (AER) per COMAR 26.11.16.02A		Off-site Concentrations per Screening Analysis ($\mu\text{g}/\text{m}^3$)			Compliance Method Used?
		1-hour	8-hour	Annual	(lb/hr)	(lb/yr)	(lb/hr)	(lb/yr)	1-hour	8-hour	Annual	AER or Screen
<i>ex. ethanol</i>	64175	18843	3769	N/A	0.75	1500	0.89	N/A	N/A	N/A	N/A	AER
<i>ex. benzene</i>	71432	80	16	0.13	1.00	400	0.04	36.52	1.5	1.05	0.12	Screen
Crystalline Silica	14808607	N/A	0.25	N/A	0.0004	3.54	0.0009	N/A	N/A	N/A	N/A	AER

(attach additional sheets as necessary)

If compliance with the ambient impact requirement cannot be met using the allowable emissions rate method or the screening analysis method, refined dispersion modeling techniques may be required. Please consult with the Department's Air Quality Permit Program prior to conducting dispersion modeling methods to demonstrate compliance.

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Air and Radiation Management Administration ▪ Air Quality Permits Program

Application for Permit to Construct Gas Cleaning or Emission Control Equipment

1. Owner of Installation The Quikrete Companies	Telephone No. (404) 926-3140	Date of Application	
2. Mailing Address 5 Concourse Parkway, Suite 1900	City Atlanta	Zip Code 30328	County Fulton
3. Equipment Location 11831 Hopewell Road	City/Town or P.O. Hagerstown		County Washington
4. Signature of Owner or Operator	Title Vice President of Engineering	Print or Type Name Steven Pettitt	
5. Application Type:	Alteration <input type="checkbox"/>	New Construction <input checked="" type="checkbox"/>	
6. Date Construction is to Start: December, 2020	Completion Date (Estimate): January, 2021		
7. Type of Gas Cleaning or Emission Control Equipment:			
Simple Cyclone <input type="checkbox"/>	Multiple Cyclone <input type="checkbox"/>	Afterburner <input type="checkbox"/>	Electrostatic Precipitator <input type="checkbox"/>
Scrubber <input type="checkbox"/>	_____ (type)	Other <input checked="" type="checkbox"/>	<u>Dust Collector</u> (type)
8. Gas Cleaning Equipment Manufacturer Schenck Process	Model No. 72AVS16 Style II Filter	Collection Efficiency (Design Criteria) 100% Collected	
9. Type of Equipment which Control Equipment is to Service: Cement Powders Silo			
10. Stack Test to be Conducted:			
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	_____ (Stack Test to be Conducted By)	_____ (Date)
11. Cost of Equipment <u>TBD</u>			
Estimated Erection Cost <u>TBD</u>			

12. The Following Shall Be Design Criteria:

	<u>INLET</u>	<u>OUTLET</u>
Gas Flow Rate	_____ 750 _____ ACFM*	_____ 750 _____ ACFM*
Gas Temperature	_____ Ambient _____ °F	_____ Ambient _____ °F
Gas Pressure	_____ TBD _____ INCHES W.G.	_____ TBD _____ INCHES W.G.
	PRESSURE DROP _____ TBD _____	
Dust Loading	_____ Varies _____ GRAINS/ACFD**	_____ _____ GRAINS/ACFD**
Moisture Content	_____ Varies _____ %	_____ Varies _____ %
OR		
Wet Bulb Temperature	_____ N/A _____ °F	_____ N/A _____ °F
Liquid Flow Rate (Wet Scrubber)	_____ N/A _____ GALLONS/MINUTE	
	(WHEN SCRUBBER LIQUID OTHER THAN WATER INDICATE COMPOSITION OF SCRUBBING MEDIUM IN WEIGHT %)	
	* = ACTUAL CUBIC FEET PER MINUTE	** = ACTUAL CUBIC FEET DRY

WHEN APPLICATION INVOLVES THE REDUCTION OF GASEOUS POLLUTANTS, PROVIDE THE CONCENTRATION OF EACH POLLUTANT IN THE GAS STREAM IN VOLUME PERCENT. INCLUDE THE COMPOSITION OF THE GASES ENTERING THE CLEANING DEVICE AND THE COMPOSITION OF EXHAUSTED GASES BEING DISCHARGED INTO THE ATMOSPHERE. USE AVAILABLE SPACE IN ITEM 15 ON PAGE 3.

13. Particle Size Analysis

<u>Size of Dust Particles Entering Cleaning Unit</u>	<u>% of Total Dust</u>	<u>% to be Collected</u>
0 to 10 Microns	100 _____	90% of collection _____
10 to 44 Microns	0 _____	90% of collection _____
Larger than 44 Microns	0 _____	90% of collection _____

14. For Afterburner Construction Only:

Volume of Contaminated Air _____ N/A _____ CFM (DO NOT INCLUDE COMBUSTION AIR)

Gas Inlet Temperature _____ N/A _____ °F

Capacity of Afterburner _____ N/A _____ BTU/HR

Diameter (or area) of Afterburner Throat _____ N/A _____

Combustion Chamber _____ N/A _____ (diameter) _____ N/A _____ (length) Operating Temperature at Afterburner _____ N/A _____ °F

Retention Time of Gases _____ N/A _____

15. Show Location of Dust Cleaning Equipment in the System. Draw or Sketch Flow Diagram Showing Emission Path from Source to Exhaust Point to Atmosphere.

See site plan and flow diagrams.

Date Received: Local _____ State _____

Acknowledgement Date: _____

By _____

Reviewed By:

Local _____

State _____

Returned to Local:

Date _____

By _____

Application Returned to Applicant:

Date _____

By _____

REGISTRATION NUMBER OF ASSOCIATED EQUIPMENT:

--	--	--	--

PREMISES NUMBER:

--	--

--	--	--	--

Emission Calculations Revised By _____ Date _____



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Air and Radiation Management Administration ▪ Air Quality Permits Program

Application for Permit to Construct Gas Cleaning or Emission Control Equipment

1. Owner of Installation The Quikrete Companies	Telephone No. (404) 926-3140	Date of Application	
2. Mailing Address 5 Concourse Parkway, Suite 1900	City Atlanta	Zip Code 30328	County Fulton
3. Equipment Location 11831 Hopewell Road	City/Town or P.O. Hagerstown		County Washington
4. Signature of Owner or Operator	Title Vice President of Engineering	Print or Type Name Steven Pettitt	
5. Application Type:	Alteration <input type="checkbox"/>	New Construction <input checked="" type="checkbox"/>	
6. Date Construction is to Start: December, 2020	Completion Date (Estimate): January, 2021		
7. Type of Gas Cleaning or Emission Control Equipment:			
Simple Cyclone <input type="checkbox"/>	Multiple Cyclone <input type="checkbox"/>	Afterburner <input type="checkbox"/>	Electrostatic Precipitator <input type="checkbox"/>
Scrubber <input type="checkbox"/>	_____ (type)	Other <input checked="" type="checkbox"/>	<u>Dust Collector</u> (type)
8. Gas Cleaning Equipment Manufacturer Schenck Process	Model No. 72AVS16 Style II Filter	Collection Efficiency (Design Criteria) 100% Collected	
9. Type of Equipment which Control Equipment is to Service: Cement Powders Silo			
10. Stack Test to be Conducted:			
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	_____ (Stack Test to be Conducted By)	_____ (Date)
11. Cost of Equipment <u>TBD</u>			
Estimated Erection Cost <u>TBD</u>			

12. The Following Shall Be Design Criteria:

	<u>INLET</u>	<u>OUTLET</u>
Gas Flow Rate	_____ 750 _____ ACFM*	_____ 750 _____ ACFM*
Gas Temperature	_____ Ambient _____ °F	_____ Ambient _____ °F
Gas Pressure	_____ TBD _____ INCHES W.G.	_____ TBD _____ INCHES W.G.
	PRESSURE DROP _____ TBD _____	
Dust Loading	_____ Varies _____ GRAINS/ACFD**	_____ _____ GRAINS/ACFD**
Moisture Content	_____ Varies _____ %	_____ Varies _____ %
OR		
Wet Bulb Temperature	_____ N/A _____ °F	_____ N/A _____ °F
Liquid Flow Rate (Wet Scrubber)	_____ N/A _____ GALLONS/MINUTE	
	(WHEN SCRUBBER LIQUID OTHER THAN WATER INDICATE COMPOSITION OF SCRUBBING MEDIUM IN WEIGHT %)	
	* = ACTUAL CUBIC FEET PER MINUTE	** = ACTUAL CUBIC FEET DRY

WHEN APPLICATION INVOLVES THE REDUCTION OF GASEOUS POLLUTANTS, PROVIDE THE CONCENTRATION OF EACH POLLUTANT IN THE GAS STREAM IN VOLUME PERCENT. INCLUDE THE COMPOSITION OF THE GASES ENTERING THE CLEANING DEVICE AND THE COMPOSITION OF EXHAUSTED GASES BEING DISCHARGED INTO THE ATMOSPHERE. USE AVAILABLE SPACE IN ITEM 15 ON PAGE 3.

13. Particle Size Analysis

<u>Size of Dust Particles Entering Cleaning Unit</u>	<u>% of Total Dust</u>	<u>% to be Collected</u>
0 to 10 Microns	_____ 100 _____	_____ 90% of collection _____
10 to 44 Microns	_____ 0 _____	_____ 90% of collection _____
Larger than 44 Microns	_____ 0 _____	_____ 90% of collection _____

14. For Afterburner Construction Only:

Volume of Contaminated Air _____ N/A _____ CFM (DO NOT INCLUDE COMBUSTION AIR)

Gas Inlet Temperature _____ N/A _____ °F

Capacity of Afterburner _____ N/A _____ BTU/HR

Diameter (or area) of Afterburner Throat _____ N/A _____

Combustion Chamber _____ N/A _____ (diameter) _____ N/A _____ (length) Operating Temperature at Afterburner _____ N/A _____ °F

Retention Time of Gases _____ N/A _____

15. Show Location of Dust Cleaning Equipment in the System. Draw or Sketch Flow Diagram Showing Emission Path from Source to Exhaust Point to Atmosphere.

See site plan and flow diagrams.

Date Received: Local _____ State _____

Acknowledgement Date: _____

By _____

Reviewed By:

Local _____

State _____

Returned to Local:

Date _____

By _____

Application Returned to Applicant:

Date _____

By _____

REGISTRATION NUMBER OF ASSOCIATED EQUIPMENT:

--	--	--	--

PREMISES NUMBER:

--	--

--	--	--	--

Emission Calculations Revised By _____ Date _____



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Simple Cyclone <input type="checkbox"/>	Multiple Cyclone <input type="checkbox"/>	Afterburner <input type="checkbox"/>	Electrostatic Precipitator <input type="checkbox"/>
Scrubber <input type="checkbox"/>	_____ (type)	Other <input checked="" type="checkbox"/>	<u>Dust Collector</u> (type)
8. Gas Cleaning Equipment Manufacturer Schenck Process	Model No. 72AVS16 Style II Filter	Collection Efficiency (Design Criteria) 100% Collected	
9. Type of Equipment which Control Equipment is to Service: Cement Powders Silo			
10. Stack Test to be Conducted:			
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	_____ (Stack Test to be Conducted By)	_____ (Date)
11. Cost of Equipment <u>TBD</u>			
Estimated Erection Cost <u>TBD</u>			

12. The Following Shall Be Design Criteria:

	<u>INLET</u>	<u>OUTLET</u>
Gas Flow Rate	_____ 750 _____ ACFM*	_____ 750 _____ ACFM*
Gas Temperature	_____ Ambient _____ °F	_____ Ambient _____ °F
Gas Pressure	_____ TBD _____ INCHES W.G.	_____ TBD _____ INCHES W.G.
	PRESSURE DROP _____ TBD _____	
Dust Loading	_____ Varies _____ GRAINS/ACFD**	_____ _____ GRAINS/ACFD**
Moisture Content	_____ Varies _____ %	_____ Varies _____ %
OR		
Wet Bulb Temperature	_____ N/A _____ °F	_____ N/A _____ °F
Liquid Flow Rate (Wet Scrubber)	_____ N/A _____ GALLONS/MINUTE	
	(WHEN SCRUBBER LIQUID OTHER THAN WATER INDICATE COMPOSITION OF SCRUBBING MEDIUM IN WEIGHT %)	
	* = ACTUAL CUBIC FEET PER MINUTE	** = ACTUAL CUBIC FEET DRY

WHEN APPLICATION INVOLVES THE REDUCTION OF GASEOUS POLLUTANTS, PROVIDE THE CONCENTRATION OF EACH POLLUTANT IN THE GAS STREAM IN VOLUME PERCENT. INCLUDE THE COMPOSITION OF THE GASES ENTERING THE CLEANING DEVICE AND THE COMPOSITION OF EXHAUSTED GASES BEING DISCHARGED INTO THE ATMOSPHERE. USE AVAILABLE SPACE IN ITEM 15 ON PAGE 3.

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14. For Afterburner Construction Only:

Volume of Contaminated Air _____ N/A _____ CFM (DO NOT INCLUDE COMBUSTION AIR)

Gas Inlet Temperature _____ N/A _____ °F

Capacity of Afterburner _____ N/A _____ BTU/HR

Diameter (or area) of Afterburner Throat _____ N/A _____

Combustion Chamber _____ N/A _____ (diameter) _____ N/A _____ (length) Operating Temperature at Afterburner _____ N/A _____ °F

Retention Time of Gases _____ N/A _____

15. Show Location of Dust Cleaning Equipment in the System. Draw or Sketch Flow Diagram Showing Emission Path from Source to Exhaust Point to Atmosphere.

See site plan and flow diagrams.

Date Received: Local _____ State _____

Acknowledgement Date: _____

By _____

Reviewed By:

Local _____

State _____

Returned to Local:

Date _____

By _____

Application Returned to Applicant:

Date _____

By _____

REGISTRATION NUMBER OF ASSOCIATED EQUIPMENT:

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PREMISES NUMBER:

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Emission Calculations Revised By _____ Date _____

MARYLAND DEPARTMENT OF THE ENVIRONMENT

1800 Washington Blvd ▪ Baltimore, Maryland 21230
(410) 537-3230 ▪ 1-800-633-6101 ▪ www.mde.state.md.us

Air and Radiation Management Administration ▪ Air Quality Permits Program

Application for Permit to Construct Gas Cleaning or Emission Control Equipment

1. Owner of Installation The Quikrete Companies	Telephone No. (404) 926-3140	Date of Application	
2. Mailing Address 5 Concourse Parkway, Suite 1900	City Atlanta	Zip Code 30328	County Fulton
3. Equipment Location 11831 Hopewell Road	City/Town or P.O. Hagerstown		County Washington
4. Signature of Owner or Operator	Title Vice President of Engineering	Print or Type Name Steven Pettitt	
5. Application Type:	Alteration <input type="checkbox"/>	New Construction	<input checked="" type="checkbox"/>
6. Date Construction is to Start: December, 2020	Completion Date (Estimate): January, 2021		
7. Type of Gas Cleaning or Emission Control Equipment:			
Simple Cyclone <input type="checkbox"/>	Multiple Cyclone <input type="checkbox"/>	Afterburner <input type="checkbox"/>	Electrostatic Precipitator <input type="checkbox"/>
Scrubber <input type="checkbox"/>	_____ (type)	Other <input checked="" type="checkbox"/>	<u>Dust Collector</u> (type)
8. Gas Cleaning Equipment Manufacturer Schenck Process	Model No. 72AVS16 Style II Filter	Collection Efficiency (Design Criteria) 100% Collected	
9. Type of Equipment which Control Equipment is to Service: Cement Powders Silo			
10. Stack Test to be Conducted:			
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	_____ (Stack Test to be Conducted By)	_____ (Date)
11. Cost of Equipment <u>TBD</u>			
Estimated Erection Cost <u>TBD</u>			

12. The Following Shall Be Design Criteria:

	<u>INLET</u>	<u>OUTLET</u>
Gas Flow Rate	_____ 750 _____ ACFM*	_____ 750 _____ ACFM*
Gas Temperature	_____ Ambient _____ °F	_____ Ambient _____ °F
Gas Pressure	_____ TBD _____ INCHES W.G.	_____ TBD _____ INCHES W.G.
	PRESSURE DROP _____ TBD _____	
Dust Loading	_____ Varies _____ GRAINS/ACFD**	_____ _____ GRAINS/ACFD**
Moisture Content	_____ Varies _____ %	_____ Varies _____ %
OR		
Wet Bulb Temperature	_____ N/A _____ °F	_____ N/A _____ °F
Liquid Flow Rate (Wet Scrubber)	_____ N/A _____ GALLONS/MINUTE	
	(WHEN SCRUBBER LIQUID OTHER THAN WATER INDICATE COMPOSITION OF SCRUBBING MEDIUM IN WEIGHT %)	
	* = ACTUAL CUBIC FEET PER MINUTE	** = ACTUAL CUBIC FEET DRY

WHEN APPLICATION INVOLVES THE REDUCTION OF GASEOUS POLLUTANTS, PROVIDE THE CONCENTRATION OF EACH POLLUTANT IN THE GAS STREAM IN VOLUME PERCENT. INCLUDE THE COMPOSITION OF THE GASES ENTERING THE CLEANING DEVICE AND THE COMPOSITION OF EXHAUSTED GASES BEING DISCHARGED INTO THE ATMOSPHERE. USE AVAILABLE SPACE IN ITEM 15 ON PAGE 3.

13. Particle Size Analysis

<u>Size of Dust Particles Entering Cleaning Unit</u>	<u>% of Total Dust</u>	<u>% to be Collected</u>
0 to 10 Microns	_____ 100 _____	_____ 90% of collection _____
10 to 44 Microns	_____ 0 _____	_____ 90% of collection _____
Larger than 44 Microns	_____ 0 _____	_____ 90% of collection _____

14. For Afterburner Construction Only:

Volume of Contaminated Air _____ N/A _____ CFM (DO NOT INCLUDE COMBUSTION AIR)

Gas Inlet Temperature _____ N/A _____ °F

Capacity of Afterburner _____ N/A _____ BTU/HR

Diameter (or area) of Afterburner Throat _____ N/A _____

Combustion Chamber _____ N/A _____ (diameter) _____ N/A _____ (length) Operating Temperature at Afterburner _____ N/A _____ °F

Retention Time of Gases _____ N/A _____

15. Show Location of Dust Cleaning Equipment in the System. Draw or Sketch Flow Diagram Showing Emission Path from Source to Exhaust Point to Atmosphere.

See site plan and flow diagrams.

Date Received: Local _____ State _____

Acknowledgement Date: _____

By _____

Reviewed By:

Local _____

State _____

Returned to Local:

Date _____

By _____

Application Returned to Applicant:

Date _____

By _____

REGISTRATION NUMBER OF ASSOCIATED EQUIPMENT:

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PREMISES NUMBER:

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Emission Calculations Revised By _____ Date _____



MARYLAND DEPARTMENT OF THE ENVIRONMENT

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(410) 537-3230 ▪ 1-800-633-6101 ▪ www.mde.state.md.us

Air and Radiation Management Administration ▪ Air Quality Permits Program

Application for Permit to Construct Gas Cleaning or Emission Control Equipment

1. Owner of Installation The Quikrete Companies	Telephone No. (404) 926-3140	Date of Application	
2. Mailing Address 5 Concourse Parkway, Suite 1900	City Atlanta	Zip Code 30328	County Fulton
3. Equipment Location 11831 Hopewell Road	City/Town or P.O. Hagerstown		County Washington
4. Signature of Owner or Operator	Title Vice President of Engineering	Print or Type Name Steven Pettitt	
5. Application Type:	Alteration <input type="checkbox"/>	New Construction <input checked="" type="checkbox"/>	
6. Date Construction is to Start: December, 2020	Completion Date (Estimate): January, 2021		
7. Type of Gas Cleaning or Emission Control Equipment:			
Simple Cyclone <input type="checkbox"/>	Multiple Cyclone <input type="checkbox"/>	Afterburner <input type="checkbox"/>	Electrostatic Precipitator <input type="checkbox"/>
Scrubber <input type="checkbox"/>	_____ (type)	Other <input checked="" type="checkbox"/>	<u>Dust Collector</u> (type)
8. Gas Cleaning Equipment Manufacturer Schenck Process	Model No. 72AVS16 Style II Filter	Collection Efficiency (Design Criteria) 100% Collected	
9. Type of Equipment which Control Equipment is to Service: Cement Powders Silo			
10. Stack Test to be Conducted:			
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	_____ (Stack Test to be Conducted By)	_____ (Date)
11. Cost of Equipment <u>TBD</u>			
Estimated Erection Cost <u>TBD</u>			

12. The Following Shall Be Design Criteria:

	<u>INLET</u>	<u>OUTLET</u>
Gas Flow Rate	_____ 750 _____ ACFM*	_____ 750 _____ ACFM*
Gas Temperature	_____ Ambient _____ °F	_____ Ambient _____ °F
Gas Pressure	_____ TBD _____ INCHES W.G.	_____ TBD _____ INCHES W.G.
	PRESSURE DROP _____ TBD _____	
Dust Loading	_____ Varies _____ GRAINS/ACFD**	_____ _____ GRAINS/ACFD**
Moisture Content	_____ Varies _____ %	_____ Varies _____ %
OR		
Wet Bulb Temperature	_____ N/A _____ °F	_____ N/A _____ °F
Liquid Flow Rate (Wet Scrubber)	_____ N/A _____ GALLONS/MINUTE	
	(WHEN SCRUBBER LIQUID OTHER THAN WATER INDICATE COMPOSITION OF SCRUBBING MEDIUM IN WEIGHT %)	
	* = ACTUAL CUBIC FEET PER MINUTE	** = ACTUAL CUBIC FEET DRY

WHEN APPLICATION INVOLVES THE REDUCTION OF GASEOUS POLLUTANTS, PROVIDE THE CONCENTRATION OF EACH POLLUTANT IN THE GAS STREAM IN VOLUME PERCENT. INCLUDE THE COMPOSITION OF THE GASES ENTERING THE CLEANING DEVICE AND THE COMPOSITION OF EXHAUSTED GASES BEING DISCHARGED INTO THE ATMOSPHERE. USE AVAILABLE SPACE IN ITEM 15 ON PAGE 3.

13. Particle Size Analysis

<u>Size of Dust Particles Entering Cleaning Unit</u>	<u>% of Total Dust</u>	<u>% to be Collected</u>
0 to 10 Microns	_____ 100 _____	_____ 90% of collection _____
10 to 44 Microns	_____ 0 _____	_____ 90% of collection _____
Larger than 44 Microns	_____ 0 _____	_____ 90% of collection _____

14. For Afterburner Construction Only:

Volume of Contaminated Air _____ N/A _____ CFM (DO NOT INCLUDE COMBUSTION AIR)

Gas Inlet Temperature _____ N/A _____ °F

Capacity of Afterburner _____ N/A _____ BTU/HR

Diameter (or area) of Afterburner Throat _____ N/A _____

Combustion Chamber _____ N/A _____ (diameter) _____ N/A _____ (length) Operating Temperature at Afterburner _____ N/A _____ °F

Retention Time of Gases _____ N/A _____

15. Show Location of Dust Cleaning Equipment in the System. Draw or Sketch Flow Diagram Showing Emission Path from Source to Exhaust Point to Atmosphere.

See site plan and flow diagrams.

Date Received: Local _____ State _____

Acknowledgement Date: _____

By _____

Reviewed By:

Local _____

State _____

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Date _____

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Emission Calculations Revised By _____ Date _____



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Air and Radiation Management Administration ▪ Air Quality Permits Program

Application for Permit to Construct Gas Cleaning or Emission Control Equipment

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2. Mailing Address 5 Concourse Parkway, Suite 1900	City Atlanta	Zip Code 30328	County Fulton
3. Equipment Location 11831 Hopewell Road	City/Town or P.O. Hagerstown		County Washington
4. Signature of Owner or Operator	Title Vice President of Engineering	Print or Type Name Steven Pettitt	
5. Application Type:	Alteration <input type="checkbox"/>	New Construction <input checked="" type="checkbox"/>	
6. Date Construction is to Start: December, 2020	Completion Date (Estimate): January, 2021		
7. Type of Gas Cleaning or Emission Control Equipment:			
Simple Cyclone <input type="checkbox"/>	Multiple Cyclone <input type="checkbox"/>	Afterburner <input type="checkbox"/>	Electrostatic Precipitator <input type="checkbox"/>
Scrubber <input type="checkbox"/>	_____ (type)	Other <input checked="" type="checkbox"/>	<u>Dust Collector</u> (type)
8. Gas Cleaning Equipment Manufacturer Schenck Process	Model No. 72AVS16 Style II Filter	Collection Efficiency (Design Criteria) 100% Collected	
9. Type of Equipment which Control Equipment is to Service: Cement Powders Silo			
10. Stack Test to be Conducted:			
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	_____ (Stack Test to be Conducted By)	_____ (Date)
11. Cost of Equipment <u>TBD</u>			
Estimated Erection Cost <u>TBD</u>			



12. The Following Shall Be Design Criteria:

	<u>INLET</u>	<u>OUTLET</u>
Gas Flow Rate	_____ 750 _____ ACFM*	_____ 750 _____ ACFM*
Gas Temperature	_____ Ambient _____ °F	_____ Ambient _____ °F
Gas Pressure	_____ TBD _____ INCHES W.G.	_____ TBD _____ INCHES W.G.
	PRESSURE DROP _____ TBD _____	
Dust Loading	_____ Varies _____ GRAINS/ACFD**	_____ _____ GRAINS/ACFD**
Moisture Content	_____ Varies _____ %	_____ Varies _____ %
OR		
Wet Bulb Temperature	_____ N/A _____ °F	_____ N/A _____ °F
Liquid Flow Rate (Wet Scrubber)	_____ N/A _____ GALLONS/MINUTE	
	(WHEN SCRUBBER LIQUID OTHER THAN WATER INDICATE COMPOSITION OF SCRUBBING MEDIUM IN WEIGHT %)	
	* = ACTUAL CUBIC FEET PER MINUTE	** = ACTUAL CUBIC FEET DRY

WHEN APPLICATION INVOLVES THE REDUCTION OF GASEOUS POLLUTANTS, PROVIDE THE CONCENTRATION OF EACH POLLUTANT IN THE GAS STREAM IN VOLUME PERCENT. INCLUDE THE COMPOSITION OF THE GASES ENTERING THE CLEANING DEVICE AND THE COMPOSITION OF EXHAUSTED GASES BEING DISCHARGED INTO THE ATMOSPHERE. USE AVAILABLE SPACE IN ITEM 15 ON PAGE 3.

13. Particle Size Analysis

<u>Size of Dust Particles Entering Cleaning Unit</u>	<u>% of Total Dust</u>	<u>% to be Collected</u>
0 to 10 Microns	_____ 100 _____	_____ 90% of collection _____
10 to 44 Microns	_____ 0 _____	_____ 90% of collection _____
Larger than 44 Microns	_____ 0 _____	_____ 90% of collection _____

14. For Afterburner Construction Only:

Volume of Contaminated Air _____ N/A _____ CFM (DO NOT INCLUDE COMBUSTION AIR)

Gas Inlet Temperature _____ N/A _____ °F

Capacity of Afterburner _____ N/A _____ BTU/HR

Diameter (or area) of Afterburner Throat _____ N/A _____

Combustion Chamber _____ N/A _____ (diameter) _____ N/A _____ (length) Operating Temperature at Afterburner _____ N/A _____ °F

Retention Time of Gases _____ N/A _____

15. Show Location of Dust Cleaning Equipment in the System. Draw or Sketch Flow Diagram Showing Emission Path from Source to Exhaust Point to Atmosphere.

See site plan and flow diagrams.

Date Received: Local _____ State _____

Acknowledgement Date: _____

By _____

Reviewed By:

Local _____

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Emission Calculations Revised By _____ Date _____

MARYLAND DEPARTMENT OF THE ENVIRONMENT

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Air and Radiation Management Administration ▪ Air Quality Permits Program

Application for Permit to Construct Gas Cleaning or Emission Control Equipment

1. Owner of Installation The Quikrete Companies	Telephone No. (404) 926-3140	Date of Application	
2. Mailing Address 5 Concourse Parkway, Suite 1900	City Atlanta	Zip Code 30328	County Fulton
3. Equipment Location 11831 Hopewell Road	City/Town or P.O. Hagerstown		County Washington
4. Signature of Owner or Operator	Title Vice President of Engineering	Print or Type Name Steven Pettitt	
5. Application Type:	Alteration <input type="checkbox"/>	New Construction <input checked="" type="checkbox"/>	
6. Date Construction is to Start: December, 2020	Completion Date (Estimate): January, 2021		
7. Type of Gas Cleaning or Emission Control Equipment:			
Simple Cyclone <input type="checkbox"/>	Multiple Cyclone <input type="checkbox"/>	Afterburner <input type="checkbox"/>	Electrostatic Precipitator <input type="checkbox"/>
Scrubber <input type="checkbox"/>	_____ (type)	Other <input checked="" type="checkbox"/>	Dust Collector _____ (type)
8. Gas Cleaning Equipment Manufacturer Schenck Process	Model No. 144RPT224 STYLE III	Collection Efficiency (Design Criteria) 100% Collected	
9. Type of Equipment which Control Equipment is to Service: Aggregate dryer			
10. Stack Test to be Conducted:			
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	_____ (Stack Test to be Conducted By)	_____ (Date)
11. Cost of Equipment <u>TBD</u>			
Estimated Erection Cost <u>TBD</u>			

12. The Following Shall Be Design Criteria:

	<u>INLET</u>		<u>OUTLET</u>
Gas Flow Rate	21000	ACFM*	21000 ACFM*
Gas Temperature	270	°F	270 °F
Gas Pressure	TBD	INCHES W.G.	TBD INCHES W.G.
	PRESSURE DROP		TBD
Dust Loading	Varies	GRAINS/ACFD**	Varies GRAINS/ACFD**
Moisture Content	Varies	%	Varies %
OR			
Wet Bulb Temperature	N/A	°F	N/A °F
Liquid Flow Rate (Wet Scrubber)	N/A	GALLONS/MINUTE	
(WHEN SCRUBBER LIQUID OTHER THAN WATER INDICATE COMPOSITION OF SCRUBBING MEDIUM IN WEIGHT %)			
	* = ACTUAL CUBIC FEET PER MINUTE		** = ACTUAL CUBIC FEET DRY

WHEN APPLICATION INVOLVES THE REDUCTION OF GASEOUS POLLUTANTS, PROVIDE THE CONCENTRATION OF EACH POLLUTANT IN THE GAS STREAM IN VOLUME PERCENT. INCLUDE THE COMPOSITION OF THE GASES ENTERING THE CLEANING DEVICE AND THE COMPOSITION OF EXHAUSTED GASES BEING DISCHARGED INTO THE ATMOSPHERE. USE AVAILABLE SPACE IN ITEM 15 ON PAGE 3.

13. Particle Size Analysis

<u>Size of Dust Particles Entering Cleaning Unit</u>	<u>% of Total Dust</u>	<u>% to be Collected</u>
0 to 10 Microns	100	90% of collection
10 to 44 Microns	0	90% of collection
Larger than 44 Microns	0	90% of collection

14. For Afterburner Construction Only:

Volume of Contaminated Air N/A CFM (DO NOT INCLUDE COMBUSTION AIR)

Gas Inlet Temperature N/A °F

Capacity of Afterburner N/A BTU/HR

Diameter (or area) of Afterburner Throat N/A

Combustion Chamber N/A (diameter) N/A (length) Operating Temperature at Afterburner N/A °F

Retention Time of Gases N/A

15. Show Location of Dust Cleaning Equipment in the System. Draw or Sketch Flow Diagram Showing Emission Path from Source to Exhaust Point to Atmosphere.

See site plan and flow diagrams.

Date Received: Local _____ State _____

Acknowledgement Date: _____

By _____

Reviewed By:

Local _____

State _____

Returned to Local:

Date _____

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Application Returned to Applicant:

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REGISTRATION NUMBER OF ASSOCIATED EQUIPMENT:

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PREMISES NUMBER:

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Emission Calculations Revised By _____ Date _____

MARYLAND DEPARTMENT OF THE ENVIRONMENT

1800 Washington Blvd ▪ Baltimore, Maryland 21230
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Air and Radiation Management Administration ▪ Air Quality Permits Program

Application for Permit to Construct
Gas Cleaning or Emission Control Equipment

1. Owner of Installation: The Quikrete Companies; Telephone No.: (404) 926-3140; Date of Application:
2. Mailing Address: 5 Concourse Parkway, Suite 1900; City: Atlanta; Zip Code: 30328; County: Fulton
3. Equipment Location: 11831 Hopewell Road; City/Town or P.O.: Hagerstown; County: Washington
4. Signature of Owner or Operator: Vice President of Engineering; Title: Steven Pettitt; Print or Type Name:
5. Application Type: Alteration [] New Construction [X]
6. Date Construction is to Start: December, 2020; Completion Date (Estimate): January, 2021
7. Type of Gas Cleaning or Emission Control Equipment: Simple Cyclone [] Multiple Cyclone [] Afterburner [] Electrostatic Precipitator []
Scrubber [] Other [X] Dust Collector []
8. Gas Cleaning Equipment Manufacturer: Schenck Process; Model No.: 144LST100 FILTER; Collection Efficiency (Design Criteria): 100% Collected
9. Type of Equipment which Control Equipment is to Service: Fluid Bed Cooler
10. Stack Test to be Conducted: Yes [] No [X]
11. Cost of Equipment: TBD; Estimated Erection Cost: TBD

12. The Following Shall Be Design Criteria:

	<u>INLET</u>	<u>OUTLET</u>
Gas Flow Rate	9300 ACFM*	9300 ACFM*
Gas Temperature	160 °F	160 °F
Gas Pressure	TBD INCHES W.G.	TBD INCHES W.G.
	PRESSURE DROP TBD	
Dust Loading	Varies GRAINS/ACFD**	Varies GRAINS/ACFD**
Moisture Content	Varies %	Varies %
OR		
Wet Bulb Temperature	N/A °F	N/A °F
Liquid Flow Rate (Wet Scrubber)	N/A GALLONS/MINUTE	
	(WHEN SCRUBBER LIQUID OTHER THAN WATER INDICATE COMPOSITION OF SCRUBBING MEDIUM IN WEIGHT %)	
	* = ACTUAL CUBIC FEET PER MINUTE	** = ACTUAL CUBIC FEET DRY

WHEN APPLICATION INVOLVES THE REDUCTION OF GASEOUS POLLUTANTS, PROVIDE THE CONCENTRATION OF EACH POLLUTANT IN THE GAS STREAM IN VOLUME PERCENT. INCLUDE THE COMPOSITION OF THE GASES ENTERING THE CLEANING DEVICE AND THE COMPOSITION OF EXHAUSTED GASES BEING DISCHARGED INTO THE ATMOSPHERE. USE AVAILABLE SPACE IN ITEM 15 ON PAGE 3.

13. Particle Size Analysis

<u>Size of Dust Particles Entering Cleaning Unit</u>	<u>% of Total Dust</u>	<u>% to be Collected</u>
0 to 10 Microns	100	90% of collection
10 to 44 Microns	0	90% of collection
Larger than 44 Microns	0	90% of collection

14. For Afterburner Construction Only:

Volume of Contaminated Air N/A CFM (DO NOT INCLUDE COMBUSTION AIR)

Gas Inlet Temperature N/A °F

Capacity of Afterburner N/A BTU/HR

Diameter (or area) of Afterburner Throat N/A

Combustion Chamber N/A (diameter) N/A (length) Operating Temperature at Afterburner N/A °F

Retention Time of Gases N/A

15. Show Location of Dust Cleaning Equipment in the System. Draw or Sketch Flow Diagram Showing Emission Path from Source to Exhaust Point to Atmosphere.

See site plan and flow diagrams.

Date Received: Local _____ State _____

Acknowledgement Date: _____

By _____

Reviewed By:

Local _____

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Application Returned to Applicant:

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Emission Calculations Revised By _____ Date _____



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Application for Permit to Construct Gas Cleaning or Emission Control Equipment

1. Owner of Installation The Quikrete Companies	Telephone No. (404) 926-3140	Date of Application	
2. Mailing Address 5 Concourse Parkway, Suite 1900	City Atlanta	Zip Code 30328	County Fulton
3. Equipment Location 11831 Hopewell Road	City/Town or P.O. Hagerstown		County Washington
4. Signature of Owner or Operator	Title Vice President of Engineering	Print or Type Name Steven Pettitt	
5. Application Type:	Alteration <input type="checkbox"/>	New Construction <input checked="" type="checkbox"/>	
6. Date Construction is to Start: December, 2020	Completion Date (Estimate): January, 2021		
7. Type of Gas Cleaning or Emission Control Equipment:			
Simple Cyclone <input type="checkbox"/>	Multiple Cyclone <input type="checkbox"/>	Afterburner <input type="checkbox"/>	Electrostatic Precipitator <input type="checkbox"/>
Scrubber <input type="checkbox"/>	_____ (type)	Other <input checked="" type="checkbox"/>	<u>Dust Collector</u> (type)
8. Gas Cleaning Equipment Manufacturer Schenck Process	Model No. 72AVS36 FILTER	Collection Efficiency (Design Criteria) 100% Collected	
9. Type of Equipment which Control Equipment is to Service: Aggregate Silo			
10. Stack Test to be Conducted:			
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	_____ (Stack Test to be Conducted By)	_____ (Date)
11. Cost of Equipment <u>TBD</u>			
Estimated Erection Cost <u>TBD</u>			



12. The Following Shall Be Design Criteria:

	<u>INLET</u>		<u>OUTLET</u>
Gas Flow Rate	_____ 1635 _____	ACFM* 	_____ 1635 _____
Gas Temperature	_____ Ambient _____	°F	_____ Ambient _____
Gas Pressure	_____ TBD _____	INCHES W.G.	_____ TBD _____
		PRESSURE DROP _____	TBD _____
Dust Loading	_____ Varies _____	GRAINS/ACFD**	_____  _____
Moisture Content	_____ Varies _____	%	_____ Varies _____
OR			
Wet Bulb Temperature	_____ N/A _____	°F	_____ N/A _____
Liquid Flow Rate (Wet Scrubber)	_____ N/A _____	GALLONS/MINUTE	
(WHEN SCRUBBER LIQUID OTHER THAN WATER INDICATE COMPOSITION OF SCRUBBING MEDIUM IN WEIGHT %)			
	* = ACTUAL CUBIC FEET PER MINUTE		** = ACTUAL CUBIC FEET DRY

WHEN APPLICATION INVOLVES THE REDUCTION OF GASEOUS POLLUTANTS, PROVIDE THE CONCENTRATION OF EACH POLLUTANT IN THE GAS STREAM IN VOLUME PERCENT. INCLUDE THE COMPOSITION OF THE GASES ENTERING THE CLEANING DEVICE AND THE COMPOSITION OF EXHAUSTED GASES BEING DISCHARGED INTO THE ATMOSPHERE. USE AVAILABLE SPACE IN ITEM 15 ON PAGE 3.

13. Particle Size Analysis

<u>Size of Dust Particles Entering Cleaning Unit</u>	<u>% of Total Dust</u>	<u>% to be Collected</u>
0 to 10 Microns	_____ 100 _____	_____ 90% of collection _____
10 to 44 Microns	_____ 0 _____	_____ 90% of collection _____
Larger than 44 Microns	_____ 0 _____	_____ 90% of collection _____

14. For Afterburner Construction Only:

Volume of Contaminated Air _____ N/A _____ CFM (DO NOT INCLUDE COMBUSTION AIR)

Gas Inlet Temperature _____ N/A _____ °F

Capacity of Afterburner _____ N/A _____ BTU/HR

Diameter (or area) of Afterburner Throat _____ N/A _____

Combustion Chamber _____ N/A _____ (diameter) _____ N/A _____ (length) Operating Temperature at Afterburner _____ N/A _____ °F

Retention Time of Gases _____ N/A _____

15. Show Location of Dust Cleaning Equipment in the System. Draw or Sketch Flow Diagram Showing Emission Path from Source to Exhaust Point to Atmosphere.

See site plan and flow diagrams.

Date Received: Local _____ State _____

Acknowledgement Date: _____

By _____

Reviewed By:

Local _____

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By _____

REGISTRATION NUMBER OF ASSOCIATED EQUIPMENT:

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PREMISES NUMBER:

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Emission Calculations Revised By _____ Date _____



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**Application for Permit to Construct
Gas Cleaning or Emission Control Equipment**

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	County Fulton	
3. Equipment Location 11831 Hopewell Road	City/Town or P.O. Hagerstown	County Washington
4. Signature of Owner or Operator	Title Vice President of Engineering	Print or Type Name Steven Pettitt
5. Application Type:	Alteration <input type="checkbox"/>	New Construction <input checked="" type="checkbox"/>
6. Date Construction is to Start: December, 2020	Completion Date (Estimate): January, 2021	
7. Type of Gas Cleaning or Emission Control Equipment:		
Simple Cyclone <input type="checkbox"/>	Multiple Cyclone <input type="checkbox"/>	Afterburner <input type="checkbox"/>
Electrostatic Precipitator <input type="checkbox"/>	Scrubber <input type="checkbox"/>	Other <input checked="" type="checkbox"/>
_____ (type)		Dust Collector _____ (type)
8. Gas Cleaning Equipment Manufacturer Schenck Process	Model No. 120LST100 FILTER	Collection Efficiency (Design Criteria) 100% Collected
9. Type of Equipment which Control Equipment is to Service: Packaging and bagging equipment.		
10. Stack Test to be Conducted:		
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	_____ (Date)
		(Stack Test to be Conducted By)
11. Cost of Equipment <u>TBD</u>		
Estimated Erection Cost <u>TBD</u>		

12. The Following Shall Be Design Criteria:

	INLET	OUTLET
Gas Flow Rate	6000 ACFM*	6000 ACFM*
Gas Temperature	Ambient °F	Ambient °F
Gas Pressure	TBD INCHES W.G.	TBD INCHES W.G.
	PRESSURE DROP TBD	
Dust Loading	Varies GRAINS/ACFD**	Varies GRAINS/ACFD**
Moisture Content	Varies %	Varies %
OR		
Wet Bulb Temperature	N/A °F	N/A °F
Liquid Flow Rate (Wet Scrubber)	N/A GALLONS/MINUTE	
	(WHEN SCRUBBER LIQUID OTHER THAN WATER INDICATE COMPOSITION OF SCRUBBING MEDIUM IN WEIGHT %)	
	* = ACTUAL CUBIC FEET PER MINUTE	** = ACTUAL CUBIC FEET DRY

WHEN APPLICATION INVOLVES THE REDUCTION OF GASEOUS POLLUTANTS, PROVIDE THE CONCENTRATION OF EACH POLLUTANT IN THE GAS STREAM IN VOLUME PERCENT. INCLUDE THE COMPOSITION OF THE GASES ENTERING THE CLEANING DEVICE AND THE COMPOSITION OF EXHAUSTED GASES BEING DISCHARGED INTO THE ATMOSPHERE. USE AVAILABLE SPACE IN ITEM 15 ON PAGE 3.

13. Particle Size Analysis

<u>Size of Dust Particles Entering Cleaning Unit</u>	<u>% of Total Dust</u>	<u>% to be Collected</u>
0 to 10 Microns	100	90% of collection
10 to 44 Microns	0	90% of collection
Larger than 44 Microns	0	90% of collection

14. For Afterburner Construction Only:

Volume of Contaminated Air N/A CFM (DO NOT INCLUDE COMBUSTION AIR)

Gas Inlet Temperature N/A °F

Capacity of Afterburner N/A BTU/HR

Diameter (or area) of Afterburner Throat N/A

Combustion Chamber N/A (diameter) N/A (length) Operating Temperature at Afterburner N/A °F

Retention Time of Gases N/A

15. Show Location of Dust Cleaning Equipment in the System. Draw or Sketch Flow Diagram Showing Emission Path from Source to Exhaust Point to Atmosphere.

See site plan and flow diagrams.

Date Received: Local _____ State _____

Acknowledgement Date: _____

By _____

Reviewed By:

Local _____

State _____

Returned to Local:

Date _____

By _____

Application Returned to Applicant:

Date _____

By _____

REGISTRATION NUMBER OF ASSOCIATED EQUIPMENT:

--	--	--	--

PREMISES NUMBER:

--	--

--	--	--	--

Emission Calculations Revised By _____ Date _____



MARYLAND DEPARTMENT OF THE ENVIRONMENT

1800 Washington Blvd ▪ Baltimore, Maryland 21230
(410) 537-3230 ▪ 1-800-633-6101 ▪ www.mde.state.md.us

Air and Radiation Management Administration ▪ Air Quality Permits Program
APPLICATION FOR FUEL BURNING EQUIPMENT

Permit to Construct Registration Update Initial Registration

<p>1A. Owner of Equipment/Company Name The Quikrete Companies</p> <p>Mailing Address/Street 5 Concourse Parkway, Suite 1900</p> <p>City Atlanta State GA Zip Code 30328</p> <p>Telephone Number (404) 926-3140</p> <p>Print Name/Title Steven Pettitt, Vice President of Engineering</p> <p>Signature: _____ Date: _____</p>	<p align="center">DO NOT WRITE IN THIS BOX</p> <p>2. Registration Number</p> <table style="width:100%; border: none;"> <tr> <td style="text-align: center;">County No. <input type="text"/><input type="text"/> 1-2</td> <td style="text-align: center;">Premises No. <input type="text"/><input type="text"/><input type="text"/><input type="text"/> 3-6</td> </tr> <tr> <td style="text-align: center;">Registration Class <input type="text"/> 7</td> <td style="text-align: center;">Equipment No. <input type="text"/><input type="text"/><input type="text"/><input type="text"/> 6-11</td> </tr> <tr> <td style="text-align: center;">Data Year <input type="text"/><input type="text"/> 12-13</td> <td style="text-align: center;">Application Date _____</td> </tr> </table>	County No. <input type="text"/> <input type="text"/> 1-2	Premises No. <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> 3-6	Registration Class <input type="text"/> 7	Equipment No. <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> 6-11	Data Year <input type="text"/> <input type="text"/> 12-13	Application Date _____								
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<p>1B. Equipment Location (if different from above give Street Number and Name, City, State, Zip and Telephone Number): 11831 Hopewell Road Hagerstown, Maryland 21740</p> <p>Premises Name (if different from above): Pavestone Company</p>															
<table style="width:100%; border: none;"> <tr> <td style="width:20%;">3. Status</td> <td style="width:20%; text-align: center;">New Construction Began (MM/YY)</td> <td style="width:20%; text-align: center;">New Construction Completed (MM/YY)</td> <td style="width:20%; text-align: center;">Existing Initial Operation (MM/YY)</td> </tr> <tr> <td>A= New Equipment B= Modification to Existing Equipment C= Existing Equipment</td> <td style="text-align: center;">Status <input type="text" value="A"/> 15</td> <td style="text-align: center;"><input type="text" value="1"/><input type="text" value="2"/><input type="text" value="2"/><input type="text" value="0"/> 16-19</td> <td style="text-align: center;"><input type="text" value="0"/><input type="text" value="1"/><input type="text" value="2"/><input type="text" value="1"/> 20-23</td> </tr> <tr> <td></td> <td></td> <td style="text-align: center;"><input type="text" value="2"/><input type="text" value="0"/> 20-23</td> <td style="text-align: center;"><input type="text" value=""/><input type="text" value=""/><input type="text" value=""/><input type="text" value=""/> 20-23</td> </tr> </table>		3. Status	New Construction Began (MM/YY)	New Construction Completed (MM/YY)	Existing Initial Operation (MM/YY)	A= New Equipment B= Modification to Existing Equipment C= Existing Equipment	Status <input type="text" value="A"/> 15	<input type="text" value="1"/> <input type="text" value="2"/> <input type="text" value="2"/> <input type="text" value="0"/> 16-19	<input type="text" value="0"/> <input type="text" value="1"/> <input type="text" value="2"/> <input type="text" value="1"/> 20-23			<input type="text" value="2"/> <input type="text" value="0"/> 20-23	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> 20-23		
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<p>4. Describe this Equipment (Make, Model, Features, Manufacturer, etc.): Custom fabricated dryer. 30 ft. long x 6 ft. diameter.</p>															
<p>5. Workmen's Compensation Coverage: Binder/Policy Number: <u>WA7-65D-2900199-014</u></p> <p>Company Name: _____ Expiration Date <u>01-01-2021</u></p> <p align="center">NOTE: Before a Permit to Construct may be issued by the Department, the applicant must provide the Department with proof of worker's compensation coverage as required under Section 1-202 of the Worker's Compensation Act.</p>															
<p>6. Number of Pieces of Identical Equipment to be Registered/Permitted at this Time: 1</p>															
<p>7. Person Installing this Equipment (if different from above give Name/Title, Company Name, Mailing Address and Telephone Number): Same as above.</p>															
<p>8. Major Activity, Product or Service of Company at this Location: Concrete batch plant.</p>															
<p>9. Control Devices Associated with this Equipment</p> <table style="width:100%; border: none;"> <tr> <td>None <input type="checkbox"/> 24-0</td> <td>Simple/Multiple Cyclones <input type="checkbox"/> 24-1</td> <td>Spray/Adsorb Tower <input type="checkbox"/> 24-2</td> <td>Venturi Scrubber <input type="checkbox"/> 24-3</td> <td>Carbon Adsorber <input type="checkbox"/> 24-4</td> <td>Electrostatic Precipitator <input type="checkbox"/> 24-5</td> <td>Bag-house <input type="checkbox"/> 24-6</td> </tr> <tr> <td></td> <td>Thermal/Catalytic Afterburner <input type="checkbox"/> 24-7</td> <td>Dry Scrubber <input type="checkbox"/> 24-8</td> <td>Other <input checked="" type="checkbox"/> 24-9</td> <td colspan="3">Describe: <u>Dust Collector</u></td> </tr> </table>		None <input type="checkbox"/> 24-0	Simple/Multiple Cyclones <input type="checkbox"/> 24-1	Spray/Adsorb Tower <input type="checkbox"/> 24-2	Venturi Scrubber <input type="checkbox"/> 24-3	Carbon Adsorber <input type="checkbox"/> 24-4	Electrostatic Precipitator <input type="checkbox"/> 24-5	Bag-house <input type="checkbox"/> 24-6		Thermal/Catalytic Afterburner <input type="checkbox"/> 24-7	Dry Scrubber <input type="checkbox"/> 24-8	Other <input checked="" type="checkbox"/> 24-9	Describe: <u>Dust Collector</u>		
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Potential Emission Calculations
5/14/2021

QUIKRETE - Hagerstown
 11831 Hopewell Road
 Hagerstown, MD 21740

Emissions Point	Description	PM Total (lb/yr)	PM10 (lb/yr)	PM2.5 (lb/yr)	Resp. Crystalline Silica ¹ (lb/yr)	Sulfur Dioxide (lb/yr)	Nitrogen Dioxide (lb/yr)	Carbon Monoxide (lb/yr)	Volatile Organic Compounds (lb/yr)
1	Aggregate Dryer	9,414	9,414	9,414	0.94	129	21,471	18,035	1,181
2	Fluid Bed Cooler	8,191	8,191	8,191	0.82				
3	Packaging Collector	7,133	7,133	7,133	0.71				
4	Silo Vent Agg Filter	2,455	2,455	2,455	0.25				
5-A	Bin No. 1 Filter	238	82	82	0.01				
5-B	Bin No. 2 Filter	238	82	82	0.01				
5-C	Bin No. 3 Filter	29	10	10	0.00				
5-D	Bin No. 4 Filter	238	82	82	0.01				
5-E	Bin No. 5 Filter	238	82	82	0.01				
5-F	Bin No. 6 Filter	238	82	82	0.01				
6	Dump Hopper	2,361	1,117	169	0.11				
7	Traffic & Handling	19,255	5,513	619	0.55				
8	Wind Erosion	1,205	1,205	1,205	0.12				
Totals (tpy)		25.6	17.7	14.8	0.002	0.1	10.7	9.0	0.6

1. Based on raw material SDS, 1% of particulate is assumed to be crystalline silica. Based on the ACGIH TLV manual, 1% of PM10 is assumed to be respirable.

POTENTIAL EMISSION CALCULATIONS

5/14/2021

QUIKRETE -Hagerstown

11831 Hopewell Road

Hagerstown, MD 21740

Emission Point	1	<i>Aggregate Dryer</i>
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Process Data:

Production Rate	=	110 ton/hr
Max Percent of Product	=	85 %
Process Rate	=	93.5 ton/hr
Potential Daily Operating Hours	=	24 hr/day
Potential Annual Operating Hours	=	8,760 hr/yr
Potential Burner Capacity	=	25 MMBtu/hr

Emission Factors:

PM (filt)	PM ¹	=	0.010 lb/ton	AP-42	Table 11.19.1-1
PM (cond)	PM ¹	=	5.7 lb/MMcf	AP-42	Table 1.4-2
Sulfur Dioxide	SO ₂	=	0.6 lb/MMcf	AP-42	Table 1.4-2
Nitrogen Dioxide	NO ₂	=	100 lb/MMcf	AP-42	Table 1.4-1
Carbon Monoxide	CO	=	84 lb/MMcf	AP-42	Table 1.4-1
Volatile Organic Cmpd	VOC	=	5.5 lb/MMcf	AP-42	Table 1.4-2

¹ Assumes PM=PM10=PM2.5

Emissions Calculations:

PM (filt)						
<i>Hourly</i>	0.010 lb/ton	x	93.5 ton/hr		=	0.935 lb/hr
<i>Daily</i>	0.010 lb/ton	x	60 ton/hr	x	24 hr/day	= 14.4 lb/day
<i>Yearly</i>	0.010 lb/ton	x	93.5 ton/hr	x	8,760 hr/yr	= 8,191 lb/yr

PM (cond)						
<i>EF Conversion</i>	5.7 lb/MMcf	/	1,020 MMBtu/MMcf		=	0.0056 lb/MMBtu
<i>Hourly</i>	0.0056 lb/MMBtu	x	25 MMBtu/hr		=	0.1397 lb/hr
<i>Daily</i>	0.0056 lb/MMBtu	x	25 MMBtu/hr	x	24 hr/day	= 3.353 lb/day
<i>Yearly</i>	0.0056 lb/MMBtu	x	25 MMBtu/hr	x	8,760 hr/yr	= 1223.8 lb/yr

PM (total)						
<i>Hourly</i>					=	1.0747 lb/hr
<i>Daily</i>					=	17.753 lb/day
<i>Yearly</i>					=	9414.4 lb/yr

Sulfur Dioxide						
<i>EF Conversion</i>	0.6 lb/MMcf	/	1,020 MMBtu/MMcf		=	0.0006 lb/MMBtu
<i>Hourly</i>	0.0006 lb/MMBtu	x	25 MMBtu/hr		=	0.0147 lb/hr
<i>Daily</i>	0.0006 lb/MMBtu	x	25 MMBtu/hr	x	24 hr/day	= 0.353 lb/day
<i>Yearly</i>	0.0006 lb/MMBtu	x	25 MMBtu/hr	x	8,760 hr/yr	= 128.8 lb/yr

POTENTIAL EMISSION CALCULATIONS

5/14/2021

QUIKRETE -Hagerstown

11831 Hopewell Road

Hagerstown, MD 21740

Nitrogen Dioxide							
<i>EF Conversion</i>	100 lb/MMcf	/	1,020 MMBtu/MMcf	=			0.0980 lb/MMBtu
<i>Hourly</i>	0.0980 lb/MMBtu	x	25 MMBtu/hr	=			2.45 lb/hr
<i>Daily</i>	0.0980 lb/MMBtu	x	25 MMBtu/hr	x	24 hr/day	=	58.8 lb/day
<i>Yearly</i>	0.0980 lb/MMBtu	x	25 MMBtu/hr	x	8,760 hr/yr	=	21,471 lb/yr

Carbon Monoxide							
<i>EF Conversion</i>	84 lb/MMcf	/	1,020 MMBtu/MMcf	=			0.0824 lb/MMBtu
<i>Hourly</i>	0.0824 lb/MMBtu	x	25 MMBtu/hr	=			2.06 lb/hr
<i>Daily</i>	0.0824 lb/MMBtu	x	25 MMBtu/hr	x	24 hr/day	=	49.4 lb/day
<i>Yearly</i>	0.0824 lb/MMBtu	x	25 MMBtu/hr	x	8,760 hr/yr	=	18,035 lb/yr

Volatile Organic Compounds							
<i>EF Conversion</i>	5.5 lb/MMcf	/	1,020 MMBtu/MMcf	=			0.0054 lb/MMBtu
<i>Hourly</i>	0.0054 lb/MMBtu	x	25 MMBtu/hr	x		=	0.1348 lb/hr
<i>Daily</i>	0.0054 lb/MMBtu	x	25 MMBtu/hr	x	24 hr/day	=	3.24 lb/day
<i>Yearly</i>	0.0054 lb/MMBtu	x	25 MMBtu/hr	x	8,760 hr/yr	=	1,181 lb/yr

Emission Point	2	Fluid Bed Cooler
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Process Data:

Production Rate	=	110 ton/hr
Max Percent of Product	=	85 %
Process Rate	=	93.5 ton/hr
Potential Daily Operating Hours	=	24 hr/day
Potential Annual Operating Hours	=	8,760 hr/yr

Emission Factors:

PM Total	PM ¹	=	0.010 lb/ton	AP-42 Table 11.19.1-1
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1 Assumes PM=PM10=PM2.5

Emissions Calculations:

PM Total							
<i>Hourly</i>	0.01000 lb/ton	x	93.5 ton/hr	=			0.9350 lb/hr
<i>Daily</i>	0.01000 lb/ton	x	93.5 ton/hr	x	24 hr/day	=	22.44 lb/day
<i>Yearly</i>	0.01000 lb/ton	x	93.5 ton/hr	x	8,760 hr/yr	=	8,191 lb/yr

Emission Point	3	Packaging Collector
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Process Data:

Airflow Rate	=	9,500 dscf/m	=	570,000 dcf/hr
Potential Daily Operating Hours	=	24 hr/day		
Potential Annual Operating Hours	=	8,760 hr/yr		

Emission Factors:

Particulate ¹	PM	=	0.010 gr/dscf	Vendor
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1 Assumes PM=PM10=PM2.5

Emissions Calculations:

Particulate							
<i>EF Conversion</i>	0.010 gr/dscf	x	0.00014 lb/gr	=			1.4E-06 lb/dscf
<i>Hourly</i>	1.4E-06 lb/dscf	x	570,000 dcf/hr	=			0.81 lb/hr
<i>Daily</i>	1.4E-06 lb/dscf	x	570,000 dcf/hr	x	24 hr/day	=	19.54 lb/day
<i>Yearly</i>	1.4E-06 lb/dscf	x	570,000 dcf/hr	x	8,760 hr/yr	=	7133.14 lb/yr

POTENTIAL EMISSION CALCULATIONS

5/14/2021

QUIKRETE -Hagerstown

11831 Hopewell Road

Hagerstown, MD 21740

Emission Point	4 Silo Vent (Agg Filter)
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Process Data:

Airflow Rate	=	1,635 dscf/m	=	98,100 dcf/hr
Potential Daily Operating Hours	=	24 hr/day		
Potential Annual Operating Hours	=	8,760 hr/yr		

Emission Factors:

Particulate ¹	PM	=	0.020 gr/dscf	Vendor
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1 Assumes PM=PM10=PM2.5

Emissions Calculations:

<u>Particulate</u>				
<i>EF Conversion</i>	0.020 gr/dscf	x	0.00014 lb/gr	= 2.9E-06 lb/dscf
<i>Hourly</i>	2.9E-06 lb/dscf	x	98,100 dcf/hr	= 0.280 lb/hr
<i>Daily</i>	2.9E-06 lb/dscf	x	98,100 dcf/hr	x 24 hr/day = 6.73 lb/day
<i>Yearly</i>	2.9E-06 lb/dscf	x	98,100 dcf/hr	x 8,760 hr/yr = 2,455 lb/yr

Emission Point	5-A & B Silo Vent (Bin No. 1 Filter & Bin No. 2 Filter)
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Process Data:

Production Rate	=	110 ton/hr
Max Percent of Product	=	25 %
Process Rate	=	27.5 ton/hr
Potential Daily Operating Hours	=	24 hr/day
Potential Annual Operating Hours	=	8,760 hr/yr

Emission Factors:

PM Total	PM	=	0.001 lb/ton	AP-42 Table 11.12-2
PM10	PM10 ¹	=	0.00034 lb/ton	AP-42 Table 11.12-2

1 Assumes PM10=PM2.5

Emissions Calculations:

<u>PM</u>				
<i>Hourly</i>	0.00099 hr/day	x	27.5 ton/hr	= 0.0272 lb/hr
<i>Daily</i>	0.00099 hr/day	x	27.5 ton/hr	x 24 hr/day = 0.653 lb/day
<i>Yearly</i>	0.00099 hr/day	x	27.5 ton/hr	x 8,760 hr/yr = 238.5 lb/yr
 <u>PM10</u>				
<i>Hourly</i>	0.00034 lb/ton	x	27.5 ton/hr	= 0.0094 lb/hr
<i>Daily</i>	0.00034 lb/ton	x	27.5 ton/hr	x 24 hr/day = 0.224 lb/day
<i>Yearly</i>	0.00034 lb/ton	x	27.5 ton/hr	x 8,760 hr/yr = 81.9 lb/yr

POTENTIAL EMISSION CALCULATIONS

5/14/2021

QUIKRETE -Hagerstown

11831 Hopewell Road

Hagerstown, MD 21740

Emission Point	5-C	Silo Vent (Bin No. 3 Filter)		
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Process Data:

Production Rate	=	110 ton/hr
Max Percent of Product	=	3 %
Process Rate	=	3.3 ton/hr
Potential Daily Operating Hours	=	24 hr/day
Potential Annual Operating Hours	=	8,760 hr/yr

Emission Factors:

PM Total	PM	=	0.001 lb/ton	AP-42 Table 11.12-2
PM10	PM10 ¹	=	0.00034 lb/ton	AP-42 Table 11.12-2

¹ Assumes PM10=PM2.5

Emissions Calculations:

PM					
<i>Hourly</i>	0.00099 lb/ton	x	3.3 ton/hr	=	0.0033 lb/hr
<i>Daily</i>	0.00099 lb/ton	x	3.3 ton/hr	x 24 ton/hr	= 0.078 lb/day
<i>Yearly</i>	0.00099 lb/ton	x	3.3 ton/hr	x 8,760 hr/day	= 28.6 lb/yr
PM10					
<i>Hourly</i>	0.00034 lb/ton	x	3.3 ton/hr	=	0.0011 lb/hr
<i>Daily</i>	0.00034 lb/ton	x	3.3 ton/hr	x 24 hr/day	= 0.027 lb/day
<i>Yearly</i>	0.00034 lb/ton	x	3.3 ton/hr	x 8,760 hr/yr	= 9.8 lb/yr

Emission Point	5-D, E & F	Silo Vent (Bin No. 4 Filter, Bin No. 5 Filter & Bin No. 6 Filter)		
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Process Data:

Production Rate	=	110 ton/hr
Max Percent of Product	=	25 %
Process Rate	=	27.5 ton/hr
Potential Daily Operating Hours	=	24 hr/day
Potential Annual Operating Hours	=	8,760 hr/yr

Emission Factors:

PM Total	PM	=	0.001 lb/ton	AP-42 Table 11.12-2
PM10	PM10 ¹	=	0.00034 lb/ton	AP-42 Table 11.12-2

¹ Assumes PM10=PM2.5

Emissions Calculations:

PM					
<i>Hourly</i>	0.00099 lb/ton	x	27.5 ton/hr	=	0.0272 lb/hr
<i>Daily</i>	0.00099 lb/ton	x	27.5 ton/hr	x 24 hr/day	= 0.653 lb/day
<i>Yearly</i>	0.00099 lb/ton	x	27.5 ton/hr	x 8760 hr/yr	= 238.5 lb/yr
PM10					
<i>Hourly</i>	0.00034 lb/ton	x	27.5 ton/hr	=	0.0094 lb/hr
<i>Daily</i>	0.00034 lb/ton	x	27.5 ton/hr	x 24 hr/day	= 0.224 lb/day
<i>Yearly</i>	0.00034 lb/ton	x	27.5 ton/hr	x 8,760 hr/yr	= 81.9 lb/yr

POTENTIAL EMISSION CALCULATIONS

5/14/2021

QUIKRETE -Hagerstown

11831 Hopewell Road

Hagerstown, MD 21740

Emission Point	6	Dump Hopper
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Process Data:

Production Rate	=	110 ton/hr
Max Percent of Product	=	85 %
Process Rate	=	93.5 ton/hr
Potential Daily Operating Hours	=	24 hr/day
Potential Annual Operating Hours	=	8,760 hr/yr

Emission Factors:

PM10

$$EF = k(0.0032) \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}} \text{ [lb/ton]} \quad \text{AP-42 Section 13.2.4.3}$$

Particle Size Multiplier	k	=	0.74 (PM)	AP-42 Section 13.2.4.3
Particle Size Multiplier	k	=	0.35 (PM-10)	AP-42 Section 13.2.4.3
Particle Size Multiplier	k	=	0.053 (PM-2.5)	AP-42 Section 13.2.4.3
Mean Wind Speed	U	=	6.13 mph	average for Hagerstown Airport in 2019
Mat. Moisture Content	M	=	2.1 %	AP-42 Section 13.2.4-1
Emission Factor (PM)	EF	=	0.0029 lb/ton	
Emission Factor (PM-10)	EF	=	0.0014 lb/ton	
Emission Factor (PM-2.5)	EF	=	0.0002 lb/ton	

Emissions Calculations:

PM

<i>Hourly</i>	0.0029 lb/ton	x	93.5 ton/hr	=	0.2695 lb/hr
<i>Daily</i>	0.0029 lb/ton	x	93.5 ton/hr	x	24 hr/day = 6.47 lb/day
<i>Yearly</i>	0.0029 lb/ton	x	93.5 ton/hr	x	8,760 lb/yr = 2,361 lb/yr

PM10

<i>Hourly</i>	0.0014 lb/ton	x	93.5 ton/hr	=	0.1275 lb/hr
<i>Daily</i>	0.0014 lb/ton	x	93.5 ton/hr	x	24 hr/day = 3.06 lb/day
<i>Yearly</i>	0.0014 lb/ton	x	93.5 ton/hr	x	8,760 lb/yr = 1,117 lb/yr

PM2.5

<i>Hourly</i>	0.0002 lb/ton	x	93.5 ton/hr	=	0.0193 lb/hr
<i>Daily</i>	0.0002 lb/ton	x	93.5 ton/hr	x	24 hr/day = 0.46 lb/day
<i>Yearly</i>	0.0002 lb/ton	x	93.5 ton/hr	x	8,760 lb/yr = 169.089 lb/yr

POTENTIAL EMISSION CALCULATIONS

5/14/2021

QUIKRETE -Hagerstown

11831 Hopewell Road

Hagerstown, MD 21740

Emission Point	7	Traffic and Handling
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Process Data:

Production Rate	=	110 ton/hr
Max Percent of Product	=	100 %
Process Rate	=	110 ton/hr
Potential Daily Operating Hours	=	24 hr/day
Potential Annual Operating Hours	=	8,760 hr/yr
Vehicle Miles Tavelled, VMT	=	0.100 miles
VMT/hr @ 25 ton/truck	=	0.440 VMT/hr

Emission Factors:

Traffic

$$E = k(s/12)^a(W/3)^b * [(365-p)/365] \quad \text{AP-42 Section 13.2.2.2}$$

Emperical Constant	k	=	4.9 (PM)	AP-42 Table 13.2.2-2
Emperical Constant	k	=	1.5 (PM-10)	AP-42 Table 13.2.2-2
Emperical Constant	k	=	0.15 (PM2.5)	AP-42 Table 13.2.2-2
Emperical Constant	a	=	0.7 (PM)	AP-42 Table 13.2.2-2
Emperical Constant	a	=	0.9 (PM-10)	AP-42 Table 13.2.2-2
Emperical Constant	a	=	0.9 (PM2.5)	AP-42 Table 13.2.2-2
Emperical Constant	b	=	0.45 (PM)	AP-42 Table 13.2.2-2
Emperical Constant	b	=	0.45 (PM-10)	AP-42 Table 13.2.2-2
Emperical Constant	b	=	0.45 (PM2.5)	AP-42 Table 13.2.2-2
Surface Mat. Silt Content	s	=	4.8 %	AP-42 Table 13.2.2-1
Mean Vehicle Weight	W	=	27.0 tons	
Number of Rain Days	p	=	140.0	AP-42 Table 13.2.2-1
Emission Factor	PM	EF	=	4.28 lb/VMT
Emission Factor	PM10	EF	=	1.09 lb/VMT
Emission Factor	PM2.5	EF	=	0.11 lb/VMT

Handling

$$EF = k(0.0032) \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}} [\text{lb/ton}] \quad \text{AP-42 Section 13.2.4.3}$$

Particle Size Multiplier	k	=	0.74 (PM)	AP-42 Section 13.2.4.3
Particle Size Multiplier	k	=	0.35 (PM-10)	AP-42 Section 13.2.4.3
Particle Size Multiplier	k	=	0.053 (PM2.5)	AP-42 Section 13.2.4.3
Mean Wind Speed	U	=	6.13 mph	average for Hagerstown Airport in 2019
Mat. Moisture Content	M	=	2.1 %	AP-42 Section 13.2.4-1
Emission Factor	PM	EF	=	0.0029 lb/ton
Emission Factor	PM10	EF	=	0.0014 lb/ton
Emission Factor	PM2.5	EF	=	0.0002 lb/ton

POTENTIAL EMISSION CALCULATIONS

5/14/2021

QUIKRETE -Hagerstown

11831 Hopewell Road

Hagerstown, MD 21740

Emissions Calculations:

PM - Traffic							
<i>Hourly</i>	4.28 lb/VMT	x	0.440 VMT/hr		=	1.881 lb/hr	
<i>Daily</i>	4.28 lb/VMT	x	0.440 VMT/hr	x	24 hr/day	=	45.1 lb/day
<i>Yearly</i>	4.28 lb/VMT	x	0.440 VMT/hr	x	8,760 hr/yr	=	16,478 lb/yr
PM10 - Traffic							
<i>Hourly</i>	1.09 lb/VMT	x	0.440 VMT/hr		=	0.479 lb/hr	
<i>Daily</i>	1.09 lb/VMT	x	0.440 VMT/hr	x	24 hr/day	=	11.5 lb/day
<i>Yearly</i>	1.09 lb/VMT	x	0.440 VMT/hr	x	8,760 hr/yr	=	4,200 lb/yr
PM2.5 - Traffic							
<i>Hourly</i>	0.11 lb/VMT	x	0.440 VMT/hr		=	0.048 lb/hr	
<i>Daily</i>	0.11 lb/VMT	x	0.440 VMT/hr	x	24 hr/day	=	1.2 lb/day
<i>Yearly</i>	0.11 lb/VMT	x	0.440 VMT/hr	x	8760 hr/yr	=	420 lb/yr
PM - Handling							
<i>Hourly</i>	0.0029 lb/ton	x	110.000 ton/hr		=	0.3171 lb/hr	
<i>Daily</i>	0.0029 lb/ton	x	110.000 ton/hr	x	24 hr/day	=	7.61 lb/day
<i>Yearly</i>	0.0029 lb/ton	x	110.000 ton/hr	x	8,760 hr/yr	=	2,777 lb/yr
PM10 - Handling							
<i>Hourly</i>	0.0014 lb/ton	x	110.000 ton/hr		=	0.1500 lb/hr	
<i>Daily</i>	0.0014 lb/ton	x	110.000 ton/hr	x	24 hr/day	=	3.60 lb/day
<i>Yearly</i>	0.0014 lb/ton	x	110.000 ton/hr	x	8,760 hr/yr	=	1,314 lb/yr
PM2.5 - Handling							
<i>Hourly</i>	0.0002 lb/ton	x	110.000 ton/hr		=	0.0227 lb/hr	
<i>Daily</i>	0.0002 lb/ton	x	110.000 ton/hr	x	24 hr/day	=	0.55 lb/day
<i>Yearly</i>	0.0002 lb/ton	x	110.000 ton/hr	x	8,760 hr/yr	=	199 lb/yr
PM - Traffic + Handling							
<i>Hourly</i>					=	2.198 lb/hr	
<i>Daily</i>					=	52.8 lb/day	
<i>Yearly</i>					=	19,255 lb/yr	
PM10 - Traffic + Handling							
<i>Hourly</i>					=	0.629 lb/hr	
<i>Daily</i>					=	15.1 lb/day	
<i>Yearly</i>					=	5,513 lb/yr	
PM2.5 - Traffic + Handling							
<i>Hourly</i>					=	0.071 lb/hr	
<i>Daily</i>					=	1.7 lb/day	
<i>Yearly</i>					=	619 lb/yr	

POTENTIAL EMISSION CALCULATIONS

5/14/2021

QUIKRETE -Hagerstown

11831 Hopewell Road

Hagerstown, MD 21740

Emission Point	8	<i>Wind Erosion</i>
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Site Data:

Stock Pile Area = 0.25 acres
 Potential Daily Operating Hours = 24 hr/day
 Potential Annual Operating Hours = 8,760 hr/yr

Emission Factors:

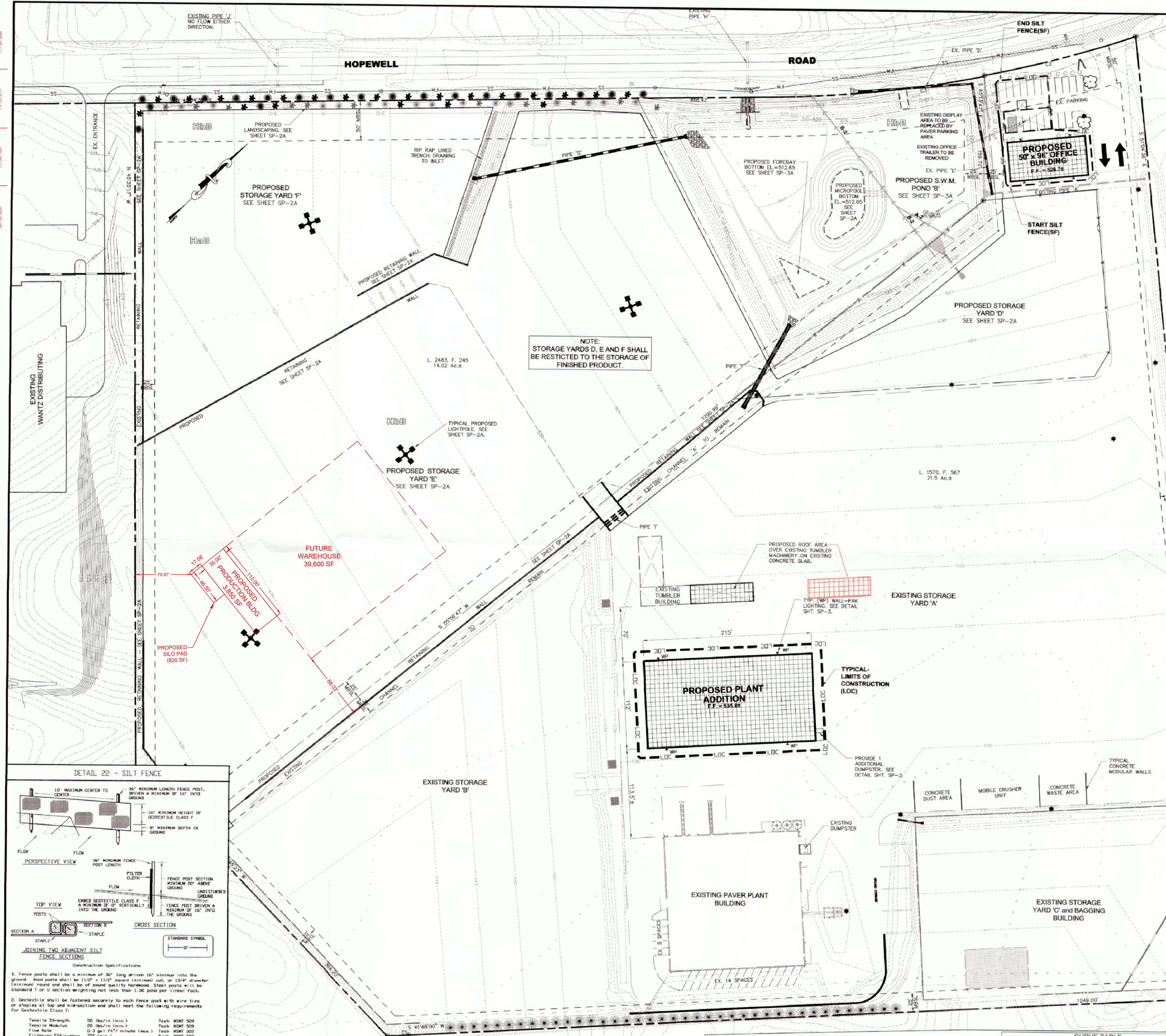
PM¹ PM10 = 13.2 lb/ac/day Existing Permit

¹ Assumes PM=PM10=PM2.5

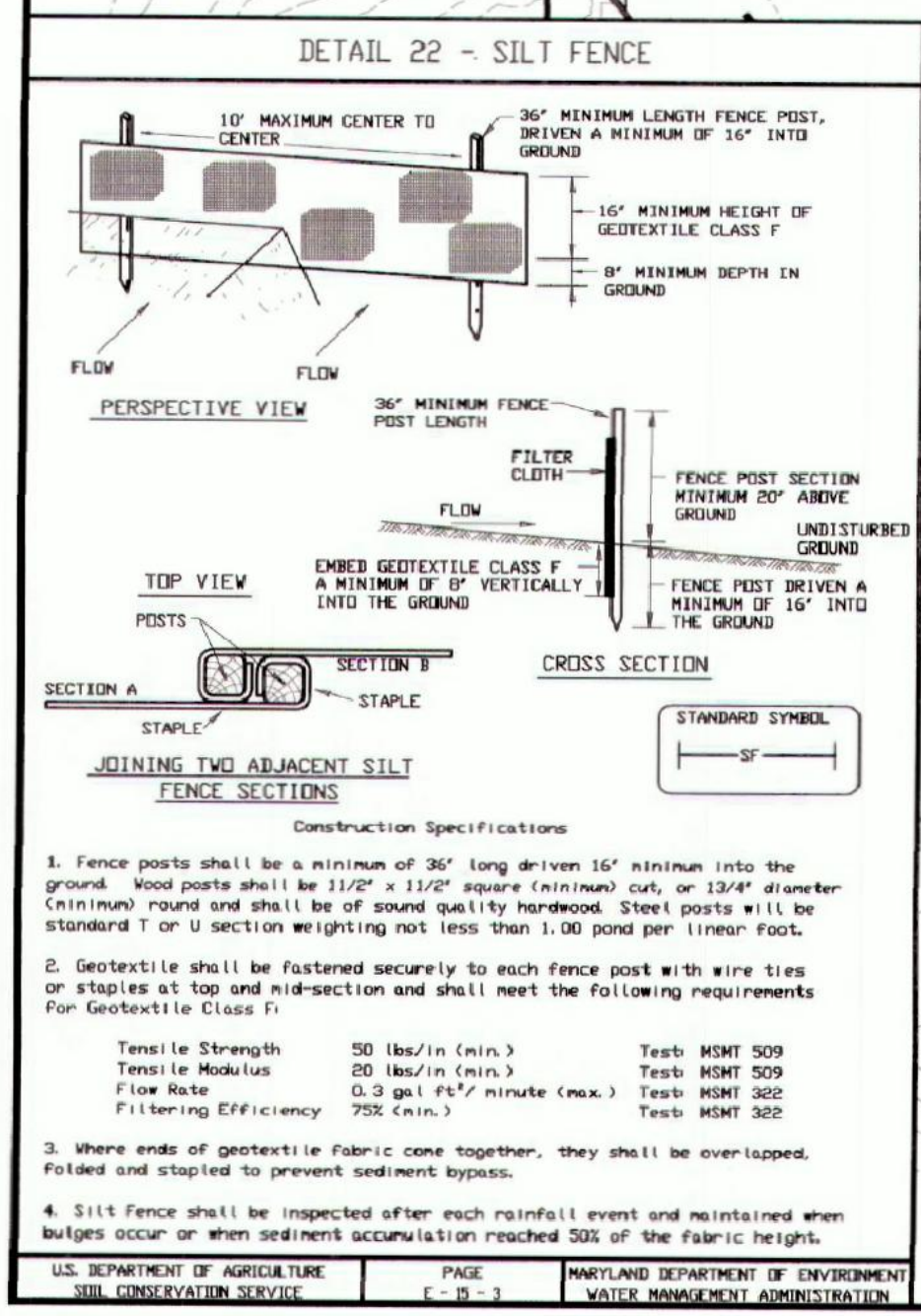
Emissions Calculations:

PM

<i>EF Conversion</i>	13.2 lb/ac/day	x	0.25 acres	=	3.3 lb/day
<i>Hourly</i>	3.3 lb/dscf	/	24 hr/day	=	0.138 lb/hr
<i>Daily</i>	3.3 lb/dscf	=		=	3.30 lb/day
<i>Yearly</i>	3.3 lb/dscf	x	365 hr/yr	=	1,205 lb/yr



NOTE:
 STORAGE YARDS D, E AND F SHALL
 BE RESTRICTED TO THE STORAGE OF
 FINISHED PRODUCT.



CURVE	RADIUS	LENGTH	CHORD	CHORD BEARING
C1	7789.44'	27.19'	27.19'	S 41°42'00" W
C2	1472.39'	200.15'	200.00'	N 29°58'25" E
C3	1472.39'	268.26'	267.89'	N 38°44'09" E

GENERAL NOTES:

- TAX MAP 48, BLOCK 6, PARCEL 895 & 4 DEED REFERENCES.
- PARCEL 895 BEING THE LANDS CONVEYED BY MLD LIMITED PARTNERSHIP TO PAVESTONE COMPANY DEED DATED MAY 5, 2000 AND PARCEL 4 BEING THE LANDS CONVEYED BY MLD LIMITED PARTNERSHIP TO PAVESTONE COMPANY DEED DATED MAY 5, 2000 AND PARCEL 4 BEING THE LANDS CONVEYED BY HAGERSTOWN - WASHINGTON COUNTY INDUSTRIAL FOUNDATION, INC. TO PAVESTONE COMPANY L.P. DEED DATED NOVEMBER 3, 2004 AND RECORDED AMONG THE LAND RECORDS AT LIBER 2463, FOLIO 245.
- TOTAL SITE AREA:
 PARCEL 895 = 21.5 ACRES
 PARCEL 4 = 14.02 ACRES
 TOTAL = 35.52 ACRES
- ZONING: IO - "INDUSTRIAL GENERAL"
 MINIMUM FLOORING HEIGHTS (M.F.S.L.) AS PER ZONING ORDINANCE.
- EXISTING USAGE:
 OFFICE - SALES & ACCOUNTING
 PLANT - MANUFACTURING AND STORAGE OF PAVERS, RETAINING WALLS AND OTHER CONCRETE PRODUCTS.
 PROPOSED USAGE:
 4,670 SF - ADDITIONAL MANUFACTURING PLANT TO BE CONSTRUCTED.
 EXISTING NUMBER OF EMPLOYEES:
 OFFICE = 15
 PLANT = EXISTING 15 + 9 NEW = 24
 PARKING REQUIREMENTS PER SECTION 22.12(b) OF THE WASHINGTON COUNTY ZONING ORDINANCE:
 OFFICE: 1 SPACES/100 sq. ft. = 4,800 sq. ft./200 sq. ft. = 24 SPACES REQUIRED
 PLANT: 1 SPACES/EMPLOYEE ON MAX. SHIFT = 24 EMPLOYEES/SHIFT = 24 SPACES REQUIRED
 TOTAL = 48 SPACES REQUIRED
- PARKING PROVIDED:
 EXISTING PARKING:
 REGULAR SPACES = 28
 HANDICAP SPACES = 1
 TOTAL EXISTING PARKING = 29
 PROPOSED PARKING:
 REGULAR SPACES = 38
 HANDICAP SPACES = 2
 TOTAL PROPOSED PARKING = 40
- HOURS OF OPERATION:
 OFFICE: MONDAY - FRIDAY 8:00 A.M. - 5:00 P.M.
 PLANT - 24 HOURS/7 DAYS PER WEEK
 2 - 12 HOUR SHIFTS PER DAY
- SIGN - EX. SIGN TO REMAIN. NO NEW SIGNAGE IS PROPOSED.
 A DUMPSTER IS PROVIDED AT THE EXISTING PLANT TO TAKE CARE OF PAPER PRODUCTS FROM BOTH OFFICE AND PLANT BUILDINGS. THE EXISTING DUMPSTER SHALL REMAIN AND AN ADDITIONAL DUMPSTER SHALL BE PROVIDED.
- TRUCK DELIVERIES:
 MONDAY - FRIDAY 4:30 TO 5:00 FLATBED SEMI-TRAILERS PER DAY
 THERE ARE NO FLOODPLAINS, STEEP SLOPES, OR AREAS OF KNOWN HABITATS OF THE THREATENED OR ENDANGERED SPECIES IDENTIFIED BY THE U.S. FISH AND WILDLIFE SERVICE AS PER 50 CFR 17 ORDINANCE AND SECTION 4.21 OF THE ZONING ORDINANCE. THIS SITE IS NOT WITHIN THE LIMITS OF THE APPALACHIAN TRAIL CORRIDOR OR THE WATERSHED OF THE EDGEWATER-SMITHSBURG RESERVOIR OR WITHIN THE UPPER BEAVER CREEK BASIN.
 THIS SITE IS NOT IN THE 100-YEAR FLOOD AREA AS SHOWN ON I.E.M.A. COMMUNITY PANEL NO. 240070-0909B REV. SEPT. 30, 1992. SITE IS IN ZONE "C".
 WATER SERVICE FOR THE SITE IS PROVIDED BY THE CITY OF HAGERSTOWN.
 SEWER SERVICE PROVIDED BY THE WASHINGTON COUNTY WATER AND SEWER DEPARTMENT (ALL DISCHARGE TO THE PUBLIC SANITARY SEWER SYSTEM WILL BE ONLY DOMESTIC WASTE).
 TOTAL EXISTING IMPERVIOUS AREA = 35.52 AC ±
 TOTAL IMPERVIOUS AREA = 29.94 AC ±
 TOTAL SITE AREA = 35.52 AC ±
 % IMPERVIOUS AREA = 84.3%
 NO CHANGE TO EXISTING IMPERVIOUS AREA.
 PAYMENT TO THE FOREST FUND FOR FILL DEVELOPMENT OF DEED L 1570 F 567 HAS BEEN MADE.
 FOREST CONSERVATION OBLIGATION HAS BEEN MET BY PAYMENT-IN-LIEU ON THE FOLLOWING DATES:
 TM 48 P 895 21.5 AC \$13,634.28
 5-23-2000
 7-23-2000
 TOTAL FOR DEVELOPING 21.5 AC. PARCEL \$28,707.92
 TM 48 P 4 14.02 AC \$29,185.20
 11-15-2009
 TOTAL FOR DEVELOPING ENTIRE 14.02 AC. PARCEL \$29,185.20

**SEQUENCE OF OPERATIONS
 PLANT ADDITION**

- NOTIFY THE STATE SEDIMENT CONTROL INSPECTOR 5 DAYS PRIOR TO THE START OF CONSTRUCTION AT (301) 668-2850.
- NOTIFY THE WASHINGTON COUNTY SOIL CONSERVATION DISTRICT 5 DAYS PRIOR TO THE START OF CONSTRUCTION AT (301) 797-6821 (EXT. 3).
- CONTACT THE WASHINGTON COUNTY ENGINEERING DEPARTMENT 5 DAYS PRIOR TO THE START OF CONSTRUCTION AT (240) 313-2400.
- CONTACT TRIAD ENGINEERING AND NOTIFY OF THE PRE-CONSTRUCTION MEETING DATE AND TIME FOR SOMEONE TO BE PRESENT AT MEETING (301) 733-2211.
- CONTRACTOR TO SAWCUT EXISTING PAVING FOR FOOTINGS AND BUILDING PAD. REMOVE ASPHALT PAVING DOWN TO EXISTING STONE BASE. DO NOT REMOVE STONE BASE. NO STOCK PILING OF MATERIAL ON SITE. REMOVE EXCESS MATERIAL TO AN APPROVED FILL SITE AS WORK PROGRESSES.
- CONTRACTOR TO INSTALL BUILDING FOOTERS, PAD, AND STRUCTURE. REPAVE AROUND NEW BUILDING.

**SEQUENCE OF OPERATIONS
 PROPOSED OFFICE BUILDING**

- NOTIFY THE STATE SEDIMENT CONTROL INSPECTOR 5 DAYS PRIOR TO THE START OF CONSTRUCTION AT (301) 668-2850.
- NOTIFY THE WASHINGTON COUNTY SOIL CONSERVATION DISTRICT 5 DAYS PRIOR TO THE START OF CONSTRUCTION AT (301) 797-6821 (EXT. 3).
- CONTACT THE WASHINGTON COUNTY ENGINEERING DEPARTMENT 5 DAYS PRIOR TO THE START OF CONSTRUCTION AT (240) 313-2400.
- CONTACT TRIAD ENGINEERING AND NOTIFY OF THE PRE-CONSTRUCTION MEETING DATE AND TIME FOR SOMEONE TO BE PRESENT AT MEETING (301) 733-2211.
- INSTALL SILT FENCE FOR PROPOSED OFFICE BUILDING.
- CONTRACTOR TO SAWCUT EXISTING PAVING FOR FOOTINGS AND BUILDING PAD. REMOVE ASPHALT PAVING DOWN TO EXISTING STONE BASE. DO NOT REMOVE STONE BASE. NO STOCK PILING OF MATERIAL ON SITE. REMOVE EXCESS MATERIAL TO AN APPROVED FILL SITE AS WORK PROGRESSES.
- CONTRACTOR TO INSTALL BUILDING FOOTERS, PAD AND STRUCTURE. REPAVE AROUND NEW BUILDING.
- AFTER SITE IS STABILIZED OBTAIN PERMISSION FROM THE SEDIMENT EROSION CONTROL INSPECTOR AND REMOVE SILT FENCE.

SEDIMENT AND EROSION CONTROL NOTES

- ALL EROSION/SEDIMENT CONTROL MEASURES SHALL COMPLY WITH THE "1984 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL".
- ALL DISTURBED AREAS TO BE SEED WITHIN 14 DAYS OF INITIAL GRADING FOR TEMPORARY SEEDING SPECIFICATIONS. SEE SECTION G-20, "1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL".
- ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AT THE INITIATION OF GRADING.
- ALL STORM DRAIN AND SANITARY SEWER LINES NOT IN PAVED AREAS ARE TO BE MULCHED AND SEED WITHIN 7 DAYS OF INITIAL BACKFILL UNLESS OTHERWISE SPECIFIED ON PLANS.
- ELECTRIC POWER, TELEPHONE AND GAS LINES ARE TO BE COMPACTED, SEED AND MULCHED WITHIN 7 DAYS AFTER INITIAL BACKFILL UNLESS OTHERWISE SPECIFIED ON PLANS.
- ALL EARTH BERMS AND SEDIMENT DAMS ARE TO BE SEED AND MULCHED WITHIN 7 DAYS AFTER GRADING. ALL SOIL STOCKPILES ARE TO BE MULCHED AND SEED WITHIN 14 DAYS.
- ALL CONSTRUCTED CHANNELS AND SWALES SHALL HAVE SOIL STABILIZATION MATING INSTALLED UP TO THE DESIGN FLOW DEPTH. AN INSTALLATION DETAIL SHALL BE SHOWN ON THE PLANS.
- DURING CONSTRUCTION, ALL SEDIMENT CONTROL STRUCTURES WILL BE INSPECTED AFTER EACH RAINFALL AND REPAIRED IF NECESSARY. SEDIMENT TO BE REMOVED TO A SUITABLE DISPOSAL AREA AND STABILIZED WITH PERMANENT VEGETATIVE COVER.
- CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL SEDIMENT AND EROSION CONTROL MEASURES UNTIL DISTURBED AREAS ARE STABILIZED.
- AFTER FINE GRADING, ALL DISTURBED AREAS TO BE PERMANENTLY SEED AND MULCHED.
- NO SLOPE SHALL BE GREATER THAN 2:1.
- FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1) AND 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE. THIS DOES NOT APPLY TO THOSE AREAS WHICH ARE SHOWN ON THE PLAN AND ARE CURRENTLY BEING USED FOR MATERIAL STORAGE OR FOR THOSE AREAS ON WHICH ACTUAL CONSTRUCTION ACTIVITIES ARE CURRENTLY BEING PERFORMED. MAINTENANCE SHALL BE PERFORMED AS NECESSARY TO INSURE THAT STABILIZED AREAS CONTINUOUSLY MEET THE APPROPRIATE REQUIREMENTS OF THE 1984 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.

RECEIVED
 SEP 14 2016
 WASHINGTON COUNTY
 PLANNING DEPARTMENT

DEVELOPER
 PAVESTONE COMPANY
 c/o MR. JOSEPH EMBERSON
 11831 HOPEWELL ROAD
 HAGERSTOWN, MD 21740
 PHONE: 240-420-3780

NEW PLANT ADDITION
 1075D Sherman Avenue
 Hagerstown, Maryland 21740
 Phone: (301) 797-6400 • Fax: (301) 797-2424 • Email: hagerstown@triadeng.com

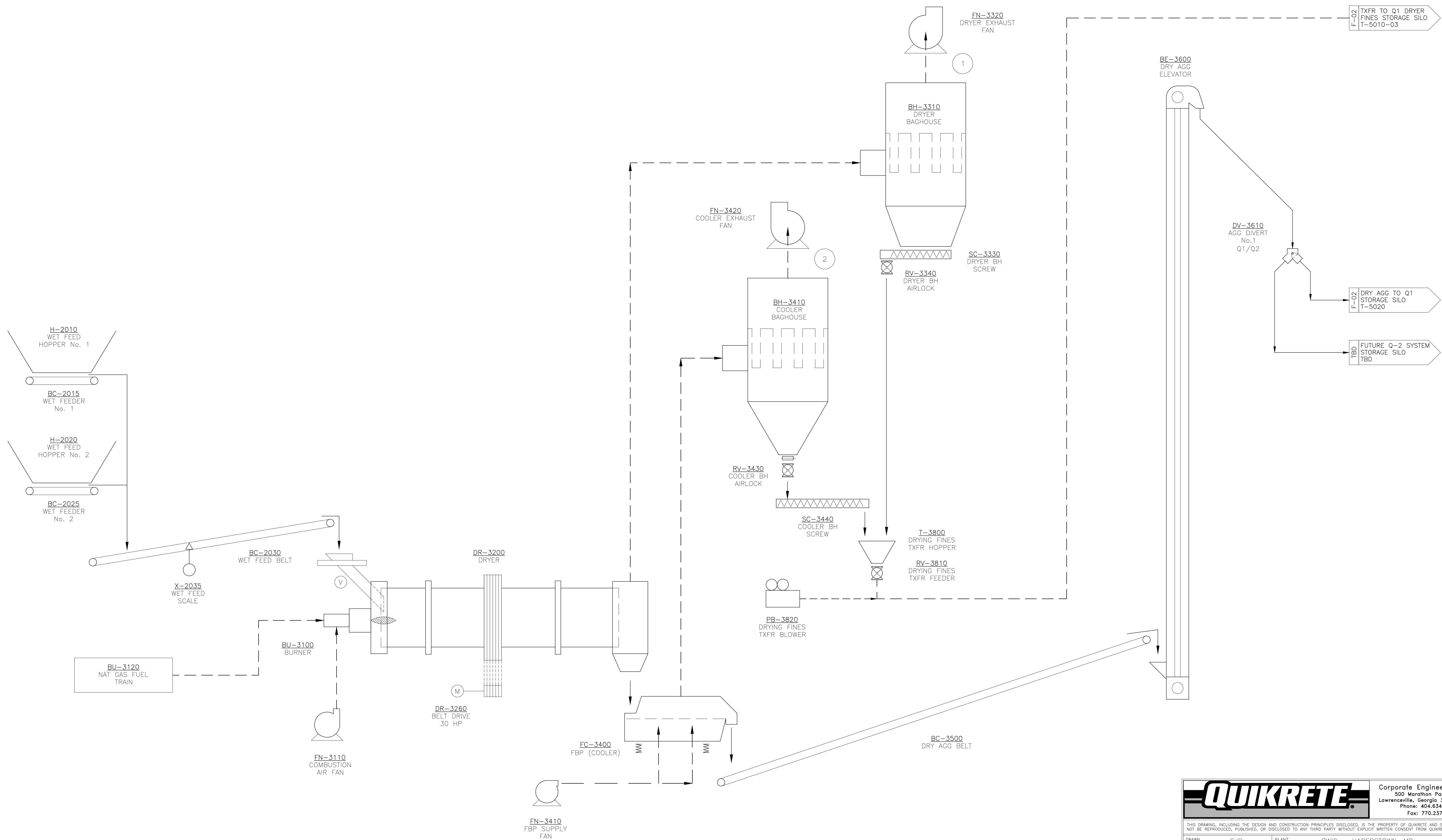
MORGANTOWN • ST. ALBANS • GREENSBURG • WINCHESTER • PURCELLVILLE • HAGERSTOWN • WEST VIRGINIA • PENNSYLVANIA • MARYLAND

EROSION/SEDIMENT CONTROL PLAN AND DETAILS
 SITE PLAN
 SHEET NO. **SP-2**
 FILE NO. 2819.001
 TRIAD JOB NO. 03-06-0244

TRIAD ENGINEERING INC.
 1075D Sherman Avenue
 Hagerstown, Maryland 21740
 Phone: (301) 797-6400 • Fax: (301) 797-2424 • Email: hagerstown@triadeng.com

PAVESTONE COMPANY, INC.
 11831 HOPEWELL ROAD
 HAGERSTOWN, MD, 21740

DRAWN BY: B.J.S.
 CHECKED BY: B.J.S.
 SCALE: 1"=60'
 DATE: 05-16-06
 NO. DATE DESCRIPTION



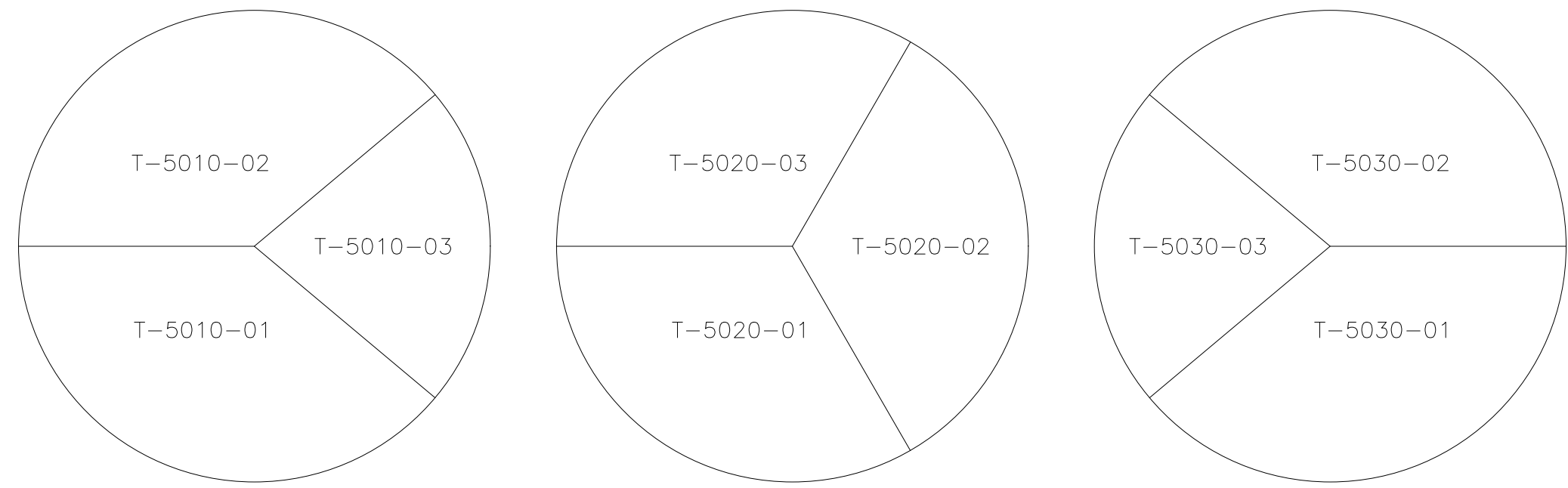
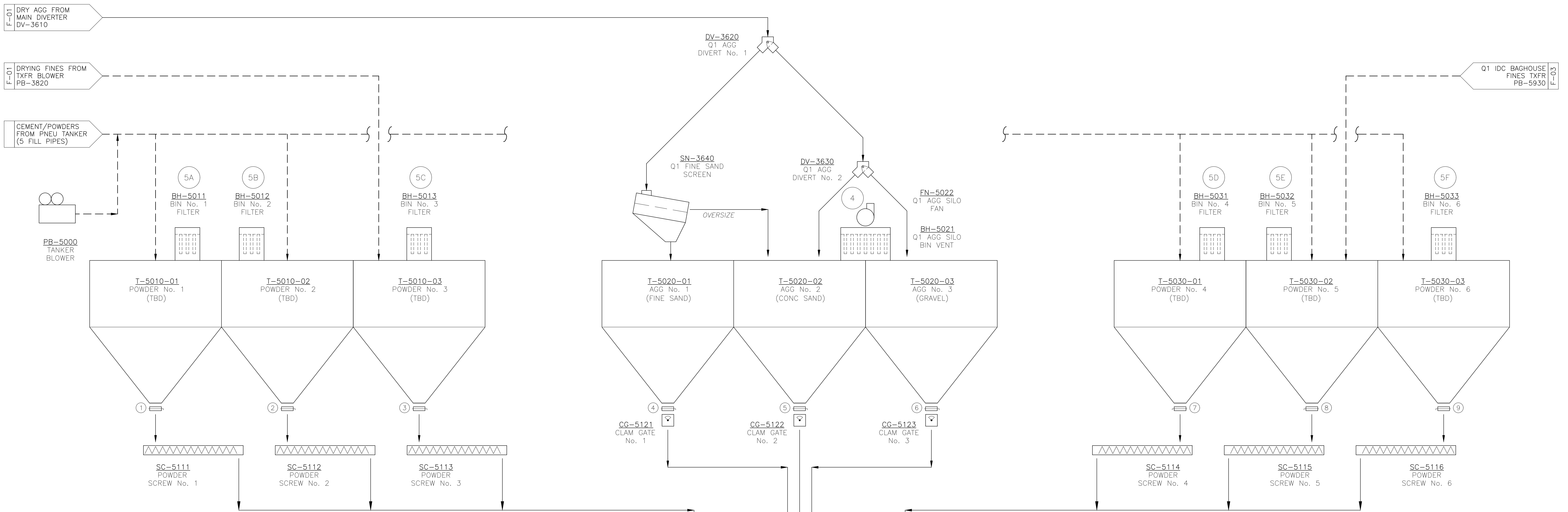
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DATE	06-15-20	PROJECT	QUIKRETE MANUFACTURING FACILITY
APPROVED	SP	TITLE	PROCESS FLOW DIAGRAM
SCALE	N.T.S.		AGGREGATE DRYING
PROJ. NO.	15908350120	SIZE	D
CAD FILE	835-F-1000	DRAWING NO.	835-F-1000-01
REV	DATE	BY	DESCRIPTION OF REVISION
0	06-15-20	SJP	ISSUED FOR REVIEW & PERMITTING

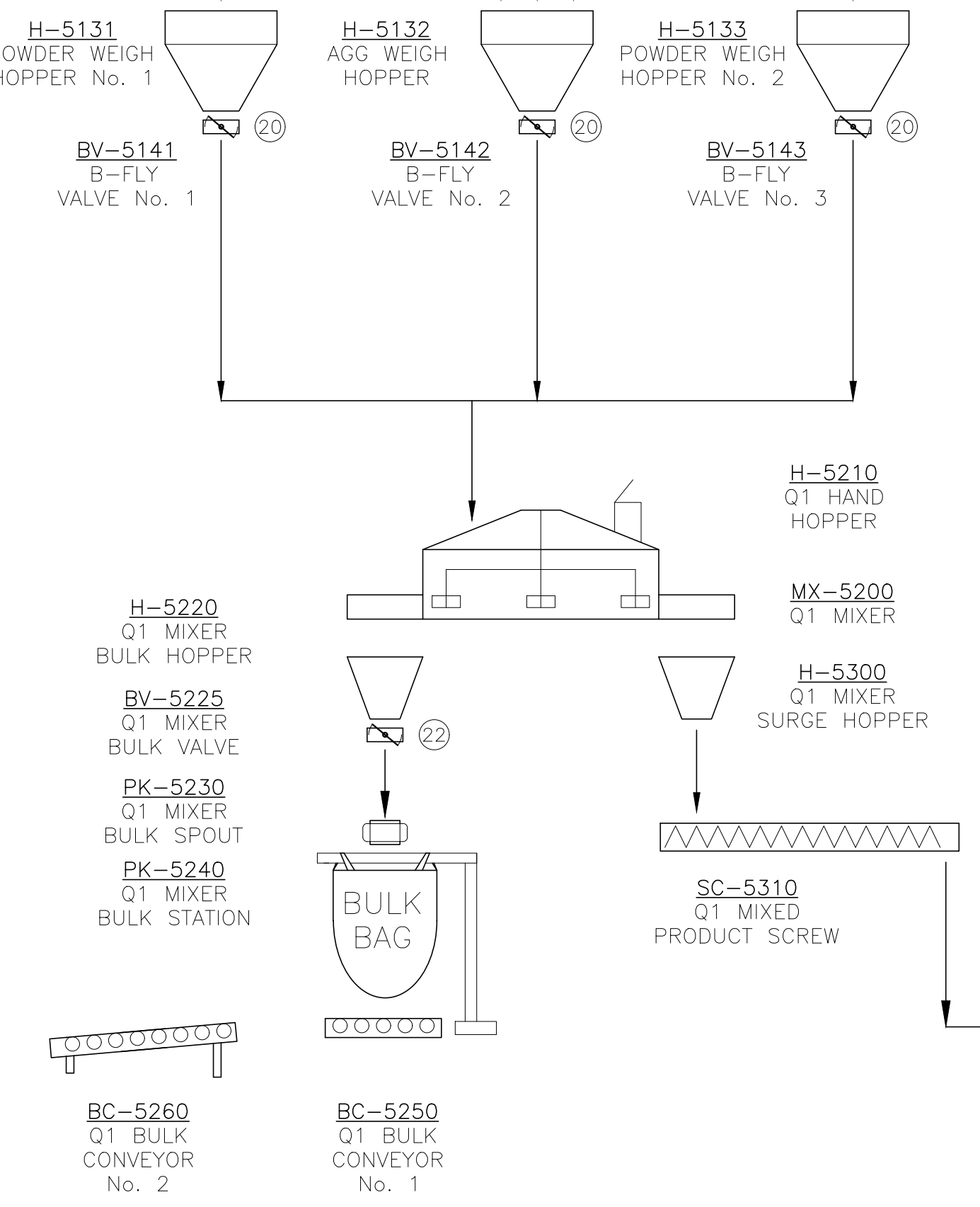
L-02 TXFR TO Q1 DRYER
FINES STORAGE SILO
T-5010-03

L-02 DRY AGG TO Q1
STORAGE SILO
T-5020

TBD FUTURE Q-2 SYSTEM
STORAGE SILO
TBD

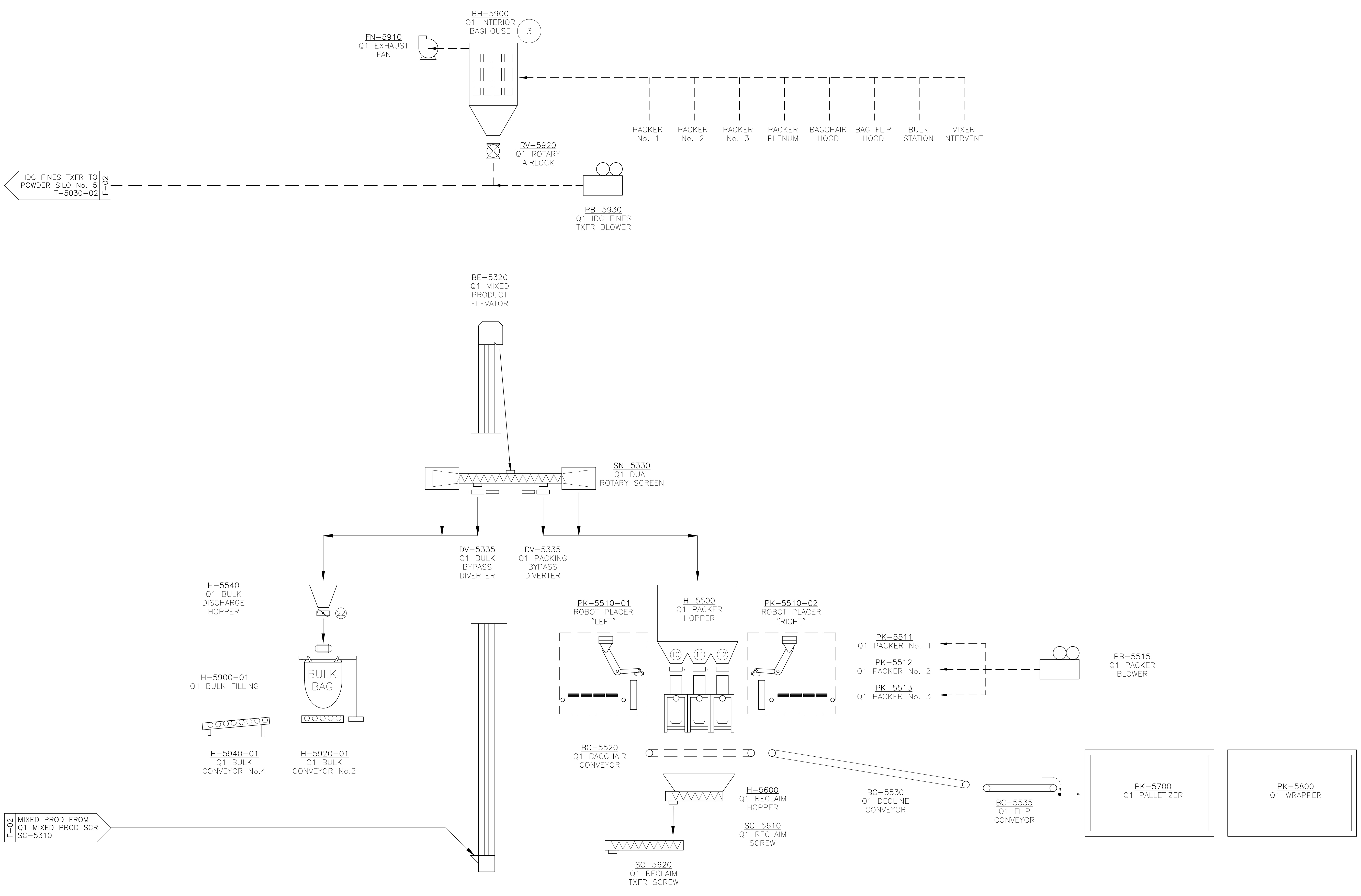


SILO ASSIGNMENT & CAPACITY						
ID	EQ. No.	DESCRIPTION	MAT'L STORED	VOLUME (CF)	BULK DENSITY	CAPACITY (TON)
1	T-5010-01	POWDER No. 1	TBD	-	-	-
2	T-5010-02	POWDER No. 2	TBD	-	-	-
3	T-5010-03	POWDER No. 3	DRYER FINES	-	-	-
4	T-5020-01	AGG No. 1	FINE SAND	-	-	-
5	T-5020-02	AGG No. 2	CONC SAND	-	-	-
6	T-5020-03	AGG No. 3	GRAVEL	-	-	-
7	T-5030-01	POWDER No. 4	TBD	-	-	-
8	T-5030-02	POWDER No. 5	TBD	-	-	-
9	T-5030-03	POWDER No. 6	TBD	-	-	-



DRAWN SJP		PLANT BW12 - HAGERSTOWN, MD	
DATE 06-15-20		PROJECT QUIKRETE MANUFACTURING FACILITY	
APPROVED SP		TITLE PROCESS FLOW DIAGRAM	
SCALE N.T.S.		Q1 LINE STORAGE & BATCHING	
PROJ. NO. 15908350120	SIZE D	DRAWING NO. 835-F-1000-02	REV. 0
CAD FILE 835-F-1000	DESCRIPTION OF REVISION		

REV	DATE	BY	DESCRIPTION OF REVISION
0	06-15-20	SJP	ISSUED FOR REVIEW & PERMITTING



IDC FINES TXFR TO POWDER SILO No. 5 T-5030-02

MIXED PROD FROM Q1 MIXED PROD SCR SC-5310



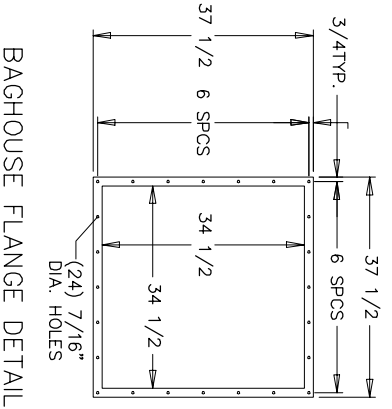
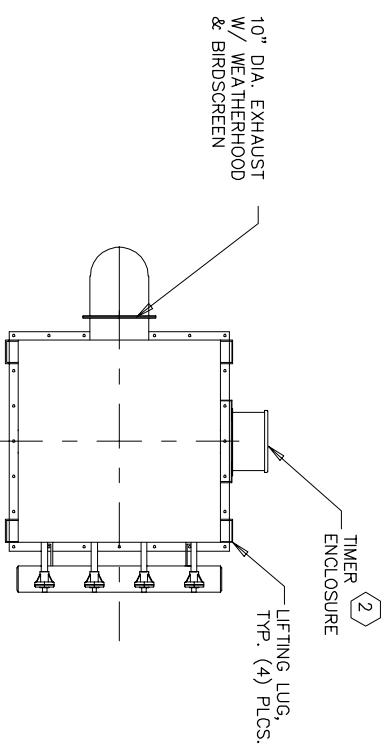
Corporate Engineering
500 Marathon Parkway
Lawrenceville, Georgia 30045
Phone: 404.634.9100
Fax: 770.237.5068

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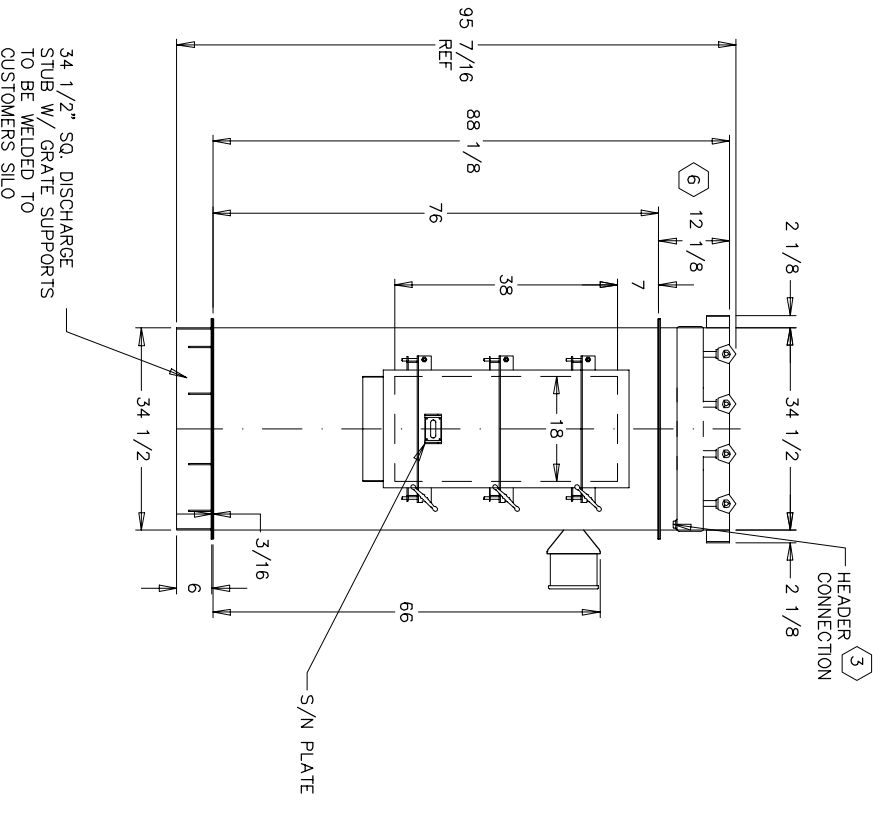
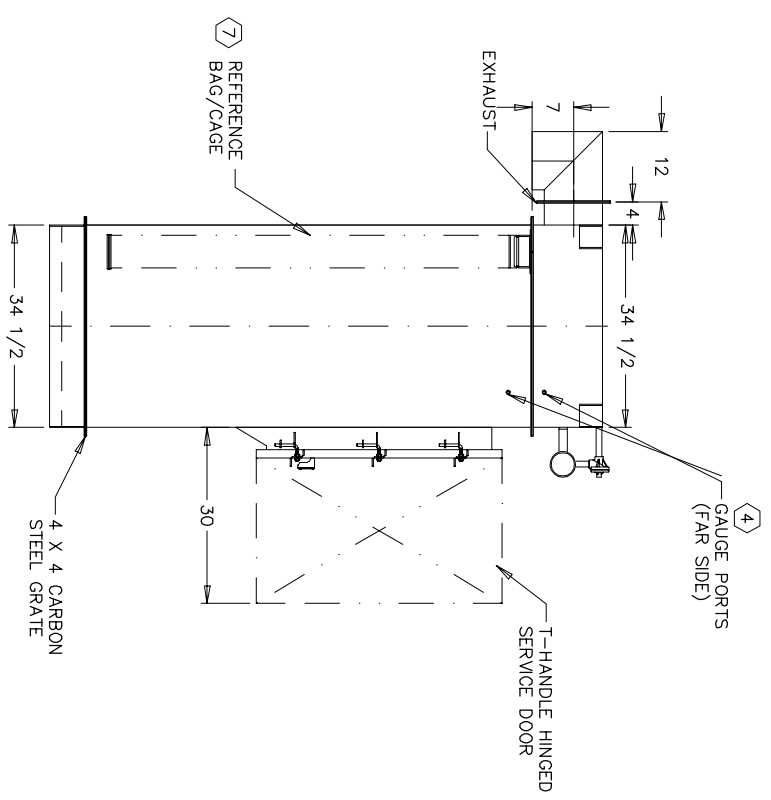
DRAWN	SJP	PLANT	BW12 - HAGERSTOWN, MD
DATE	06-15-20	PROJECT	QUIKRETE MANUFACTURING FACILITY
APPROVED	SP	TITLE	PROCESS FLOW DIAGRAM
SCALE	N.T.S.		Q1 LINE PACKAGING & RECLAIM
PROJ. NO.	15908350120	SIZE	DRAWING NO.
CAD FILE	835-F-1000		835-F-1000-03

REV	DATE	BY	DESCRIPTION OF REVISION
0	06-15-20	SJP	ISSUED FOR REVIEW & PERMITTING

REVISIONS			
LTR.	DESCRIPTION	DATE	BY
B	RELEASED_FOR_CUSTOMER_INFO	09/05/19	



BAGHOUSE FLANGE DETAIL



GENERAL NOTES:

- ALL DIMENSIONS ARE IN INCHES.
 - NEMA 4X POLYCARBONATE TIMER ENCLOSURE. TIMER CONTROL PANEL REQUIRES 110 VOLT, 60 HZ POWER SUPPLY. COPPER AIRLINES.
 - 3/4" NPT FOR HEADER SUPPLY AIR. 90-100 PSI OF CLEAN, DRY AIR REQUIRED AT 5 SCFM.
 - (2) 1/8" NPT CONNECTIONS MUST HAVE PIPE PLUGS IF DIFFERENTIAL PRESSURE GAUGE IS NOT USED.
 - FILTER IS CONSTRUCTED OF 12 GA. CARBON STEEL AND RATED FOR 17" W.C. (1.25" Hg)
 - DIMENSION INCLUDES TUBESHEET THICKNESS.
 - FILTER INCLUDES (16) 16 OZ. SINGED POLYESTER DACRON CUFF TOP BAGS AND GALVANIZED CAGES PROVIDING 145.6 SQ. FT. OF CLOTH WITH AN AIR TO CLOTH RATIO OF 5.2:1 @ 750 CFM.
 - UNIT INCLUDES A 4X4 MAN SUPPORTABLE GRATE.
 - S/N: 1100402344-010-1
 - STAINLESS STEEL IDENTIFICATION TAG REQUIRED.
- FINISH NOTES:
- PRODUCT CONTACT WELDS ARE SKIP-WELDED, WITH NO GRINDING. OTHER THAN TO BE FREE OF WELD SLAG AND SPATTER. EXTERIOR WELDS CONTINUOUS, WHERE POSSIBLE, AND CLEANED FREE OF WELD SLAG AND SPATTER.

EXTERIOR:

- PAINT STANDARD WHITE: SHERWIN WILLIAMS POLANE D8700 DTM URETHANE PAINT (RAL9003 SIGNAL WHITE)
- SURFACE PREPARATION: SSPC-SP1 AND SSPC-SP2.

13. PAINTABLE CAULK USED BETWEEN THE FILTER FLANGES

TESTING AND INSPECTION REQUIREMENTS:

14. NONE

SHIPPING AND PACKAGING REQUIREMENTS:

15. COVER ALL OPENINGS PRIOR TO SHIPMENT.

ANODIZED ALUMINUM S/N PLATE

MODEL: 72AVS16 STYLE II FILTER
S/N: 1100402344-010-1
PO#: 91B404

This print is certified to be dimensionally correct to ± 1/4 inch on all components, ± 1/2 on overall dimensions up to 120 inches and ± 1 1/2 on all dimensions greater than 120.

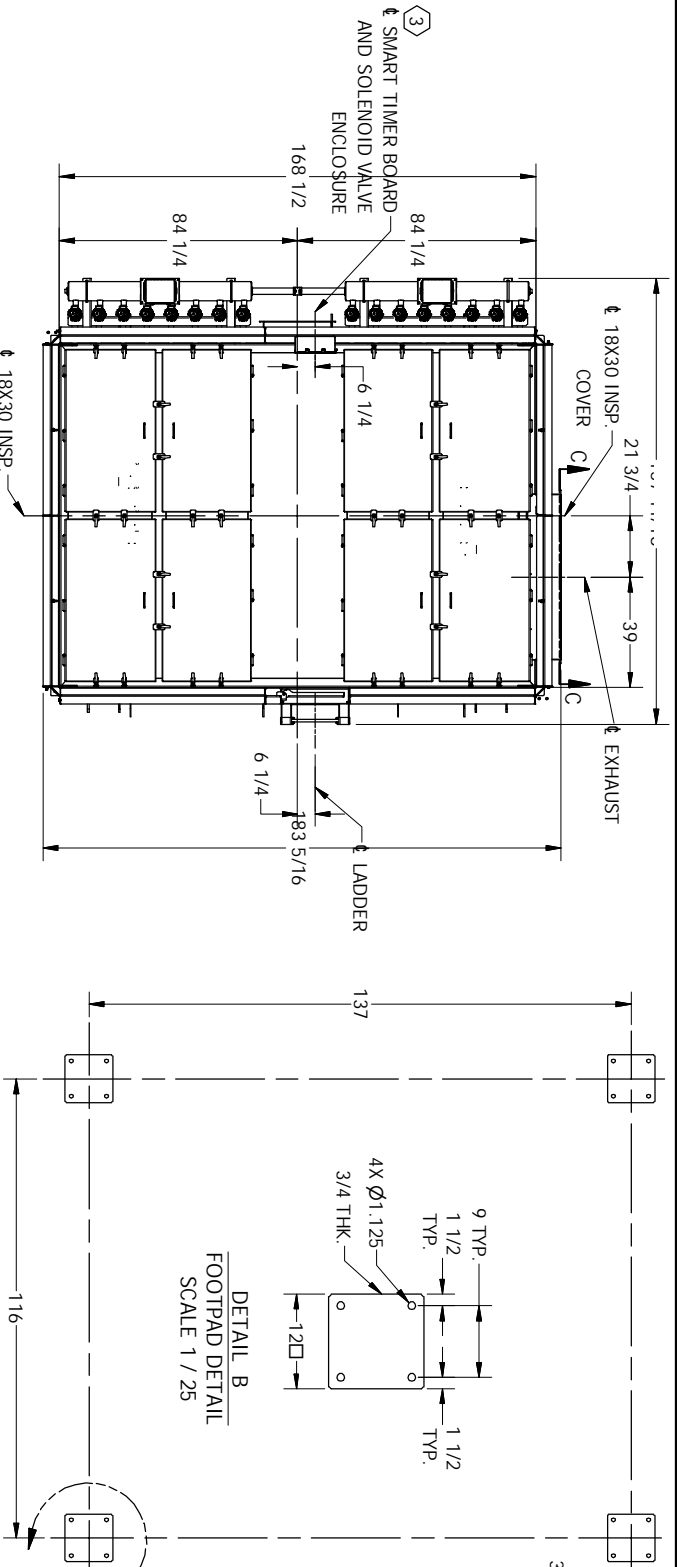
SCHENCK PROCESS LLC
By Steve Kesler DATE 09/05/2019



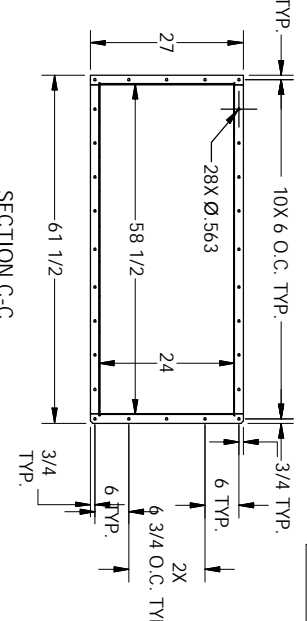
72AVS16 STYLE II FILTER FOR QUIKRETE (TULSA, OK)

DATE	09/05/19	SCALE	1/16" = 1"
DRAWN BY	SLK	CHECKED BY	SLK
DESIGNED BY	SLK	APPROVED BY	SLK
DATE	09/05/19	DRAWING NO.	1100402344

REV	ECN	DESCRIPTION	DATE	BY
A		RELEASED FOR CUSTOMER APPROVAL	6/22/2020	LMH



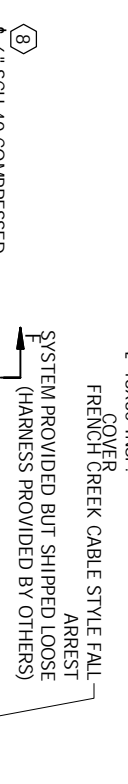
DETAIL B
FOOTPAD DETAIL
SCALE 1 / 25



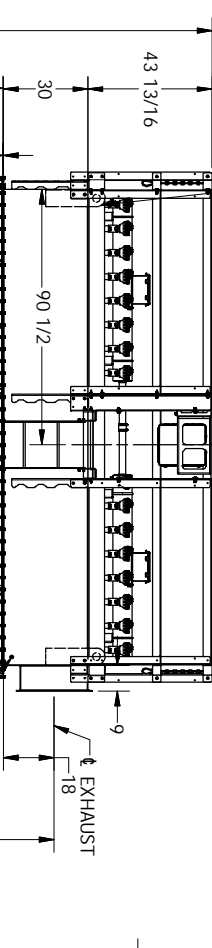
SECTION C-C
SCALE 1/35



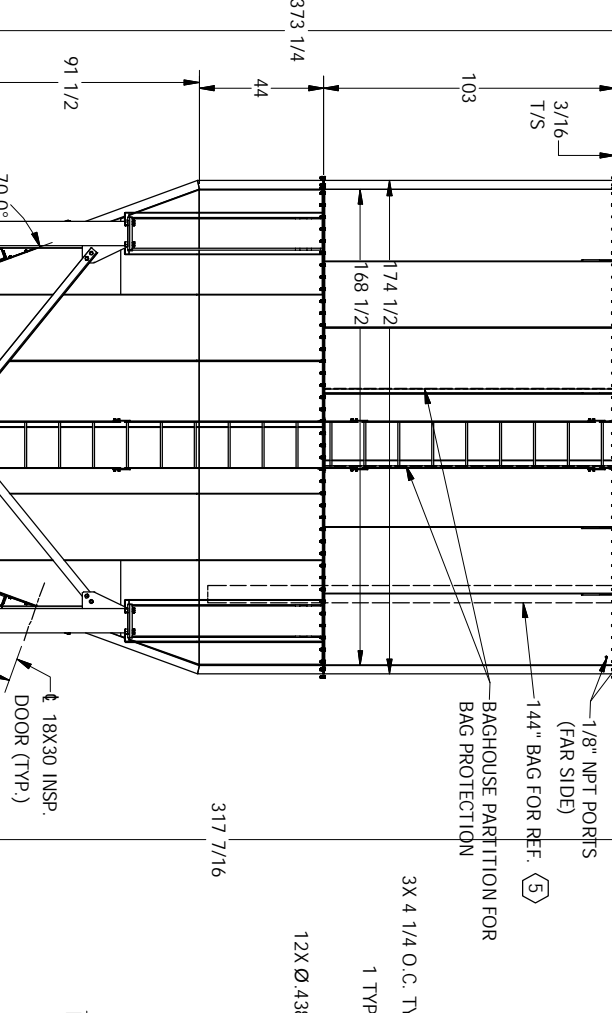
SECTION A-A
FOOTPAD LAYOUT
SCALE 1/50



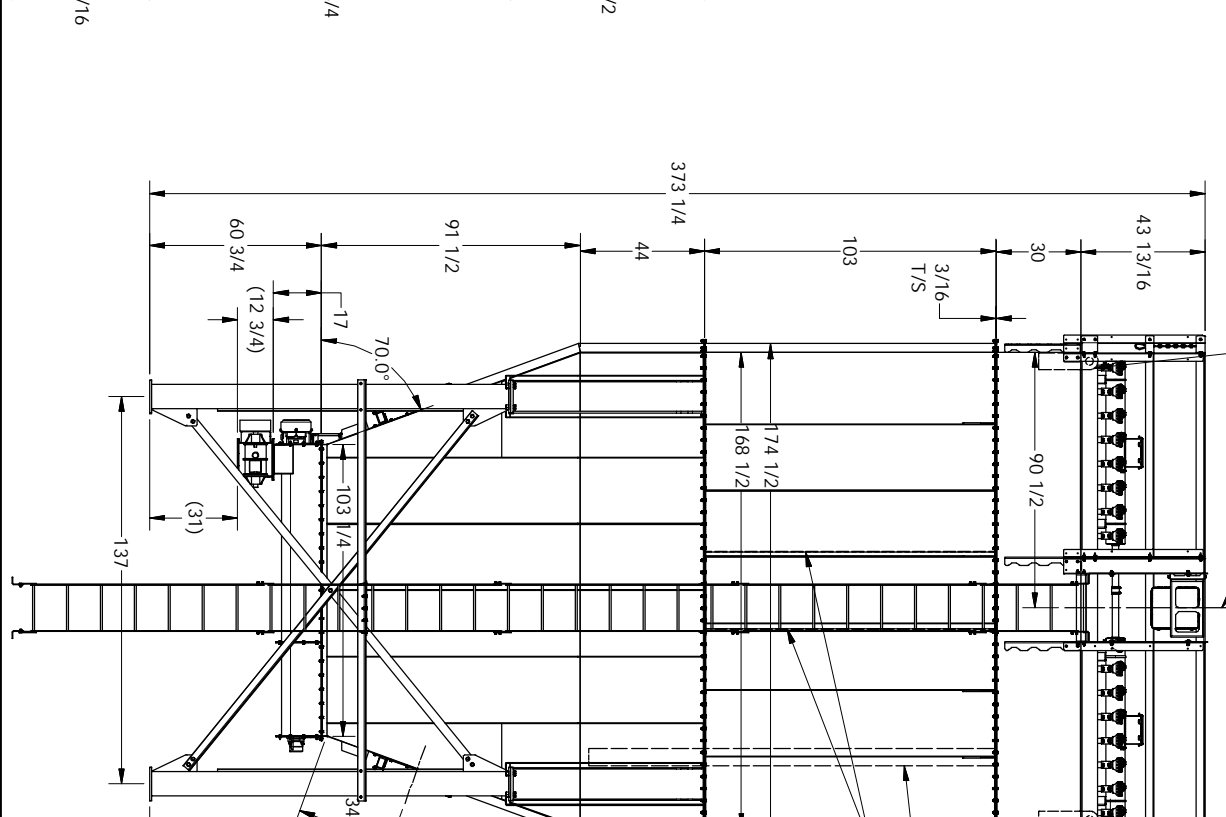
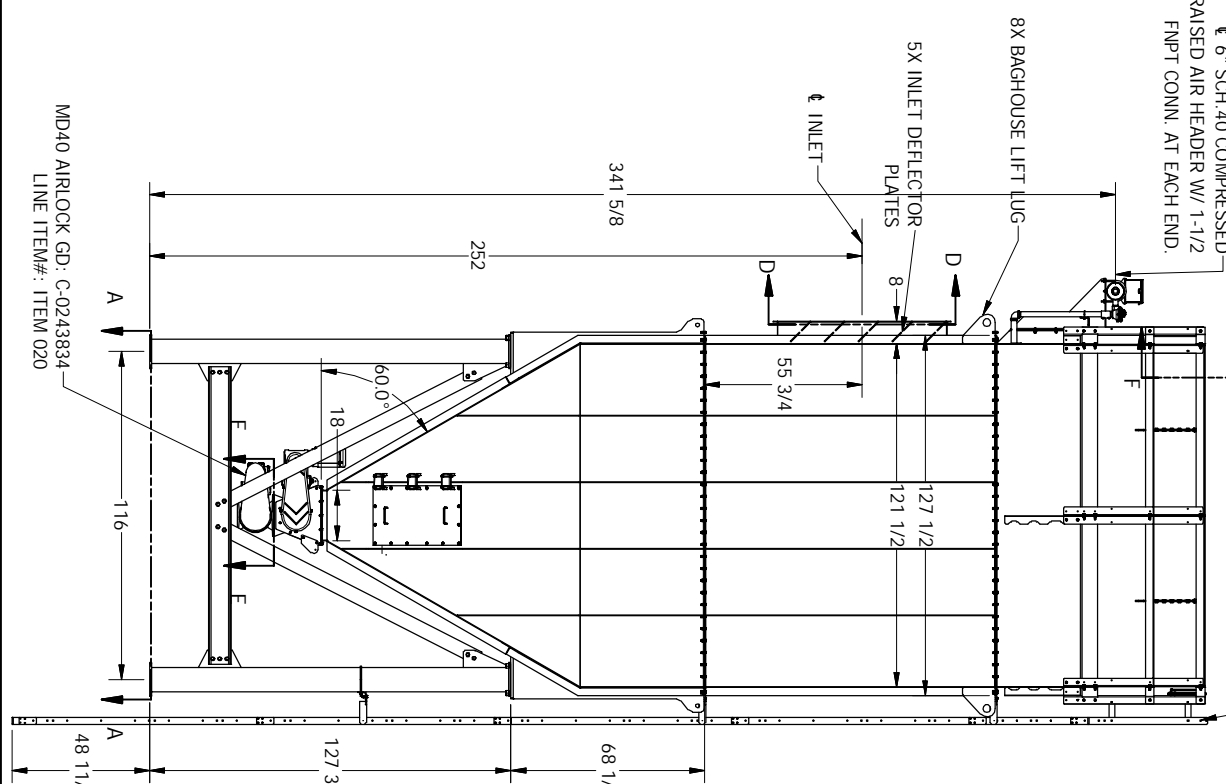
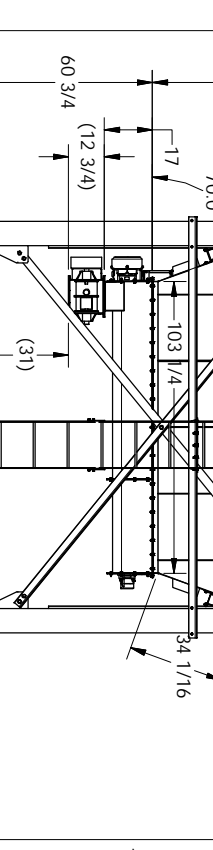
SECTION D-D
INLET FLANGE DETAIL
SCALE 1/35



SECTION E-E
DISCHARGE FLANGE DETAIL
(MATES MD40 AIRLOCK)
SCALE 1/20



SECTION F-F
SMART TIMER ENCLOSURE
PLACEMENT DETAIL
SCALE 1/35



- GENERAL NOTES:
- 7 GA. CARBON STEEL CONSTRUCTION. UNIT IS STRESSED FOR 17" W.C.
 - FILTER CLEANING MECHANISM REQUIRES 20 SCFM OF CLEAN, DRY PLANT AIR AT 90-100 PSIG.
 - NEMA 4X DWYER DCT1000 TIMER BOARD AND SOLENOID VALVE ENCLOSURE REQUIRES 120VAC/1/60 H. POWER SUPPLY. TIMER INCLUDES 4-20 MA OUTPUT.
 - 1/8" NPT CONNECTIONS MUST HAVE PIPE PLUG IF DIFFERENTIAL PRESSURE GAUGE IS NOT USED. DWYER TIMER REQUIRES INTEGRAL PRESSURE SWITCH TO BE PLUMBED TO PRESSURE PORTS WITH COPPER TUBING.
 - FILTER INCLUDES (224) 144" LG ARAMID (NOMEX) TOP LOAD BAGS AND GALV. WIRE CAGES PROVIDING 4240 SQ. FT. OF CLOTH. WITH AN AIR TO CLOTH RATIO OF 5.0:1 @ 21000 CFM
 - COPPER TUBING TO BE USED IN LIEU OF POLYFLO ON ALL CONNECTIONS. ALL SOLENOIDS/PULSE VALVES ARE PRE-PIPED WITH COPPER TUBING BY FACTORY.
 - APPROX. FILTER WEIGHT:
 - PLENUM W/ GUARDRAIL: 3,475 LBS.
 - TUBESHEET: 1,520 LBS.
 - BAGHOUSE: 5,210 LBS.
 - HOPPER: 5,870 LBS.
 - STRUCTURE: 2,650 LBS.
 - BAG AND CAGES: 2,700 LBS.
 - SCREW CONV.: 375 LBS.
 - AIRLOCK: 525 LBS.
 - LADDER: 275 LBS.
 - SERIAL NUMBER: 1100423243-010-1 (FILTER)
1100423243-030-1 (SCREW CONVEYOR)

- FINISH NOTES:
- EXTERIOR: SHERWIN WILLIAMS KEM HI-TEMP COATING NO. 500 SERIES (RAL 9003 SIGNAL WHITE), WITH KEM HI-TEMP PRIMER NO. 500 SERIES. 500F MAXIMUM TEMPERATURE. SURFACE PREPARATION: SSPC-SP6 (COMMERCIAL SANDBLAST).
 - INTERIOR CLEAN AIR PLENUM: PRIMED OR PAINTED FOR RUST PREVENTION.
 - SURFACE PREPARATION: SSPC-SP1 AND SSPC-SP2.
 - STRUCTURE: SHERWIN WILLIAMS POLANE D8700 DTM URETHANE PAINT (RAL9003 SIGNAL WHITE), WITH SHERWIN WILLIAMS GRAY EPOXY PRIMER.
 - SURFACE PREPARATION: SSPC-SP6 (COMMERCIAL SANDBLAST)
 - ORANGE PLASTIC GUARD: HIGH DENSITY POLYETHYLENE MATERIAL, MATCHING OSHA ORANGE COLOR
 - LADDER AND SAFETY RAIL: SHERWIN WILLIAMS POLANE D8700 DTM URETHANE PAINT (RAL 1003 SIGN YELLOW). SURFACE PREPARATION: SSPC-SP1 AND SSPC-SP2.
- SHIPPING AND PACKAGING REQUIREMENTS:
- INCLUDES LASER ETCHED ANODIZED ALUMINUM S/N PLATE

14 ANNODIZED ALUM. TAG
MODEL: 144RPT224 STYLE III
S/N: 1100423243-010-1
PO#: 1029956

14 ANNODIZED ALUM. TAG
MODEL: 9" SCREW CONVEYOR
S/N: 1100423243-030-1
PO#: 1029956

APPROVAL REQUIRED
APPROVED AS IS
RESUBMITTED DRAWING FOR APPROVAL
THIS JOB IS ON HOLD UNTIL SCHENCK PROCESS RECEIVES ONE SIGNED COPY OF EACH APPROVAL DRAWING.
CUSTOMER SIGNATURE:

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES (IN)
TOLERANCES
ANGLE ± .10°
3 PLACES ± .03
FRACTION ± 1/16
OVERALL < 120 ± 3/8
OVERALL > 120 ± 1

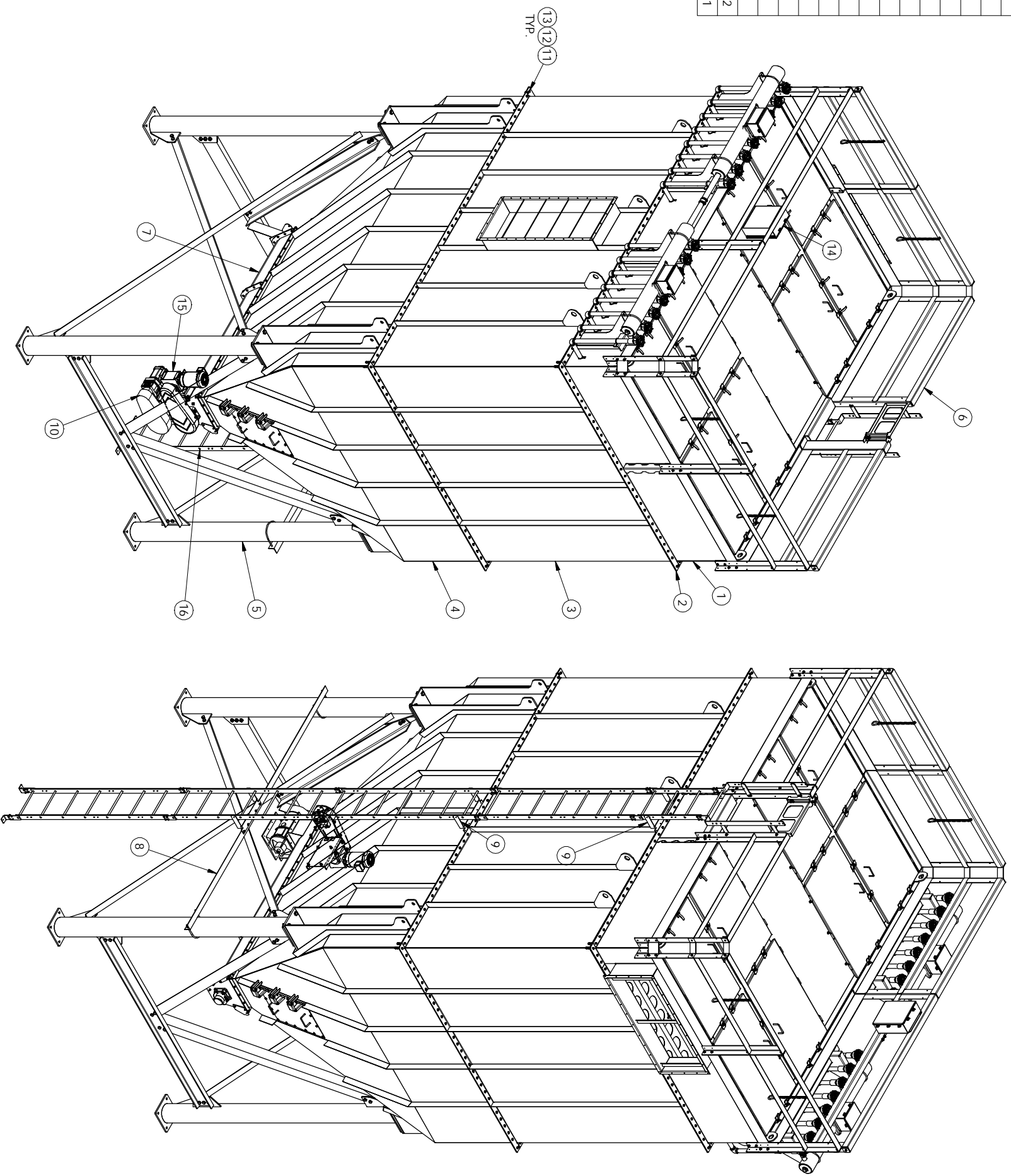
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SIZE: B	DEPARTMENT: PRODUCTION	JOB/PROJECT NO.: 1100423243	SIMILAR TO: C-0205439	REV. A
SCALE: 1/70	DRAWN BY: LMH	DATE: 2/7/2020	DRAWING NO.: C-0205439	SHEET: 1 OF 2
PER ASME Y14.3		144RPT224 STYLE III W/ RAISED HEADER & INLET DROP-OUT SECTION FOR QUIKRETE		

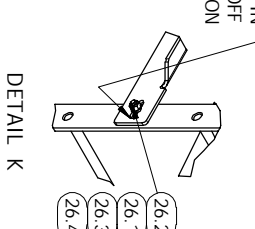
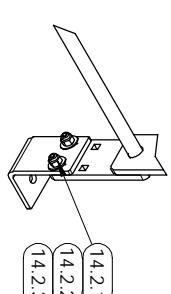
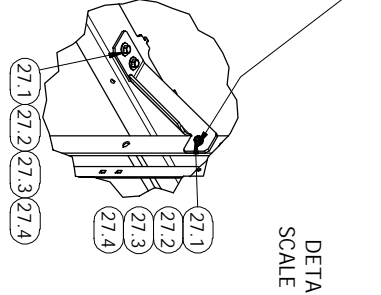
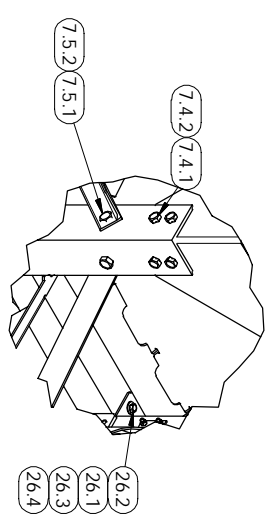
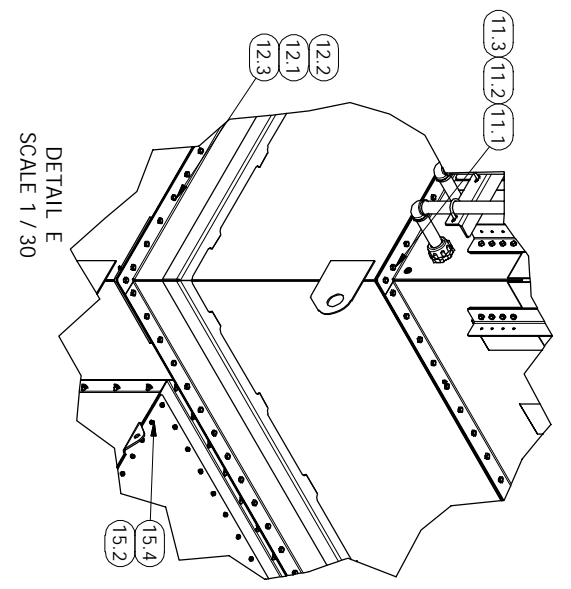
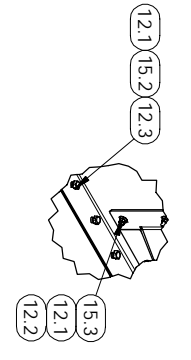
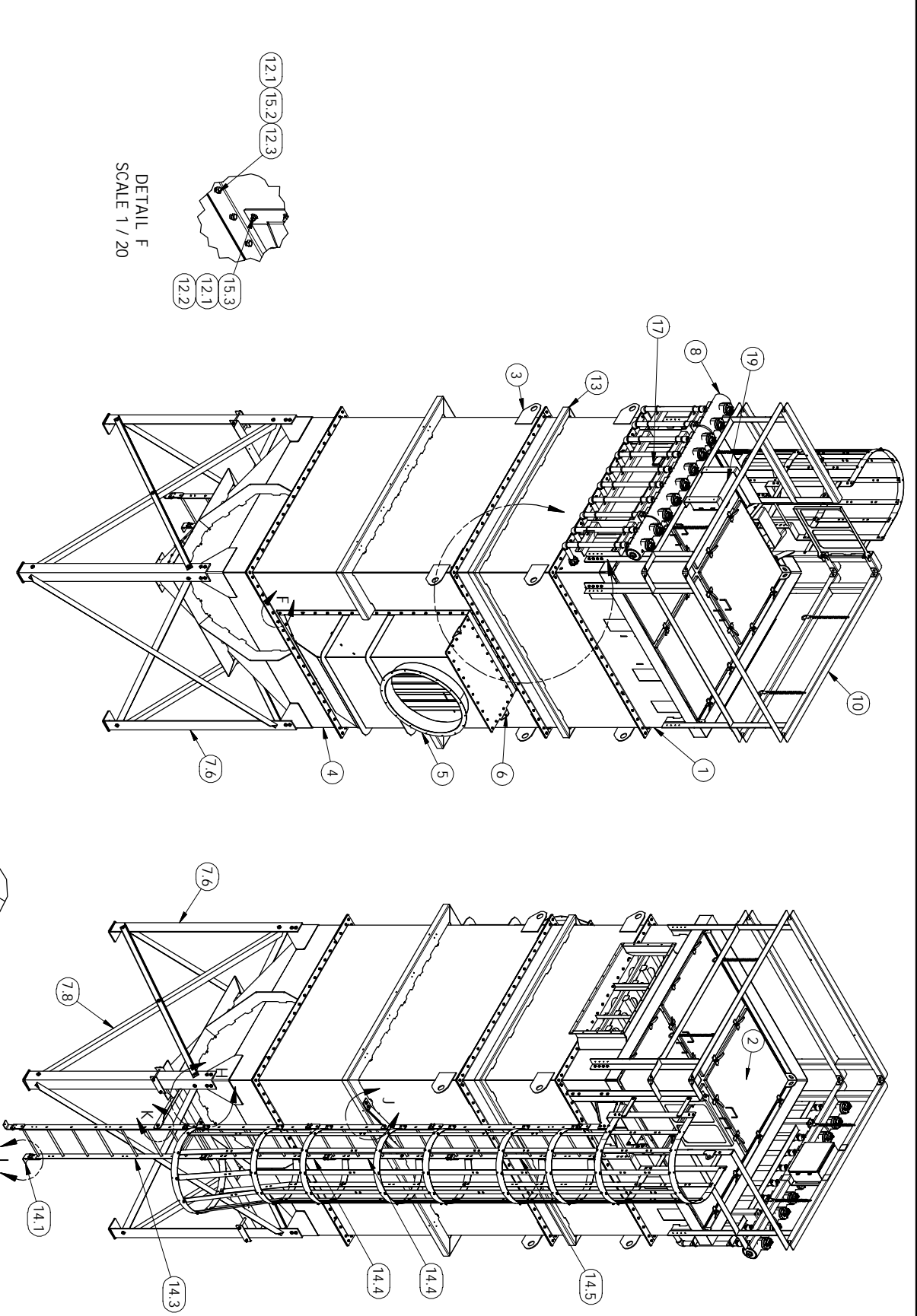
MD40 AIRLOCK GD: C-0243834
LINE ITEM#: ITEM 020

ITEM	QTY	DESCRIPTION	PART NUMBER	WT LBS [UNIT]	FILE NAME	SEPARATE DRAWING
1	1	224RPT INSULATED PLENUM ASSEMBLY	V-NEED	3451.20	C-0243366.iam	C-0243366
2	1	RPT224 TUBESHEET WELDMENT	V-NEED	1446.52	C-0243362.iam	C-0205432
3	1	144RPT224 INSULATED BAGHOUSE WELDMENT	V-NEED	4958.19	C-0243354.iam	C-0243354
4	1	RPT224 INSULATED HOPPER WELDMENT	V-NEED	5587.25	C-0243363.iam	C-0243363
5	1	RPT224 STRUCTURE ASSEMBLY	V-NEED	1511.28	C-0205441.iam	C-0205441
6	1	RPT224 GUARDRAIL ASSEMBLY	V-NEED	810.02	C-0205678.iam	C-0205678
7	1	144RPT224 SCREW CONVEYOR ASSEMBLY	V-NEED	353.53	C-0207097.iam	C-0207097
8	1	RPT STRUCTURE LADDER STANDOFF	V-NEED	70.47	C-0242596.iam	C-0242596
9	2	LADDER STANDOFF	NA	4.45	C-0242566.ipf	
10	1	EXPORT MODEL OF MD40 AIRLOCK WITH 3/4 HP PARALLEL SHAFT DRIVE 15	N/A	.00	S100017962.ipf	
11	292	ZINC HEX BOLT - 1/2X1-1/2	V305643.B01	.13	C100000173.ipf	
12	292	Z/P 1/2" HEX NUT	V307485.B01	.04	C100000934.ipf	
13	292	ZINC MED LOCK WASHER - 1/2	V310832.B01	.01	C100000983.ipf	
14	1	NEMA 4 SMART TIMER ENCLOSURE	V315515.B01	21.51	U100004583.ipf	
15	1	2HP,TEFC,DODGE CONVEYOR DRIVE,20 RPM	V753558.B01	188.85	S100016032.iam	S100016032
16	1	LADDER ASSEMBLY 368"-380"	V795599.B01	273.90	S100030401.iam	S100030401



SIZE:	DEPARTMENT:	JOB/PROJECT NO.	SIMILAR TO:	REV.
B	PRODUCTION ENG.	1100423243	C-0205439	A
SCALE:	DRAWN BY:	DATE:	DRAWING NO.	SHEET:
1/55	LMH	2/7/2020	C-0205439	2 OF 2

ITEM	QTY	DESCRIPTION	PART NUMBER	WT LBS (UNIT)	FILE NAME	SEPARATE DRAWING
1	1	PLNM ASSY, BACK, LST100, CS	V-NEED	1114.54	C-0240692.lam	C-0240692
2	1	T/S WLDMNT, LST100, CS	V813648, B01	329.42	S-0087130.lam	S-0087130
3	1	BGHS WLDMNT, 96LST100, CS	V818465, B01	1544.27	C-0240840.lam	S-0095085
4	1	HPR, WLDMNT, LST100, 60°, 3/4OD, 10" DISCH, CS	V814767, B01	1092.44	C-0240850.lam	
5	1	HSG, LST, HEI, 40", CS	V814039, B01	502.38	C-0240405.lam	
6	1	BAFFLE WLDMNT, LST, HEI, 40", DBL, CS	V814038, B01	240.19	S-0087496.lam	
7	1	STRC ASSY, LST100, OAH-91-11/16, CS	V819773, B01	726.37	S-0097645.lam	S-0097645
7.4	1	HDW KIT, STRC, LST100, MNT PAD	V819778, B01	7.01	S-0098159.lam	
7.4.1	16	A325 GALVANIZED HEX BOLT - 5/8X1-1/2	V313920, B01	.39	C100000259, .ipt	
7.4.2	16	GAL V, F436 FLAT WASHER - 5/8"	V321092, B01	.05	C100004490, .ipt	
7.5	1	HDW KIT, STRC, LST100, X-BRACE, OAH=91-11/16	V819776, B01	13.74	S-0098160.lam	
7.5.1	20	A325 GALVANIZED HEX BOLT - 3/4X1-3/4	V335221, B01	.63	C100000361, .ipt	
7.5.2	20	F436 FLAT WASHER - 3/4"	V321091, B01	.06	C100004034, .ipt	
7.6	4	STRC, LEG, LST100, CS	NA	93.95	S-0175780, .ipt	
7.8	8	STRC, X-BRACE, LST100, CS	NA	38.71	S-0175782, .ipt	
7.9	4	STRC, FOOTPAD, LST81, CS	NA	5.03	S-0176105, .ipt	
8	1	HDR ASSY, IMRS, 6", 10 ROW, 1.5", CS	V935784, B01	138.24	C-0187447.lam	C-0187447
9	1	CAGE ASSEMBLY FOR 284" - 296" LADDER WITH 30" PLATFORM CAGE	V795658, B01	294.85	S100031132, .lam	
10	1	SAFETY RAIL, LST100, W/PLATF EXT, CS	V821017, B01	632.16	S-0098932.lam	S-0098932
11	1	HDW, HPR, LST, LST100, Z/P, 1-1/2" LG *	V363692, B01	13.43	S-0098801.lam	
11.1	76	ZINC HEX BOLT - 1/2X1-1/4	V305642, B01	.12	C100000167, .ipt	
11.2	76	Z/P 1/2" HEX NUT	V307485, B01	.04	C100000934, .ipt	
11.3	76	ZINC MED LOCK WASHER - 1/2	V310832, B01	.01	C100000983, .ipt	
12	2	HDW, HPR, LST, LST100, Z/P, 1-1/2" LG *	V363692, B01	14.51	S-0167622.lam	
12.1	76	Z/P 1/2" HEX NUT	V307485, B01	.04	C100000934, .ipt	
12.2	76	ZINC MED LOCK WASHER - 1/2	V310832, B01	.01	C100000983, .ipt	
12.3	76	ZINC HEX BOLT - 1/2X1-1/2	V305643, B01	.13	C100000173, .ipt	
13	1	SPOOL, LST100, CS, 48"	V907586, B01	874.94	S-0152617.lam	S-0152617
14	1	LADDER ASSEMBLY 272" - 284"	V795591, B01	204.75	S100030313, .lam	S100030313
14.1	2	CLIP, LADDER FOUNDATION, FLR2, RAW	V792729, B01	1.05	S100030444, .ipt	S100030444
14.2	1	HARDWARE KIT C	V797796, B01	3.04	S100030482, .lam	
14.2.1	36	ZINC NYLOC HEX NUT - 3/8	V333720, B01	.02	C100003108, .ipt	
14.2.2	36	ZINC CARRIAGE BOLT - 3/8X1-1/4	V335511, B01	.06	C100000648, .ipt	
14.2.3	4	ZINC FLAT WASHER - 3/8"	V310829, B01	.01	C100000687, .ipt	
14.3	1	LADDER, 7/FT SECT, FLR2, YELLOW	V821909, B01	60.28	S-0102024.lam	
14.4	2	LADDER, 5FT SECT, FLR2, YELLOW	V821907, B01	43.66	S-0102022.lam	
14.5	1	LADDER, 6FT SECT, FLR2, YELLOW	V821908, B01	52.00	S-0102023.lam	
15	1	HDW, LST, HEI, 40", Z/P	V820336, B01	2.77	S-0099124.lam	
15.1	47	ZINC FLAT WASHER - 3/8"	V310829, B01	.01	C100000687, .ipt	
15.2	75	ZINC MED LOCK WASHER - 3/8	V310831, B01	.01	C100000980, .ipt	
15.3	47	NUT, 3/8" NC GR5 Z/P HEX	V307484, B01	.00	C100000926, .ipt	
15.4	28	ZINC HEX BOLT - 3/8X1	V305625, B01	.05	C100000090, .ipt	
16	100	BAG, 144" 16OZ D/P, TOP, 6.2" *	V305243, B01	2.53	S-0099025, .ipt	
17	1	S/N PLATE ASSY W/ 304 BRKT, 3X4, ALUM	V788755, B01	.57	S100030048, .lam	S100030048
18	1	DECAL ASSY, SCHEMCK, GRAY, LST/LSTC, FLTR*	V789896, B01	.00	S-0099067, .ipt	
19	1	NEMA 4 SMART TIMER ENCLOSURE	V315151, B01	21.51	U100004583, .ipt	
20	8	PAINT, F63W, L0037, RAL9003, SIG, WHT, POLANE*	V786406, B01	10.00	S-0074402, .ipt	
21	1	PAINT, SAFETY YELLOW	V787984, B01	10.00	S-0074435, .ipt	
22	2	CATALYST, V66V55, SHERWIN WILLIAMS *	V788108, B01	.00	S-0099878, .ipt	
23	1	MANUAL, LST/C, BV, H5185, GB, V2	V820320, B02	.00	S-0099923, .ipt	
24	100	CAGE, 144" RPT, RT/ST/LST*	V306118, B01	8.46	S-0099029, .ipt	
26	1	STANDOFF, LST100, BLT, STRC, CS	V821008, B01	68.83	S-0100651, .lam	S-01006532
26.1	22	Z/P 1/2" HEX NUT	V307485, B01	.04	C100000934, .ipt	
26.2	6	ZINC HEX BOLT - 1/2X1-1/2	V305643, B01	.13	C100000173, .ipt	
26.3	6	ZINC FLAT WASHER - 1/2"	V310830, B01	.04	C100000693, .ipt	
26.4	6	ZINC MED LOCK WASHER - 1/2	V310832, B01	.01	C100000983, .ipt	
27	1	STANDOFF, LST, BLT, ANG, 12-15/16, CS	V820956, B01	11.28	S-0100264, .lam	S-0100261
27.1	6	ZINC HEX BOLT - 1/2X1-1/2	V305643, B01	.13	C100000173, .ipt	
27.2	6	ZINC FLAT WASHER - 1/2"	V310830, B01	.04	C100000693, .ipt	
27.3	6	Z/P 1/2" HEX NUT	V307485, B01	.04	C100000934, .ipt	
27.4	6	ZINC MED LOCK WASHER - 1/2	V310832, B01	.01	C100000983, .ipt	



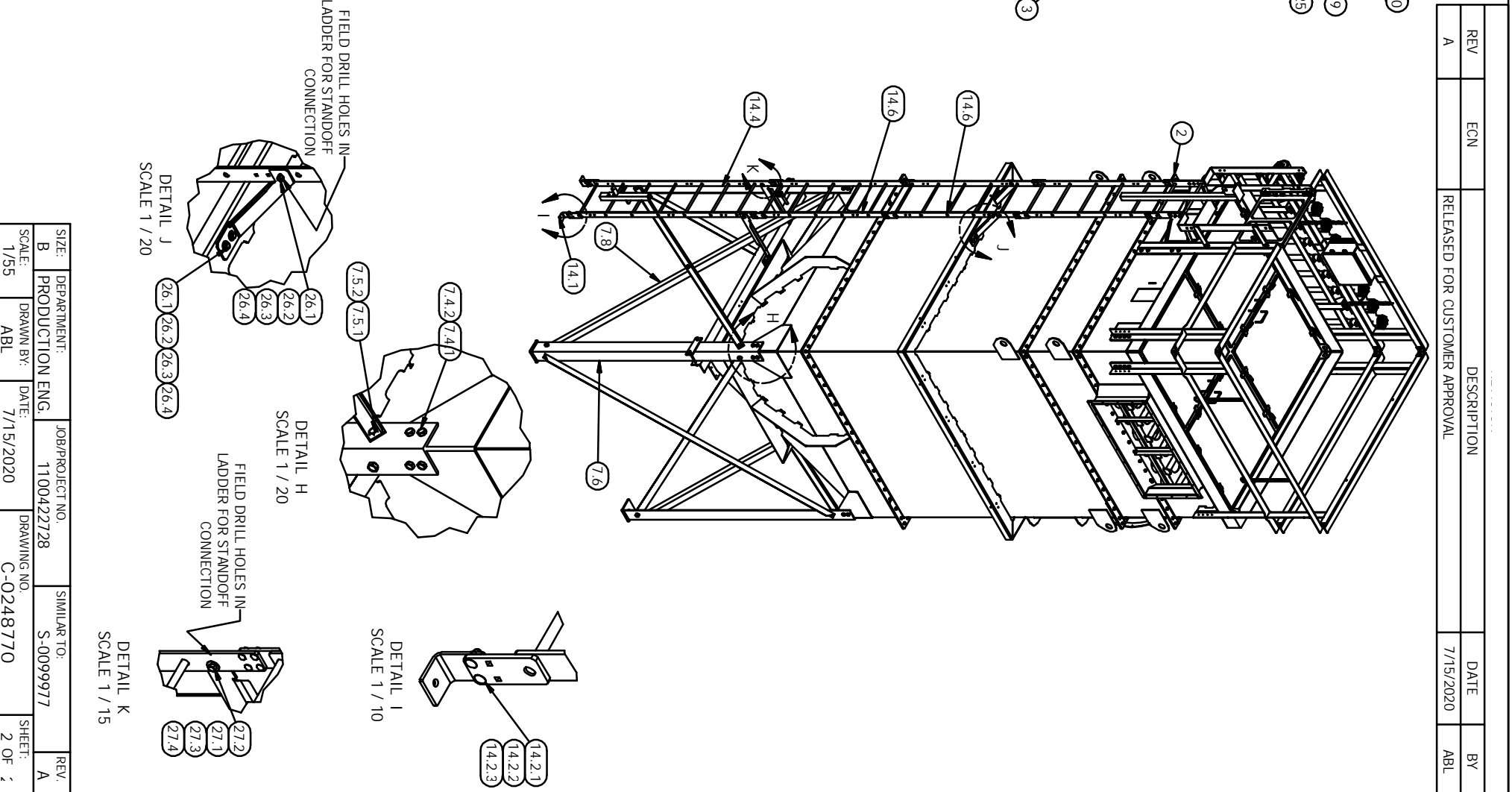
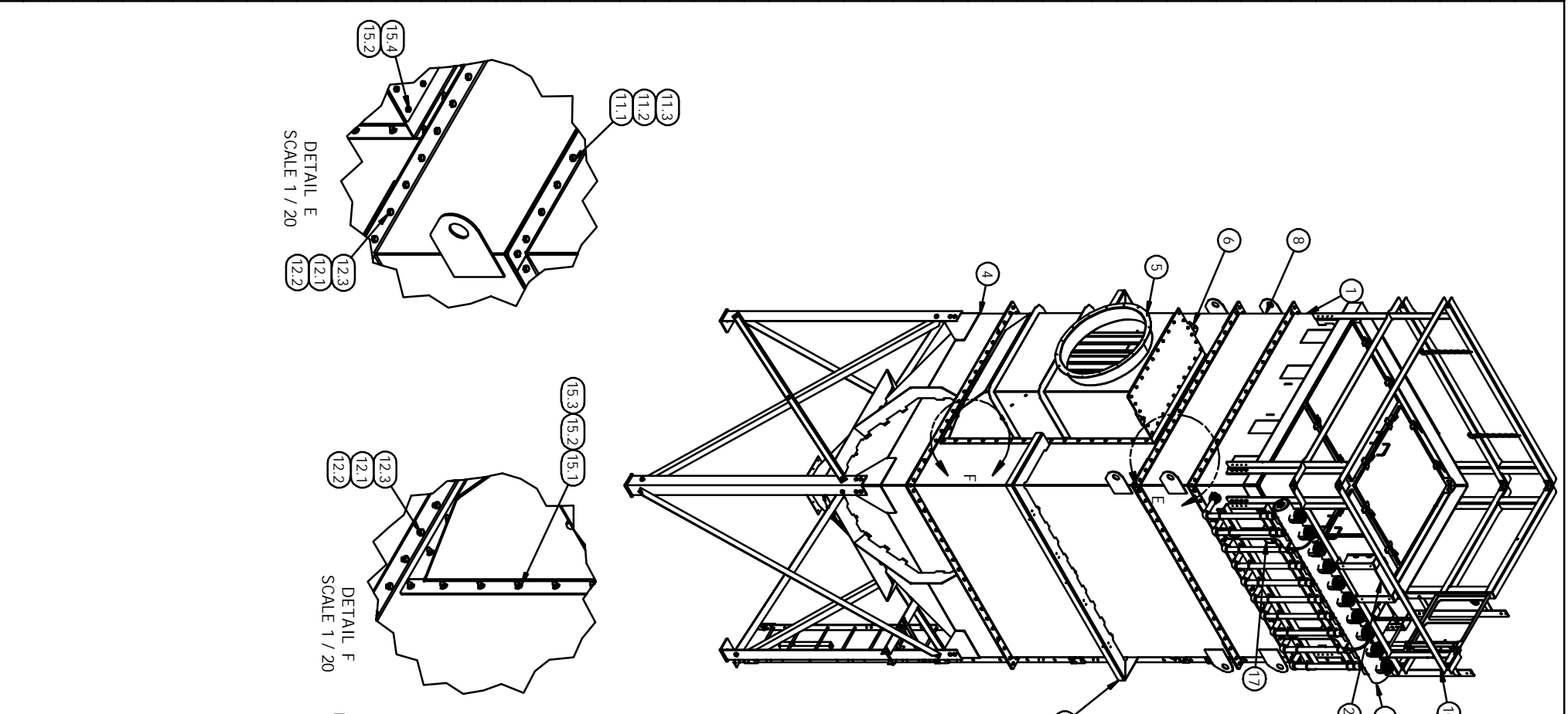
FIELD DRILL HOLES IN LADDER FOR STANDOFF CONNECTION

FIELD DRILL HOLES IN LADDER FOR STANDOFF CONNECTION

FIELD DRILL HOLES IN LADDER FOR STANDOFF CONNECTION

SIZE: B	DEPARTMENT: PRODUCTION	JOB/PROJECT NO: 1100422728	SIMILAR TO: S-0099981	REV: A
SCALE: 1/60	DRAWN BY: ABL	DATE: 6/9/2020	DRAWING NO: C-0240835	SHEET: 2 OF 2

ITEM	QTY	DESCRIPTION	PART NUMBER	WT LBS [UNIT]	FILE NAME	SEPARATE DRAWING
1	1	PLNM ASSY, BACK, LST100, CS	V-NEED	1114.56	C-0240692.lam	C-0240692
2	1	T/S W/LDMNT, LST100, CS	V813648, B01	329.42	S-0087130.lam	S-0087130
3	1	BGHS, W/LDMNT, 96LST100, CS	V818465, B01	1544.27	C-0248778.lam	S-0095085
4	1	HPR, W/LDMNT, LST100, 60° 3/4OD, 10° DISCH, CS	V814767, B01	1100.75	C-0248777.lam	
5	1	HSG, LST, HEI, 40°, CS	V814039, B01	502.38	C-0240405.lam	
6	1	BAFFLE, W/LDMNT, LST, HEI, 40° DBL, CS	V814038, B01	240.19	S-0087496.lam	
7	1	STRC ASSY, LST100, OAH=91-11/16, CS	V819773, B01	799.06	C-0248779.lam	S-0097645
7.4	1	HDW KIT, STRC, LST100, MNT PAD	V819778, B01	7.01	S-0098159.lam	
7.4.1	16	A325 GALVANIZED HEX BOLT - 5/8X1-1/2	V313920, B01	.39	C100000259.lpt	
7.4.2	16	GALV, F436 FLAT WASHER - 5/8"	V321092, B01	.05	C100004490.lpt	
7.5	1	HDW KIT, STRC, LST100 X-BRACE, OAH=91-11/16	V819776, B01	13.74	C-0248782.lam	
7.5.1	20	A325 GALVANIZED HEX BOLT - 3/4X1-3/4	V335221, B01	.63	C100000361.lpt	
7.5.2	20	F436 FLAT WASHER - 3/4"	V321091, B01	.06	C100004034.lpt	
7.6	4	STRC, LEG, LST100, CS	NA	106.36	C-0248775.lpt	
7.8	8	STRC, X-BRACE, LST100, CS	NA	41.59	C-0248774.lpt	
7.9	4	STRC, FOOTPAD, LST81, CS	NA	5.03	S-0176105.lpt	
8	1	SPOOL, LST100, CS, 24"	V907581, B01	422.02	S-0150964.lam	S-0150964
9	1	HDR ASSY, IMRS, 6", 10 ROW, 1.5", CS	V935784, B01	138.24	C-0187447.lam	C-0187447
10	1	SAFETY RAIL, LST100, W/PLATE EXT, CS	V821017, B01	632.16	S-0098932.lam	S-0098932
11	1	HDW, HPR, LST, STC100, Z/P, 1-1/2" LG *	V363692, B01	13.43	S-0098801.lam	
11.1	76	ZINC HEX BOLT - 1/2X1-1/4	V305642, B01	.12	C100000167.lpt	
11.2	76	Z/P 1/2" HEX NUT	V307485, B01	.04	C100000934.lpt	
11.3	76	ZINC MED LOCK WASHER - 1/2	V310832, B01	.01	C100000983.lpt	
12	2	HDW, HPR, LST, STC100, Z/P, 1-1/2" LG *	V363692, B01	14.51	S-0167622.lam	
12.1	76	Z/P 1/2" HEX NUT	V307485, B01	.04	C100000934.lpt	
12.2	76	ZINC MED LOCK WASHER - 1/2	V310832, B01	.01	C100000983.lpt	
12.3	76	ZINC HEX BOLT - 1/2X1-1/2	V305643, B01	.13	C100000173.lpt	
13	1	FRENCH CREEK LADDER TIE OF ASSEMBLY 20'-30'	V810842, B01	23.78	C-0248798.lam	
14	1	LADDER ASSEMBLY 260" 272"	V795590, B01	196.41	S100030312.lam	S100030312
14.1	2	CLIP, LADDER FOUNDATION, FLR2, RAW	V792729, B01	1.05	S100030444.lpt	S100030444
14.2	1	HARDWARE KIT C	V797796, B01	3.04	S100030482.lam	
14.2.1	36	ZINC NYLOC HEX NUT - 3/8	V333720, B01	.02	C100003108.lpt	
14.2.2	36	ZINC CARRIAGE BOLT - 3/8X1-1/4	V335511, B01	.06	C100000648.lpt	
14.2.3	4	ZINC FLAT WASHER - 3/8"	V310829, B01	.01	C100000687.lpt	
14.4	1	LADDER, 7FT SECT, FLR2, YELLOW	V821909, B01	60.28	S-0102024.lam	
14.6	3	LADDER, 5FT SECT, FLR2, YELLOW	V821907, B01	43.66	S-0102022.lam	
15	1	HDW, LST, HEI, 40°, Z/P	V820336, B01	2.77	S-0099124.lam	
15.1	47	ZINC FLAT WASHER - 3/8"	V310829, B01	.01	C100000687.lpt	
15.2	75	ZINC MED LOCK WASHER - 3/8	V310831, B01	.01	C100000980.lpt	
15.3	47	NUT, 3/8" NC GR5 Z/P HEX	V307484, B01	.00	C100000926.lpt	
15.4	28	ZINC HEX BOLT - 3/8X1	V305625, B01	.05	C100000090.lpt	
16	100	BAG, 120" 160Z D/P, TOP, 6.2" *	V305244, B01	2.18	S-0073516.lpt	
17	1	S/N PLATE ASSY W/ 304 BRKT 3X4, ALUM	V788755, B01	.57	S100030048.lam	S100030048
18	1	DECAL ASSY, SCHEMCK, GRAY, LST/LSTC FLTR*	V789896, B01	.00	S-0099067.lpt	
19	1	16" INSPECTION OPENING ASSY	V895012, B01	12.38	S-0126402.lam	C01150
20	7	PAINT, F63W, L0037 RAL 9003 SIG WHT POLANE*	V786406, B01	10.00	S-0074402.lpt	
21	1	PAINT, SAFETY YELLOW	V787984, B01	10.00	S-0074435.lpt	
22	2	CATALYST, V66V55 SHERWIN WILLIAMS *	V788108, B01	.00	S-0099878.lpt	
23	1	MANUAL, LST/C, BV-H5185 GB, V2	V820320, B02	.00	S-0099923.lpt	
24	100	CAGE, 120" RPT/RT/ST/LST*	V306120, B01	7.27	S-0073504.lpt	
25	1	NEMA 4 SMART TIMER ENCLOSURE	V315515, B01	21.51	U100004583.lpt	
26	1	STANDOFF, LST, BLT, ANG, 12-15/16, CS	V820956, B01	11.28	S-0100264.lam	S-0100261
26.1	6	ZINC HEX BOLT - 1/2X1-1/2	V305643, B01	.13	C100000173.lpt	
26.2	6	ZINC FLAT WASHER - 1/2"	V310830, B01	.04	C100000693.lpt	
26.3	6	Z/P 1/2" HEX NUT	V307485, B01	.04	C100000934.lpt	
26.4	6	ZINC MED LOCK WASHER - 1/2	V310832, B01	.01	C100000983.lpt	
27	1	STANDOFF, LST100, BLT, STRC, CS	V821008, B01	68.83	S-0100531.lam	S-0100532
27.1	22	Z/P 1/2" HEX NUT	V307485, B01	.04	C100000934.lpt	
27.2	6	ZINC HEX BOLT - 1/2X1-1/2	V305643, B01	.13	C100000173.lpt	
27.3	6	ZINC FLAT WASHER - 1/2"	V310830, B01	.04	C100000693.lpt	
27.4	6	ZINC MED LOCK WASHER - 1/2	V310832, B01	.01	C100000983.lpt	



REV	ECN	DESCRIPTION	DATE	BY
A		RELEASED FOR CUSTOMER APPROVAL	7/15/2020	ABL

SIZE: B	DEPARTMENT: PRODUCTION	JOB/PROJECT NO: 1100422728	SIMILAR TO: S-0099977	REV: A
SCALE: 1/55	DRAWN BY: ABL	DATE: 7/15/2020	DRAWING NO: C-0248770	SHEET: 2 OF 2

SAFETY DATA SHEET

Section 1:

IDENTIFICATION

Product Name:	Natural Sand or Gravel - Belvedere Facility
Generic ID:	Sand, gravel, aggregate
Usage and Restrictions:	Sand or gravel may be used in the manufacture of concrete blocks and bricks, mortar, cement, concrete, paving materials, and other construction materials. Sand or gravel may be distributed in bags, totes, and bulk shipments. No known recommended restrictions.
Supplier Details:	York Building Products 950 Smile Way York, PA 17404
Emergency Phone #:	717.848.2831

Section 2:

HAZARD(S) IDENTIFICATION

GHS Classification:	Carcinogenicity:	1A
	Eye Irritation:	2A
	Repeated Exposure Skin Irritation:	2
	Specific Target Organ Toxicity:	2

GHS Label Elements:



Signal Word:	Danger
Hazard Statements:	Causes skin irritation. Causes serious eye irritation. May cause an allergic skin reaction. Respirable dust may contain crystalline silica, known to cause cancer. May cause respiratory irritation. Causes damage to lungs through prolonged or repeated exposure.
Prevention:	Wash hands thoroughly after handling. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. Use only outdoors or in a well-ventilated area. Do not breathe dust.
Response:	If exposed or concerned: Get medical advice/attention. If on skin: Wash with plenty of water. Take off contaminated clothing and wash it before reuse. If in eyes: Rinse continuously with water for several minutes. Remove contact lenses, if present and easy to do.
Storage:	Restrict or control access to stockpile areas. Engulfment hazard: To prevent burial or suffocation, do not enter a confined space, such as a silo, bulk truck or other storage container or vessel that stores or contains aggregates without an effective procedure for assuring safety.
Disposal:	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazards Not Otherwise Classified:	None known.



Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient(s)	CAS Number	% (by weight)	OSHA/MSHA PEL (mg/M³)	ACGIH TLV (mg/M³)
Natural Sand or Gravel		100.0		
QUARTZ (Crystalline Silica)	14808-60-7	<1.0	10/(%SiO ₂ +2)(R)*	0.1(1997)(R)*
* Respirable fraction				

Section 4: FIRST AID MEASURES

Description of Necessary First Aid Measures:

Eye Contact: Immediately flush with plenty of water for at least 15 minutes. Hold eyelids apart. Remove contacts if present and easy to do. Beyond flushing, do not attempt to remove material from the eye(s). Get medical attention if irritation develops or persists.

Inhalation: Move to fresh air. Call a physician if symptoms develop or persist.

Skin Contact: Wash off with soap and water. Get medical attention if irritation develops and persists.

Ingestion: Rinse mouth and drink plenty of water. Never give anything by mouth to an unconscious person. Get medical attention.

Most Important Symptoms & Effects, Both Acute and Delayed:

Inhaling dust may cause discomfort in the chest, shortness of breath, and coughing. Prolonged inhalation may cause chronic health effects. This product contains crystalline silica. Prolonged or repeated inhalation of respirable crystalline silica liberated from this product can cause silicosis, and may cause cancer.

Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary:

Eye Contact: Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.

Inhalation: Dust may cause respiratory tract irritation.

Skin Contact: Causes skin irritation. Wear gloves when handling product to avoid drying and mechanical abrasion of the skin. May cause sensitization by skin contact.

Ingestion: Not a normal route of exposure. May result in obstruction and temporary irritation of the digestive tract.



Section 5: FIRE-FIGHTING MEASURES

Extinguishing Media:

- Suitable Extinguishing Media: Treat for surrounding material.
- Unsuitable Extinguishing Media: Not available.
- Special Protective Equipment For Fire-Fighters: Use protective equipment appropriate for surrounding materials. No specific precautions.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures:

Wear appropriate protective equipment and clothing during clean-up of materials that contain or may release dust.

Methods and Materials For Containment and Cleaning-Up

Spilled material, where dust is generated, may overexpose cleanup personnel to respirable crystalline silica-containing dust. Do not dry sweep or use compressed air for clean-up. Wetting of spilled material and/or use of respiratory protective equipment may be necessary. Avoid discharge of fine particulate matter into drains.

Section 7: HANDLING AND STORAGE

Precautions for Safe Handling:

- Handling: Avoid contact with skin and eyes. Good housekeeping is key to prevent accumulation of dust. Avoid generating and breathing dust. Use wet methods, if appropriate, to reduce the generation of dust. The use of compressed air for cleaning clothing, equipment, etc, is not recommended. Handle with care. When using do not eat or drink. (See section 8)
- General Hygiene Advice: Launder contaminated clothing before reuse. Wash hands before eating or drinking.
- Conditions For Safe Storage, Including Any Incompatibilities: Avoid dust buildup by frequent cleaning and suitable construction of the storage area.



Section 8: EXPOSURE CONTROLS AND PERSONAL MEASURES

Control Parameters

Occupational exposure limits:

- 1 – Value equivalent to OSHA formulas (29 CFR 1910.1000; 29 CFR 1917; 29 CFR 1918)
- 2 – Value also applies to MSHA metal/Non-Metal (1973 TLVs at 30 CFR 56/57.5001)
- 3 – OSHA enforces 0.250 mg/m³ in construction and shipyards (CPL-03-00-007)
- 4 – Value also applies to OSHA construction (29 CFR 1926.55 Appendix A) and shipyards (29 CFR 1915.1000 Table Z)
- 5 – MSHA limit = 10 mg/m³

Ingredient	Exposure Limits
Particulates not otherwise classified (CAS SEQ250)	ACGIH TLV (United States, 3/2012) TWA: 3 mg/m ³ . Form: Respirable particles (2) TWA: 10 mg/m ³ . Form: Inhalable particles (2) OSHA PEL (United States, 6/2010) PEL: 5 mg/m ³ . Form: Respirable fraction PEL: 15 mg/m ³ . Form: Total dust (4) TWA: 5 mg/m ³ . Form: Respirable fraction (1) TWA: 15 mg/m ³ . Form: Total dust (1, 4, 5)
Crystalline Silica (Quartz) (CAS 14808-60-7)	OSHA PEL (United States, 6/2010) TWA: 0.3 mg/m ³ . Form: Total dust (1,2) TWA: 0.1 mg/m ³ . Form: Respirable (1,2,3)
Crystalline Silica (all forms; CAS mixture)	ACGIH TLV (United States, 3/2012) TWA: 0.025 mg/m ³ . Form: Respirable fraction NIOSH REL (United States, 6/2009) TWA: 0.05 mg/m ³ . Form: Respirable dust

Engineering Controls:

When using product, provide local and general exhaust ventilation to keep airborne dust concentrations below exposure limits. Use wet methods, if appropriate, to reduce the generation of dust.

Exposure Guidelines:

OSHA PELs, MSHA PELs, and ACGIH TLVs are 8-hr TWA values. NIOSH RELs are for TWA exposures up to 10-hr/day and 40-hr/wk. Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled.

Individual Protection Measures:

Hygiene Measures:

Observe good hygiene, such as washing after handling the material and before eating and drinking. Routinely wash work clothing and protective equipment.

Eye/Face Protection:

Wear safety glasses with side shields (or goggles).

Hand/Body Protection:

Use personal protective equipment as required.

Hand/Body Protection:

When performing work that produces dust or respirable crystalline silica in excess of applicable exposure limits, wear a NIOSH-approved respirator that is properly fitted and is in good condition. Respirators must be used in accordance with all applicable workplace regulations.



Section 9:

PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Appearance:	White or tan sand, granular, crushed, or ground to fine mesh sizes.
	Color:	Not applicable.
	Odor:	Odorless.
	Odor Threshold:	Not applicable.
	Physical State:	Solid.
	pH:	Not applicable.
	Melting/Freezing Point:	Not applicable.
	Boiling Point:	Not applicable.
	Flash Point:	Not applicable.
	Evaporation Rate:	Not applicable.
	Flammability:	Not flammable.
	Lower Flammability/Explosive Limit:	Not applicable.
	Upper Flammability/Explosive Limit:	Not applicable.
	Vapor Pressure:	Not applicable.
	Vapor Density:	Not applicable.
	Relative Density/Specific Gravity:	2.5-2.7
	Solubility in water:	Slight.
	Partition coefficient: n-octanol/water:	Not applicable.
	Auto-ignition Temperature:	Not applicable.
	Decomposition Temperature:	Not applicable.
	Viscosity:	Not applicable.
	SADT:	Not applicable.
	Oxidizing Properties:	Not applicable.
	Explosive Properties:	Not applicable.

Section 10:

STABILITY AND REACTIVITY

Reactivity:	Product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical Stability:	Material is stable under normal conditions.
Hazardous Reaction Possibility:	No dangerous reaction known under conditions of normal use.
Conditions to avoid:	Avoid contact with strong oxidizing agents.
Incompatible materials:	Crystalline silica may react violently with strong oxidizing agents, causing fire and explosions.
Hazardous decomposition:	Silica dissolves in hydrofluoric acid producing a corrosive gas-silicon tetrafluoride.



Section 11: TOXICOLOGICAL INFORMATION

Information On Toxicological Effects:

Acute Toxicity: Not expected to be acutely toxic.

Irritation/Corrosion: Skin: Dust: May cause irritation through mechanical abrasion. This product is not expected to be a skin hazard.
 Eyes: Direct contact with eyes may cause temporary irritation through mechanical abrasion.
 Inhalation: Repeated inhalation of respirable crystalline silica (quartz) may cause silicosis, a fibrosis (scarring) of the lungs. Silicosis is irreversible and may be fatal. Silicosis increases the risk of contracting pulmonary tuberculosis. Some studies suggest that repeated inhalation of respirable crystalline silica may cause adverse health effects including lung and kidney cancer.
 Ingestion: Not likely due to product form. However accidental ingestion may cause discomfort.

Sensitization: Respiratory sensitization: No respiratory sensitizing effects known.
 Skin sensitization: Not known to be a dermal irritant or sensitizer.

Mutagenicity: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Aspiration Hazard: Not expected to be an aspiration hazard.

Reproductive Toxicity: Not expected to be a reproductive hazard.

Symptoms related to physical, chemical, toxicological characteristics: Dust: discomfort in the chest. Shortness of breath. Coughing.

Carcinogenicity: Respirable crystalline silica has been classified by IARC and NTP as a known human carcinogen, and classified by ACGIH as a suspected human carcinogen.

Ingredient(s)	OSHA	IARC	ACGIH	NTP
Crystalline Silica (Quartz) CAS 14808-60-7)	Not Listed	1 Carcinogenic to humans	A2	Known to be a human Carcinogen

Specific Target Organ Toxicity (Acute Exposure):

Ingredient(s)	Route of Exposure	Target Organs
Crystalline Silica (Quartz) CAS 14808-60-7)	Inhalation	Not reported to have effects.

Specific Target Organ Toxicity (Chronic Exposure):

Ingredient(s)	Route of Exposure	Target Organs
Crystalline Silica (Quartz) CAS 14808-60-7)	Inhalation	May cause damage to organs (lung through prolonged or repeated exposure.

Potential chronic health effects: General: Prolonged inhalation of respirable crystalline silica may be harmful. May cause damage to organs (lungs) through prolonged or repeated exposure. There are reports in the literature suggesting that excessive crystalline silica exposure may be associated with autoimmune disorders and other adverse health effects involving the kidney. In particular, the incidence of scleroderma (thickening of the skin caused by swelling and the thickening of fibrous tissue) appears to be higher in silicotic individuals. To date, the evidence does not conclusively determine a causal relationship between silica exposure and these adverse health effects.



Section 12: ECOLOGICAL INFORMATION

Ecotoxicity:

Not expected to be harmful to aquatic organisms. Discharging aggregate, sand and gravel dust and fines into waters may increase total suspended particulate (TSP) levels that can be harmful to certain aquatic organisms.

Persistence and degradability: Not applicable.
 Bioaccumulative potential: Not applicable.
 Mobility in soil: Not applicable.
 Other adverse effects: No other adverse environmental effects (e.g., ozone depletion, photochemical ozone creation potential, global warming potential) are expected from this component.

Section 13: DISPOSAL CONSIDERATIONS

Disposal Methods: Do not allow fine particulate matter to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with fine particulates. Dispose of contents in accordance with local/regional/national/international regulations.

Hazardous Waste Code: Not regulated.

Waste From Residues/Unused Products: Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.

Contaminated Packaging: Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty packaging materials should be recycled or disposed of in accordance with applicable regulations and practices.

Section 14: TRANSPORTATION INFORMATION

	<u>DOT Classification</u>	<u>IMDG</u>	<u>IATA</u>
UN Number	Not regulated.	Not regulated.	Not regulated.
UN Proper Shipping Name	----	----	----
Transport Hazard Class(es)	----	----	----
Packing Group	----	----	----
Environmental Hazards	----	----	----

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code.



Section 15: REGULATORY INFORMATION

Safety, Health and Environmental Regulations/ Legislations Specific For The Chemical:

US: SDS prepared pursuant to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012.

OSHA Hazard Communication Standard, 29 CFR 1910.1200 TSCA Section 12(b) Export Notification (40 CFR 707, Subpart. D):	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200 Not regulated
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OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):	Not listed.
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CERCLA Hazardous Substance List (40 CFR 302.4):	Not listed.
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Clean Air Act Section 112 (b); Hazardous Air Pollutants (HAPs):	Not regulated
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Clean Air Act Section 112 (r) Accidental Release Prevention (40 CFR 68.130):	Not regulated.
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Safe Drinking Water Act (SDWA):	Not regulated.
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Section 16: OTHER INFORMATION

Date of Preparation:	05-30-16
Expiration Date:	None
Version:	1.0
Revision Date:	N/A

Disclaimer: We believe the statements, technical information and recommendations contained herein are reliable, but are given without warranty or guarantee of any kind. In particular, the data furnished in this sheet do not address hazards that may be posed by other materials mixed with limestone to produce limestone products. Users should review other relevant material safety data sheets before working with this limestone or working on limestone products. Inexperienced product users should obtain proper training before using this product. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for the user's own particular use.

- END -

SAFETY DATA SHEET

Section 1:

IDENTIFICATION

Product Name:	Natural Sand or Gravel - Cecil Facility
Generic ID:	Sand, gravel, aggregate
Usage and Restrictions:	Sand or gravel may be used in the manufacture of concrete blocks and bricks, mortar, cement, concrete, paving materials, and other construction materials. Sand or gravel may be distributed in bags, totes, and bulk shipments. No known recommended restrictions.
Supplier Details:	York Building Products 950 Smile Way York, PA 17404
Emergency Phone #:	717.848.2831

Section 2:

HAZARD(S) IDENTIFICATION

GHS Classification:	Carcinogenicity:	1A
	Eye Irritation:	2A
	Repeated Exposure Skin Irritation:	2
	Specific Target Organ Toxicity:	2

GHS Label Elements:



Signal Word:	Danger
Hazard Statements:	Causes skin irritation. Causes serious eye irritation. May cause an allergic skin reaction. Respirable dust may contain crystalline silica, known to cause cancer. May cause respiratory irritation. Causes damage to lungs through prolonged or repeated exposure.
Prevention:	Wash hands thoroughly after handling. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. Use only outdoors or in a well-ventilated area. Do not breathe dust.
Response:	If exposed or concerned: Get medical advice/attention. If on skin: Wash with plenty of water. Take off contaminated clothing and wash it before reuse. If in eyes: Rinse continuously with water for several minutes. Remove contact lenses, if present and easy to do.
Storage:	Restrict or control access to stockpile areas. Engulfment hazard: To prevent burial or suffocation, do not enter a confined space, such as a silo, bulk truck or other storage container or vessel that stores or contains aggregates without an effective procedure for assuring safety.
Disposal:	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazards Not Otherwise Classified:	None known.



Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient(s)	CAS Number	% (by weight)	OSHA/MSHA PEL (mg/M³)	ACGIH TLV (mg/M³)
Natural Sand or Gravel		100.0		
QUARTZ (Crystalline Silica)	14808-60-7	<1.0	10/(%SiO ₂ +2)(R)*	0.1(1997)(R)*
* Respirable fraction				

Section 4: FIRST AID MEASURES

Description of Necessary First Aid Measures:

Eye Contact: Immediately flush with plenty of water for at least 15 minutes. Hold eyelids apart. Remove contacts if present and easy to do. Beyond flushing, do not attempt to remove material from the eye(s). Get medical attention if irritation develops or persists.

Inhalation: Move to fresh air. Call a physician if symptoms develop or persist.

Skin Contact: Wash off with soap and water. Get medical attention if irritation develops and persists.

Ingestion: Rinse mouth and drink plenty of water. Never give anything by mouth to an unconscious person. Get medical attention.

Most Important Symptoms & Effects, Both Acute and Delayed:

Inhaling dust may cause discomfort in the chest, shortness of breath, and coughing. Prolonged inhalation may cause chronic health effects. This product contains crystalline silica. Prolonged or repeated inhalation of respirable crystalline silica liberated from this product can cause silicosis, and may cause cancer.

Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary:

Eye Contact: Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.

Inhalation: Dust may cause respiratory tract irritation.

Skin Contact: Causes skin irritation. Wear gloves when handling product to avoid drying and mechanical abrasion of the skin. May cause sensitization by skin contact.

Ingestion: Not a normal route of exposure. May result in obstruction and temporary irritation of the digestive tract.



Section 5: FIRE-FIGHTING MEASURES

Extinguishing Media:

- Suitable Extinguishing Media: Treat for surrounding material.
- Unsuitable Extinguishing Media: Not available.
- Special Protective Equipment For Fire-Fighters: Use protective equipment appropriate for surrounding materials. No specific precautions.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures:

Wear appropriate protective equipment and clothing during clean-up of materials that contain or may release dust.

Methods and Materials For Containment and Cleaning-Up

Spilled material, where dust is generated, may overexpose cleanup personnel to respirable crystalline silica-containing dust. Do not dry sweep or use compressed air for clean-up. Wetting of spilled material and/or use of respiratory protective equipment may be necessary. Avoid discharge of fine particulate matter into drains.

Section 7: HANDLING AND STORAGE

Precautions for Safe Handling:

- Handling: Avoid contact with skin and eyes. Good housekeeping is key to prevent accumulation of dust. Avoid generating and breathing dust. Use wet methods, if appropriate, to reduce the generation of dust. The use of compressed air for cleaning clothing, equipment, etc, is not recommended. Handle with care. When using do not eat or drink. (See section 8)
- General Hygiene Advice: Launder contaminated clothing before reuse. Wash hands before eating or drinking.
- Conditions For Safe Storage, Including Any Incompatibilities: Avoid dust buildup by frequent cleaning and suitable construction of the storage area.



Section 8: EXPOSURE CONTROLS AND PERSONAL MEASURES

Control Parameters

Occupational exposure limits:

- 1 – Value equivalent to OSHA formulas (29 CFR 1910.1000; 29 CFR 1917; 29 CFR 1918)
- 2 – Value also applies to MSHA metal/Non-Metal (1973 TLVs at 30 CFR 56/57.5001)
- 3 – OSHA enforces 0.250 mg/m³ in construction and shipyards (CPL-03-00-007)
- 4 – Value also applies to OSHA construction (29 CFR 1926.55 Appendix A) and shipyards (29 CFR 1915.1000 Table Z)
- 5 – MSHA limit = 10 mg/m³

Ingredient	Exposure Limits
Particulates not otherwise classified (CAS SEQ250)	ACGIH TLV (United States, 3/2012) TWA: 3 mg/m ³ . Form: Respirable particles (2) TWA: 10 mg/m ³ . Form: Inhalable particles (2) OSHA PEL (United States, 6/2010) PEL: 5 mg/m ³ . Form: Respirable fraction PEL: 15 mg/m ³ . Form: Total dust (4) TWA: 5 mg/m ³ . Form: Respirable fraction (1) TWA: 15 mg/m ³ . Form: Total dust (1, 4, 5)
Crystalline Silica (Quartz) (CAS 14808-60-7)	OSHA PEL (United States, 6/2010) TWA: 0.3 mg/m ³ . Form: Total dust (1,2) TWA: 0.1 mg/m ³ . Form: Respirable (1,2,3)
Crystalline Silica (all forms; CAS mixture)	ACGIH TLV (United States, 3/2012) TWA: 0.025 mg/m ³ . Form: Respirable fraction NIOSH REL (United States, 6/2009) TWA: 0.05 mg/m ³ . Form: Respirable dust

Engineering Controls:

When using product, provide local and general exhaust ventilation to keep airborne dust concentrations below exposure limits. Use wet methods, if appropriate, to reduce the generation of dust.

Exposure Guidelines:

OSHA PELs, MSHA PELs, and ACGIH TLVs are 8-hr TWA values. NIOSH RELs are for TWA exposures up to 10-hr/day and 40-hr/wk. Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled.

Individual Protection Measures:

Hygiene Measures:

Observe good hygiene, such as washing after handling the material and before eating and drinking. Routinely wash work clothing and protective equipment.

Eye/Face Protection:

Wear safety glasses with side shields (or goggles).

Hand/Body Protection:

Use personal protective equipment as required.

Hand/Body Protection:

When performing work that produces dust or respirable crystalline silica in excess of applicable exposure limits, wear a NIOSH-approved respirator that is properly fitted and is in good condition. Respirators must be used in accordance with all applicable workplace regulations.



Section 9:

PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Appearance:	White or tan sand, granular, crushed, or ground to fine mesh sizes.
	Color:	Not applicable.
	Odor:	Odorless.
	Odor Threshold:	Not applicable.
	Physical State:	Solid.
	pH:	Not applicable.
	Melting/Freezing Point:	Not applicable.
	Boiling Point:	Not applicable.
	Flash Point:	Not applicable.
	Evaporation Rate:	Not applicable.
	Flammability:	Not flammable.
	Lower Flammability/Explosive Limit:	Not applicable.
	Upper Flammability/Explosive Limit:	Not applicable.
	Vapor Pressure:	Not applicable.
	Vapor Density:	Not applicable.
	Relative Density/Specific Gravity:	2.5-2.7
	Solubility in water:	Slight.
	Partition coefficient: n-octanol/water:	Not applicable.
	Auto-ignition Temperature:	Not applicable.
	Decomposition Temperature:	Not applicable.
	Viscosity:	Not applicable.
	SADT:	Not applicable.
	Oxidizing Properties:	Not applicable.
	Explosive Properties:	Not applicable.

Section 10:

STABILITY AND REACTIVITY

Reactivity:	Product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical Stability:	Material is stable under normal conditions.
Hazardous Reaction Possibility:	No dangerous reaction known under conditions of normal use.
Conditions to avoid:	Avoid contact with strong oxidizing agents.
Incompatible materials:	Crystalline silica may react violently with strong oxidizing agents, causing fire and explosions.
Hazardous decomposition:	Silica dissolves in hydrofluoric acid producing a corrosive gas-silicon tetrafluoride.



Section 11: TOXICOLOGICAL INFORMATION

Information On Toxicological Effects:

Acute Toxicity: Not expected to be acutely toxic.

Irritation/Corrosion: Skin: Dust: May cause irritation through mechanical abrasion. This product is not expected to be a skin hazard.
 Eyes: Direct contact with eyes may cause temporary irritation through mechanical abrasion.
 Inhalation: Repeated inhalation of respirable crystalline silica (quartz) may cause silicosis, a fibrosis (scarring) of the lungs. Silicosis is irreversible and may be fatal. Silicosis increases the risk of contracting pulmonary tuberculosis. Some studies suggest that repeated inhalation of respirable crystalline silica may cause adverse health effects including lung and kidney cancer.
 Ingestion: Not likely due to product form. However accidental ingestion may cause discomfort.

Sensitization: Respiratory sensitization: No respiratory sensitizing effects known.
 Skin sensitization: Not known to be a dermal irritant or sensitizer.

Mutagenicity: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Aspiration Hazard: Not expected to be an aspiration hazard.

Reproductive Toxicity: Not expected to be a reproductive hazard.

Symptoms related to physical, chemical, toxicological characteristics: Dust: discomfort in the chest. Shortness of breath. Coughing.

Carcinogenicity: Respirable crystalline silica has been classified by IARC and NTP as a known human carcinogen, and classified by ACGIH as a suspected human carcinogen.

Ingredient(s)	OSHA	IARC	ACGIH	NTP
Crystalline Silica (Quartz) CAS 14808-60-7)	Not Listed	1 Carcinogenic to humans	A2	Known to be a human Carcinogen

Specific Target Organ Toxicity (Acute Exposure):

Ingredient(s)	Route of Exposure	Target Organs
Crystalline Silica (Quartz) CAS 14808-60-7)	Inhalation	Not reported to have effects.

Specific Target Organ Toxicity (Chronic Exposure):

Ingredient(s)	Route of Exposure	Target Organs
Crystalline Silica (Quartz) CAS 14808-60-7)	Inhalation	May cause damage to organs (lung through prolonged or repeated exposure.

Potential chronic health effects: General: Prolonged inhalation of respirable crystalline silica may be harmful. May cause damage to organs (lungs) through prolonged or repeated exposure. There are reports in the literature suggesting that excessive crystalline silica exposure may be associated with autoimmune disorders and other adverse health effects involving the kidney. In particular, the incidence of scleroderma (thickening of the skin caused by swelling and the thickening of fibrous tissue) appears to be higher in silicotic individuals. To date, the evidence does not conclusively determine a causal relationship between silica exposure and these adverse health effects.



Section 12: ECOLOGICAL INFORMATION

Ecotoxicity:

Not expected to be harmful to aquatic organisms. Discharging aggregate, sand and gravel dust and fines into waters may increase total suspended particulate (TSP) levels that can be harmful to certain aquatic organisms.

Persistence and degradability: Not applicable.
 Bioaccumulative potential: Not applicable.
 Mobility in soil: Not applicable.
 Other adverse effects: No other adverse environmental effects (e.g., ozone depletion, photochemical ozone creation potential, global warming potential) are expected from this component.

Section 13: DISPOSAL CONSIDERATIONS

Disposal Methods: Do not allow fine particulate matter to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with fine particulates. Dispose of contents in accordance with local/regional/national/international regulations.

Hazardous Waste Code: Not regulated.

Waste From Residues/Unused Products: Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.

Contaminated Packaging: Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty packaging materials should be recycled or disposed of in accordance with applicable regulations and practices.

Section 14: TRANSPORTATION INFORMATION

	<u>DOT Classification</u>	<u>IMDG</u>	<u>IATA</u>
UN Number	Not regulated.	Not regulated.	Not regulated.
UN Proper Shipping Name	----	----	----
Transport Hazard Class(es)	----	----	----
Packing Group	----	----	----
Environmental Hazards	----	----	----

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code.



Section 15: REGULATORY INFORMATION

**Safety, Health and Environmental Regulations/
Legislations Specific For The Chemical:**

US: SDS prepared pursuant to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012.

OSHA Hazard Communication Standard, 29 CFR 1910.1200 TSCA Section 12(b) Export Notification (40 CFR 707, Subpart. D):	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200 Not regulated
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OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):	Not listed.
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CERCLA Hazardous Substance List (40 CFR 302.4):	Not listed.
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Clean Air Act Section 112 (b); Hazardous Air Pollutants (HAPs):	Not regulated
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Clean Air Act Section 112 (r) Accidental Release Prevention (40 CFR 68.130):	Not regulated.
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Safe Drinking Water Act (SDWA):	Not regulated.
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Section 16: OTHER INFORMATION

Date of Preparation:	05-30-16
Expiration Date:	None
Version:	1.0
Revision Date:	N/A

Disclaimer: We believe the statements, technical information and recommendations contained herein are reliable, but are given without warranty or guarantee of any kind. In particular, the data furnished in this sheet do not address hazards that may be posed by other materials mixed with limestone to produce limestone products. Users should review other relevant material safety data sheets before working with this limestone or working on limestone products. Inexperienced product users should obtain proper training before using this product. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for the user's own particular use.

- END -



SAFETY DATA SHEET

Section 1: IDENTIFICATION

Product Name: Natural Sand or Gravel - Perryville Facility
 Generic ID: Sand, gravel, aggregate
 Usage and Restrictions: Sand or gravel may be used in the manufacture of concrete blocks and bricks, mortar, cement, concrete, paving materials, and other construction materials. Sand or gravel may be distributed in bags, totes, and bulk shipments. No known recommended restrictions.
 Supplier Details: York Building Products
 950 Smile Way
 York, PA 17404
 Emergency Phone #: 717.848.2831

Section 2: HAZARD(S) IDENTIFICATION

GHS Classification: Carcinogenicity: 1A
 Eye Irritation: 2A
 Repeated Exposure Skin Irritation: 2
 Specific Target Organ Toxicity: 2

GHS Label Elements:



Signal Word: Danger

Hazard Statements: Causes skin irritation. Causes serious eye irritation.
 May cause an allergic skin reaction. Respirable dust may contain crystalline silica, known to cause cancer.
 May cause respiratory irritation. Causes damage to lungs through prolonged or repeated exposure.

Prevention: Wash hands thoroughly after handling. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/ protective clothing/eye protection/face protection. Use only outdoors or in a well-ventilated area. Do not breathe dust.

Response: If exposed or concerned: Get medical advice/attention. If on skin: Wash with plenty of water. Take off contaminated clothing and wash it before reuse. If in eyes: Rinse continuously with water for several minutes. Remove contact lenses, if present and easy to do.

Storage: Restrict or control access to stockpile areas. Engulfment hazard: To prevent burial or suffocation, do not enter a confined space, such as a silo, bulk truck or other storage container or vessel that stores or contains aggregates without an effective procedure for assuring safety.

Disposal: Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazards Not Otherwise Classified: None known.



Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient(s)	CAS Number	% (by weight)	OSHA/MSHA PEL (mg/M³)	ACGIH TLV (mg/M³)
Natural Sand or Gravel		100.0		
QUARTZ (Crystalline Silica)	14808-60-7	<1.0	10/(%SiO ₂ +2)(R)*	0.1(1997)(R)*
* Respirable fraction				

Section 4: FIRST AID MEASURES

Description of Necessary First Aid Measures:

Eye Contact: Immediately flush with plenty of water for at least 15 minutes. Hold eyelids apart. Remove contacts if present and easy to do. Beyond flushing, do not attempt to remove material from the eye(s). Get medical attention if irritation develops or persists.

Inhalation: Move to fresh air. Call a physician if symptoms develop or persist.

Skin Contact: Wash off with soap and water. Get medical attention if irritation develops and persists.

Ingestion: Rinse mouth and drink plenty of water. Never give anything by mouth to an unconscious person. Get medical attention.

Most Important Symptoms & Effects, Both Acute and Delayed:

Inhaling dust may cause discomfort in the chest, shortness of breath, and coughing. Prolonged inhalation may cause chronic health effects. This product contains crystalline silica. Prolonged or repeated inhalation of respirable crystalline silica liberated from this product can cause silicosis, and may cause cancer.

Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary:

Eye Contact: Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.

Inhalation: Dust may cause respiratory tract irritation.

Skin Contact: Causes skin irritation. Wear gloves when handling product to avoid drying and mechanical abrasion of the skin. May cause sensitization by skin contact.

Ingestion: Not a normal route of exposure. May result in obstruction and temporary irritation of the digestive tract.



Section 5: FIRE-FIGHTING MEASURES

Extinguishing Media:

- Suitable Extinguishing Media: Treat for surrounding material.
- Unsuitable Extinguishing Media: Not available.
- Special Protective Equipment For Fire-Fighters: Use protective equipment appropriate for surrounding materials. No specific precautions.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures:

Wear appropriate protective equipment and clothing during clean-up of materials that contain or may release dust.

Methods and Materials For Containment and Cleaning-Up

Spilled material, where dust is generated, may overexpose cleanup personnel to respirable crystalline silica-containing dust. Do not dry sweep or use compressed air for clean-up. Wetting of spilled material and/or use of respiratory protective equipment may be necessary. Avoid discharge of fine particulate matter into drains.

Section 7: HANDLING AND STORAGE

Precautions for Safe Handling:

- Handling: Avoid contact with skin and eyes. Good housekeeping is key to prevent accumulation of dust. Avoid generating and breathing dust. Use wet methods, if appropriate, to reduce the generation of dust. The use of compressed air for cleaning clothing, equipment, etc, is not recommended. Handle with care. When using do not eat or drink. (See section 8)
- General Hygiene Advice: Launder contaminated clothing before reuse. Wash hands before eating or drinking.
- Conditions For Safe Storage, Including Any Incompatibilities: Avoid dust buildup by frequent cleaning and suitable construction of the storage area.



Section 8: EXPOSURE CONTROLS AND PERSONAL MEASURES

Control Parameters

Occupational exposure limits:

- 1 – Value equivalent to OSHA formulas (29 CFR 1910.1000; 29 CFR 1917; 29 CFR 1918)
- 2 – Value also applies to MSHA metal/Non-Metal (1973 TLVs at 30 CFR 56/57.5001)
- 3 – OSHA enforces 0.250 mg/m³ in construction and shipyards (CPL-03-00-007)
- 4 – Value also applies to OSHA construction (29 CFR 1926.55 Appendix A) and shipyards (29 CFR 1915.1000 Table Z)
- 5 – MSHA limit = 10 mg/m³

Ingredient	Exposure Limits
Particulates not otherwise classified (CAS SEQ250)	ACGIH TLV (United States, 3/2012) TWA: 3 mg/m ³ . Form: Respirable particles (2) TWA: 10 mg/m ³ . Form: Inhalable particles (2) OSHA PEL (United States, 6/2010) PEL: 5 mg/m ³ . Form: Respirable fraction PEL: 15 mg/m ³ . Form: Total dust (4) TWA: 5 mg/m ³ . Form: Respirable fraction (1) TWA: 15 mg/m ³ . Form: Total dust (1, 4, 5)
Crystalline Silica (Quartz) (CAS 14808-60-7)	OSHA PEL (United States, 6/2010) TWA: 0.3 mg/m ³ . Form: Total dust (1,2) TWA: 0.1 mg/m ³ . Form: Respirable (1,2,3)
Crystalline Silica (all forms; CAS mixture)	ACGIH TLV (United States, 3/2012) TWA: 0.025 mg/m ³ . Form: Respirable fraction NIOSH REL (United States, 6/2009) TWA: 0.05 mg/m ³ . Form: Respirable dust

Engineering Controls:

When using product, provide local and general exhaust ventilation to keep airborne dust concentrations below exposure limits. Use wet methods, if appropriate, to reduce the generation of dust.

Exposure Guidelines:

OSHA PELs, MSHA PELs, and ACGIH TLVs are 8-hr TWA values. NIOSH RELs are for TWA exposures up to 10-hr/day and 40-hr/wk. Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled.

Individual Protection Measures:

Hygiene Measures:

Observe good hygiene, such as washing after handling the material and before eating and drinking. Routinely wash work clothing and protective equipment.

Eye/Face Protection:

Wear safety glasses with side shields (or goggles).

Hand/Body Protection:

Use personal protective equipment as required.

Hand/Body Protection:

When performing work that produces dust or respirable crystalline silica in excess of applicable exposure limits, wear a NIOSH-approved respirator that is properly fitted and is in good condition. Respirators must be used in accordance with all applicable workplace regulations.



Section 9:

PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Appearance:	White or tan sand, granular, crushed, or ground to fine mesh sizes.
	Color:	Not applicable.
	Odor:	Odorless.
	Odor Threshold:	Not applicable.
	Physical State:	Solid.
	pH:	Not applicable.
	Melting/Freezing Point:	Not applicable.
	Boiling Point:	Not applicable.
	Flash Point:	Not applicable.
	Evaporation Rate:	Not applicable.
	Flammability:	Not flammable.
	Lower Flammability/Explosive Limit:	Not applicable.
	Upper Flammability/Explosive Limit:	Not applicable.
	Vapor Pressure:	Not applicable.
	Vapor Density:	Not applicable.
	Relative Density/Specific Gravity:	2.5-2.7
	Solubility in water:	Slight.
	Partition coefficient: n-octanol/water:	Not applicable.
	Auto-ignition Temperature:	Not applicable.
	Decomposition Temperature:	Not applicable.
	Viscosity:	Not applicable.
	SADT:	Not applicable.
	Oxidizing Properties:	Not applicable.
	Explosive Properties:	Not applicable.

Section 10:

STABILITY AND REACTIVITY

Reactivity:	Product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical Stability:	Material is stable under normal conditions.
Hazardous Reaction Possibility:	No dangerous reaction known under conditions of normal use.
Conditions to avoid:	Avoid contact with strong oxidizing agents.
Incompatible materials:	Crystalline silica may react violently with strong oxidizing agents, causing fire and explosions.
Hazardous decomposition:	Silica dissolves in hydrofluoric acid producing a corrosive gas-silicon tetrafluoride.



Section 11: TOXICOLOGICAL INFORMATION

Information On Toxicological Effects:

Acute Toxicity: Not expected to be acutely toxic.

Irritation/Corrosion: Skin: Dust: May cause irritation through mechanical abrasion. This product is not expected to be a skin hazard.
 Eyes: Direct contact with eyes may cause temporary irritation through mechanical abrasion.
 Inhalation: Repeated inhalation of respirable crystalline silica (quartz) may cause silicosis, a fibrosis (scarring) of the lungs. Silicosis is irreversible and may be fatal. Silicosis increases the risk of contracting pulmonary tuberculosis. Some studies suggest that repeated inhalation of respirable crystalline silica may cause adverse health effects including lung and kidney cancer.
 Ingestion: Not likely due to product form. However accidental ingestion may cause discomfort.

Sensitization: Respiratory sensitization: No respiratory sensitizing effects known.
 Skin sensitization: Not known to be a dermal irritant or sensitizer.

Mutagenicity: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Aspiration Hazard: Not expected to be an aspiration hazard.

Reproductive Toxicity: Not expected to be a reproductive hazard.

Symptoms related to physical, chemical, toxicological characteristics: Dust: discomfort in the chest. Shortness of breath. Coughing.

Carcinogenicity: Respirable crystalline silica has been classified by IARC and NTP as a known human carcinogen, and classified by ACGIH as a suspected human carcinogen.

Ingredient(s)	OSHA	IARC	ACGIH	NTP
Crystalline Silica (Quartz) CAS 14808-60-7)	Not Listed	1 Carcinogenic to humans	A2	Known to be a human Carcinogen

Specific Target Organ Toxicity (Acute Exposure):

Ingredient(s)	Route of Exposure	Target Organs
Crystalline Silica (Quartz) CAS 14808-60-7)	Inhalation	Not reported to have effects.

Specific Target Organ Toxicity (Chronic Exposure):

Ingredient(s)	Route of Exposure	Target Organs
Crystalline Silica (Quartz) CAS 14808-60-7)	Inhalation	May cause damage to organs (lung through prolonged or repeated exposure.

Potential chronic health effects: General: Prolonged inhalation of respirable crystalline silica may be harmful. May cause damage to organs (lungs) through prolonged or repeated exposure. There are reports in the literature suggesting that excessive crystalline silica exposure may be associated with autoimmune disorders and other adverse health effects involving the kidney. In particular, the incidence of scleroderma (thickening of the skin caused by swelling and the thickening of fibrous tissue) appears to be higher in silicotic individuals. To date, the evidence does not conclusively determine a causal relationship between silica exposure and these adverse health effects.



Section 12: ECOLOGICAL INFORMATION

Ecotoxicity:

Not expected to be harmful to aquatic organisms. Discharging aggregate, sand and gravel dust and fines into waters may increase total suspended particulate (TSP) levels that can be harmful to certain aquatic organisms.

Persistence and degradability: Not applicable.
 Bioaccumulative potential: Not applicable.
 Mobility in soil: Not applicable.
 Other adverse effects: No other adverse environmental effects (e.g., ozone depletion, photochemical ozone creation potential, global warming potential) are expected from this component.

Section 13: DISPOSAL CONSIDERATIONS

Disposal Methods: Do not allow fine particulate matter to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with fine particulates. Dispose of contents in accordance with local/regional/national/international regulations.

Hazardous Waste Code: Not regulated.

Waste From Residues/Unused Products: Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.

Contaminated Packaging: Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty packaging materials should be recycled or disposed of in accordance with applicable regulations and practices.

Section 14: TRANSPORTATION INFORMATION

	<u>DOT Classification</u>	<u>IMDG</u>	<u>IATA</u>
UN Number	Not regulated.	Not regulated.	Not regulated.
UN Proper Shipping Name	----	----	----
Transport Hazard Class(es)	----	----	----
Packing Group	----	----	----
Environmental Hazards	----	----	----

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code.



Section 15: REGULATORY INFORMATION

Safety, Health and Environmental Regulations/ Legislations Specific For The Chemical:

US: SDS prepared pursuant to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012.

OSHA Hazard Communication Standard, 29 CFR 1910.1200 TSCA Section 12(b) Export Notification (40 CFR 707, Subpart. D):	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200 Not regulated
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OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):	Not listed.
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CERCLA Hazardous Substance List (40 CFR 302.4):	Not listed.
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Clean Air Act Section 112 (b); Hazardous Air Pollutants (HAPs):	Not regulated
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Clean Air Act Section 112 (r) Accidental Release Prevention (40 CFR 68.130):	Not regulated.
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Safe Drinking Water Act (SDWA):	Not regulated.
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Section 16: OTHER INFORMATION

Date of Preparation:	05-30-16
Expiration Date:	None
Version:	1.0
Revision Date:	N/A

Disclaimer: We believe the statements, technical information and recommendations contained herein are reliable, but are given without warranty or guarantee of any kind. In particular, the data furnished in this sheet do not address hazards that may be posed by other materials mixed with limestone to produce limestone products. Users should review other relevant material safety data sheets before working with this limestone or working on limestone products. Inexperienced product users should obtain proper training before using this product. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for the user's own particular use.

- END -

MARYLAND DEPARTMENT OF THE ENVIRONMENT

**AIR AND RADIATION ADMINISTRATION
APPLICATION FOR A PERMIT TO CONSTRUCT**

**SUPPLEMENT TO
DOCKET #04-21**

COMPANY: The Quikrete Companies dba Pavestone Company
LOCATION: 11831 Hopewell Road, Hagerstown, MD 21740
APPLICATION: Installation of a 110 ton per hour, concrete batch plant with aggregate dryer equipped with a 25 million Btu per hour natural gas fired burner.

<u>ITEM</u>	<u>DESCRIPTION</u>
1	Notice of Tentative Determination, Opportunity to Request a Public Hearing, and Opportunity to Submit Written Comments
2	Fact Sheet and Tentative Determination
3	Draft Permit to Construct and Conditions
4	Supplemental Information
5	Privilege Log – Not Applicable

**MARYLAND DEPARTMENT OF THE ENVIRONMENT
AIR AND RADIATION ADMINISTRATION**

**NOTICE OF TENTATIVE DETERMINATION, OPPORTUNITY TO REQUEST
A PUBLIC HEARING, AND OPPORTUNITY TO SUBMIT WRITTEN COMMENTS**

FIRST NOTICE

The Department of the Environment, Air and Radiation Administration (ARA) has completed its review of an application for a Permit to Construct submitted by The Quikrete Companies on January 28, 2021 for the installation of a 110 ton per hour, concrete batch plant with aggregate dryer equipped with a 25 million Btu per hour natural gas fired burner. The proposed installation will be located at Pavestone Company, 11831 Hopewell Road, Hagerstown, MD 21740.

Pursuant to Section 1-604, of the Environment Article, Annotated Code of Maryland, the Department has made a tentative determination that the Permit to Construct can be issued and is now ready to receive public comment on the application.

Copies of the Department's tentative determination, the application, the draft permit to construct with conditions, and other supporting documents are available for public inspection on the Department's website. Look for Docket #04-21 at the following link:

<https://mde.maryland.gov/programs/Permits/AirManagementPermits/Pages/index.aspx>

Interested persons may request a public hearing and/or submit written comments on the tentative determination. Requests for a public hearing must be submitted in writing and must be received by the Department no later than 20 days from the date of this notice. Written comments must be received by the Department no later than 30 days from the date of this notice.

Interested persons may request an extension to the public comment period. The extension request must be submitted in writing and must be received by the Department no later than 30 days from the date of this notice or within 5 days after the hearing (if a hearing is requested), whichever is later. The public comment period may only be extended one time for a 60-day period.

All requests for a public hearing, requests for an extension to the public comment period, and all written comments should be emailed to Ms. Shannon Heafey at shannon.heafey@maryland.gov.

Further information may be obtained by contacting Ms. Shannon Heafey by email at shannon.heafey@maryland.gov or by phone at (410) 537-4433.

George S. Aburn, Jr., Director
Air and Radiation Administration

**MARYLAND DEPARTMENT OF ENVIRONMENT
AIR AND RADIATION ADMINISTRATION**

**FACT SHEET AND TENTATIVE DETERMINATION
PAVESTONE, LLC**

**PROPOSED INSTALLATION OF A CONCRETE BATCH PLANT
WITH AGGREGATE DRYER**

I. INTRODUCTION

The Maryland Department of the Environment (the "Department") received an application from Pavestone, LLC. (Pavestone) on January 1, 2021 for a Permit to Construct for the installation of a concrete batch plant with aggregate dryer. The facility will be located at 11831 Hopewell Road, Hagerstown, MD 21740.

A notice was placed in The Herald Mail on June 7, 2021 and again on June 14, 2021 announcing a scheduled virtual informational meeting to discuss the application for a Permit to Construct. The virtual informational meeting was held at 7 pm on June 28, 2021.

As required by law, all public notices were also provided to elected officials in all State, county, and municipality legislative districts located within a one mile radius of the facility's property boundary.

The Department has reviewed the application and has made a tentative determination that the proposed installation is expected to comply with all applicable air quality regulations. A notice will be published to provide the public with opportunities to request a public hearing and to comment on the application, the Department's tentative determination, the draft permit conditions, and other supporting documents. The Department will not schedule a public hearing unless a legitimate request is received.

If the Department does not receive any comments that are adverse to the tentative determination, the tentative determination will automatically become a final determination. If adverse comments are received, the Department will review the comments, and will then make a final determination with regard to issuance or denial of the permit. A notice of final determination will be published in a newspaper of general circulation in the affected area. The final determination may be subject to judicial review pursuant to Section 1-601 of the Environment Article, Annotated Code of Maryland.

II. CURRENT STATUS AND PROPOSED INSTALLATION

Pavestone currently operates a decorative concrete paver and segmented retaining wall manufacturing process that includes:

- Four (4) storage silos each equipped with a dust collection system, feed hoppers, one (1) skip bucket, two (2) mixers, one (1) curing oven, and a conveyor system.
- One (1) Vena tumbler equipped with a baghouse system: (1) rotating drum, a sorting

table, and a conveyor system.

- One (1) 200-ton per hour Kolberg-Pioneer (model #CS4233) portable crushing and screening plant equipped with a wet suppression system and a 325-horsepower diesel engine: one (1) feeder, one (1) crusher, one (1) stacker, one (1) screen system, and a conveyor system.
- One (1) Heritage-Crystal Clean, LLC (model #2725) 20-gallon heated parts washer.

Pavestone proposes to install one (1) Concrete Batch Plant consisting of:

- One (1) 25 MMBTU product dryer,
- One (1) Packaging Collector,
- One (1) Aggregate Silo Bin,
- One Fluid Bed Cooler; and
- Six (6) Cement Powder Silos.

The plant is required to vent through dust collectors to minimize dust emissions.

III. APPLICABLE REGULATIONS

The proposed installation is subject to all applicable Federal and State air quality control regulations, including, but not limited to the following:

- (a) All applicable terms, provisions, emissions standards, testing, monitoring, record keeping, and reporting requirements included in federal New Source Performance Standards (NSPS) promulgated under 40 CFR 60, Subparts A (General Provisions) and Subpart UUU for Calciners and Dryers in Mineral Industries.
- (b) COMAR 26.11.01.07C, which requires that the Permittee report to the Department occurrences of excess emissions.
- (c) COMAR 26.11.02.19C & D, which require that the Permittee submit to the Department annual certifications of emissions, and that the Permittee maintain sufficient records to support the emissions information presented in the submittals.
- (d) COMAR 26.11.06.03C & D, which requires that the Permittee take reasonable precautions to prevent particulate matter from unconfined sources and materials handling and construction operations from becoming airborne.
- (e) COMAR 26.11.06.08 and 26.11.06.09, which generally prohibit the discharge of emissions beyond the property line in such a manner that a nuisance or air pollution is created.
- (f) COMAR 26.11.06.12, which states that a person may not construct, modify, or operate, or cause to be constructed, modified, or operated, a New Source Performance Standard (NSPS) source in a manner which results or will result in violation of the provisions of 40 CFR, Part 60.

- (g) COMAR 26.11.15.05, which requires that the Permittee implement “Best Available Control Technology for Toxics” (T – BACT) to control emissions of toxic air pollutants.
- (h) COMAR 26.11.15.06, which prohibits the discharge of toxic air pollutants to the extent that such emissions will unreasonably endanger human health.

IV. GENERAL AIR QUALITY

The U.S. Environmental Protection Agency (EPA) has established primary and secondary National Ambient Air Quality Standards (NAAQS) for six (6) criteria pollutants, i.e., sulfur dioxide, particulate matter, carbon monoxide, nitrogen dioxide, ozone, and lead. The primary standards were established to protect public health, and the secondary standards were developed to protect against non-health effects such as damage to property and vegetation.

The Department utilizes a statewide air monitoring network, operated in accordance with EPA guidelines, to measure the concentrations of criteria pollutants in Maryland’s ambient air. The measurements are used to project statewide ambient air quality, and currently indicate that Washington County complies with the NAAQS for sulfur dioxide, particulate matter, carbon monoxide, nitrogen dioxide, ozone, and lead.

With regard to toxic air pollutants (TAPs), screening levels (i.e., acceptable ambient concentrations for toxic air pollutants) are generally established at 1/100 of allowed worker exposure levels (TLVs)¹. The Department has also developed additional screening levels for carcinogenic compounds. The additional screening levels are established such that continuous exposure to the subject TAP at the screening level for a period of 70 years is expected to cause an increase in lifetime cancer risk of no more than 1 in 100,000.

V. COMPLIANCE DEMONSTRATION AND ANALYSIS

The proposed installation must comply with all State imposed emissions limitations and screening levels, as well as the NAAQS. The Department has conducted an engineering and air quality review of the application. The emissions were projected based on U.S. EPA established emissions factors for crushing and screening plants. The conservative U.S. EPA's SCREEN3 model was also used to project the maximum ground level concentrations from the proposed facility, which was then compared to the screening levels and the NAAQS.

- A. Estimated Emissions** - The maximum emissions of air pollutants of concern from the proposed installation are listed in Table I.

¹ TLVs are threshold limit values (exposure limits) established for toxic materials by the American Conference of Governmental Industrial Hygienists (ACGIH). Some TLVs are established for short-term exposure (TLV – STEL), and some are established for longer-term exposure (TLV – TWA), where TWA is an acronym for time-weight average.

- B. Compliance with National Ambient Air Quality Standards** - The maximum ground level concentrations for nitrogen dioxide, sulfur dioxide, carbon monoxide, and particulate matter (as PM10) based on the emissions from the proposed plant are listed in column 2 of Table II.

The combined impact of the projected installation and the ambient background concentration for each pollutant shown in column 3 of Table II is less than the NAAQS for each pollutant shown in column 4.

- C. Compliance with Air Toxics Regulations** – The toxic air pollutant of concern, crystalline silica, that would be emitted from this facility is listed in column 1 of Table III. The predicted maximum off-site ambient concentration of crystalline silica is shown in column 4 of Table III, and the maximum concentration is less than the corresponding screening level for the toxic air pollutant shown in column 2.

VI. TENTATIVE DETERMINATION

Based on the above information, the Department has concluded that the proposed installation will comply with all applicable Federal and State air quality control requirements. In accordance with the Administrative Procedure Act, Department has made a tentative determination to issue the Permit to Construct.

Enclosed with the tentative determination is a copy of the draft Permit to Construct.

**TABLE I
PROJECTED MAXIMUM EMISSIONS FROM THE PROPOSED INSTALLATION**

POLLUTANT	PROJECTED MAXIMUM EMISSIONS FROM PROPOSED INSTALLATION	
	(lbs/day)	(tons/year)
Nitrogen Dioxide (NO ₂)	58.82	10.7
Sulfur Dioxide (SO ₂)	0.35	0.1
Carbon Monoxide (CO)	49.41	9.0
Volatile Organic Compounds (VOC)	3.24	0.59
Particulate Matter (PM ₁₀)	74.68	13.63

**TABLE II
PROJECTED IMPACT OF EMISSIONS OF CRITERIA POLLUTANTS FROM THE PROPOSED INSTALLATION ON AMBIENT AIR QUALITY**

POLLUTANTS	MAXIMUM OFF-SITE GROUND LEVEL CONCENTRATIONS CAUSED BY EMISSIONS FROM PREMISES (µg/m ³)	BACKGROUND AMBIENT AIR CONCENTRATIONS (µg/m ³)*	NATIONAL AMBIENT AIR QUALITY STANDARDS (NAAQS) (µg/m ³)
Nitrogen Dioxide (NO ₂)	annual avg. → 17.7	annual avg. → 33	annual avg. → 100
Carbon Monoxide (CO)	8-hour max → 12.6 1-hour max → 18	8-hr max. → 2176 1-hr max. → 5267	8-hr max. → 10,000 1-hr max. → 40,000
Sulfur Dioxide (SO ₂)	24-hour avg. → 7.2 annual avg. → 1.4	24-hour avg. → 15 annual avg. → 3.7	24-hour avg. → 366 annual avg. → 78.5
Particulate Matter (PM ₁₀)	24-hr max → 74	24-hr max. → 58	24-hr max. → 150

*Background concentrations were obtained from Maryland air monitoring stations as follows:

- NO₂ Annual Avg. → Interstate 95 Welcome Center Howard County
- CO 1-hr max and SO₂ Annual Avg. → 600 Dorsey Avenue in Baltimore County
- SO₂ 24-hr Avg. → Piney Run, Frostburg Reservoir Garrett County
- CO 8-hr max → Old town Fire Station 1100 Hillen Street Baltimore City
- PM₁₀ 24-hr max → Baltimore City Fire Dept.–Truck Company 20 Baltimore City

**TABLE III
 PREDICTED MAXIMUM OFF-SITE AMBIENT CONCENTRATIONS FOR
 TOXIC AIR POLLUTANTS EMITTED FROM THE PROPOSED INSTALLATION**

TOXIC AIR POLLUTANTS	SCREENING LEVELS ($\mu\text{g}/\text{m}^3$)	PROJECTED WORST-CASE FACILITY-WIDE EMISSIONS (lbs/hr)	PREDICTED MAXIMUM OFF-SITE GROUND LEVEL CONCENTRATIONS ($\mu\text{g}/\text{m}^3$)
Crystalline Silica	1-hour→ None 8-hour→ 0.25 Annual→ None	0.00045	1-hour→ None 8-hour→ 0.043 Annual→ None

The values represent maximum facility-wide emissions of toxic air pollutants during any 1-hour period of facility operation.

The values are based on worst-case emissions from the proposed facility and were predicted by EPA's SCREEN3 model, which provides conservative estimations concerning the impact of pollutants on ambient air quality.

DRAFT

Larry Hogan
Governor

Ben Grumbles
Secretary

Air and Radiation Administration

1800 Washington Boulevard, Suite 720
Baltimore, MD 21230

Construction Permit

Part 70 Operating Permit

PERMIT NO.:
043-0417-5-0681

DATE ISSUED:
Date

PERMIT FEE:
\$ 2,000.00

EXPIRATION DATE:
In accordance with COMAR 26.11.02.04B

LEGAL OWNER & ADDRESS

The Quikrete Companies
5 Concourse Parkway
Suite 1900
Atlanta, GA 30328

SITE

Pavestone, LLC
11831 Hopewell Rd
Hagerstown, MD 21740
AI # 1673

Attention: Mr. Trevor Holland
Manufacturing Engineer

SOURCE DESCRIPTION

One (1) decorative concrete paver manufacturing process.

This permit authorizes the installation of :

One (1) Concrete Batch Plant consisting of: One (1) 25 MMBTU product dryer, One (1) Packaging Collector, One (1) Aggregate Silo Bin, One (1) Fluid Bed Cooler; and Six (6) Cement Powder Silos

This permit to construct also serves as a temporary permit to operate the concrete batch plant that expires 180 days after initiating operation of the plant.

This source is subject to the conditions described on the attached pages.

PAVESTONE, LLC
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 043-0417-5-0681

INDEX

- Part A – General Provisions
- Part B – Applicable Regulations
- Part C – Construction Conditions
- Part D – Operating Conditions
- Part E – Notifications and Testing
- Part F – Record Keeping and Reporting
- Part G – Temporary Permit-To-Operate Conditions

This permit to construct incorporates requirements the following registered installations:

ARA Registration Number	Description	Date of Installation
043-0417-5-0681	One (1) Concrete Batch Plant consisting of: One (1) 25 MMBTU product dryer, One (1) Packaging Collector, One (1) Aggregate Silo Bin, One (1) Fluid Bed Cooler; and Six (6) Cement Powder Silos.	February 2022

Part A – General Provisions

- (1) The following Air and Radiation Administration (ARA) permit-to-construct applications are incorporated into this permit by reference:
 - (a) Application for Processing or Manufacturing Equipment (Form 5) received January 1, 2021.
 - (b) Toxic Air Pollutant (TAP) Emissions Summary and Compliance Demonstration (Form 5T) received January 1, 2021.
 - (c) Ten (10) Emission Point Data (Form 5EP) received January 1, 2021.
 - (d) Ten (10) Gas Cleaning or Emission Control Equipment (Form 6) received January 1, 2021.
 - (e) Application for Fuel Burning Equipment (Form 11) received January 1, 2021.
 - (f) Supplemental Information; MSDS, manufacturers specs, and emissions calculations, received January 1, 2021.

PAVESTONE, LLC
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 043-0417-5-0681

If there are any conflicts between representations in this permit and representations in the applications, the representations in the permit shall govern. Estimates of dimensions, volumes, emissions rates, operating rates, feed rates and hours of operation included in the applications do not constitute enforceable numeric limits beyond the extent necessary for compliance with applicable requirements.

- (2) Upon presentation of credentials, representatives of the Maryland Department of the Environment (“MDE” or the “Department”) and the Washington County Health Department shall at any reasonable time be granted, without delay and without prior notification, access to the Permittee’s property and permitted to:
 - (a) determine compliance with the requirements of this permit and any applicable regulations;
 - (b) sample, as necessary to determine compliance with requirements of this permit and applicable regulations, any materials stored or processed on site, any waste materials, and any discharge into the environment;
 - (c) inspect any monitoring equipment required by applicable regulations or by any permit issued by the Department’s Air and Radiation Management Administration;
 - (d) review and copy any records, including all documents required to be maintained by this permit and by applicable regulations, relevant to the Department’s determination of compliance with an air pollution control requirement; and
 - (e) obtain any photographic documentation or evidence necessary to determine compliance with the requirements of this permit and applicable regulations.
- (3) The Permittee shall notify the Department prior to increasing quantities and/or changing the types of any materials referenced in the application or limited by this permit. If the Department determines that such increases or changes constitute a modification, the Permittee shall obtain a permit-to-construct prior to implementing the modification.
- (4) Nothing in this permit authorizes the violation of any rule or regulation or the creation of a nuisance or air pollution.
- (5) If any provision of this permit is declared by proper authority to be invalid, the remaining provisions of the permit shall remain in effect.

PAVESTONE, LLC
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 043-0417-5-0681

- (6) Subsequent to issuance of this permit, the Department may impose additional and modified requirements that are incorporated into a State permit-to-operate issued pursuant to COMAR 26.11.02.13.

Part B – Applicable Regulations

- (1) This source is subject to all applicable federal air pollution control requirements including, but not limited to, the following:

All applicable terms, provisions, emissions standards, testing, monitoring, record keeping, and reporting requirements included in federal New Source Performance Standards (NSPS) promulgated under 40 CFR 60, Subparts A and UUU for Calciners and Dryers in Mineral Industries.

All notifications required under 40 CFR 60, Subparts A and UUU shall be submitted to both of the following:

The Administrator
Compliance Program
Maryland Department of the Environment
Air and Radiation Administration
1800 Washington Boulevard, STE 715
Baltimore MD 21230

and

Director, Air Protection Division
U.S. EPA – Region 3
Mail Code 3AP00
1650 Arch Street
Philadelphia, PA 19103-2029

- (2) This source is subject to all applicable federally enforceable State air pollution control requirements including, but not limited to, the following regulations:
- (a) COMAR 26.11.01.07C, which requires that the Permittee report to the Department occurrences of excess emissions.
- (b) COMAR 26.11.02.04B, which states that a permit to construct or an approval expires if, as determined by the Department:
- (i) Substantial construction or modification is not commenced within 18 months after the date of issuance of the permit or

PAVESTONE, LLC
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 043-0417-5-0681

approval, unless the Department specifies a longer period in the permit or approval;

- (ii) Construction or modification is substantially discontinued for a period of 18 months after the construction or modification has commenced; or
 - (iii) The source for which the permit or approval was issued is not completed within a reasonable period after the date of issuance of the permit or approval.
- (c) COMAR 26.11.02.09A, which requires that the Permittee obtain a permit-to-construct if an installation is to be modified in a manner that would cause a change in the quantity, nature, or characteristics of emissions referenced in the permit-to-construct issued for that installation.
 - (d) COMAR 26.11.06.02C(1), which limits visible emissions other than uncombined water to not more than 20 percent opacity.
 - (e) COMAR 26.11.06.03B(1), which limits the concentration of particulate matter in any exhaust gases to not more than 0.05 grains per standard cubic foot of dry exhaust gas.
 - (f) COMAR 26.11.06.03C & D, which requires that the Permittee take reasonable precautions to prevent particulate matter from unconfined sources and materials handling and construction operations from becoming airborne.
 - (g) COMAR 26.11.06.12 which states that a person may not construct modify, or operate, or cause to be constructed, modified, or operated, a New Source Performance Standard (NSPS) source in a manner which results or will result in violation of the provisions of 40 CFR, Part 60.
- (3) This source is subject to all applicable State-only enforceable air pollution control requirements including, but not limited to, the following regulations:
- (a) COMAR 26.11.02.13A(9), which requires that the Permittee maintain and renew as required a valid State permit-to-operate issued by the Department.
 - (b) COMAR 26.11.02.19C & D, which require that the Permittee submit to the Department annual certifications of emissions, and that the

PAVESTONE, LLC
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 043-0417-5-0681

Permittee maintain sufficient records to support the emissions information presented in such submittals.

- (c) COMAR 26.11.06.08 and 26.11.06.09, which generally prohibit the discharge of emissions beyond the property line in such a manner that a nuisance or air pollution is created.
- (d) COMAR 26.11.15.05, which requires that the Permittee implement “Best Available Control Technology for Toxics” (T – BACT) to control emissions of toxic air pollutants.
- (e) COMAR 26.11.15.06, which prohibits the discharge of toxic air pollutants to the extent that such emissions would unreasonably endanger human health.

Part C – Construction Conditions

- (1) Except as otherwise provided in this part, the Concrete Batch Plant shall be constructed in accordance with specifications included in the incorporated applications.
- (2) The Dryer shall be constructed such that exhaust gases vent through a dust collector prior to discharging to the atmosphere to meet the particulate matter and opacity standards of COMAR 26.11.06.02C(1), COMAR 26.11.06.03B(1), and 40 CFR 60, Subpart UUU (EP1).
- (3) The Fluid Bed Cooler and Packaging Collector shall each be constructed such that exhaust gases vent through a dust collector prior to discharging to the atmosphere to meet the particulate matter and opacity standards of COMAR 26.11.06.02C(1) and COMAR 26.11.06.03B(1) (EP2 and EP3).
- (4) The Aggregate Silo shall be constructed such that a bin vent filter is used to capture fugitive dust prior to discharging to the atmosphere to meet the particulate matter and opacity standards of COMAR 26.11.06.02C(1) and COMAR 26.11.06.03B(1) (EP4).
- (5) The Cement Powder Silos shall be constructed such that a bin vent filter is used to capture fugitive dust from each silo prior to discharging to the atmosphere to meet the particulate matter and opacity standards of COMAR 26.11.06.02C(1) and COMAR 26.11.06.03B(1) (EP5A – 5F).

PAVESTONE, LLC
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 043-0417-5-0681

Part D – Operating Conditions

- (1) The Permittee shall maintain and operate all installations and associated air pollution control equipment so as to assure full and continuous compliance with all applicable air pollution control regulations and permit conditions.
- (2) The Permittee shall properly maintain, calibrate, and operate all control panel instrumentation and all devices employed to monitor performance of the facility's air pollution control devices.
- (3) Water, chemical dust suppressants, or a combination of water and chemical dust suppressants shall be used to control fugitive dust from plant roads and stockpiles.
- (4) Exhaust gases generated from the Dryer shall vent through a dust collection system prior to discharging to the atmosphere to meet the following standards of 40 CFR 60, Subpart UUU for Dryers in Mineral Industries (EP1):
 - (a) No particulate matter in excess of 0.025 gr/dscf (0.057 (g/dscm)); and
 - (b) No more than 10 percent opacity.**[Reference: 40 CFR 60.732(a) and (b)]**
- Note: Compliance with the above standards demonstrates compliance with COMAR 26.11.06.02C(1) and COMAR 26.11.06.03B(1).
- (5) Exhaust gases generated from the Fluid Bed Cooler shall vent through a dust collection system prior to discharging to the atmosphere (EP2).
- (6) Exhaust gases generated from the Packaging Collector shall vent through a dust collection system prior to discharging to the atmosphere (EP3).
- (7) Exhaust gases generated from the Aggregate Silo shall vent through a bin vent filter prior to discharging to the atmosphere (EP4).
- (8) Exhaust gases generated from the Cement Powder Silos shall vent through a bin vent filter prior to discharging to the atmosphere (EP5A – 5F).
- (9) The Permittee shall burn only natural gas, in the product dryer unless the Permittee obtains an approval from the Department to burn other fuels.

PAVESTONE, LLC
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 043-0417-5-0681

Part E – Notifications and Testing

- (1) The Permittee shall submit written or electronic notification to the Department of the actual date of initial startup of the Concrete Batch Plant, within 15 days after such date.
- (2) For the dryer, the Permittee shall demonstrate compliance with all applicable particulate matter and opacity standards in 40 CFR 60, Subpart UUU within 60 days after achieving maximum production rate of the dryer and not later than 180 days after initial startup of the dryer.
- (3) The Permittee shall use a Method 5 test to determine the particulate matter concentration from dust collection system on the dryer. The sampling time and volume of each test run shall be at least 2 hours and 1.70 dscm. **[Reference: 40 CFR 60.736(b)(1)]**
- (4) The Permittee shall use a Method 9 test to determine opacity from dust collection system on the dryer. The minimum total time of observations shall be 3 hours (30 6-minute time averages). **[Reference: 40 CFR 60.736(b)(2)]**
- (5) The Permittee shall submit notification of the intended date of each required test to the Department at least 7 days prior to the testing date unless an alternate date is mutually agreed with the Department.
- (6) With 45 days following the required tests, the Permittee shall submit the results to the Department.

Part F –Record Keeping and Reporting

- (1) The Permittee shall submit written or electronic notification to the Department of the actual date of initial startup of the Concrete Batch Plant, within 15 days after such date.
- (2) The Permittee shall maintain for at least five (5) years, and shall make available to the Department upon request, records of the following information:
 - (a) annual records of the amount of concrete processed in the concrete batch plant;
 - (b) the amount of natural gas burned in the product dryer each month;
 - (c) records of all maintenance performed on all dust collectors associated with the concrete batch plant; and

PAVESTONE, LLC
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 043-0417-5-0681

- (d) records of particulate matter and opacity test results on the dryer.
- (3) The Permittee shall maintain at the facility for at least five (5) years records necessary to support annual certifications of emissions and demonstrations of compliance for toxic air pollutants. Such records shall include, if applicable, the following:
- (a) mass emissions rates for each regulated pollutant, and the total mass emissions rate for all regulated pollutants for each registered source of emissions;
 - (b) accounts of the methods and assumptions used to quantify emissions;
 - (c) all operating data, including operating schedules and production data, that were used in determinations of emissions;
 - (d) amounts, types, and analyses of all fuels used;
 - (e) any records, the maintenance of which is required by this permit or by State or federal regulations, that pertain to the operation and maintenance of continuous emissions monitors, including:
 - (i) all emissions data generated by such monitors;
 - (ii) all monitor calibration data;
 - (iii) information regarding the percentage of time each monitor was available for proper service; and
 - (iv) information concerning any equipment malfunctions.
 - (f) information concerning operation, maintenance, and performance of air pollution control equipment and compliance monitoring equipment, including:
 - (i) identifications and descriptions of all such equipment;
 - (ii) operating schedules for each item of such equipment;
 - (iii) accounts of any significant maintenance performed;
 - (iv) accounts of all malfunctions and outages; and

PAVESTONE, LLC
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 043-0417-5-0681

- (v) accounts of any episodes of reduced efficiency.
 - (g) limitations on source operation or any work practice standards that significantly affect emissions; and
 - (h) other relevant information as required by the Department.
- (4) The Permittee shall submit to the Department by April 1 of each year during the term of this permit a certification of emissions for the previous calendar year. The certifications shall be prepared in accordance with requirements, as applicable, adopted under COMAR 26.11.01.05 – 1 and COMAR 26.11.02.19D.
- (a) Certifications of emissions shall be submitted on forms obtained from the Department.
 - (b) A certification of emissions shall include mass emissions rates for each regulated pollutant, and the total mass emissions rate for all regulated pollutants for each of the Permittee’s registered sources of emissions.
 - (c) The person responsible for a certification of emissions shall certify the submittal to the Department in the following manner:

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”
- (5) The Permittee shall submit to the Department, by April 1 of each year during the term of this permit, a written certification of the results of an analysis of emissions of toxic air pollutants from the Permittee’s facility during the previous calendar year. Such analysis shall include either:
- (a) a statement that previously submitted compliance demonstrations for emissions of toxic air pollutants remain valid; or

PAVESTONE, LLC
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 043-0417-5-0681

- (b) a revised compliance demonstration, developed in accordance with requirements included under COMAR 26.11.15 & 16, that accounts for changes in operations, analytical methods, emissions determinations, or other factors that have invalidated previous demonstrations.
- (6) The Permittee shall report, in accordance with requirements under COMAR 26.11.01.07, occurrences of excess emissions to the Compliance Program of the Air and Radiation Management Administration.

Part G – Temporary Permit-to-Operate Conditions

- (1) This permit-to-construct shall also serve as a temporary permit-to-operate that confers upon the Permittee authorization to operate the Concrete Batch Plant for a period of up to 180 days after initiating operation of the Concrete Batch Plant.
- (2) The Permittee shall provide the Department with written or electronic notification of the date on which operation of the Concrete Batch Plant is initiated. Such notification shall be provided within 15 business days of the date to be reported.
- (3) During the effective period of the temporary permit-to-operate the Permittee shall operate the new installation as required by the applicable terms and conditions of this permit-to-construct, and in accordance with operating procedures and recommendations provided by equipment vendors.
- (4) The Permittee shall submit to the Department an application for a State permit-to-operate no later than 60 days prior to expiration of the effective period of the temporary permit-to-operate.

MARYLAND DEPARTMENT OF THE ENVIRONMENT

AIR AND RADIATION ADMINISTRATION

SUPPLEMENTAL INFORMATION REFERENCES

The Code of Maryland Regulations (COMAR) is searchable by COMAR citation at the following Division of State Documents website:

<http://www.dsd.state.md.us/COMAR/ComarHome.html>

The Code of Federal Regulations (CFR), including New Source Performance Standards (NSPS) at 40 CFR, Part 60 and National Emission Standards for Hazardous Air Pollutants (NESHAP) at 40 CFR, Parts 61 and 63, is searchable by CFR citation at the following U.S. Government Publishing Office website:

<http://www.ecfr.gov>

Information on National Ambient Air Quality Standards (NAAQS) is located at the following U.S. Environmental Protection Agency (EPA) website:

<https://www.epa.gov/criteria-air-pollutants/naaqs-table>

Information on Maryland's Ambient Air Monitoring Program is located at the following Maryland Department of the Environment website:

<http://mde.maryland.gov/programs/Air/AirQualityMonitoring/Pages/index.aspx>

Information on the U.S. EPA's Screen3 computer model and other EPA-approved air dispersion models is located at the following U.S. EPA website:

http://www.epa.gov/scram001/dispersion_screening.htm

Information on the U.S. EPA TANKS Emission Estimation Software is located at the following U.S. EPA website:

<http://www.epa.gov/ttn/chief/software/tanks/index.html>

Information on the U.S. EPA Emission Factors and AP-42 is located at the following U.S. EPA website:

<https://www.epa.gov/air-emissions-factors-and-quantification/ap-42-compilation-air-emission-factors>