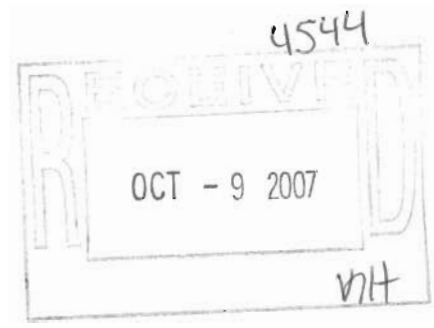


**NPDES PERMIT APPLICATION  
FORM 1**

ARKANSAS DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER DIVISION  
POST OFFICE BOX 8913  
LITTLE ROCK, AR 72219  
www.adeq.state.ar.us/water



**PURPOSE OF THIS APPLICATION**

- INITIAL PERMIT APPLICATION FOR NEW FACILITY
- INITIAL PERMIT APPLICATION FOR EXISTING FACILITY
- MODIFICATION OF EXISTING PERMIT
- REISSUANCE (RENEWAL) OF EXISTING PERMIT
- MODIFICATION AND CONSTRUCTION OF EXISTING PERMIT
- CONSTRUCTION PERMIT

NPDES PERMIT FILE  
 NPDES # AR0042846  
 AFIN # LT-00001  
 Permit PN  
 Correspondence  
 Technical Backup  
10-9-07 Date Scanned  
 VH

**SECTION A- GENERAL INFORMATION**

1. Facility Name: Ash Grove Cement Company
2. Legal Applicant Name (If the applicant is different from the above): NA
3. Operator name: Keith Byerly License number: 006598 class of wastewater operator: I
4. Is the operator identified in number 3 above, the owner of the facility?  Yes  No
5. NPDES Permit Number (If Applicable): AR0042846
6. NPDES General Permit Number (If Applicable): ARG
7. NPDES General Storm Water Permit Number (If Applicable): ARR10C143
8. Does your facility hold any other permits which are not listed above?  Yes  No
9. Permit Numbers and/or names of any permits issued by ADEQ or EPA for an activity located in Arkansas that is presently held by the applicant or its parent or subsidiary corporation:

<u>Permit Name</u>	<u>Permit Number</u>	<u>Held by</u>
Air Operating Permit	0075-AOP-R8	Ash Grove Cement
Hazardous Waste Generator	ARD981512270	Ash Grove Cement

Class 3N Noncommercial Landfill Permit	0302-S3N	Ash Grove Cement Landfill
Tire Processing Permit	0016 SWTP	Ash Grove Cement Quarry
Registered Storage Tank (RST)	41000002	Ash Grove Cement
Hazardous Waste TSD	21-H	Ash Grove Cement

10. Driving directions to the facility with respect to known landmarks: Approximately two miles southwest of Foreman, Arkansas on Highway 108 West

11. Give a driving directions to the wastewater treatment plant:

From Foreman take Highway 108 West approximately two miles to the plant entrance. The wastewater treatment facility is located west of the visitor parking lot , southwest of the LWDF Tank..

12. Facility Physical Location: (Attach a map with location marked; street, route no. or other specific identifier)

Street: 4457 Highway 108W  
 City: Foreman County: Little River State: AR Zip: 71836

13. Facility Mailing Address for permit, DMR, and Invoice (Street or Post Office Box):

Name: Keith Byerly Title: Environmental Manager  
 Street: 4457 Highway 108W P.O. Box \_\_\_\_\_  
 City: Foreman State: AR Zip: 71836  
 E-mail address: keith.byerly@ashgrove.com Fax: (870)542-6212

14. Neighboring States Within 20 Miles of the permitted facility (Check all that apply):

Oklahoma  Missouri  Tennessee  Louisiana  Texas  Mississippi

15. Type of ownership: Public  Private  State  Federal  Other

16. Indicate applicable Standard Industrial Classification (SIC) Codes and NAICS codes for primary processes

3241 SIC Facility Activity under this SIC or NAICS: Manufacturing hydraulic cement  
 \_\_\_\_\_ NAICS \_\_\_\_\_

17. Design Flow: 0.0125 MGD (peak hourly rate), 0.005 MGD (average) Sanitary Treatment System

Highest Monthly Average of the last two years Flow: 0.72 MGD (discharge from Outfall 003, January 2007)

18. Is Outfall equipped with a diffuser?  Yes  No

19. Responsible Official (as described on the last page of this application):

Name: Dan Peterson Title: Plant Manager  
 Address: 4457 Highway 108 W Phone Number: (870) 542-6217  
 E-mail  
 Address: dan.peterson@ashgrove.com  
 City: Foreman State: AR Zip: 71836

20. Designated Facility Contact (as describe on the last page of this application):

Name: Keith Byerly Title: Environmental Manager  
 Address: P.O. Box 130 Phone Number: (870) 542-6217, ext. 3311  
 E-mail  
 Address: keith.byerly@ashgrove.com  
 City: Foreman State: AR Zip: 71836

21. Name, address and telephone number of consulting engineer firm (If none, so state):

Contact Name:	<u>Pennye L. Derryberry Bray</u>		
Company Name:	<u>ECCI</u>		
Address:	<u>415 North McKinley Street, Suite 1180</u>	Phone Number:	<u>(501) 663-8247</u>
E-mail Address:	<u>pderryberry@eccci.com</u>		
City:	<u>Little Rock</u>	State:	<u>AR</u>
		Zip:	<u>72205</u>

**SECTION B: FACILITY AND OUTFALL INFORMATION**

1. Facility Location (All information must be based on **front door (Gate)** of the facility):

Lat: 33 ° 41 ' 45 " Long: 94 ° 25 ' 24 " Section: 28 Township: 32W  
 Range: 12S County: Little River Nearest Town: Foreman USGS Hydrologic Unit Code: 11140106

What map scale is used? 1:24000 What Method is used? 1 Indicate Technical Accuracy 2

What map datum is used? 1 Where is the collection point? Front door of facility

2. Outfall monitoring Location: There have been no changes in the facility existing outfall locations

**Outfall No. 001:**

Latitude: 33 ° 41 ' 00 " Longitude: 94 ° 25 ' 30 "

USGS Hydrologic Unit Code: 11140106 What map scale is used? 1:24000 What Method is used? 1

Indicate Technical Accuracy 2 What map datum is used? 1 Where is the collection point? outfall

Name of Receiving Stream (i.e. an unnamed tributary of Mill Creek, thence into Mill Creek; thence into Arkansas River):

Unnamed tributary to French Creek, thence to French Creek, thence to Walnut Bayou, thence to the Red River in Segment 1B of the Red River Basin.

**Outfall No. 002 :**

Lat: 33 ° 41 ' 30 " Long: 94 ° 25 ' 30 "

USGS Hydrologic Unit Code: 11140106 What map scale is used? 1:24000 What Method is used? 1

Indicate Technical Accuracy 2 What map datum is used? 1 Where is the collection point? outfall

Name of Receiving Stream (i.e. an unnamed tributary of Mill Creek, thence into Mill Creek; thence into Arkansas River):

Unnamed tributary to French Creek, thence to French Creek, thence to Walnut Bayou, thence to the Red River in Segment 1 B of the Red River Basin.

**Outfall No. 003 :**

Lat: 33 ° 41 ' 10 " Long: 94 ° 25 ' 30 "

USGS Hydrologic Unit Code: 11140106 What map scale is used? 1:24000 What Method is used? 1

Indicate Technical Accuracy 2 What map datum is used? 1 Where is the collection point? outfall

Name of Receiving Stream (i.e. an unnamed tributary of Mill Creek, thence into Mill Creek; thence into Arkansas River):

Unnamed tributary to French Creek, thence to French Creek, thence to Walnut Bayou, thence to the Red River in Segment 1 B of the Red River Basin.

3. Outfall Location (If the location of end of the pipe (Discharge point) is different from the above monitoring location

**Outfall No. 003A : Internal Outfall**

Lat: 33 ° 41 ' 16 " Long: 94 ° 25 ' 14 "

**Outfall No. 003B : Internal Outfall, discharge from wastewater treatment plant to process water pond.**

Lat: 33 ° 41 ' 22.8 " Long: 94 ° 25 ' 26.7 "

**Outfall No. \_\_\_\_\_ :**

Lat: \_\_\_\_\_ ° \_\_\_\_\_ ' \_\_\_\_\_ " Long: \_\_\_\_\_ ° \_\_\_\_\_ ' \_\_\_\_\_ "

4. Type of Treatment system (Included all components of treatment system and Attach the process flow diagram):

The new sanitary treatment system will consist of an Aeromix, extended aeration package plant. The equipment plans and specifications for the system are attached. The system will discharge into the existing process water pond (internal outfall 003B) prior to discharge via Outfall 003. There will be no change in any of the other waste streams discharging into the pond.

5. Do you have, or plan to have, automatic sampling equipment or continuous wastewater flow metering equipment at this facility?

Current: Flow Metering	<input type="checkbox"/> Yes	Type _____	_____	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	N/A
Sampling Equipment	<input type="checkbox"/> Yes	Type _____	_____	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	N/A
Planned: Flow Metering	<input type="checkbox"/> Yes	Type _____	_____	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	N/A
Sampling Equipment	<input type="checkbox"/> Yes	Type _____	_____	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	N/A

If yes, please indicate the present or future location of this equipment on the sewer schematic and describe the equipment below

Wastewater treatment plant will be equipped with a V-notch weir.

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6. Is the proposed or existing facility located above the 100-year flood level?  Yes  No\*

\* The existing plant is outside the floodplain. However, the expansion area is within an area currently designated by FEMA as a floodplain. Ashgrove is pursuing the steps necessary to modify this designation.

NOTE: FEMA Map must be included with this application. Maps can be ordered at [www.fema.gov](http://www.fema.gov).

If "No", what measures are (or will be) used to protect the facilities? NA

7. Population    1125 (Foreman)

**SECTION C – WASTE STORAGE AND DISPOSAL INFORMATION**

1. Sludge Disposal Method (Check as many as are applicable):

**Landfill**

Landfill Site Name Upper Southwest Regional Landfill

ADEQ Solid Waste Permit No. 0265-S1-R1

**Land Application** ADEQ State Permit No. \_\_\_\_\_

Method of sludge treatment \_\_\_\_\_

What is the estimated amount of sludge generated at the treatment facility?

Dry metric Ton/ per year \_\_\_\_\_ Gallon/Acres per year \_\_\_\_\_

List all the land application sites with the following information:

Field Number	New/Old	Range	Township	Section	Total Acres	Available Acres	Crop Cover	Loading Rate
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____

**Septic tank** Arkansas Department of Health Permit No.: \_\_\_\_\_

**Distribution and Marketing** :Facility receiving sludge:

Name: \_\_\_\_\_ Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ Phone: \_\_\_\_\_

Rail:  Pipe:  Other: \_\_\_\_\_

**Subsurface Disposal** (Lagooning)

Location of lagoon \_\_\_\_\_ How old is the lagoon? \_\_\_\_\_

Surface are of lagoon: \_\_\_\_\_ Acre Depth: \_\_\_\_\_ Ft Does lagoon have a liner?  Yes  No

**Incineration** : Location of incinerator \_\_\_\_\_

**Other** (Provide complete description) \_\_\_\_\_

## SECTION D - WATER SUPPLY

Water Sources (check as many as are applicable):

**Private Well** - Distance from Discharge point:  Within 5 miles  Within 50 miles

**Municipal Water Utility** (Specify City): Foreman, Arkansas

Distance from Discharge point:  Within 5 miles  Within 50 miles

**Surface Water**- Name of Surface Water Source: Red River

Distance from Discharge point:  Within 5 miles  Within 50 miles

Lat: 33 ° 38 ' 15.78 " Long: 94 ° 27 ' 30.38 "

**Other** (Specify): Lake Millwood

Distance from Discharge point:  Within 5 miles  Within 50 miles

**SECTION E: FINANCIAL ASSURANCE AND DISCLOSURE FORM**

1. Act 336 of 1995 provides for financial assurance requirements for permitting common sewage systems. Arkansas Code 8-5-703 (a)(1)-The Department of Pollution Control and Ecology shall not permit or register any common sewage system serving two(2) or more occupied lots, residences, businesses, or other discernible occupied init without the applicant first demonstrating to the department its financial ability to cover the costs of operating and maintaining the system for a period of five (5) years.

Please provide **financial assurance** in order to shows that the facility is able to cover the costs of operating and maintaining the treatment system for the next five years.

The minimal financial assurance may be demonstrated to the department (Arkansas Code 8-5-703(a)(2)):

- A. By obtaining insurance;
- B. By passing a financial test;
- C. By obtaining a letter of credit;
- D. By obtaining a surety bond;
- E. By obtaining a trust fund or escrow account;
- F. Through the use of a combination of insurance, financial test, letter of credit, surety bond, trust fund, or escrow account.

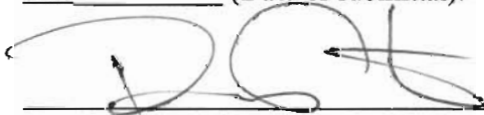
2. Disclosure Statement:

Arkansas Code Annotated Section 8-1-106 requires that all applicants for the issuance, or transfer of any permit, license, certification or operational authority issued by the Arkansas Department of Environmental Quality (ADEQ) file a disclosure statement with their applications. The filing of a disclosure statement is mandatory. No application can be considered complete without one. The form may be obtained from ADEQ web site at:

[http://www.adeg.state.ar.us/disclosure\\_stmt.pdf](http://www.adeg.state.ar.us/disclosure_stmt.pdf)

**Declaration of No Changes:**

The violation history, experience and credentials, involvement in current or pending environmental lawsuits, civil and criminal, have not changed since the last Disclosure Statement I filed with ADEQ on February 24, 2006 (Date of submittal).



\_\_\_\_\_  
Signature of Individual or Authorized Representative of Firm or Legal Entity

The following statement must be completed for Declaration of No Changes.



**VERIFICATION AND ACKNOWLEDGEMENT**

The Applicant agrees to provide any other information the director of the Arkansas Department of Environmental Quality may require at any time to comply with the provisions of the Disclosure Law and any regulations promulgated thereto. The Applicant further agrees to provide the Arkansas Department of Environmental Quality with any changes, modifications, deletions, additions or amendments to any part of this Disclosure Statement as they occur by filing an amended Disclosure Statement.

DELIBERATE FALSIFICATION OR OMISSION OF RELEVANT INFORMATION FROM DISCLOSURE STATEMENTS SHALL BE GROUNDS FOR CIVIL OR CRIMINAL ENFORCEMENT ACTION OR ADMINISTRATIVE DENIAL OF A PERMIT, LICENSE, CERTIFICATION OR OPERATIONAL AUTHORIZATION.

State of Arkansas

County of Little River

I, Dan Peterson, swear and affirm that the information contained in the previous Disclosure Statement is true and correct to the best of my knowledge, information and belief.

APPLICANT SIGNATURE: 

COMPANY TITLE: Plant Manager

Date 9-10-07

SUBSCRIBED AND SWORN TO BEFORE ME THIS DAY 10<sup>th</sup> OF Sept 2007

Cathy M Lisenby  
NOTARY PUBLIC

MY COMMISSION EXPIRES: 01/02/14

**SECTION F – INDUSTRIAL ACTIVITY**

1. Does an effluent guidelines limitation promulgated by EPA (<http://www.epa.gov/epacfr40/chapt-I.info/chi-toc.htm>) under Section 304 of the Clean Water Act (CWA) apply to your facility?

YES  (Answer questions 2 and 3)      NO

2. What Part of 40 CFR? 411

3. What Subpart (s)? C \_\_\_\_\_

4. Give a brief description of all operations at this facility including primary products or services (attach additional sheets if necessary):

Manufacturing of Portland and masonry cement. The facility utilizes hazardous waste derived fuel, tire fuel, and solid waste derived fuel to supplement fossil fuels.

5. Production: (projected for new facilities) No change in regulated processes

Product(s) Manufactured (Brand name)	Last 12 Months		Highest Production Year of Last 5 Years	
	lbs/day		lbs/day	
	Highest Month	Days of Operation	Monthly Average	Days of Operation
NA				

**SECTION G - WASTEWATER DISCHARGE INFORMATION**

Facilities that checked “Yes” in question 1 of Section F are considered Categorical Industrial Users and should skip to question 2.

1. **For Non-Categorical Users Only:** List average wastewater discharge, maximum discharge, and type of discharge (batch, continuous, or both), for each plant process. Include the reference number from the process flow schematic (reference Figure 1) that corresponds to each process. [New facilities should provide estimates for each discharge.]

No.	Process Description	Average Flow (GPD)	Maximum Flow (GPD)	Type of Discharge (batch, continuous, none)



Current: Flow Metering	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
Sampling Equipment	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
Planned: Flow Metering	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
Sampling Equipment	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A

If yes, please indicate the present or future location of this equipment on the sewer schematic and describe the equipment below:

Wastewater treatment facility will be equipped with a V-notch weir.

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4. Are any process changes or expansions planned during the next three years that could alter wastewater volumes or characteristics?

Yes     No                    (If no, skip Question 5)

5. Briefly describe these changes and their effects on the wastewater volume and characteristics

The facility is planning to install a pre-engineered extended aeration wastewater treatment plant to treat laboratory wash water and sanitary sewage generated from the new office building.

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## SECTION H -TECHNICAL INFORMATION

Technical information to support this application shall be furnished in appropriate detail to understand the project. Information in this Part is required for obtaining a **construction permit** or for **modification** of the treatment/disposal system.

1. Describe the process for wastewater treatment. Include the types control equipment to be installed along with their methods of operation and control efficiency.

See attached plans and specifications

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2. One set of construction plans and specifications, approved (Signed and stamped) by a **Professional Engineer (PE)** registered in **Arkansas**, must be submitted as follows:
  - a. The plans must show flow rates in addition to pertinent dimensions so that detention times, overflow rates, and loadings per acre, etc. can be calculated.
  - b. Specifications and complete design calculations.
  - c. All treated wastewater discharges should have a flow measuring device such as a weir or Parshall flume installed. Where there is a significant difference between the flow rates of the raw and treated wastewater, a flow measuring device should be provided both before and after treatment.
3. If this application includes a construction permit disturbing five or more acres, a storm water construction permit must be obtained by submitting a notice of intent (NOI) to ADEQ.

## SECTION I: SIGNATORY REQUIREMENTS

The information contained in this form must be certified by a responsible official as defined in the "signatory requirements for permit applications" (40 CFR 122.22).

Responsible official is defined as follows:

**Corporation**, a principal officer of at least the level of vice president

**Partnership**, a general partner

**Sole proprietorship**: the proprietor

**Municipal, state, federal, or other public facility**: principal executive officer, or ranking elected official.

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. I further certify under penalty of law that all analyses reported as less than detectable in this application or attachments thereto were performed using the EPA approved test method having the lowest detection limit for the substance tested.

Signature of responsible official: \_\_\_\_\_

Date: \_\_\_\_\_

Printed name of responsible official: Dan Peterson

Official title of responsible official: Plant Manager

Telephone Number (501) 542-6217, ext. 3270

By signature in Section I above, the applicant certifies that the named individual is qualified as print below to act as a duly authorized representative under the provisions of 40 CFR 122.22(b). (NOTE: If no duly authorized representative is designated in this section, the Department considers the applicant to be the responsible official for the facility and only reports, etc., signed by the applicant will be accepted by the Department).

### Cognizant Official (Duly Authorized Representative)

40 CFR 122.22(b) states that all reports required by the permit, or other information requested by the Director, shall be signed by the applicant (or person authorized by the applicant) or by a duly authorized representative of that person. A person is duly authorized representative only if:

- (1) the authorization is made in writing by the applicant (or person authorized by the applicant);
- (2) the authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity responsibility, or an individual or position having overall responsibility for environmental matters for the company.

The applicant hereby designates the following person as a cognizant official, or duly authorized representative, for signing reports, etc., including Discharge Monitoring Reports (DMR) required by the permit, and other information requested by the Director:

Dan Peterson

NAME (first, last)

Plant Manager

TITLE

(870) 542-6217, ext. 3270

TELEPHONE



APPROXIMATE SCALE IN FEET  
2000 0 2000

**NATIONAL FLOOD INSURANCE PROGRAM**

**FIRM**  
**FLOOD INSURANCE RATE MAP**  
LITTLE RIVER COUNTY,  
ARKANSAS AND  
INCORPORATED AREAS

**PANEL 200 OF 475**  
(SEE MAP INDEX FOR PANELS NOT PRINTED)

CONTAINS:  
COMMUNITY  
FEDERAL CITY OF  
LITTLE RIVER COUNTY,  
UNINCORPORATED AREAS  
NUMBER PANEL SUFFIX  
55008 200 0  
65246 200 0

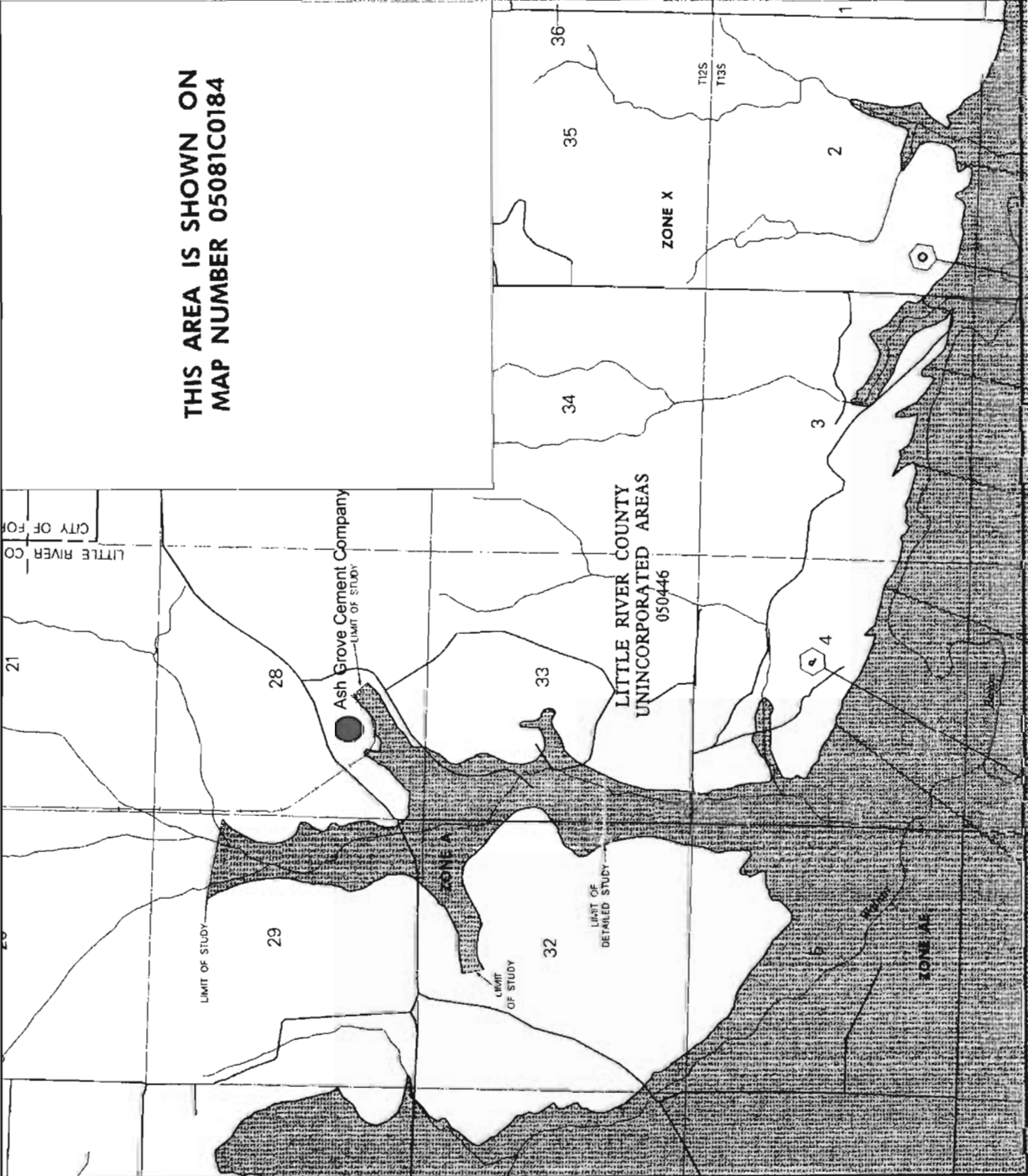
**MAP NUMBER**  
**05081C0200 0**  
**EFFECTIVE DATE:**  
**JANUARY 7, 1998**



Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It is not to be used for any purpose other than that for which it was prepared. No responsibility is assumed for any errors or omissions which may have been made subsequent to the date on the map. For the latest product information about National Flood Insurance Program flood maps, check the FEMA Flood Map Store at [www.mfr.fema.gov](http://www.mfr.fema.gov)

**THIS AREA IS SHOWN ON  
MAP NUMBER 05081C0184**



2220 134N1F

Please type or print in the unshaded areas only

EPA ID Number (Copy from Item 1 of Form 1)  
**AR0042846**

Form Approved  
OMB No. 2040-0086  
Approval expires 7-31-88

Form  
**2D**  
NPDES



**New Sources and New Dischargers  
Application for Permit to Discharge Process Wastewater**

**I. Outfall Location**

For this outfall, list the latitude and longitude, and name of the receiving water(s)

Outfall Number (list)	Latitude			Longitude			Receiving Water (name)
	Deg	Min	Sec	Deg	Min	Sec	
<b>003B</b>	<b>33</b>	<b>41</b>	<b>22.8</b>	<b>94</b>	<b>25</b>	<b>26.7</b>	<b>Process Water Pond to unnamed tributary to French Creek</b>
<b>003</b>	<b>33</b>	<b>41</b>	<b>10</b>	<b>94</b>	<b>25</b>	<b>30</b>	<b>Unnamed Tributary to French Creek</b>

**II. Discharge Date** (When do you expect to begin discharging?)

**III. Flows, Sources of Pollution, and Treatment Technologies**

A. For each outfall, provide a description of (1) all operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and stormwater runoff; (2) the average flow contributed by each operation; and (3) the treatment received by the wastewater. Continue on additional sheets if necessary.

Outfall Number	1. Operations Contributing Flow (list)	2. Average Flow (include units)	3. Treatment (Description of list Codes from Table 2D-1)
<b>003</b>	<b>Coal Processing Area Stormwater (existing)</b>	<b>variable</b>	<b>Settling Pond 1-U, Discharge 4-A</b>
	<b>Truck Washout Water (existing)</b>		
	<b>Sanitary Wastewater Treatment Lagoon Discharge (existing)</b>		
	<b>Storm Water Runoff (existing)</b>		
	<b>Active CKD Landfill Runoff (existing)</b>		
	<b>Non-Contact Cooling Water (existing)</b>		
	<b>Chalk Dryer Scrubber (existing)</b>		
	<b>Process Area Washdown Water (existing)</b>		
<b>003B</b>	<b>Sanitary discharge and lab wash water</b>	<b>5,000 gpd</b>	<b>Primary Screening 1-T, Aerobic Digester 5-A, Aeration Chamber 3-E, Clarifier -1U, Disinfection 2-F, Settling Pond 1-U, Discharge 4A</b>



B. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in Item III-A. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, and outfalls. If a water balance cannot be determined (e.g., for certain mining activities), provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures. **See Attachment 4**

C. Except for storm runoff, leaks, or spills, will any of the discharges described in Item III-A be intermittent or seasonal?

Yes (complete the following table)

No (go to Item IV)

Outfall Number	1. Frequency		2. Flow		c. Duration (in days)
	a. Days Per Week (specify average)	b. Months Per Year (specify average)	a. Maximum Daily Flow Rate (in mgd)	b. Maximum Total Volume (specify with units)	

**IV. Production**

If there is an applicable production-based effluent guideline or NSPS, for each outfall list the estimated level of production (projection of actual production level, not designed), expressed in the terms and units used in the applicable effluent guideline or NSPS, for each of the first 3 years of operation. If production is likely to vary, you may also submit alternative estimates (attach a separate sheet).

Year	a. Quantity Per Day	b. Units of Measure	c. Operation, Product, Material, etc (specify)
			<b>NA</b>

**V. Effluent Characteristics**

A and B: These items require you to report estimated amounts (*both concentration and mass*) of the pollutants to be discharged from each of your outfalls. Each part of this item addresses a different set of pollutants and should be completed in accordance with the specific instruction for that part. Data for each outfall should be on a separate page. Attach additional sheets of paper if necessary.

**General Instructions (See Table 2D-2 for Pollutants)**

Each part of this item requests you to provide an estimated daily maximum and average for certain pollutants and the source of information. Data for all pollutants in Group A, for all outfalls, must be submitted unless waived by the permitting authority. For all outfalls, data for pollutants in Group B should be reported only for pollutants which you believe will be present or are limited directly by an effluent limitations guideline or NSPS or indirectly through limitations on an indicator pollutant.

1. Pollutant	2. Maximum Daily Value <i>(include units)</i>	3. Average Daily Value <i>(include units)</i>	4. Source <i>(see instructions)</i>
<b>BOD</b>	<b>30 mg/L</b>	<b>&lt; 30 mg/L</b>	<b>Domestic Sewage</b>
<b>COD</b>	<b>NA</b>	<b>NA</b>	
<b>TOC</b>	<b>NA</b>	<b>NA</b>	
<b>TSS</b>	<b>30 mg/L</b>	<b>&lt; 30 mg/L</b>	<b>Domestic Sewage</b>
<b>Ammonia-N</b>	<b>3.0 mg/L</b>	<b>&lt; 3.0 mg/L</b>	<b>Domestic Sewage</b>
<b>Flow</b>	<b>12,500 gpd</b>	<b>5,000 gpd</b>	<b>Domestic Sewage</b>
<b>pH</b>	<b>8.5 s.u.</b>	<b>6.5 s.u.</b>	<b>Domestic Sewage</b>
<b>Temperature (winter)</b>	<b>ambient</b>	<b>ambient</b>	<b>Domestic Sewage</b>
<b>Temperature (summer)</b>	<b>ambient</b>	<b>ambient</b>	<b>Domestic Sewage</b>

CONTINUED FROM THE FRONT

EPA ID Number (cop from Item 1 of Form 1)

Outfall Number

**AR0042846**

**003B (Sanitary Treatment System)**

C. Use the space below to list any of the pollutants listed in Table 2D-3 of the instructions which you know or have reason to believe will be discharged from any outfall. For every pollutant you list, briefly describe the reasons you believe it will be present.

1. Pollutant	2. Reason for Discharge
<b>None associated with the discharge to the sanitary wastewater treatment system. The lab water will not contain any chemicals.</b>	

**VI. Engineering Report on Wastewater Treatment**

A. If there is any technical evaluation concerning your wastewater treatment, including engineering reports or pilot plant studies, check the appropriate box below.

Report Available

No Report

B. Provide the name and location of any existing plant(s) which, to the best of your knowledge, resembles this production facility with respect to production processes, wastewater constituents, or wastewater treatments.

Name

**NA**

Location

**VII. Other Information (Optional)**

Use the space below to expand upon any of the above questions or to bring to the attention of the reviewer any other information you feel should be considered in establishing permit limitations for the proposed facility. Attach additional sheets if necessary.

**None**

**VIII. Certification**

*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.*

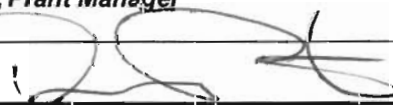
A. Name and Official Title (type or print)

**Dan Peterson, Plant Manager**

B. Phone No.

**(870) 542-6217, ext. 3270**

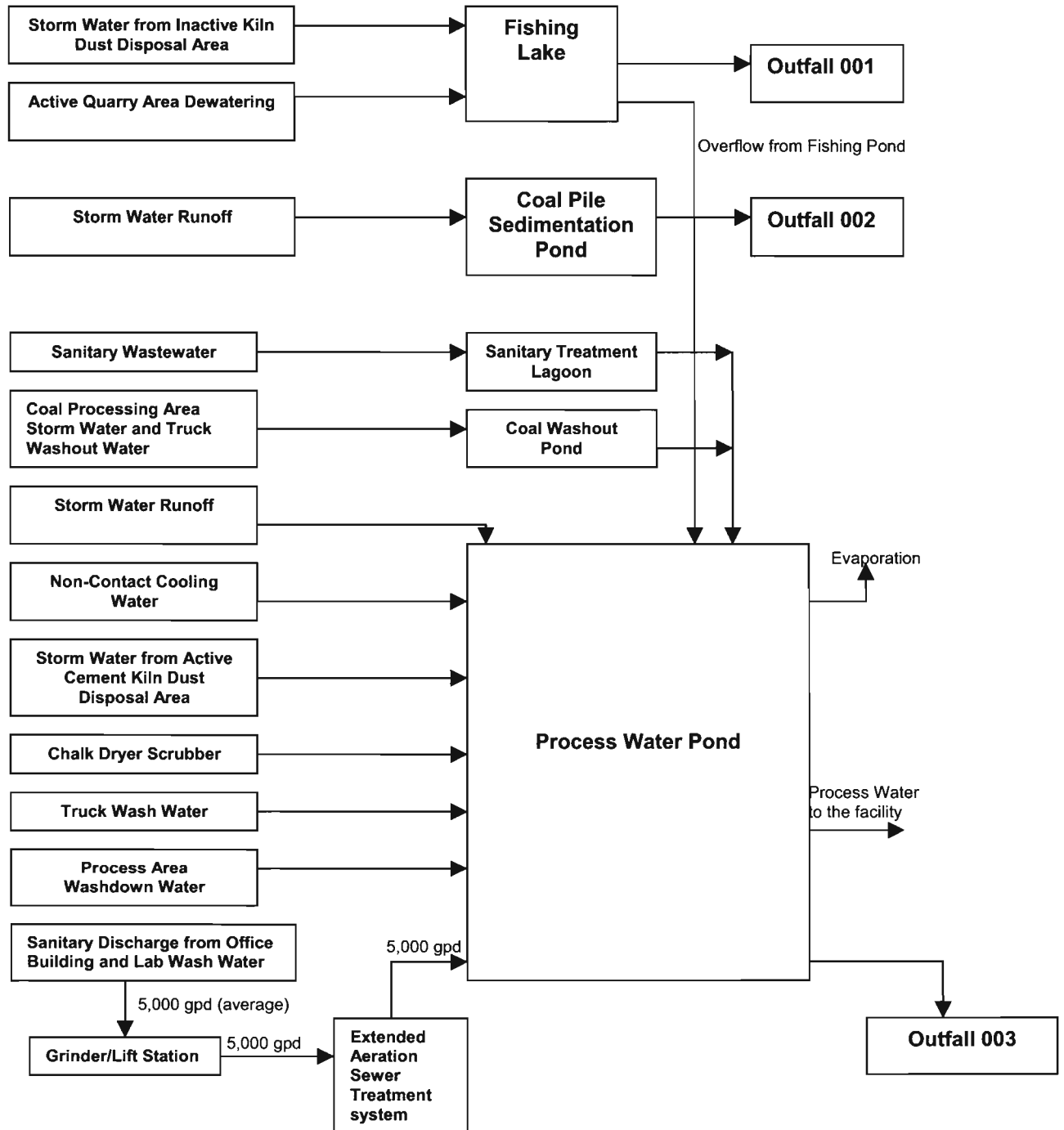
C. Signature



D. Date Signed

**9/12/07**

EPA Form 2D.III.B  
Wastewater Flow Diagram



**ATTACHMENT 5**

**Design Calculations (Ten States Standards)**

The design plans and specifications contained herein were provided by AEROMIX Systems, Inc. specific to the AEROMIX Model A-5M24-SHC, pre-engineered wastewater treatment system. A review of the design criteria and calculations was conducted under my supervision and direction. Based on the information provided and the information contained herein has been prepared in accordance with good engineering practices.



---

Rodney K. Breuer, P.E.  
ECCI, Vice President





**Engineering, Compliance & Construction, Inc.**

415 North McKinley Street, Suite 1180 • Little Rock, Arkansas 72205 • Phone 501.663.8247 • Fax 501.664.5005 • www.ecci.com

October 5, 2007

Mr. Mo Shafii, Permits Section Chief  
Arkansas Department of Environmental Quality  
Water Division, NPDES Permits Section  
P.O. Box 8913  
Little Rock, AR 72219

Dear Mr. Shafii,

Ashgrove Cement Company in Ashdown, Arkansas is planning to expand their industrial facility to include a new office building. As a component of the project, they are planning to install a pre-engineered extended aeration package wastewater treatment plant to treat the domestic sewage generated in the expanded facility. Enclosed you will find (2) copies of an application to construction the proposed system and to modify the existing NPDES Permit to include the discharge from the package plant. A request for approval, along with the system description, design calculations, and the system plans and specifications was submitted to the Arkansas Department of Health on September 10, 2007. The ADH approval request is currently under review.

If you have any questions you may contact Mr. Keith Byerly, Ashgrove Environmental Manager at (870) 542-6217, ext. 3311 or you may contact me at (501) 663-8247.

Sincerely,

A handwritten signature in black ink, appearing to read 'Penny L. Derryberry Bray', is written over a faint, larger version of the signature.

Penny L. Derryberry Bray, REM  
ECCI Senior Environmental Scientist

Cc: Keith Byerly, Ashgrove Chemical

NPDES CONSTRUCTION AND PERMIT  
MODIFICATION APPLICATION

For

Ash Grove Cement Company  
Foreman, Arkansas Facility

AUGUST 2007

PREPARED BY:



---

PENNY L. DERRYBERRY, REM #7776  
ECCI, SENIOR ENVIRONMENTAL SCIENTIST

REVIEWED BY:



---

RODNEY K. BREUER, P.E.  
ECCI, Principal



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2.0 Treatment System Description.....2

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**Attachments**

- ATTACHMENT 1 - ADEQ Form 1
- ATTACHMENT 2 - FEMA Map
- ATTACHMENT 3 - EPA Form 2D
- ATTACHMENT 4 - Wastewater Flow Diagram
- ATTACHMENT 5 - Design Calculations
- ATTACHMENT 6 - Vendor Provided Plans and Specifications
- ATTACHMENT 7 - Site Layout
- ATTACHMENT 8 - ADH Approval Letter

# **Ash Grove Cement Company NPDES Construction and Permit Modification Application**

## **1.0 INTRODUCTION**

Ash Grove Cement Company (Ash Grove) operates a cement manufacturing facility near the city of Foreman, Little River County, Arkansas. The facility is located on approximately 1,983 acres in Section 28, Township 32 West, Range 12 South in the southwestern portion of the state of Arkansas.

The facility is engaged in the production of Portland and masonry cement using raw materials quarried from the underlying geological strata. Operations at the facility were initiated in 1958. Ash Grove utilizes hazardous waste derived fuel (HWDF) to supplement traditional fossil fuels. The facility is permitted by the Arkansas Department of Environmental Quality (ADEQ) as a hazardous waste storage and treatment facility (TSD), Hazardous Waste Division Permit 21-H.

The facility is authorized to discharge storm water that comes into contact with industrial process areas, process wastewater and sanitary sewage under the terms and conditions of NPDES Permit AR0042846. The current permit was effective December 1, 2006 and will expire on November 30, 2011.

The various wastewaters generated at the facility flow into one of three retention basins located on the property each of which discharges into an unnamed tributary to French Creek via a permitted outfall.

Ash Grove is planning to expand the facility by constructing a new office building on the property. As a component of this construction project, they plan to install a pre-engineered extended aeration wastewater treatment plant to treat the domestic sewage generated in the office building. It is anticipated that the treatment plant will serve approximately 125 individuals. The wastewater treatment plant will also receive a small amount of wash water generated from washing glassware and

equipment in the facility laboratory. The wastewater treatment plant is to be located on the south side of the active plant, south of the LWDF Tank. The discharge from the wastewater will enter the process wastewater pond via an internal outfall (003B) and subsequently discharged to the unnamed tributary to French Creek via Outfall 003.

Ash Grove anticipates initiating construction in early to mid 2008 with the construction complete and the facility operational by the end of 2008.

Figure 1 shows the overall facility layout with the property boundaries and the outfall locations marked. A more detailed diagram showing the location of the package plant and the discharge line to the process wastewater pond is contained within Attachment 5.

## **2.0 TREATMENT SYSTEM DESCRIPTION**

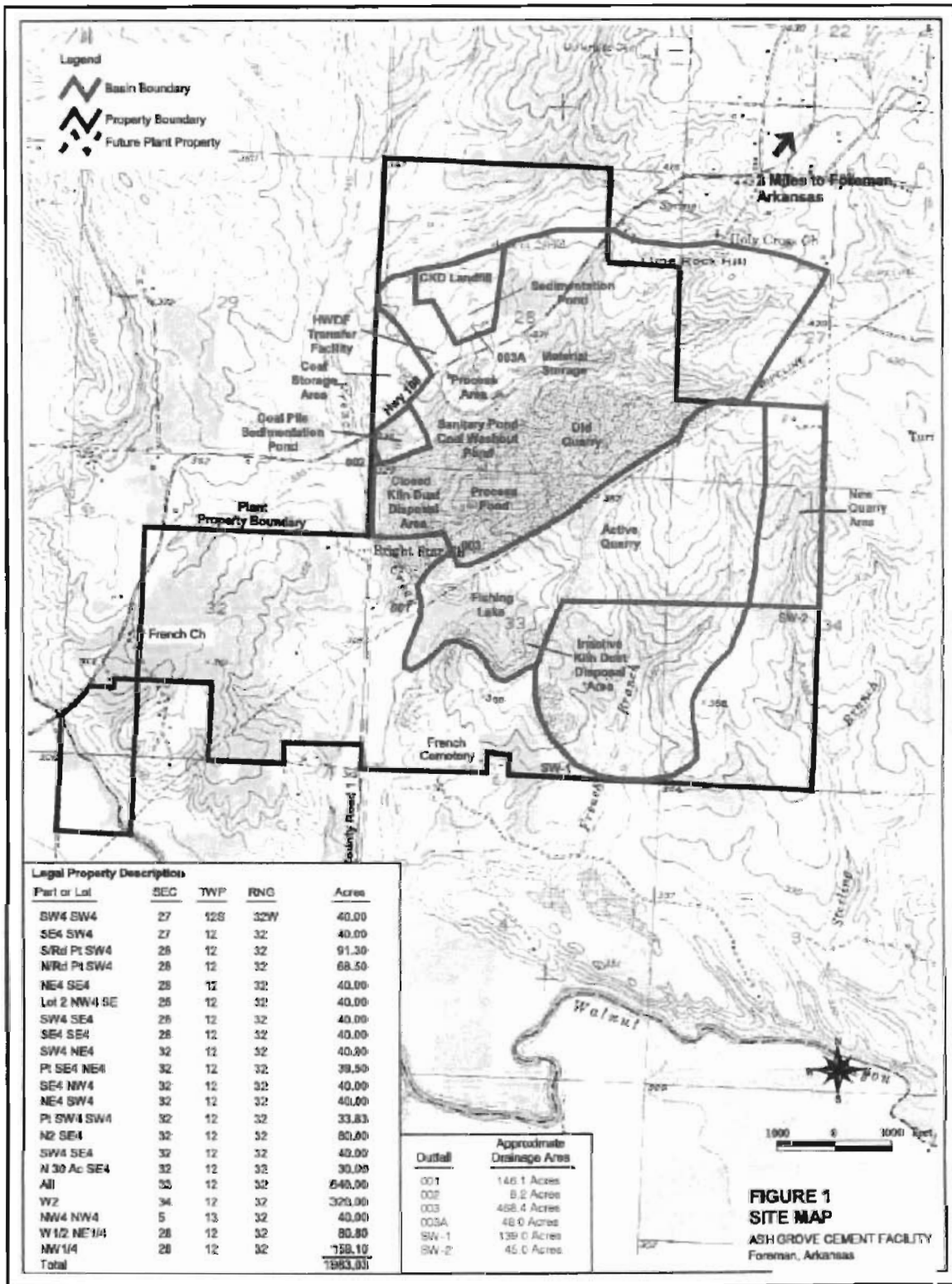
Ash Grove proposes to purchase an influent fiberglass lift station model LS72120 and an AEROMIX Model A-5M24-SHC prefabricated steel extended aeration complete mix activated sludge treatment system. Sanitary wastewater will flow from the office building through 4 inch diameter pipe to a grinder/lift station to a manual bar screen for primary screening. The wastewater then enters a 5,000-gallon aeration chamber. The aeration chamber is provided air by two blower units each with the capacity of 44 scfm at 5 psig and powered by a 2.4 horsepower TEFC motor. The coarse bubble diffused aeration is designed for 20 scfm. The wastewater then flows into an 833-gallon hopper bottom gravity clarifier. The clarifier effluent then flows through the clarifier outlet trough to a 130-gallon chlorine contact tank integral to the clarifier prior to discharge over a 22-1/2 degree effluent flow measuring weir through a 4-inch diameter outlet flange to a 4-inch diameter gravity flow sewer line to discharge into the process wastewater pond via internal outfall 003B. The discharge from the process water pond exits the facility via Outfall 003. The sludge from the clarifier is then pumped via an airlift assembly to a 950-gallon sludge chamber/aerobic digester integral to the aeration

tank. The chamber is equipped with a 2-inch diameter supernatant decant airlift assembly and a coarse bubble diffused aeration system designed for 4 scfm.

The clarifier is equipped with a 2-1/2-inch diameter airlift sludge return pump and piping and a 2-inch diameter airlift scum return pump and piping. The clarifier outlet trough is equipped with adjustable v-notched weir plates.

It is expected that any sludge removed from the system will be disposed of in the Upper Southwest Regional Landfill.

Ash Grove Cement respectfully submits this application for an NPDES Construction Permit and an NPDES Permit Modification to include the discharge from the sanitary treatment system. The following attachments are included as components of the permit application.



Ash Grove Cement Company  
Domestic Wastewater Treatment System  
Design Calculations

**References**

Metcalf & Eddy, Inc., "Wastewater Engineering: Treatment/Disposal/Reuse"  
Fourth Edition

Water Environment Federation, "Design of Municipal Wastewater Treatment  
Plants, WEF Manual of Practice 8." Fourth Edition.

Great Lakes-Upper Mississippi River Board of State and Provincial Public Health  
and Environmental Managers, "Recommended Standards for Wastewater  
Facilities", Fourth Edition. (Ten-States Standards)

AEROMIX Model A-5M24-SHC Equipment Specifications

**Constants and Variables**

Estimated quantity of flow - 20 gpd per employee (Arkansas Department of  
Health, Rules and Regulations Pertaining to Onsite Wastewater Systems,  
Appendix B, Factories exclusive of Industrial waste)

125 employees per day (80 employees during the day and 15 each shift, three  
shifts)

100 gph flow from lab sinks 24 hrs /day

240 mg/L – Standard BOD value for typical composition of untreated domestic  
wastewater – medium range (Metcalf &Eddy)

Aeration Zone Capacity – 4,994 gallons

**Calculations**

**Hydraulic Loading**

20 gpd x 125 employees = 2,500 gallons per day

2,500 gpd + 2,400 gpd lab water = 4,900 gpd flow to wastewater treatment plant.

The AEROMIX Model A05M24-SHC has a design flow of 5,000 gpd with a peak hourly flow rate of 12,500 gpd. Therefore, the calculated hydraulic loading is acceptable.

### **Organic Loading**

240 mg/L (Metcalf and Eddy) x 4,900 gal/day x 8.34 lbs/gal x 1/1000000 = **9.81** lbs BOD/day

### **Aeration Capacity**

4,994 gallons (Aeration Zone Capacity- equipment specs) x 1/7.48052 cu. ft. = 667.6 cu. ft.

9.81 lbs BOD/day x 1/0.667.6 = **14.69** lbs BOD/day/cu. ft.

Ten-States Standards Organic Loading Extended Aeration Single Stage Nitrification – 15 lbs BOD/day/1000 cu. ft.

System meets Ten-States Standards for aeration capacity.

### **Surface Overflow Rates:**

The overflow rate at design flow is 400 gpd/ft<sup>2</sup> and 800 gpd/ft<sup>2</sup> at the design peak hourly flow rate. These values are well within the ten-states standards of 1,000 gpd/ft<sup>2</sup> and 1,500-2,000 gpd/ft<sup>2</sup> respectively.

### **Disinfection:**

Ten-States Standards requires a minimum of 15 minutes retention at design peak hourly flow

130 gallon contact chamber / 8.7 gpm (peak flow rate) = 14.94 minutes retention

Consequently, the system meets the ten-states standards for disinfection.

Calculations prepared by: Pennye L. Derryberry Bray, ECCI Senior Environmental Scientist

Calculations Reviewed By: Rodney K. Breuer, P.E, ECCI Vice-President

# Equipment Proposal

August 24, 2007



*Specialists in Aeration, Mixing and Process Equipment*

**To:** Frank Plummer  
**Project:** Ashgrove Cement  
Arkansas  
**Quote No.:** 2006-00036R2

7135 Madison Ave. West  
Golden Valley, MN 55427 USA  
Phone: (763) 746-8400  
(800) 879-3677  
Fax: (763) 746-8408  
www.AEROMIX.com

This proposal has not been published and is the sole property of AEROMIX Systems, Inc.; it is lent to the borrower for his confidential use only. In consideration of this loan, the borrower promises to return it upon request and agrees that it shall not be reproduced, copied, lent, or otherwise disposed of, directly or indirectly, nor used for any purpose other than that for which it is specifically furnished.

AEROMIX Systems, Inc. is pleased to propose one (1) influent fiberglass lift station model LS-72120, one (1) AEROMIX Model A-5M24-SHC prefabricated steel extended aeration/complete mix activated sludge wastewater treatment system as manufactured by AEROMIX Systems, Inc., Golden Valley, Minnesota. This proposal has been prepared based on request for quotation dated May 2007, the wastewater treatment system will have a design flow of up to 5,000 gallons per day of domestic wastewater and will include all necessary vessels, internal piping, weirs, baffles, and items of equipment as indicated below:

## Basis of Design

Average Daily Flow Rate:	5,000 gpd
Peak Hour Flow Rate:	12,500 gpd

	<u>Influent</u>	<u>Projected Effluent</u>
BOD <sub>5</sub> :	240 mg/L	≤ 30 mg/L
TSS:	240 mg/L	≤ 30 mg/L
TKN:	40 mg/L	N/A
Ammonia-N:	25 mg/L	≤ 3 mg/L
Phosphorus-P:	8 mg/L	N/A
pH:	6.5 – 8.5	

## Scope of Supply

### Influent Lift Station

#### **Lift Station**

- One (1) Fiberglass lift station, 48" diameter x 120" deep basin
- One (1) 4" Inlet hub to be mounted in field by others
- One (1) Lift station cover, Solid steel ¼" checker-plate cover with hinged access doors and 2" vent with bug screen





- Two (2) Lift pumps, Zoeller model 6840 grinder pumps, powered by 2 hp, 230/460 volt, 60 Hz, 3 phase motors, mounted on slide rail assemblies with 1-1/4" discharge, rated at 45 gpm @ 20' TDH
- Two (2) E-Z out rail system with 1-1/4" NPT mail thread discharge, intermediate stabilizer bracket, discharge elbow, vertical discharge.
- Four (4) Mercury Float switches, level control
- One (1) Duplex Pump Control Panel mounted in NEMA 4X enclosure with magnetic starters, circuit breakers, HOA switches, and alarm light, 460 volt, 3 phase, 60 Hz.

**Pricing**

**Price, F.O.B. factory, with freight allowed to Project Site,  
Arkansas, off loading to be by others ..... \$19,374.00 USD**

**Secondary Treatment System**

**Primary Screening Devices**

- One (1) 4 inch diameter inlet flange
- One (1) Manual bar screen, inclined with drying rack, integral with the aeration chamber

**Sludge Holding Chamber / Aerobic Digester**

- One (1) 950 gallon sludge chamber, integral to the aeration tank, aerated with air from the main blowers
- One (1) 2" diameter supernatant decant airlift assembly
- One (1) Coarse bubble diffused aeration system designed for 4 scfm

**Aeration Chamber**

- One (1) 5,000 gallon aeration chamber
- Two (2) Blower motor units, Rietschle-Thomas "BORA" model SAH-95, each with the capacity of 44 scfm at 5 psig, powered by a 2.4 hp, 230/460 volt, 60 Hz, 3 phase TEFC motor, mounted on a steel base plate with inlet filter/silencer, discharge silencer, check-valve, pressure relief valve, and pressure gauge
- One (1) Coarse bubble diffused aeration system designed for 20 scfm
- One (1) Pressure relief valve and pressure gage, mounted in air manifold
- One (1) Main control panel, mounted in NEMA 3R enclosure with magnetic starters, circuit breakers, programmable time clock, and HOA switches, 230/460 volt, 60 Hz, 3 phase

**Clarifier**

- One (1) 833 gallon hopper bottom gravity clarifier
- One (1) 2-1/2" diameter airlift sludge return pump and piping
- One (1) 2" diameter airlift scum return pump and piping
- One (1) Clarifier outlet trough, equipped with adjustable v-notched weir plates

### **Disinfection Equipment**

- One (1) 130 gallon chlorine contact tank, integral to clarifier
- One (1) Tablet chlorinator, Norweco Model XT2000S
- One (1) 22-1/2 degree effluent flow measuring weir
- One (1) 4 inch diameter outlet flange

### **Corrosion Prevention**

- One (1) Interior surface sandblast SSSP-SP10, near white
- One (1) Exterior surface sandblast SSSP-SP6, commercial blast
- Two (2) Coats of interior surface protection, Tnemec series 66 High Build Epoxy, 7-11 mils TDFT
- Two (2) Coats of exterior surface protection, Tnemec series 66 High Build Epoxy, 7-11 mils TDFT

### **Service Walkway**

- One (1) Lot of grating to cover all tank openings, 18 gauge galvanized, non-skid, approximately 156 ft<sup>2</sup>.
- One (1) Lot of painted steel schedule 40 pipe handrail 2 rail with kick-plate, to enclose grating, approximately 55 linear ft.
- One (1) 45 degree access stairway with checker-plate stair treads, and painted steel handrail

### **Manufacturer's Services**

- One (1) Trip consisting of a total of two (2) eight-hour days of startup service by an AEROMIX Systems, Inc. Service Technician, one (1) day on site for start-up services of equipment, and one (1) eight hour days on site to instruct the owner's personnel in proper startup, operation and maintenance of the system

### **Clarifications and Exceptions**

#### **The following equipment and services are not provided as part of this proposal**

- Electrical power connections and wiring to the control panel
- All interconnecting piping outside plant walls
- Conduit and wiring external of plant
- Plant lighting
- Concrete foundation or base slabs

### **General Notes**

1. Crane off-loading, touch-up paint, plumbing to the plant, installation of grating, handrail and component equipment, electrical wiring, and filling of the tank for testing are to be done by the general contractor.



2. All field wiring is to be done by the installing contractor.
3. There is no provision included in this quoted price, unless noted, for field erection supervision, tests, inspections or adjustments of equipment. If factory representative is required for any of these services, please refer to "Service Terms" enclosed. The equipment offered by AEROMIX Systems, Inc. is our standard design, materials and manufacture. In the event that these items of equipment are subject to any alteration in design or materials or manufacture by the contractor, owner, owner's agent or engineer, such alterations shall be subject to change in the contract price and/or delivery schedule.
4. Detail civil engineering, mechanical and electrical design are excluded from the above proposal
5. All piping outside of the reactor basins is to be done by the installing contractor.
6. Cost of performance testing and analytical work associated with start-up, commissioning and testing are excluded from the above proposal
7. This Secondary system will measure approximately 19'-2" long x 8' wide x 9'-6" tall, weighing approximately 14,000 lbs. empty, and will be delivered to the jobsite in one (1) section.

**Pricing**

**Price, F.O.B. factory, with freight allowed to Project Site,  
Arkansas, off loading to be by others ..... \$76,645.00 USD**

**Taxes**

The quoted price does not include any local, state or federal taxes, permits or other fees. Any taxes or fees that may apply must be added to the quoted price and paid by the buyer.

**Proposal Acceptance**

This proposal is offered for acceptance within thirty (30) days from date of this quotation or date of bid opening, whichever is the later date. Prices are subject to review thereafter. Prices are firm, based upon receipt of a Letter of Intent or Purchase Order and notice to proceed within this thirty (30) day period and the review and for return of submittal drawings to AEROMIX Systems, Inc. within thirty (30) days. Delays caused by slow return of submittals or other manufacturing delays caused by the contractor, owner, owner's agent or engineer may result in additional charges of 1% per month for such delays or part thereof.

**Submittal Drawings**

Submittal drawings on the preceding equipment will be submitted within two (2) to four (4) weeks after receipt of a firm purchase order.

**Note:** A purchase order signed by both AEROMIX Systems, Inc. and the purchase order originator must be executed prior to any submittal being forwarded.

AEROMIX Quote No.: 2006-0036R2  
August 24, 2007



**Shipment**

Shipment of the plant listed above can be made within eight (8) to ten (10) weeks from receipt of approved submittals, and may increase or decrease with volume production at the time of receipt of this required information.

For pricing and information pertaining to the equipment contained in this proposal, please contact me:

AEROMIX Systems, Inc  
7135 Madison Avenue West  
Golden Valley, MN 55427

Contact: Peter Gross  
Tel: (763) 746-9261  
Fax: (763) 746-8408

Submitted By:

Accepted By:

\_\_\_\_\_  
Peter Gross

\_\_\_\_\_  
Purchaser Authorized Signature

\_\_\_\_\_  
Purchaser Authorized Printed Name

AEROMIX SYSTEMS, INC.

\_\_\_\_\_  
Company

August 24, 2007

\_\_\_\_\_  
Date

Attachment: Terms of Quotation



**STANDARD TERMS AND CONDITIONS**

Standard Terms and Conditions shall apply and form part of the within quotation except as expressly otherwise agreed by an officer of AEROMIX Systems, Inc.

**ACCEPTANCE:** Unless otherwise expressly stated herein, this quotation shall expire thirty (30) days after its date.

**DELIVERY:** Except as otherwise specified in this quotation, delivery will be Ex-Works, Manchester, Tennessee. Time of Delivery is an estimate only and is based upon the receipt of all information and necessary approvals. The company shall in no event be liable for delays caused by fires, acts of God, strikes, labor difficulties, and acts of governmental or military authorities, delays in transportation or procuring materials, or causes of any kind beyond the company's control.

**WARRANTIES:** The equipment offered is warranted in accordance with the terms of AEROMIX Systems, Inc.'s standard warranty, which is hereby made part of this proposal.

**PRICES:** All prices exclude sales, use, occupation, license, excise and other taxes in respect to manufacture, sale or delivery, all of which shall be paid by the buyer unless a proper exemption certificate is furnished.

**TERMS OF PAYMENT:** Fifteen percent (15%) down payment required with order, fifteen percent (15%) due upon customer's approval of engineering submittal, balance net cash within thirty (30) days after date of shipment/start-up, whichever occurs first, subject to the approval by SELLER'S Credit Department. Payment, other than initial payments, shall be made pro rata as principal items are shipped. In the event delay in making shipment is caused by buyer, payment for such shipment shall be due thirty (30) days from date AEROMIX notifies buyer that AEROMIX is prepared to make such shipment. If buyer delays completion of manufacture, AEROMIX may elect to require payment according to percentage of completion. Machinery held for buyer shall be at buyer's risk and expense. Interest in the amount of one and one-half percent (1-1/2%) per month will be added to all invoices not paid within thirty (30) days of the date of the invoice

**CANCELLATION CHARGES:** In the event the buyer elects to cancel the order or if any proceeding be instituted by or against buyer under any bankruptcy or insolvency law, or if in AEROMIX Systems, Inc.'s judgment, buyer's financial situation justifies such action, AEROMIX Systems, Inc. may, at it's election exercisable at any time prior to delivery require payment in advance or cancel the order as to any unshipped items and require payment of its reasonable cancellation charges.

**Schedule of Cancellation Charges**

Attained <u>Milestone</u> Prior to Submittal	<u>% of P.O Contract Value</u> 10%
--	---



Subsequent to Submittal Approval	20%
Subsequent to Release to Production	50%
Subsequent to Initiation of Equipment Assembly	100%

**BACKCHARGE(S)/CHANGE ORDER(S):** AEROMIX Systems, Inc. shall not accept any backcharges unless written approval has been furnished by an authorized AEROMIX Systems, Inc. employee prior to work/task commencement. An authorized AEROMIX Systems, Inc. employee prior to commencement must execute all change orders.

**TITLE AND LIEN RIGHTS:** The equipment shall remain personal property, regardless of how affixed to any realty or structure until the price (including any notes given therefore) of the equipment has been fully paid in cash. The company shall, in the event of customer's default, have the right to repossess such equipment.

## WARRANTY

**AEROMIX SYSTEMS, INC.** warrants for a period of twenty-four (24) months from start up, not to exceed thirty (30) months from date of shipment, the new equipment of its own manufacture to be free from defects in material and workmanship under normal use and service when used and maintained in accordance with Operation and Maintenance Instruction Manual supplied by AEROMIX Systems, Inc.. AEROMIX Systems, Inc.'s obligation under this warranty being limited to repairing or replacing, at its option, any part found to its satisfaction to be defective, providing that such part is, upon request, returned to AEROMIX Systems, Inc.'s factory, freight prepaid. This warranty does not cover parts damaged by decomposition from chemical action or wear caused by abrasive materials, nor does it cover damage resulting from misuse, accident, neglect or from improper operation, maintenance, installation, modification, or adjustment.

AEROMIX Systems, Inc. shall not be liable for indirect or consequential damages, whether or not caused by seller's neglect. Consequential damages for the purposes of this agreement shall include, but not be limited to, loss of use, income or profit, or loss of or damage to property occasioned by or arising out of the operation, use, installation, repair or replacement of the equipment or otherwise.

"Start up" for the purpose of this agreement shall be the date when the equipment is first placed into operation regardless of the status of other items.

All parts repaired or replaced under this warranty will continue coverage on a prorated basis of the original warranty.

The company shall in no event be liable for damage caused by acts of force majeure, including but not limited to acts of war, fires, acts of God, strikes, and labor difficulties, acts of governmental or military authorities, civil unrest, or causes of any kind beyond the company's control.

Service may be refused to any area designated as High Risk by the company. This refusal will take precedence over any other agreed terms.



Specialists in Aeration, Mixing and Process Equipment

**Complete Mix Activated Sludge  
Design Calculations**  
August 24, 2007

*Ashgrove Cement, AR*  
*5,000 GPD Secondary*

**I. Influent Design Parameters**

Average Flow Rate	5,000	GPD	3.5	GPM
Peak Flow Rate - Assumed	12,500	GPD	8.7	GPM
BOD <sub>5</sub> - Assumed	240	mg/l	10.0	lbs/day
TSS - Assumed	240	mg/l	10.0	lbs/day
TKN - Assumed	40	mg/l	1.7	lbs/day
Temperature - Assumed	68	°F	20.0	°C
Alkalinity - Assumed	200	mg/l	8.3	lbs/day

**II. Effluent Requirements**

BOD <sub>5</sub>	30	mg/l	1.3	lbs/day
TSS	30	mg/l	1.3	lbs/day
NH <sub>3</sub> -N	3	mg/l	0.1	lbs/day

**III. Actual Oxygen Required (AOR)**

AOR/BOD Ratio	1.35	lb/lb
AOR/TKN Ratio	4.60	lb/lb
AOR Recovered by Denitrification	2.86	Lb/Lb NO <sub>3</sub> -N
Percentage of N used for cell mass	3%	
AOR	17.4	Lbs/Day

**IV. Standard Oxygen Required (SOR)**

Industry Standard Field Correction Factor (FCF) for coarse bubble aeration: 0.58  
 SOR 30 lbs/day 1.2 lbs/hr

SOR = AOR/FCF



**Complete Mix Activated Sludge  
Design Calculations**

*Ashgrove Cement, AR  
5,000 GPD Secondary*

**V. Standard Oxygen Transfer Efficiency (SOTE)**

Transfer Efficiency	0.75	%/Foot of Diffuser Submergence
Diffuser Submergence	8.5	Feet
SOTE	6.38	%

$$\text{SOTE} = (\text{Transfer Efficiency} \times \text{Submergence})$$

**VI. Air required for Aeration Basin**

Air Flow for Oxidation	18.7	SCFM
Air Flow for Coarse Bubble Mixing	20.0	SCFM

$$\text{Air Flow} = \text{SOR} / [1440 \text{ min/day} \times 0.0752 \text{ lb air/ft}^3 \times 0.232 \text{ lb O}_2/\text{lb air} \times \text{SOTE}]$$

Air Flow for Mixing, use 30 SCFM/1000 Ft<sub>3</sub> for CB

**VII. Air Required for Aerobic Digester / Sludge Holding Basin**

Digester Volume	127	Ft <sup>3</sup>
Air Required For Mixing	30	SCFM/1000 Ft <sup>3</sup>
Total Air Required	3.8	SCFM

$$\text{Total Air Required} = \text{Volume}/1000 \times 30$$

**VIII. Blower Sizing and Selection** *(Final design will be based on the actual Manufactures Blower Curve)*

Aeration Air Required	20	SCFM
Digester Air Required	4	SCFM
Airlift Air	2	SCFM
Desired Number of Blowers	2	
Blower Capacity	100%	
Blower Discharge Pressure	5.23	PSIG
Approximate Blower BHP	1.0	BHP
Actual Blower Nameplate Rating	2.4	HP

**Complete Mix Activated Sludge  
Design Calculations**

*Ashgrove Cement, AR  
5,000 GPD Secondary*

**IX. Aeration Basin Design**

Organic Loading Rate	15.0	Lbs BOD <sub>5</sub> /1000 Ft <sup>3</sup> /Day		
Retention Time	24.0	Hours		
Anoxic Retention Time	0.0	Hours		
Oxic Retention Time	24.0	Hours		
Total Required Reactor Volume	668	Ft <sup>3</sup>	4,994	Gal
Anoxic Volume	0	Ft <sup>3</sup>	0	Gal
Oxic Volume	668	Ft <sup>3</sup>	4,994	Gal
Side Water Depth	9.5	Ft		

*The maximum allowed organic loading rate is 45 lbs BOD<sub>5</sub>/1000 ft<sup>3</sup>.*

Required Volume = Lbs BOD / Organic loading Rate

**X. Clarifier Design**

Overflow Rate at Design Flow	400	GPD/Ft <sup>2</sup>		
Overflow Rate at Peak Flow	800	GPD/Ft <sup>2</sup>		
Require Surface Area	13	Ft <sup>2</sup> Ave	16	Ft <sup>2</sup> Peak
Hopper Bottom Clarifier Dimensions	6	ft per side	36	Ft <sup>2</sup>
Number of Hopper Clarifiers	1			
Total Hopper Bottom Clarifier Area	36	Ft <sup>2</sup>		
Hopper Bottom Clarifier Volume	833	Gal		
Hopper Bottom Retention Time	4.0	Hours		

**XI. Chlorine Contact Chamber Design**

Retention Time at Peak Flow	15	Min
Required Volume	130	Gal

**Complete Mix Activated Sludge  
Design Calculations**

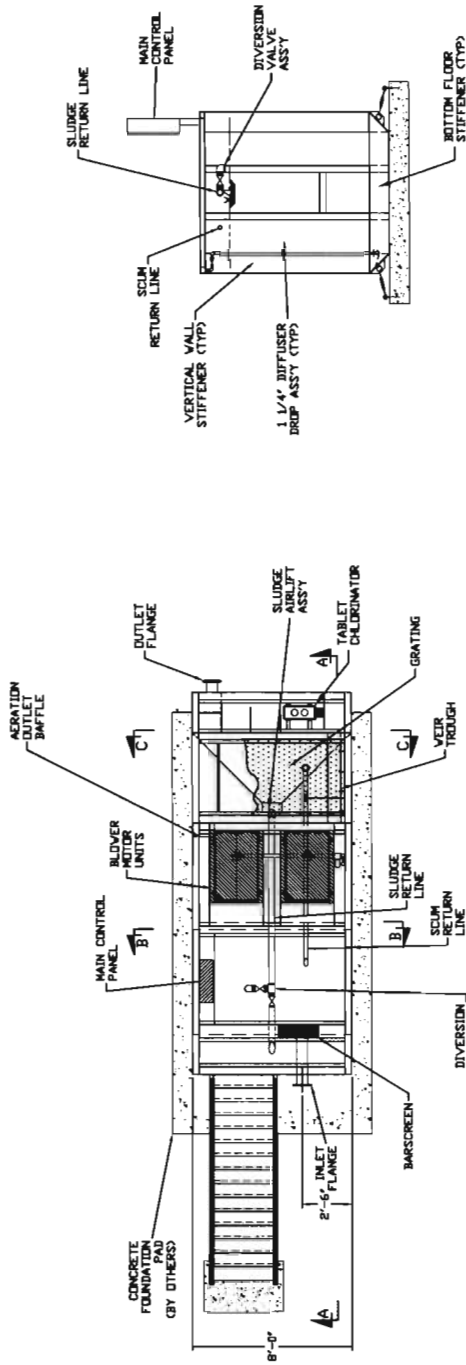
*Ashgrove Cement, AR*  
*5,000 GPD Secondary*

**XII. Aerobic Digester Design**

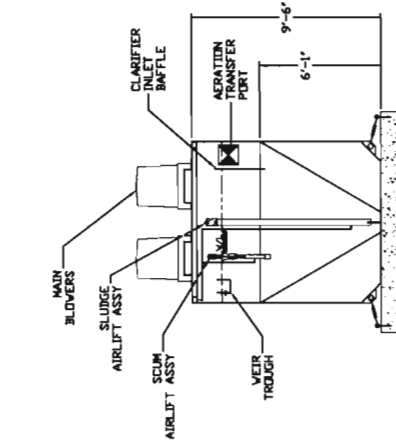
Desired Retention Time	28.5	Days
Thickened WAS Concentration	18,000	mg/l
Estimated Sludge Yield	0.50	Lbs WAS/Lb BOD <sub>5</sub>
WAS Generated	5.0	Lbs WAS / Day
Daily Volume Required	33	Gal/Day
Total Volume Required	950	Gal
Actual Volume Provided	950	Gal
Actual Retention Time	28.5	Days

$$\text{Daily Volume} = (\text{WAS Generated} \times 1,000,000) / (8.345 \times \text{Thickened WAS Concentration})$$

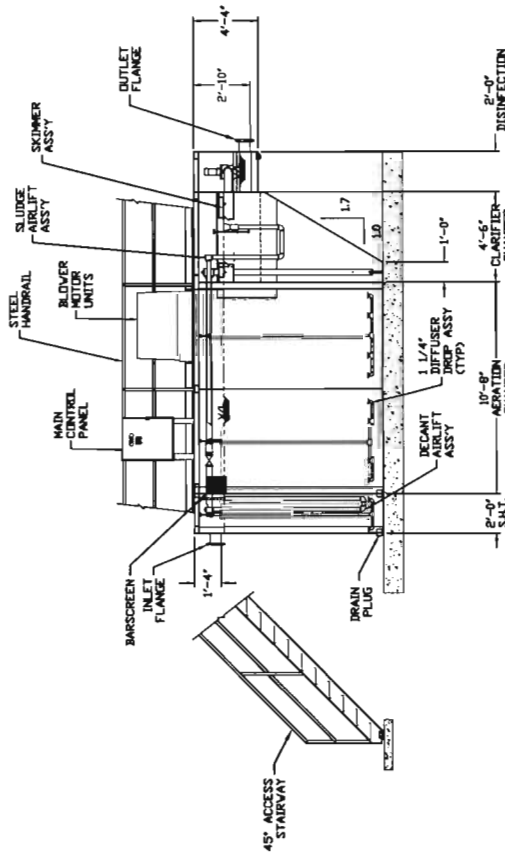
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**SECTION 'B-B'**  
AERATION CHAMBER



**SECTION 'C-C'**  
CLARIFIER CHAMBER



**ELEVATION  
SECTION 'A-A'**



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REV	DATE	DESCRIPTION	BY	APP'D
1	8/07	CHANGED CHLORINE CONTACT CHAMBER VOLUME		
2				
3				
4				
5				
6				

**AEROMIX Systems, Inc.**  
Phone: 800-879-5877  
Fax: 781-748-8400  
Golden Valley, MN 55447 U.S.A. FAX: 781-748-8400

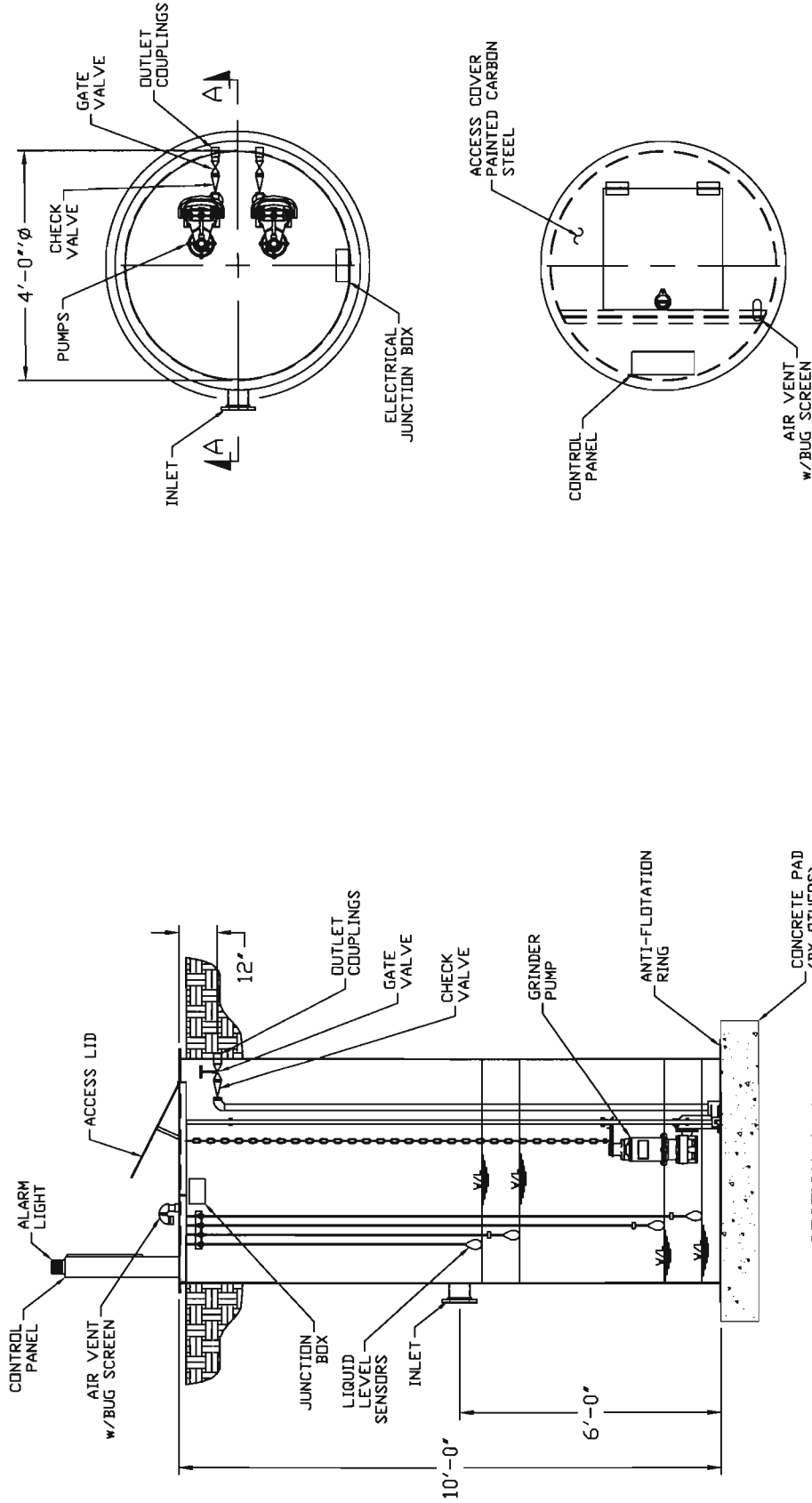
**TITLE** SECONDARY TREATMENT SYSTEM  
**FOR** ASHGROVE CEMENT, ARKANSAS

**FORM** MOC 0807  
**DATE** 4/4/06  
**SCALE** NTS  
**DWG. NO.** 060036-201  
**REV** 1

**CERTIFIED FOR  
CONSTRUCTION**  
DATE 08/10/07

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**PLAN**



**ACCESS LID DETAIL**

**CERTIFIED FOR  
CONSTRUCTION**  
DATE 08/10/07

NO.	DATE	REVISIONS	BY	APP'D
1				
2				
3				
4				
5				
6				

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**AEROMIX SYSTEMS, Inc.**  
7195 Madison Ave.  
Golden Valley, MN 55427 U.S.A.  
Phone: 800-879-3877  
Phone: 763-746-8400  
Fax: 763-746-8408

**THE DUPLEX FIBERGLASS GRINDER LIFT  
STATION FOR  
ASHGROVE CEMENT, ARKANSAS**

OWNER: WOLF CRTO MGC  
DRAW. NO.: 060036-100  
DATE: 8/9/07 SCALE: 1:35

"QUALITY PUMPS SINCE 1939"

Product information presented here reflects conditions at time of publication. Consult factory regarding discrepancies or inconsistencies.

**ZOELLER**  
PUMP CO.



SECTION: 2.50.040

FM1232

1204

Supersedes

0603

MAIL TO: P.O. BOX 16347 • Louisville, KY 40256-0347  
SHIP TO: 3649 Cane Run Road • Louisville, KY 40211-1961  
(502) 778-2731 • 1 (800) 928-PUMP • FAX (502) 774-3624

visit our web site:  
[www.zoeller.com](http://www.zoeller.com)

# THE SHARK<sup>®</sup>

Series

## 840 GRINDER PUMP

### FEATURES:

- Durable Heavy Duty Finned Cast Iron Construction.
- 2 HP, 60 Hz, 3450 RPM.
- Oil-Filled - Hermetically Sealed Motor with Class F Insulation.
- Hardened Stainless Steel Cutter and Disc.
- Cutters Protected from Abrasive Solids.
- Cutters can automatically alternate direction to enhance blade life and free hang-ups. (automatic or manually)
- Stainless Steel Screws, Bolts, and Lifting Bail.
- Easily adapts to many existing competitors' rail systems.
- Tandem seals with leak detection.
- Automatic Thermal Overload Protection (Single Phase)
- Thermal Sensor Protection (Standard on 3 Phase)
- Legs provide for free standing installation.
- Preassembled Systems Available.
- Corrosion resistant powder coated epoxy finish.

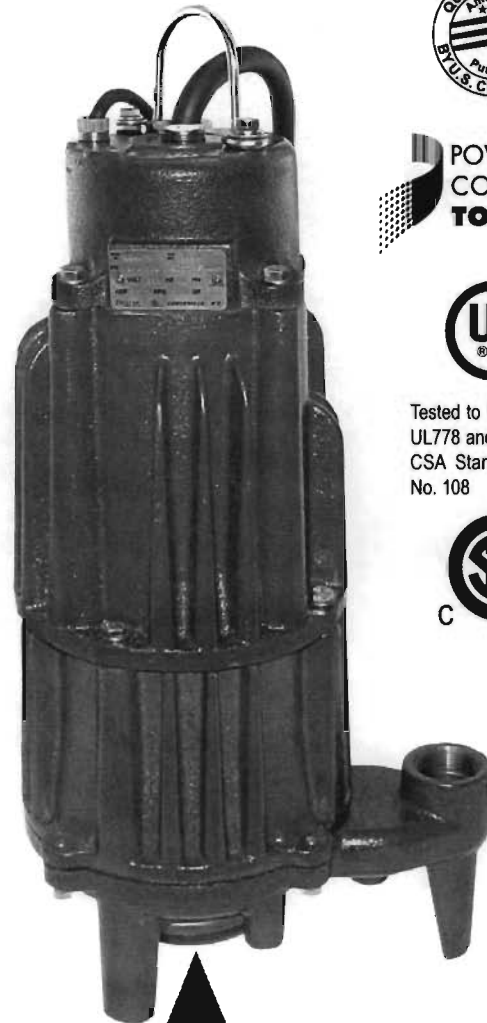


## PUMP SYSTEMS AND REVERSING CONTROLS

### 840 SERIES



Tested to UL Standard  
UL778 and Certified to  
CSA Standard C22.2  
No. 108



Submersible Wastewater  
Pump Association  
**SWPA**  
MEMBER

Product may not be exactly as pictured.

# GRINDER SYSTEMS

## (A) GRINDER MODEL - 840 2 HP, 1 1/2" N.P.T. VERTICAL DISCHARGE - 20 FT. CORDS

P/N	WGT.	MODEL	VOLTS	PH	AMP
<input type="checkbox"/> 840-0004	137	E840	230	1□	17.2
<input type="checkbox"/> 840-0005	137	I840	200/208	1□	20.0
<input type="checkbox"/> 840-0006	132	F840	230	3	10.8
<input type="checkbox"/> 840-0007	132	J840	200/208	3	12.3
<input type="checkbox"/> 840-0008	132	G840	460	3	5.5
<input type="checkbox"/> 840-0009	132	BA840	575	3	4.5

□ Single phase units require a set of capacitors and relay starting components.

### STANDARD FEATURES:

- Reversible Cutter Action Manual/Auto\*\*
- 1 1/2" NPT Vertical Discharge
- Carbon/Ceramic Tandem Seals
- Thermal Sensors\*\* (O.L. on 1PH)
- Moisture Probes\*\*
- Balanced Bronze Impellers
- Stainless Steel Cutter and Plate (R-C 55-60)
- Stainless Steel Shaft
- Stainless Steel Lifting Bracket
- Corrosion resistant powder coated epoxy paint
- 20 ft. Power Cord - 20 ft. Sensor Cord
- UL Listed

### OPTIONS:

- Extended Cord Lengths
- Anti-Siphon Device

\*\*Requires Circuit in Control Panel to Function

## (B) CONTROL PANELS

SIMPLEX NEMA 4X			DUPLEX NEMA 4X	
MODEL	P/N	WGT.	P/N	WGT.
E or I 840	<input type="checkbox"/> 10-0393	15	<input type="checkbox"/> 10-0397	21
E or I 840	<input type="checkbox"/> 10-0420*	17	<input type="checkbox"/> 10-0512*	23
F or J 840	<input type="checkbox"/> 10-0394	18	<input type="checkbox"/> 10-0398	21
G840	<input type="checkbox"/> 10-0395	18	<input type="checkbox"/> 10-0399	21
BA840	<input type="checkbox"/> 10-0396	18	<input type="checkbox"/> 10-0400	21

\*With Audible and Visible High Water Alarm

### (B) CONTROL PANEL

#### STANDARD FEATURES:

- Nema 4X Outdoor Rating
- Starting, Control, and Alarm Circuits
- Circuit Breaker and Rated Motor Contactor (single phase)
- Capacitors and Motor Starting Relay on Single Phase
- Motor Protective Switch (circuit breaker/adj overloads) and Rated Motor Contactor (three phase)
- Alternating Circuit (Duplex)
- Automatic Reversing Circuit
- High Water Alarm Light
- Internal Seal Leak Light
- HOA Switches and Pilot Light(s)
- Terminal Strips
- Thermal Cut-Out Circuit (three phase only)
- Padlock Hasp
- Capacitors/Start Relay (single phase)
- UL Listed

#### OPTIONS:

- Audible High Water Alarm
- Flasher for High Water Alarm Light
- Manual Reset of High Water Alarm
- Intrinsically Safe Relays
- Manual Reversing Switch
- Elapsed Time Meters
- Dry Auxiliary Contact
- For other options, consult factory

Maximum Temperature  
for Sewage  
130°F (54°C)

## (C) VARIABLE LEVEL FLOAT SWITCHES INDOOR SYSTEM

3 Switches and Weights without Brackets

- P/N 10-0347 WGT. 9.5

4 Switches and Weights without Brackets

- P/N 10-0348 WGT. 13.0

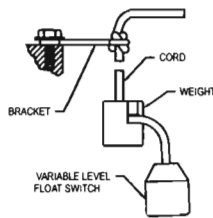
### OUTDOOR SYSTEM

3 Switches with Weights and Brackets

- P/N 10-0329 WGT. 10.0

4 Switches with Weights and Brackets

- P/N 10-0330 WGT. 14.0



SK1328

## (D) CHECK VALVES

1 1/2" Cast Iron NPT Female

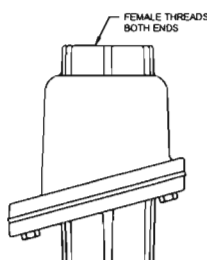
- P/N 30-0163 WGT. 7.5

1 1/2" Cast Iron NPT Female

- P/N 30-0164 WGT. 7.5

2" Cast Iron NPT Female

- P/N 30-0152 WGT. 10.0



SK1330

## SIMPLEX REVERSING CONTROL BOXES\*

MODEL	AUTOMATIC		MANUAL	
	P/N	WGT.	P/N	WGT.
E840	<input type="checkbox"/> 10-0352	8	<input type="checkbox"/> 10-0360	7
I840	<input type="checkbox"/> 10-0352	8	<input type="checkbox"/> 10-0360	7
F840	<input type="checkbox"/> 10-0353	6	<input type="checkbox"/> 10-0361	5
J840	<input type="checkbox"/> 10-0353	6	<input type="checkbox"/> 10-0361	5
G840	<input type="checkbox"/> 10-0354	12	<input type="checkbox"/> 10-0362	5
BA840	<input type="checkbox"/> 10-0355	12	<input type="checkbox"/> 10-0362	5

\* These control boxes consist of the reversing mechanisms and capacitors (1PH units) only. They will not control pumps. Refer to Section B for complete system controls. For duplex applications use two simplex reversing control boxes. (For pump prefix identification see News & Views 0052)

### FOR GRINDER PUMP ONLY

Single Phase Pump Requires Two Capacitors and a Motor Starting Relay Factory Mounted in a Nema 4X starter pack.

- P/N 10-0379 WGT. 7

Two Capacitors and Motor Starting Relay shipped loose to be mounted in existing panel.

- P/N 10-0380 WGT. 2

### THE MODEL 840 GRINDER WILL FIT ON MYER'S RAIL

P/N RWG125 (1 Required) & RWGD125 (2 required) by using Zoeller's Adapter.

- P/N 10-0381 WGT. 3

Hydro-O-Matic's Hydr-O-Rail® bolts directly to Model 840 by using base adapter.

**Specify when ordering.**

## (E) JUNCTION BOXES - TYPE: 4X

### SIMPLEX

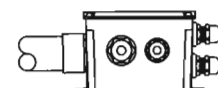
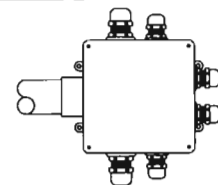
5 Holes with Seals for (1) Power Cord, (1) Sensor Cord, (3) Float Switch Cords.

- P/N 10-0331 WGT. 2.5 3 Float System

### DUPLEX

8 Holes with Seals for (2) Power Cords, (2) Sensor Cords, (3 or 4) Float Switch Cords.

- P/N 10-0332 WGT. 2.5 3 Float System
- P/N 10-0421 WGT. 2.5 4 Float System



SK1331

**(F) INDOOR BASIN, COVER, AND HARDWARE - PREPACKAGED STANDARD EQUIPMENT**

- Fiberglass Basin
- Rust Resistant Steel Cover(s) (epoxy coated only)
- Inspection Plate
- Individual Pump Covers
- 3" Adaptaflex Vent Seal
- 1/4" Adaptaflex Discharge Pipe Seal(s)
- Cord Seal(s)
- 1-4" C.I. Hub with Insert for 4" I.P.S. Inlet Pipe
- Pump Support Hardware
- 1/4" Check Valve(s)
- Ball Valve(s)

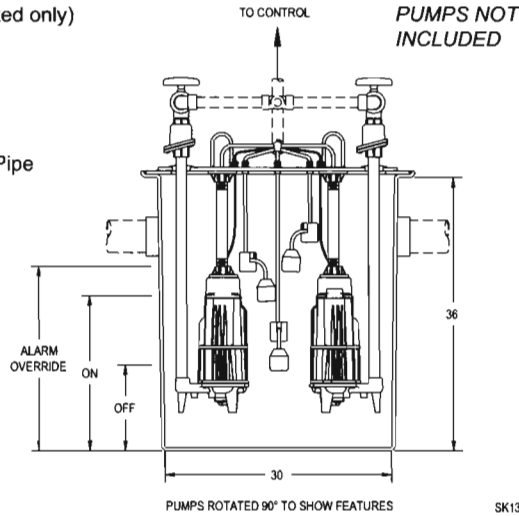
**SIMPLEX**

□ 24" x 36" P/N 32-0005 WGT. 107

**DUPLEX**

□ 30" x 36" P/N 32-0006 WGT. 154  
3-Float System

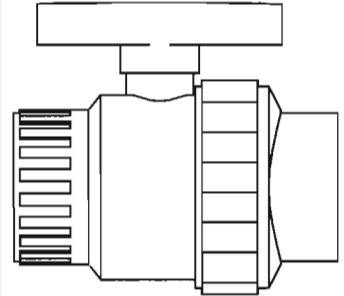
□ 30" x 36" P/N 32-0007 WGT. 154  
4-Float System



SK1326

**(I) BALL VALVE**

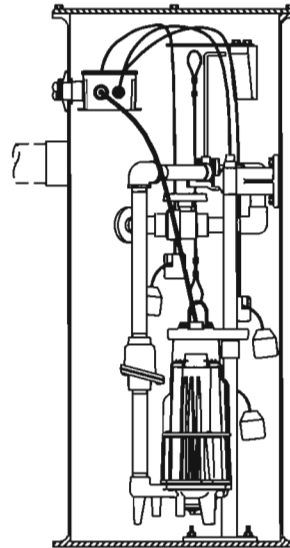
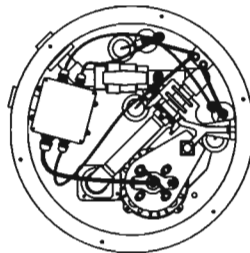
- 1/4" IPS  
□ P/N 30-0165 WGT. 2.0
- 1/2" IPS  
□ P/N 30-0166 WGT. 2.0
- 2" IPS  
□ P/N 30-0167 WGT. 2.5



SK1333

**(G) OUTDOOR BASIN, COVER, AND RAIL SYSTEM ASSEMBLIES - STANDARD EQUIPMENT**

- Fiberglass Basin with Anti-flotation Ring
- 1/4" Galvanized pump discharge piping to disconnect
- 1/4" PVC Discharge Pipe from Disconnect
- 1/4" Adaptaflex Discharge Pipe Seal
- Stainless Steel Square Guide Rail
- 1' Pull Rod
- 8' SS Lifting Cable for basin depths to 84" (12' SS Lifting Cable for basin depths of 96")
- 1/4" PVC Ball Valve(s)
- 1/4" C.I. Check Valve(s)
- 1-4" C.I. Hub - Field Installed
- Fiberglass Cover



PUMP NOT INCLUDED

SK1607

**SIMPLEX**

□ 24" x 48" P/N 33-0022 WGT. 204

□ 24" x 60" P/N 33-0023 WGT. 217

□ 24" x 72" P/N 33-0024 WGT. 231

□ 24" x 84" P/N 33-0057 WGT. 262

□ 24" x 96" P/N 33-0025 WGT. 275

**DUPLEX**

□ 36" x 48" P/N 33-0034 WGT. 364

□ 36" x 60" P/N 33-0035 WGT. 386

□ 36" x 72" P/N 33-0036 WGT. 469

□ 36" x 84" P/N 33-0059 WGT. 496

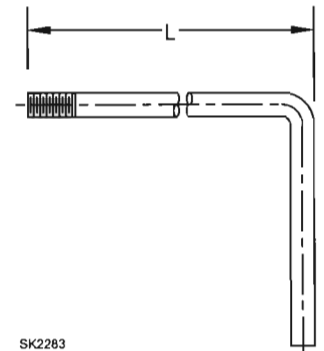
□ 36" x 96" P/N 33-0037 WGT. 522

**OPTIONS:** •All SS Fitted (Rail Supports)  
•Larger Diameter or Deeper Basins (Allow for Overhead Clearance)

**(J) PULL RODS FOR SQUARE GUIDE RAIL SYSTEMS ONLY**

(Field Installed Systems)

- 1 Ft. "L"  
□ P/N 39-0069 WGT. 0.5
- 2 1/2 Ft. "L"  
□ P/N 39-0006 WGT. 1.0
- 3 1/2 Ft. "L"  
□ P/N 39-0007 WGT. 1.5
- 4 1/2 Ft. "L"  
□ P/N 39-0008 WGT. 1.5
- 5 1/2 Ft. "L"  
□ P/N 39-0009 WGT. 2.0



SK2283

**(H) RAIL SYSTEMS - (FIELD INSTALLED)**

**E-Z out Rail System for 1/4" pump discharges (Rail System discharge is 2" NPT male thread)**

**Galvanized Fitted**

□ P/N 39-0087 WGT. 43

**Stainless Steel Fitted**

□ P/N 39-0088 WGT. 43

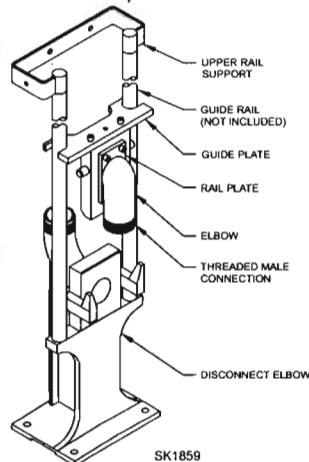
**Intermediate Stabilizer Bracket for every 12' of depth.**

**Galvanized**

□ P/N 39-0089 WGT. 6.0

**Stainless Steel**

□ P/N 39-0090 WGT. 6.0



SK1859

**Square Guide Rail System for systems less than 96" deep**

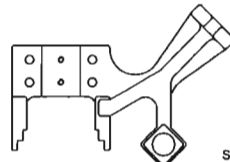
**BASIN DEPTH**

- 48" P/N 39-0054 WGT. 90.5
- 60" P/N 39-0055 WGT. 94.5
- 72" P/N 39-0056 WGT. 98.5

Fits both round and square basins  
Includes Square Guide Rail

Basins over 72" deep require one additional angle arm bracket.

□ P/N 39-0070 WGT. 11

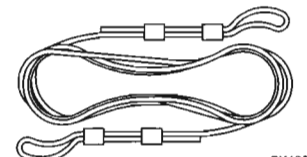


SK1626

**(K) SS LIFTING CABLE**

(Field Installed Systems)

- 8 Ft.  
□ P/N 39-0031 WGT. 1.0
- 12 Ft.  
□ P/N 39-0032 WGT. 1.0
- 16 Ft.  
□ P/N 39-0033 WGT. 1.0
- 20 Ft.  
□ P/N 39-0034 WGT. 1.0
- 24 Ft.  
□ P/N 39-0035 WGT. 1.0



SK1335



# PREPACKAGED AND JOB READY SYSTEMS

SIMPLEX		INDOOR	DUPLEX	
<b>REQ.</b>			<b>REQ.</b>	
1 Grinder	P/N _____ (A)		2 Grinders	P/N _____ (A)
1 Simplex Control Panel	P/N _____ (B)		1 Duplex Control Panel	P/N _____ (B)
1 Variable Level Fl. Sw. Assm.	P/N _____ (C)		1 Variable Level Fl. Sw. Assm.	P/N _____ (C)
1 Basin, Cover and Hardware	P/N _____ (F)		1 Basin, Cover and Hardware	P/N _____ (F)

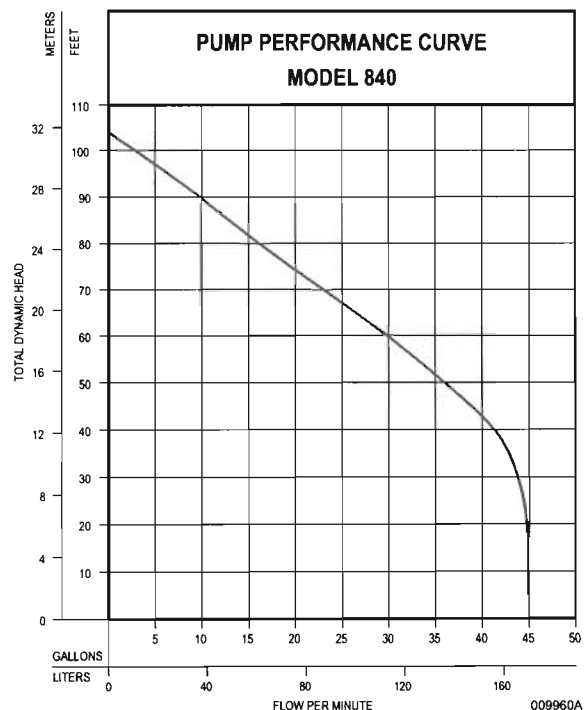
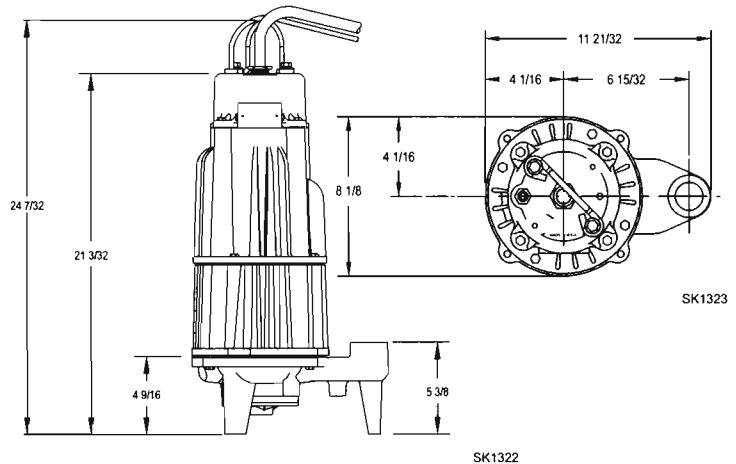
SIMPLEX		OUTDOOR	DUPLEX	
<b>REQ.</b>			<b>REQ.</b>	
1 Grinder	P/N _____ (A)		2 Grinders	P/N _____ (A)
1 Simplex Control Panel	P/N _____ (B)		1 Duplex Control Panel	P/N _____ (B)
1 Variable Level Fl. Sw. Assm.	P/N _____ (C)		1 Variable Level Fl. Sw. Assm.	P/N _____ (C)
1 J-Box	P/N _____ (E)		1 J-Box	P/N _____ (E)
1 Basin, Cover and Rail System	P/N _____ (G)		1 Basin, Cover and Rail System	P/N _____ (G)

## FIELD MOUNT SYSTEMS

SIMPLEX	
<b>REQ.</b>	
1 Grinder	P/N _____ (A)
1 Simplex Control Panel	P/N _____ (B)
1 Variable Level Fl. Sw. Assm.	P/N _____ (C)
1 Junction Box	P/N _____ (E)
1 Rail System	P/N _____ (H)
1 Angle Arm/Intermediate Bracket*	P/N _____ (H)
1 Pull Rod**	P/N _____ (J)
1 S.S. Lifting Cable	P/N _____ (K)

DUPLEX	
<b>REQ.</b>	
2 Grinders	P/N _____ (A)
1 Duplex Control Panel	P/N _____ (B)
1 Variable Level Fl. Sw. Assm.	P/N _____ (C)
1 Junction Box	P/N _____ (E)
2 Rail Systems	P/N _____ (H)
2 Angle Arm/Intermediate Bracket*	P/N _____ (H)
2 Pull Rods**	P/N _____ (J)
2 S.S. Lifting Cables	P/N _____ (K)



\* Required for basin depths over 72" (Square Guide Rail) and over 12' (E-Z Out Rail). Allow for overhead clearances.

\*\* For Square Guide Rail only.

Access Doors Available on Field Mount Systems - Consult Factory

Special Basin Configurations - Consult Factory

Junction Box Mounting & Assembly - Consult Factory

Manufacturers of...

**"QUALITY PUMPS SINCE 1939"**

A request for approval of the wastewater treatment system including all system plans and specifications was submitted to the Arkansas Department of Health on September 10, 2007. ADH has conducted a site inspection at the facility and the approval is pending. Upon receipt of the approval letter by Ashgrove, a copy of the letter will be forwarded to the ADEQ for inclusion into this application.

# **One Large Map Attached**