City of Albuquerque

Environmental Health Department
Air Quality Program

Permit Application Checklist

Any person seeking a permit under 20.11.41 NMAC, Authority-to-Construct Permits, shall do so by filing a written application with the Department. Prior to ruling a submitted application complete each application submitted shall contain the required items listed below. **This checklist must be returned with the application.**

Applications that are ruled incomplete because of missing information will delay any determination or the issuance of the permit. The Department reserves the right to request additional relevant information prior to ruling the application complete in accordance with 20.11.41 NMAC.

All applicants shall:

1. Fill out and submit the *Pre-permit Application Meeting Request* form
   a. ☑ Attach a copy to this application

2. Attend the pre-permit application meeting
   a. ☑ Attach a copy of the completed *Pre-permit Application Meeting Checklist* to this application

3. Provide public notice to the appropriate parties
   a. ☑ Attach a copy of the completed *Notice of Intent to Construct* form to this form
      i. Neighborhood Association(s): _____
      _____
      ii. Coalition(s): _____
   b. ☑ Attach a copy of the completed *Public Sign Notice Guideline* form

4. Fill out and submit the *Permit Application*. All applications shall:

   A. ☑ be made on a form provided by the Department. Additional text, tables, calculations or clarifying information may also be attached to the form.

   B. ☑ at the time of application, include documentary proof that all applicable permit application review fees have been paid as required by 20 NMAC 11.02. Please refer to the attached permit application worksheet.

   C. ☑ contain the applicant's name, address, and the names and addresses of all other owners or operators of the emission sources.

RECEIVED
ENVIRONMENTAL HEALTH
18 JAN -5 AM 9:16

D. ☑ contain the name, address, and phone number of a person to contact regarding questions about the facility.

E. ☑ indicate the date the application was completed and submitted

F. ☑ contain the company name, which identifies this particular site.

G. ☑ contain a written description of the facility and/or modification including all operations affecting air emissions.

H. ☑ contain the maximum and standard operating schedules for the source after completion of construction or modification in terms of hours per day, days per week, and weeks per year.

I. ☑ provide sufficient information to describe the quantities and nature of any regulated air contaminant (including any amount of a hazardous air pollutant) that the source will emit during:

- Normal operation
- Maximum operation
- Abnormal emissions from malfunction, start-up and shutdown

J. ☑ include anticipated operational needs to allow for reasonable operational scenarios to avoid delays from needing additional permitting in the future.

K. ☑ contain a map, such as a 7.5-minute USGS topographic quadrangle, showing the exact location of the source; and include physical address of the proposed source.

L. ☑ contain an aerial photograph showing the proposed location of each process equipment unit involved in the proposed construction, modification, relocation, or technical revision of the source except for federal agencies or departments involved in national defense or national security as confirmed and agreed to by the department in writing.

M. ☑ contain the UTM zone and UTM coordinates.

N. ☑ include the four digit Standard Industrialized Code (SIC) and the North American Industrial Classification System (NAICS).

O. ☑ contain the types and **potential emission rate** amounts of any regulated air contaminants the new source or modification will emit. Complete appropriate sections of the application; attachments can be used to supplement the application, but not replace it.

P. ☑ contain the types and **controlled** amounts of any regulated air contaminants the new source or modification will emit. Complete appropriate sections of the application; attachments can be used to supplement the application, but not replace it.

Q. ☑ contain the basis or source for each emission rate (include the manufacturer's specification sheets, AP-42 Section sheets, test data, or other data when used as the source).

R. ☑ contain all calculations used to estimate **potential emission rate** and **controlled** emissions.

S. ☑ contain the basis for the estimated control efficiencies and sufficient engineering data for verification of the control equipment operation, including if necessary, design drawings, test reports, and factors which affect the normal operation (e.g. limits to normal operation).

T. ☑ contain fuel data for each existing and/or proposed piece of fuel burning equipment.

U. ☑ contain the anticipated maximum production capacity of the entire facility and the requested production capacity after construction and/or modification.

V. ☑ contain the stack and exhaust gas parameters for all existing and proposed emission stacks.

W. ☑ provide an ambient impact analysis using a atmospheric dispersion model approved by the US Environmental Protection Agency (EPA), and the Department to demonstrate compliance with the ambient air quality standards for the City of Albuquerque and Bernalillo County (See 20.11.01 NMAC). If you are modifying an existing source, the modeling must include the emissions of the entire source to demonstrate the impact the new or modified source(s) will have on existing plant emissions.

X. ☑ contain a preliminary operational plan defining the measures to be taken to mitigate source emissions during malfunction, startup, or shutdown.

Y. ☑ contain a process flow sheet, including a material balance, of all components of the facility that would be involved in routine operations. Indicate all emission points, including fugitive points.

Z. ☑ contain a full description, including all calculations and the basis for all control efficiencies presented, of the equipment to be used for air pollution control. This shall include a process flow sheet or, if the Department so requires, layout and assembly drawings, design plans, test reports and factors which affect the normal equipment operation, including control and/or process equipment operating limitations.

AA. ☑ contain description of the equipment or methods proposed by the applicant to be used for emission measurement.

BB. ☑ be signed under oath or affirmation by a corporate officer, authorized to bind the company into legal agreements, certifying to the best of his or her knowledge the truth of all information submitted.

Application – Air Quality Permit 20.11.40 NMAC

City of Albuquerque

Environmental Health Department
Air Quality Program

Permit Application Checklist

Any person seeking a permit under 20.11.41 NMAC, Authority-to-Construct Permits, shall do so by filing a written application with the Department. Prior to ruling a submitted application complete each application submitted shall contain the required items listed below. **This checklist must be returned with the application.**

Applications that are ruled incomplete because of missing information will delay any determination or the issuance of the permit. The Department reserves the right to request additional relevant information prior to ruling the application complete in accordance with 20.11.41 NMAC.

All applicants shall:

1. Fill out and submit the *Pre-permit Application Meeting Request* form
   a. ☐ Attach a copy to this application

2. Attend the pre-permit application meeting
   a. ☐ Attach a copy of the completed *Pre-permit Application Meeting Checklist* to this application

3. Provide public notice to the appropriate parties
   a. ☐ Attach a copy of the completed *Notice of Intent to Construct* form to this form
      i. Neighborhood Association(s):_____
      _____
      ii. Coalition(s): _____
   b. ☐ Attach a copy of the completed *Public Sign Notice Guideline* form

4. Fill out and submit the *Permit Application*. All applications shall:

   A. ☐ be made on a form provided by the Department. Additional text, tables, calculations or clarifying information may also be attached to the form.

   B. ☐ at the time of application, include documentary proof that all applicable permit application review fees have been paid as required by 20 NMAC 11.02. Please refer to the attached permit application worksheet.

   C. ☐ contain the applicant's name, address, and the names and addresses of all other owners or operators of the emission sources.

D. ☐ contain the name, address, and phone number of a person to contact regarding questions about the facility.

E. ☐ indicate the date the application was completed and submitted

F. ☐ contain the company name, which identifies this particular site.

G. ☐ contain a written description of the facility and/or modification including all operations affecting air emissions.

H. ☐ contain the maximum and standard operating schedules for the source after completion of construction or modification in terms of hours per day, days per week, and weeks per year.

I. ☐ provide sufficient information to describe the quantities and nature of any regulated air contaminant (including any amount of a hazardous air pollutant) that the source will emit during:

- Normal operation
- Maximum operation
- Abnormal emissions from malfunction, start-up and shutdown

J. ☐ include anticipated operational needs to allow for reasonable operational scenarios to avoid delays from needing additional permitting in the future.

K. ☐ contain a map, such as a 7.5-minute USGS topographic quadrangle, showing the exact location of the source; and include physical address of the proposed source.

L. ☐ contain an aerial photograph showing the proposed location of each process equipment unit involved in the proposed construction, modification, relocation, or technical revision of the source except for federal agencies or departments involved in national defense or national security as confirmed and agreed to by the department in writing.

M. ☐ contain the UTM zone and UTM coordinates.

N. ☐ include the four digit Standard Industrialized Code (SIC) and the North American Industrial Classification System (NAICS).

O. ☐ contain the types and **potential emission rate** amounts of any regulated air contaminants the new source or modification will emit. Complete appropriate sections of the application; attachments can be used to supplement the application, but not replace it.

P. ☐ contain the types and **controlled** amounts of any regulated air contaminants the new source or modification will emit. Complete appropriate sections of the application; attachments can be used to supplement the application, but not replace it.

Q. ☐ contain the basis or source for each emission rate (include the manufacturer's specification sheets, AP-42 Section sheets, test data, or other data when used as the source).

R. ☐ contain all calculations used to estimate **potential emission rate** and **controlled** emissions.

S. ☐ contain the basis for the estimated control efficiencies and sufficient engineering data for verification of the control equipment operation, including if necessary, design drawings, test reports, and factors which affect the normal operation (e.g. limits to normal operation).

T. ☐ contain fuel data for each existing and/or proposed piece of fuel burning equipment.

U. ☐ contain the anticipated maximum production capacity of the entire facility and the requested production capacity after construction and/or modification.

V. ☐ contain the stack and exhaust gas parameters for all existing and proposed emission stacks.

W. ☐ provide an ambient impact analysis using a atmospheric dispersion model approved by the US Environmental Protection Agency (EPA), and the Department to demonstrate compliance with the ambient air quality standards for the City of Albuquerque and Bernalillo County (See 20.11.01 NMAC). If you are modifying an existing source, the modeling must include the emissions of the entire source to demonstrate the impact the new or modified source(s) will have on existing plant emissions.

X. ☐ contain a preliminary operational plan defining the measures to be taken to mitigate source emissions during malfunction, startup, or shutdown.

Y. ☐ contain a process flow sheet, including a material balance, of all components of the facility that would be involved in routine operations. Indicate all emission points, including fugitive points.

Z. ☐ contain a full description, including all calculations and the basis for all control efficiencies presented, of the equipment to be used for air pollution control. This shall include a process flow sheet or, if the Department so requires, layout and assembly drawings, design plans, test reports and factors which affect the normal equipment operation, including control and/or process equipment operating limitations.

AA. ☐ contain description of the equipment or methods proposed by the applicant to be used for emission measurement.

BB. ☐ be signed under oath or affirmation by a corporate officer, authorized to bind the company into legal agreements, certifying to the best of his or her knowledge the truth of all information submitted.

MATERIAL APPROVAL SUBMITTAL

(See Instructions on Reverse)

TO: 772 Enterprise Sourcing Squadron 2261 Hughes Ave, Ste 163 JBSA Lackland AFB, TX 78236	**FROM:** *(Contractor)* Barlovento, LLC 341 Technology Drive Dothan, AL 36303	DATE *(YYYYMMDD)* 2017/12/15
CONTRACT NUMBER **FA3002-08-D-0015 FA8903-17-F-0171**	SUBMITTAL NUMBER 090a	SUBMITTAL ☐ NEW ☒ RESUBMITTAL
PREVIOUS SUBMITTAL NUMBER	PROJECT NUMBER MHMV 130079 Repair Taxiway to Pad 5 Facility	

TO BE COMPLETED BY CONTRACTOR			FOR GOVERNMENT USE ONLY			
ITEM NO.	SPECIFICATION SECTION/ PARA NO./DRAWING NO.	DESCRIPTION OF MATERIAL *(Include Type, Model Number, Catalog Number, Mfg., etc.)*	AP-PROVED	DISAP-PROVED	SEE REVERSE	INITIAL
	32 13 11	Equipment Concrete Plant	☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	

BY COMPLETING THIS FORM, THE UNDERSIGNED CONTRACTOR CERTIFIES THAT THE MATERIAL COMPLIES WITH ALL SPECIFICATIONS OF SUBJECT CONTRACT.

DATE *(YYYYMMDD)*	TYPE OR PRINT NAME AND GRADE	SIGNATURE
2017/12/15	Gerald H. Axford	*Gerald H. Axford*

FOR GOVERNMENT USE ONLY

TO: AFCEC/CFSC COR

RECOMMEND ☐ APPROVAL ☐ DISAPPROVAL - SUBJECT TO ANY APPLICABLE COMMENTS ON THE REVERSE

DATE:	TYPE OR PRINT NAME AND GRADE Title II Inspector	SIGNATURE

TO: 772 ESS / PKA Contracting Officer

RECOMMEND ☐ APPROVAL ☐ DISAPPROVAL AS INDICATED ABOVE AND SUBJECT TO ANY APPLICABLE COMMENTS ON THE REVERSE

DATE:	TYPE OR PRINT NAME AND GRADE Contracting Office Representative **ERIC HAGENBURGER GS-13 AFCEC/CFSC**	SIGNATURE

TO: Barlovento, LLC

☐ APPROVED ☐ DISAPROVED AS INDICATED ABOVE AND SUBJECT TO ANY APPLICABLE COMMENTS ON THE REVERSE SIDE. REQUEST RESUBMITTAL ON DISAPPROVED ITEMS WITHIN ____ DAYS OF DATE SHOWN BELOW.

DATE:	TYPE OR PRINT NAME AND GRADE Contracting Officer **ISABELL RODRIGUEZ GS-12 AFICA 772 ESS/PKA**	SIGNATURE

Additional Information Application Questions

Item 01A

2.10 EQUIPMENT

All plant, equipment, tools, and machines used in the work shall be maintained in satisfactory working conditions at all times. Submit the following:

a. Details and data on the batching and mixing plant prior to plant assembly including manufacturer's literature showing that the equipment meets all requirements specified herein.

b. Obtain National Ready Mixed Concrete Association (NRMCA) certification of the concrete plant. The concrete plant shall be inspected by an engineer approved by the NRMCA. A list of NRMCA approved engineers is available on the NRMCA website at http://www.nrmca.org. All fees and costs associated with this inspection shall be paid by the Contractor. Submit a copy of the NRMCA QC Manual Section 3 Concrete Plant Certification Checklist, NRMCA Certificate of Conformance, and Calibration documentation on all measuring and weighing devices prior to uniformity testing.

c. A description of the equipment proposed for transporting concrete mixture from the central mixing plant to the paving equipment.

d. A description of the equipment proposed for the machine and hand placing, consolidating and curing of the concrete mixture.

Manufacturer's literature on the paver and finisher, together with the manufacturer's written instructions on adjustments and operating procedures necessary to assure a tight, smooth surface on the concrete pavement. The literature shall show that the equipment meets all details of these specifications. Detailed information on automatic laser controlled systems shall be submitted if proposed for use.

~~2.10.1~~ Batching and Mixing Plant

a. ~~Location: The batching and mixing plant shall be located off Government premises no more than 15 minutes haul time from the placing site. Water and electrical power are available on the project site~~. There shall be operable telephonic or radio communication between the plant and the placing site at all times concreting is taking place.

b. Type and Capacity: The batching and mixing plant shall be a stationary-type central mix plant, including permanent installations or portable/relocatable plants installed on stable foundations. The plant shall be designed and operated to produce concrete within the specified tolerances, and shall have a capacity of at least 250 cubic yards per hour. The batching and mixing plant shall conform to the requirements of NRMCA QC 3 including provisions addressing:

1. Material Storage and Handling
2. Batching Equipment
3. Central Mixer
4. Ticketing System
5. Delivery System

c. Tolerances: The following tolerances shall apply.

Materials	Percentage of Required Mass
Cementitious Materials	plus or minus 1
Aggregate	plus or minus 2
Water	plus or minus 1
Admixture	plus or minus 3

For volumetric batching equipment for water and admixtures, the above numeric tolerances shall apply to the required volume of material being batched. Concentrated admixtures shall be uniformly diluted, if necessary, to provide sufficient volume per batch to ensure that the batchers will consistently operate within the above tolerance.

d. Moisture Control: The plant shall be capable of ready adjustment to compensate for the varying moisture contents of the aggregates and to change the quantities of the materials being batched.

2.10.2 Concrete Mixers

a. General: Mixers shall be stationary or truck mixers. Mixers shall be capable of combining the materials into a uniform mixture and of discharging this mixture without segregation. The mixers shall not be charged in excess of the capacity recommended by the manufacturer. The mixers shall be operated at the drum or mixing blade speed designated by the manufacturer. The mixers shall be maintained in satisfactory operating condition, and the mixer drums shall be kept free of hardened concrete. Mixer blades or paddles shall be replaced when worn down more than 10 percent of their depth when compared with the manufacturer's dimension for new blades or paddles.

b. Stationary: Stationary mixers shall be drum or pan mixers. Mixers shall be provided with an acceptable device to lock the discharge mechanism until the required mixing time has elapsed.

c. Mixing Time and Uniformity for Stationary Mixers: For stationary mixers, before uniformity data are available, the mixing time for each

batch after all solid materials are in the mixer, provided that all of the mixing water is introduced before one-fourth of the mixing time has elapsed, shall be 1 minute for mixers having a capacity of 1 cubic yard. For mixers of greater capacity, this minimum time shall be increased 20 seconds for each additional 1.33 cubic yard or fraction thereof. After results of uniformity tests are available, the mixing time may be reduced to the minimum time required to meet uniformity requirements; but if uniformity requirements are not being met, the mixing time shall be increased as directed. The mixing time for full batch production shall be a minimum of 75 seconds. Mixer performance tests at new mixing times shall be performed immediately after any change in mixing time. The Regular Test sequence shall be conducted for initial determination of the mixing time or as directed. When regular testing is performed, the concrete shall meet the limits of any five of the six uniformity requirements listed in Table 1 below.

d. The Abbreviated Test sequence shall be conducted for production concrete verification at the frequency specified in Table 6. When abbreviated testing is performed, the concrete shall meet only those requirements listed for abbreviated testing. The concrete proportions used for uniformity tests shall be as used on the project. Regular testing shall consist of performing all six tests on three batches of concrete. The range for regular testing shall be the average of the ranges of the three batches. Abbreviated testing shall consist of performing the three required tests on a single batch of concrete. The range for abbreviated testing shall be the range for one batch. If more than one mixer is used and all are identical in terms of make, type, capacity, condition, speed of rotation, etc., the results of tests on one of the mixers shall apply to the others, subject to the approval of the Contracting Officer. All mixer performance (uniformity) testing shall be performed in accordance with COE CRD-C 55 and with paragraph titled TESTING AND INSPECTION FOR CONTRACTOR QUALITY CONTROL in PART 3.

TABLE 1 UNIFORMITY REQUIREMENTS--STATIONARY MIXERS

Parameter	Regular Tests Allowable Maximum Range for Average of 3 Batches

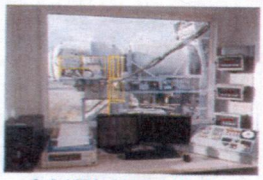
MODEL S PAVING CONFIGURATION

350 cu yds / HR

Productivity: Pre-blending of materials increases production rates. Configured for high-production dump on grade applications, the plant produces up to 35 loads per hour. With the addition of the Horizontal Mixer Option the plant will produce up to 55 loads per hour.

Portability: The commitment to quality construction enables the pin-connected, pre-plumbed, pre-wired, trailerized plant segments to be erected and disassembled quickly. Solid construction ensures that the Model S performs consistently after many plant moves.

Efficiency: Reduce crane time and labor with the fastest erecting, high-production paving plant on the market. All trailerized modules are pin-connected for speed of erection. A single-pivot tilt mixer offers operational simplicity and reduced maintenance.



RexCon's RC3 Batch Automation Controls

Paving Application Options

- Horizontal Mixer Trailer
- High-Performance Blades
- Additional Fill Pipes
- 14 yd³ Drum (12L)
- 100 HP Mixer Motors

Optional Horizontal Mixer now or in the future

Travel Dimensions: 34'8" x 11'4" x 13'6" 52,340#

Reversible Aggregate Bin

MODEL S READY MIX CONFIGURATION

Versatility: With the Ready Mix Conversion option, the RexCon Model S will tackle the many different daily mix designs in your job rack. Central Batching is the optimal plant for controlling slump for bridge, curb, median barrier, RCC, high-performance, and high slump structural concrete, among other quality-monitored mixes.

Economy: A central mix plant will produce more ready mix concrete consistently through improved uniformity, slump control, and faster truck loading times. Optimized material usage helps to meet your energy goals.

Dump Cone and Mixer Maintenance Platform

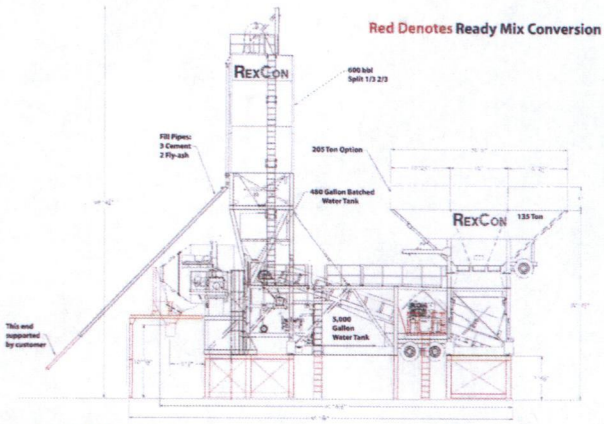
Ready Mix Application Options

- 205 Ton Aggregate Bin & Turnhead
- Mixer Maintenance Platform
- 750 BBL Cement Silo
- Telescopic Boot
- Central Dust Collector & Shroud

Pre-Blended Material

Risers and Poly-Lined Dump Cone in Transit

SAVE TIME & MONEY AND REINFORCE YOUR COMPANY'S REPUTATION FOR QUALITY CONCRETE



Standard Plant Specifications

Tilt Mixer Trailer: 12 yd³ / 9.2 m³ (CPMB) tilt mixer with poly-lined drum, 30HP hydraulic pack, emergency mixer tilting, and mixer stand

Tilt Base Trailer: 12 yd³ / 9.2 m³ (CPMB) aggregate batcher with 50,000lb / 22,679 kg load cells, 48" / 122 cm wide batch belt (500 FPM / 152.4 MPM), 20 HP air compressor with 120 gal. / 454.2L tank, two 3" / 7.6 cm water meters, 5,000 gal. / 18,927 L water storage tank, 4.6 HP aeration blower

Cement Trailer: 600 bbl / 112.7 ton split 1/3, 2/3 compartment silo with double wall, high and low bin signals, mixer charging hood, five 5" cement fill pipes, gravity batched water holding reservoir, 12 yd³ / 9.2 m³ (CPMB) cement batcher with 10,000 lb / 4,536 kg load cells

Aggregate Bin Trailer: 90 yd³ / 135 ton (CPMB) reversible three compartment

Controls / Electrical System: RexCon RC3 computer batch controls & 460 volt power panel with starters

Plant Options

- Cement storage: gravity or screw-fed, single or split compartment, portable or stationary, 185 bbl to 1200 bbl
- 12L drum – longer drum produces 14 yd³ loads
- Dual cement batchers
- Horizontal mixer with direct drive motors for up to 55 Loads per hour
- Batch office container for automation controls & power panel
- High performance mixing system with two 100 HP motors
- High performance spiral blades for production up to 45 loads per hour
- AR steel or polyurethane liners for agg bin, batchers, or mixing blades
- Portable material handling, hoppers, controls, and bin signals
- Dust control systems
- Sand and aggregate screens
- 205 ton aggregate bin with automated turnhead
- 4" aggregate
- Ready mix risers and dump cone

Trailerized Shipping Dimensions

30'6" x 11'x 13'6" 22,600# | 47'10" x 11'6" x 13'8" 46,200# | 54'4" x 11'6" x 13'6" 41,500# | 39' x 12' x 13'8" 63,000#

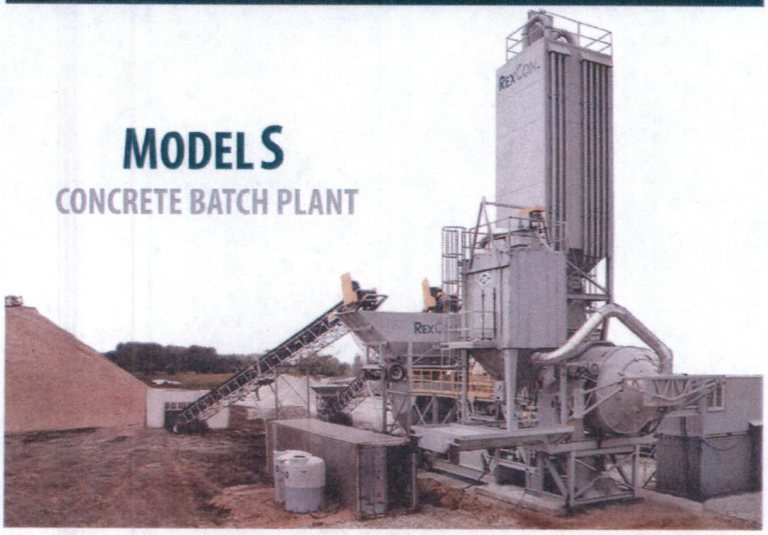
ACPA AEM NRMCA

2841 WHITING ROAD BURLINGTON WI 53105
Tel (262) 539-4050 Fax (262) 539-4487
www.rexcon.com

MADE IN THE USA

REXCON

QUALITY, HIGH-PRODUCTION PORTABLE CONCRETE BATCH PLANTS



MODEL S

CONCRETE BATCH PLANT

The RexCon Model S has the highest reliability, productivity, and durability in the industry. The innovative design and quality construction ensures that the plant will remain portable, reliable, and accurate for decades. Along with quality design comes our experience in matching the right equipment for your project.

Whether your concrete needs require consistent production, mix efficiency, or energy savings, the RexCon Model S sets the standard. With a reputation for quality design, superior construction, and operational simplicity, the Model S is an ideal portable paving plant for major infrastructure projects or as a dedicated ready mix plant.

Visit www.rexcon.com to see all of RexCon's products.

RC3 - REXCON CONTROL AND COMMUNICATIONS CENTER

RexCon batch automation controls are designed exclusively for batching concrete. As a result, we've developed a reliable and easy-to-use Windows™-based batching system for the Ready Mix or Concrete Paving Industries. With worldwide non-proprietary parts availability, quick and simple real-time graphical user interface, and open software licensing, RexCon's RC3 Batch Automation Controls enable companies to focus on making high-quality concrete in partnership with RexCon's Concrete Batching Experts.

Communications Center

The highly advanced RC3 batch control interfaces with your dispatch center / PC. It also fully supports remote batching. Remote updates, configurations, and assistanced can be provided by RexCon via the internet.

Batching Speed and Process Simplicity

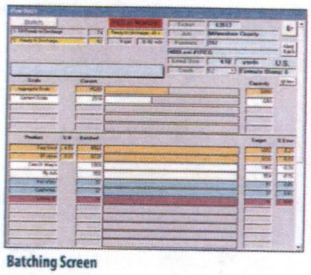
The PCs color graphics show real-time progress of each product as it is batched. A wealth of other information is displayed in real-time to show operator mix times, slump, water/cement ratio, etc. RC3 was designed to push your plant to its peak performance while remaining easy-to-use and reducing the batching process to the fewest steps possible.

User Friendly Windows Based Operator Interface

RC3 lets you manage all aspects of the batching process, including batch formulas, batch size, admixtures and slump. Robust reporting and capabilities track every detail of your plant's operations, including individual jobs, equipment, and product inventory and usage. Years of ticket data can be displayed or reprinted at any time (even while batching).

Programmable • Networkable • Expandable • Upgradable • Affordable

Since all the data files are based on Microsoft Access, data can be accessed and modified by almost all PC-based database, dispatch, and accounting software. Backups can be accomplished via USB flash drive or over your network. The system allows this data access to occur while the operator is engaged in batching concrete without compromising speed or quality.



Batching Screen

VIRTUALLY NO LIMIT ON

- Formulas
- Products
- Customers
- Jobs
- Trucks
- Drivers
- Archived batches (Ticket Data)
- Received material receipts

AVAILABLE FEATURES

- Up to 2 mixers
- Up to 6 scales
- Up to 10 ingredient bins per scale
- Up to 20 liquid meters
- Multiple waters
- Additional printers
- Interface to central dispatch computers
- Aggregate "keep-full" material handling
- Moisture probes

BATCH PARAMETERS THE OPERATOR CAN SPECIFY

- Job, formula and batch size
- Returned concrete or water in the truck
- Admix addition or modification
- The ratio (%) of two waters
- Slump (system computes new water quantity)
- U.S. or metric conversion for all data

FEATURED PHOTOS

Power Panel & Controls Pre-Mounted

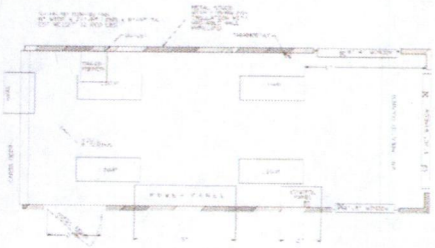
270 Degree Job Site Visibility

Industrial Grade HVAC & Swing-Open Cargo Door

Easy Truck, Rail, or Sea Mobility

RC3 BATCH OFFICE CONTROL CONTAINER

Construction:	Corrugated Steel Built to Commercial Codes
Dimensions:	8' W x 20' L x 8'6" H
Insulation:	Fiberglass in 3.5" Metal Studs
Windows:	Thermal Pane with Thick Frames & Vandal Covers
Lighting:	Two-Switch Lighting for Night Glare Reduction
Security:	Solid Steel Doors & Rear Entry Cargo Door
Interior:	Washable Vinyl Wall & Floor Surfaces
Extras:	Rain Guards on Door & HVAC Units



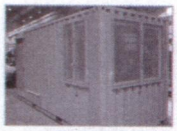
REXCON

2841 Whiting Road Burlington, WI 53105 Tel (262) 539-4050

Visit www.rexcon.com to see all RexCon products.

PERFORMANCE PROVEN....JOB SITE TESTED

FEATURED PHOTOS



Steel Structure & Framing

Metal Studded Walls & Insulated Interior

Drip Guards on HVAC & Entry Door

Removable Vandal Covers

External Power Panel Accessibility

BATCH OFFICE CONTAINER SPECIFICATIONS

The Power Panel and RC3 Controls are mounted and installed in a 8' x 20' Control Container complete with lockable cargo door, operator entry keyed door with rain guard, three sides of full steel-framed operator windows with lockable vandal covers, completely insulated interior with metal studded and finished walls, wall outlets, wall mounted operator desk, fluorescent lighting, and removable / washable wall panels, interior vinyl flooring, and industrial air conditioning and heating. The container comes painted standard RexCon gray.

BENEFITS

SECURITY

- Keyed Solid Panel Entry Doors and Padlocked Cargo Door Prevent Unauthorized Access
- Vandal Guards on all Three Windows with Thick Tube Metal Framing to Reduce Theft
- Internally Mounted Controls and Power Panel Reduce Shock Hazards
- Water Resistant Construction to Protect Sensitive Electrical Equipment

OPERATOR COMFORT

- Full HVAC with Indoor Thermostat keeps Men and Controls at Optimal Working Temperature
- Metal Studded, Fiberglass Insulated Walls provide Energy Efficiency
- Slide Windows Allow Communication with Drivers and Aeration in Pleasant Weather
- 270 Degree Field of View Improves Operator Visibility
- Entire Container Can be Easily Picked Up & Transported by Truck, Ship, or Rail

BUILT-IN ELECTRICAL

- RC3 Wall-Mount Enclosure and Power Panel Factory Installed
- Separate 15 KVA Transformer Maintains Control Office Power while the Plant's Power is Locked Out
- Two Sets of Lighting Circuits Reduce Glare during Nighttime Batching
- Circuit Breaker Box and Transformer Pre-Wired and Ready
- 110V Wall-Outlets Throughout the Office for Powering Accessories
- Hinged, Lockable Cable Access Eases Power Cord Installation

CUSTOMIZABLE OPTIONS

- Plug and Cord Wiring on Exterior of Container for Reduced Time of Startup and Tear-Down
- Ship your Existing Panels/Controls to our Factory for Mounting in your New Container
- 40' Container or Semi-Trailer
- Lower Storage Container Stacked Design with Stairway Access

For more information, Contact your RexCon Sales Representative.

REXCON
Customer Driven

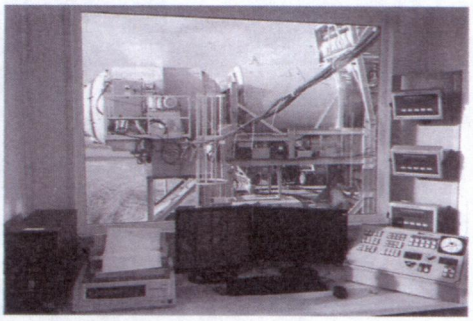
2841 Whiting Road Burlington, WI 53105
Tel **(262) 539-4050** Fax (262) 539-4487
www.rexcon.com

FEATURED PHOTOS

Control up to ten aggregate bins

Automatic mixer discharge rate control

Customized to suit your application



REXCON CONCRETE BATCH AUTOMATION CONTROL SYSTEM

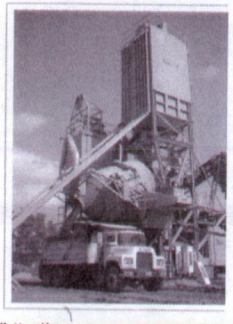
RexCon is pleased to offer the Easy-To-Use, RC3 - RexCon Controls and Communications Center. This Platform is solely dedicated to batching concrete and is built with concrete professionals in mind. With a track record of over 60 years of manufacturing concrete batch plant controls, you are assured of efficient concrete production.

This powerful system provides real time batching control on a PLC and an off-the-shelf Windows based PC. The user-friendly RC3 will impress you with how quickly a new operator can learn the system.

- The highly flexible system can grow along with your business to provide all the capabilities you will need to efficiently batch concrete.
- RC3 will control any concrete batch plant from any manufacturer, including plants with two mixers, and even wet/dry plants with simultaneous discharge from the central and dry silos.
- Open Licensing allows companies to install the software on multiple computers for training, remote operations, or as a backup PC in case of theft or breakdown of the PC.

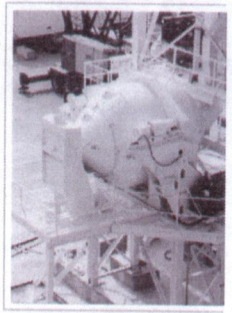
Concrete Tilt Mixer

RexCon's Tilt Mixers are known for speed, reliability and efficiency. With 12 mixing blades and 4 capacity blades, our concrete tilt mixers provide a thorough mix load after load. All tilt mixers are equipped with emergency tilt, auto lube, variable tilt-speed valve, and feature a simple single pivot tilt. These mixer drums are available in 5, 6, 8, 10, 12, and "12L" cubic yard capacities.



(http://www.rexcon.com/wp-content/gallery/tilt-mixers/tilt-mixer1-big.jpg?057d9a)

RexCon's tilt mixers feature the most efficient mechanical design available in the concrete industry. RexCon tilt mixers require less power and result in higher profitability with every batch without sacrificing mixer efficiency and speed. Best of all, the single pivot tilt design unique to RexCon's tilt mixers greatly reduce maintenance costs, so your operations staff can focus on making concrete. With thousands of units manufactured and many in operation worldwide, the RexCon tilt mixer is a time-tested and job-site proven concrete mixer which provides generations of reliability in the most demanding environments.



(http://www.rexcon.com/wp-content/gallery/tilt-mixers/tilt-mixer2-big.jpg?057d9a)

Standard features include:

- Single pivot tilt, with full 60 degrees tilting
- Double speed drum return

- Top mounted NEMA B drive motors direct coupled to gear reducers
- Removable nose cone with quick-attach clamps for easy servicing
- Self-aligning tilt pins and cylinder heads
- Covered drum track and gear ring
- High pressure (psi) operating system
- Manual override control

(http://www.rexcon.com/wp-content/gallery/tilt-mixers/tilt-mixer.jpg?057d9a)

Optional equipment includes:

- Stationary mixing charging chute with replaceable seal
- Stationary mixing charging assembly for combination wet/dry plants
- Mixer dump cone for charging truck mixers
- Telescopic boot, air-operated with 18" vertical travel
- Variable Frequency Drives (VFD) for added power efficiency
- Drip stop for telescopic boot
- Steel tilt mixer support stand
- Drip pan
- Mixer maintenance platform (includes expanded metal walkway, rails and toeboards)
- Slump adjust water valve
- Nose cone shroud with provisions for 16" dust collection ducting
- Polyurethane liners (available for drum, cone, and blades)
- "High Performance" option includes two 100 or 125HP reducers and drives, and spiral blades (available on 12 or 12L cubic yard mixer)

Click here for Tilt-Up Mixer literature pdf (http://www.rexcon.com/wp-content/uploads/2012/11/Tilt-Mixer.pdf?057d9a)

Conveyor Automation

Conveyor Automation is one of the most important processes required to produce quality concrete. As State DOT's and customers begin specifying mix designs requiring more aggregates, keeping up with production rates and minimizing handling necessitates increased automation. RexCon has supplied numerous conveyor automation controls to the Ready Mix, Concrete Paving, and Sand & Gravel industries.

(http://www.rexcon.com/wp-content/gallery/aggregate-handling-automation/Conveyor-Automation.jpg?057d9a)

Built and supported in-house from our factory in Burlington, WI, RexCon's conveyor automation controls offer a convenient and reliable way to automate aggregate storage and delivery. Coupled with our legendary customer service, the industrial grade PLC controls ensure years of dependable service.

From Radial Stacker Automation to Touch-Screen Railcar Unloading Systems, RexCon has the expertise to automate your

material handling. Certain models have an optional remote transmitter designed to be shock and water resistant. Call RexCon today for more information.

Automation for Concrete and Aggregate Production include:

• Radial Stacking Conveyors

MH-SC Controls: Control consists of panel to be mounted at loading hopper with optional radio remote

• Portable or Stationary Conveyors

MH-TC Controls: Basic Control for single conveyors handling a single material from a single hopper with electric controlled gate. System operates with belt continuously running and fills bin by opening gate on absence of a high signal. Gate closes on high signal.

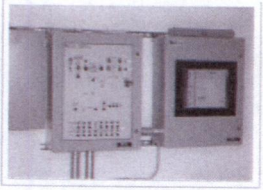
• Wet Belts
• Railcar Unloading Systems
• Shuttle Conveyors
• Bunker Stockpiling Systems
• Ship Loading and Unloading Systems
• Drive over Hoppers
• Telestackers
• Turnheads

Available in three options:

Model MH-VM Visual Manual – Operator observes high signals and manually selects turnhead posiiton and fills bin accordingly.

Model MH-SA Semi-Automatic – Operator observes absence of high signal, selects turnhead position, starts fill cycle which ends on high signal.

Model MH-HS Fully-Automatic – "Hunts & Seeks" absence of high signal and fills compartment until high signal is satisfied.



(http://www.rexcon.com/wp-content/gallery/aggregate-handling-automation/Rail-Unloading-Automation.JPG)

Search...

(http://www.rexcon.com)

Call Now: (262) 539-4050

≡ NAVIGATION

Batchers & Aggregate Bins

Regardless of size, date or make, all concrete batch plants eventually require renovation. Whether standard or custom designed, RexCon offers the fabricated components you need to match your batch plant.

RexCon Aggregate Bins:

- Replacement aggregate bins are available from 25 to 425 Ton capacities, and 2 to 8 compartments. Purchase bins separately or as complete assemblies with gates and cylinders.
- AR steel or polyurethane liners on sloped sides of aggregate bin reduces wear and extends lifetime.
- Turnheads or flip chutes to complete your material handling needs are optional.

RexCon Batchers:

- Whether cement or aggregate, all RexCon batchers are CPMB rated. 5 to 12 cubic yard capacities are available. Purchase fabricated components separately or as complete assemblies. Custom sizes are available upon request.
- AR steel or polyurethane liners on sloped sides of batchers reduce wear and extend lifetime.

For more information on Batchers & Aggregate Bins, or additional fabricated components, contact your RexCon sales support staff.

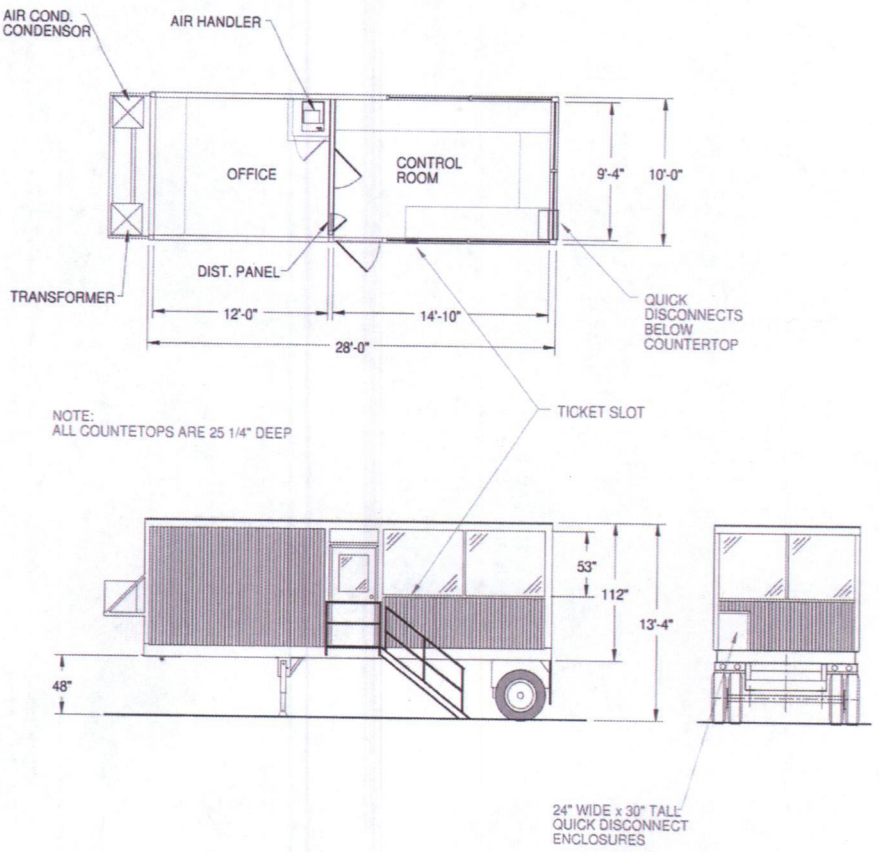
(http://www.rexcon.com/w content/gallery/silos-batche aggregate-bins/silos-batche aggregate-bins-8-big.jpg?057

(http://www.rexcon.com/w content/gallery/silos-batche aggregate-bins/silos-batche aggregate-bins-3-big.jpg?057

(http://www.rexcon.com/w
content/gallery/silos-batche
aggregate-bins/silos-batch
aggregate-bins-4-big.jpg?057

(http://www.rexcon.com/w
content/gallery/silos-batche
aggregate-bins/silos-batch
aggregate-bins-5-big.jpg?057

(http://www.rexcon.com/w
content/gallery/silos-batche
aggregate-bins/silos-batch
aggregate-bins-6-big.jpg?057

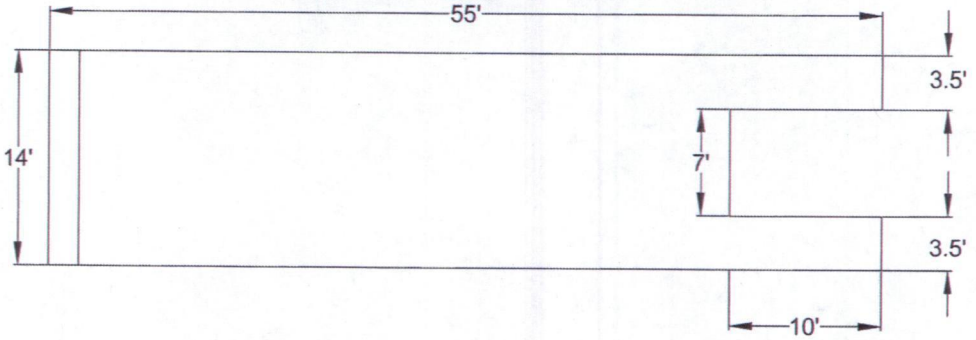


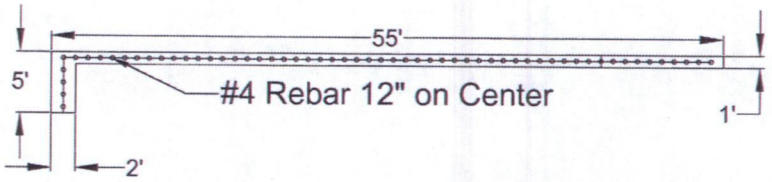
SYSTEMS Equipment Corp Waukon, Ia USA	File Path: SO\9982\M-	Drawing No.: 9982P01
	Title: PROFILE 10 x 28 1-LEVEL PORTABLE CONTROL CENTER	Customer: FISHER
		Similar To: 9929P01A
		Drawn By / Date MB / 2-2-06

Batch Plant Set-Up

Batch Plant Slab

Slab is 30cy of Concrete



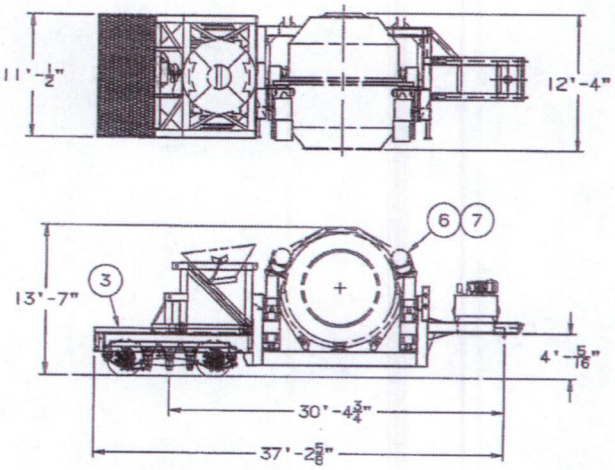


SOUTHWEST
Concrete Paving Co.

Batch Plant Set-Up

Batch Plant Set-Up

Crane Pick #3

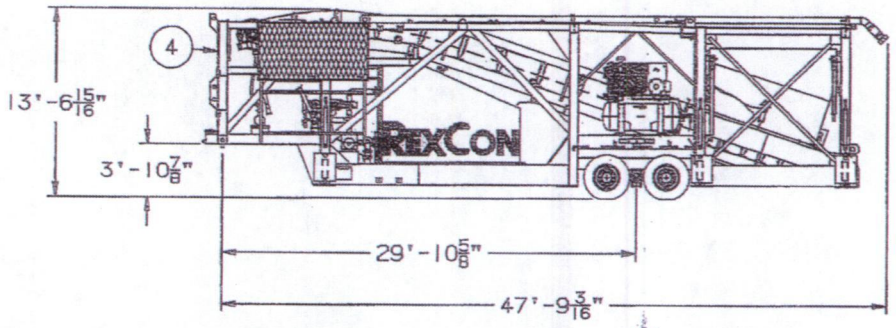


TOTAL EST. WT 60,700#

SOUTHWEST Concrete Paving Co.

Batch Plant Set-Up

Crane Pick #1

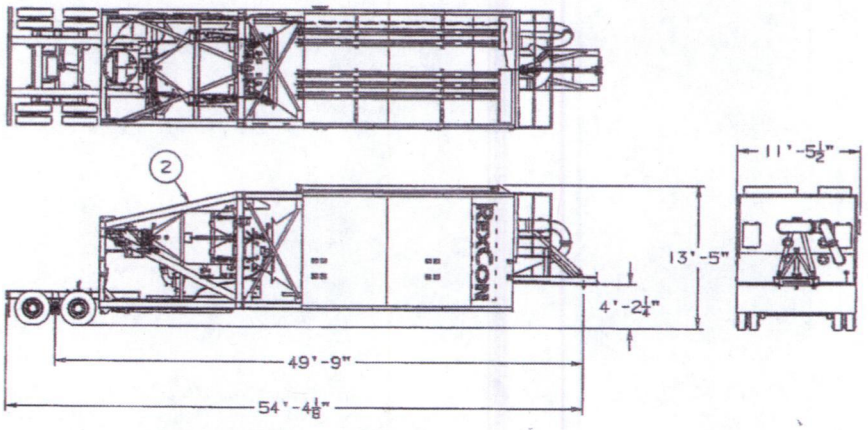


TOTAL ESTIMATED WEIGHT: 46,200#

SOUTHWEST
Concrete Paving Co.

Batch Plant Set-Up

Crane Pick #2

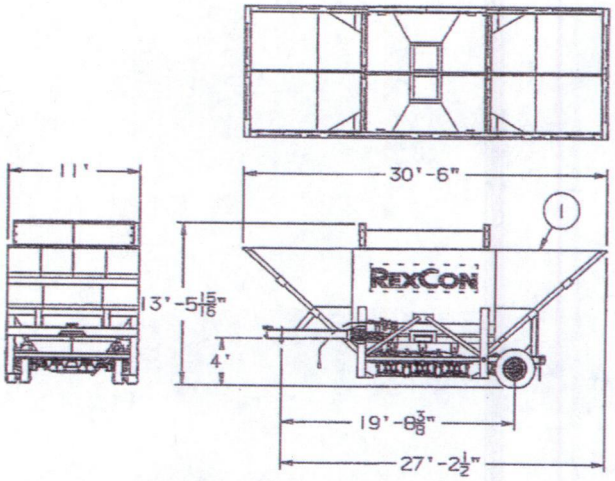


TOTAL ESTIMATED WEIGHT: 41,500#

SOUTHWEST
Concrete Paving Co.

Batch Plant Set-Up

Crane Pick #4

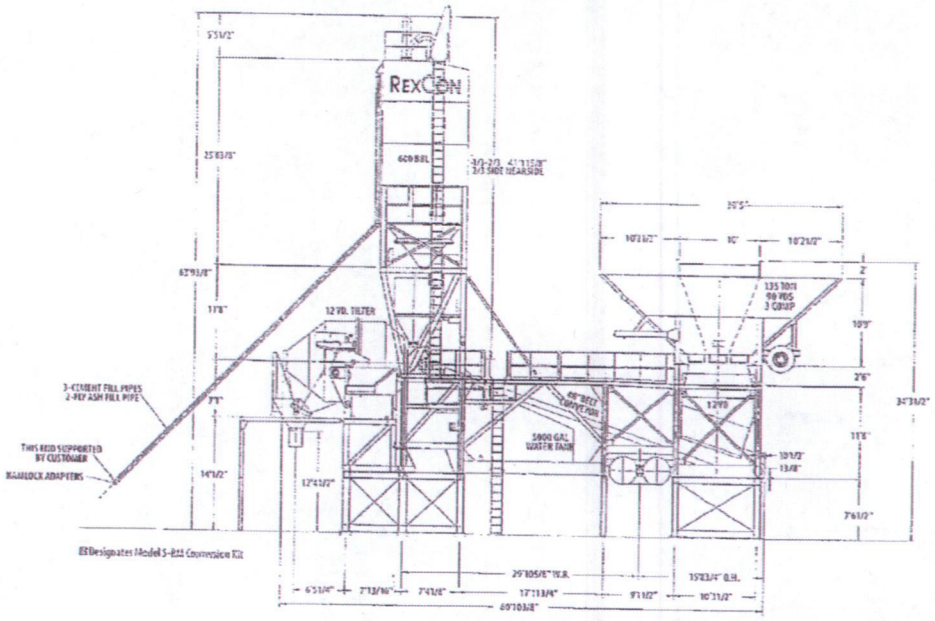


ROUGH ESTIMATED TOTAL WEIGHT: 22,600#

SOUTHWEST Concrete Paving Co.

Batch Plant Set-Up

Completed Plant



SOUTHWEST
Concrete Paving Co.

Batch Plant Set-Up
Page 6 of 6

Ticket: 10 9/5/2017 5:01:08 AM
Customer Name: Southwest Concrete Paving Job Name: Alpha Hammerhead
Delivery Address: Minot AFB
Job Description: Repair Alpha Hammerhead
Instructions:
Formula: 55030398 Slip Form PCCP (650 Flex)
Pur Order# Project #
Load Size: 9.50 yards Mix Time: 93
Daily Qty: 95.00
Driver:
Truck: 3 Water to Cement Ratio: 0.36

Product Name	Fml Amt		Target	Actual		Error	%MC
SAND	1292.0		12720.0	12540.0	lbs	-1.4%	4.8
#67 STONE	1185.0		11520.0	11460.0	lbs	-0.5%	2.7
#4 STONE	576.0		5600.0	5500.0	lbs	-1.8%	2.5
#8 STONE	269.0		2620.0	2620.0	lbs	0.0%	2.8
CEMENT	385.0		3658.0	3640.0	lbs	-0.5%	
FLYASH	165.0		1568.0	1560.0	lbs	-0.5%	
WATER	25.6		116.0	115.0	gallons	-0.9%	
AE 90	3.6	oz/Yd	34.0	33.5	fluid ozs	-1.5%	
POZZ 80	33.0	oz/Yd	313.5	312.0	fluid ozs	-0.5%	

Total Water: 1875 lbs

Batch Weight: 38277.95 lbs

EXAMPLE TICKET

QUALITY CONTROL MANUAL
SECTION
3
Eleventh Revision, May 2011

Plant Certification Check List

Certification of Ready Mixed Concrete Production Facilities

NRMCA

ENGINEER – *PLEASE COMPLETE ALL SECTIONS AS APPLICABLE*

☐ First Time Application
☒ Recertification Application

Previous Certification Information
Plant Cert ID #
Certification ID #

Plant Name; *Example: Plant No. 1*	20430 North 19th Ave. Suite B-100
REX CON Plant No. 1	Mailing Address of Plant
Physical Street Address of Plant	Phoenix, AZ 85027
Red Fir & Liberator St. Mountain Home, Idaho	City, State & Zip Code of Plant
City, State & Zip Code of Plant	N/A
(602) 618-5586 N/A	Prior Plant Name if Changed
Plant Phone # Plant Fax #	N/A
	If Portable Plant, Prior Address

Southwest Concrete Paving
Name of Company Operating Plant

PREVIOUS INSPECTION

FOR NRMCA USE ONLY

Co ID		Eng			Date Received
Plant ID		Asst			Date Checked
Cert ID		Co Official			Pending
Mixing	☐T ☐C ☐S		# Trucks		Response
Batching	☐M ☐PA ☐SM ☐A		Trucks for Cert		**Inspection Date**
Recording	☐CM ☐A ☐W ☐CA		CW Statement	☐Yes	**Expiration Date**
Pmt Amt	$	Check #	☐Amex ☐Visa ☐MC	Auth #	
Pmt Date		Order #	Completed by:	Date Mailed	

Notes

National Ready Mixed Concrete Association – Engineering Division
900 Spring Street, Silver Spring, Maryland 20910
Phone: (301) 587-1400 Fax: (240) 485-1172
Website: www.nrmca.org

1. Material Storage and Handling

1.1 Cementitious Materials

1.1.1 Bins or silos tight and provide for free movement to discharge opening. [P]

1.1.2 Where storage is provided for different types of cement or cementitious materials, different materials isolated to prevent intermingling or contamination. [P]

1.2 Aggregates

1.2.1 Procedures for unloading aggregate such as to prevent harmful segregation and breakage. [P]

1.2.2 Procedures for building stockpiles or other storage methods such as to prevent harmful segregation and breakage. [P]

1.2.3 Stockpiles or other storage located to prevent contamination; arranged to assure that each aggregate as removed from its stockpile or other storage is distinct and not intermingled with others. [P]

1.2.4 Intraplant handling and transportation such as to prevent harmful segregation. [P]

1.2.5 Separate storage bins or compartments for each size and type of aggregate properly constructed and charged to prevent mixing of different sizes or types. [P]

1.3 Water

1.3.1 Adequate supply, with pressures sufficiently constant or regulated to prevent interference with accuracy of measurement. [P]

1.3.2 For plants seeking certification to supply concrete in subfreezing weather i.e., where concrete is placed regularly during sub-freezing weather, minimum heating capacity for water and/or aggregate of 15 boiler output horsepower(BHP) per 100 cubic yard average daily cold weather production. (May be reduced to 10 BHP if storage capacity permits round-the-clock operation of heating equipment.) One BHP = 33,500 BTU per hour transferred to the water. See Note 1. [N]

Note 1. *If this requirement is not met and the facility is in an area where NOAA weather records show an average of more than 5 days per year when the minimum temperature is 32°F (0°C) or below, the Certificate of Conformance will carry the notation that the "Facility does not meet all requirements for furnishing concrete in subfreezing weather."*

1.4 Admixtures

1.4.1 For plants in areas with weather conditions as in Note 1, storage and handling system for liquid admixtures sufficiently protected to prevent freezing of admixtures at any time. (Freezing can cause ingredients of some liquid admixtures to separate and, therefore, affect concrete quality control.) See Note 2. [N]

Note 2: *Protection of admixture from freezing is required even if the plant does not produce concrete in cold weather. The inspector can accept a letter from the admixture supplier indicating that the admixtures that are being stored at the specific plant location do not need protection from freezing. Plants located in areas that do not witness freezing temperatures should be indicated to meet this provision.*

1.4.2 Admixtures protected to prevent damage from contamination. [P]

1.4.3 Agitation provided for liquid admixtures that are not stable solutions. [N]

2. Batching Equipment

Note 3: *This Check List indicates minimum requirements for verification of the accuracy of measuring devices. Records of such verifications should be reviewed by the inspector. For agencies that require NRMCA certification that have provisions for accuracy verification that are more restrictive than those stated here, those provisions would govern for the applicable plants. The requirements of this Check List govern when provisions of other agencies are less restrictive than stated here.*

2.1 Scales

2.1.1 Each scale comprised of a suitable system of levers or load cells which will weigh consistently within the tolerances given in 2.1.2, with loads indicated either by means of a beam with balance indicator, a full-reading dial, or a digital read-out or display. For all types of batching systems, manual through automatic, the batchman must be able to read the load indicating devices from his normal station. Where the controls are remotely located with respect to the batching equipment, monitors or scale-follower devices may be used if they repeat the indication of the master scale within ± 0.2 percent of scale capacity. [P]

2.1.2 Each scale accurate (Note 4) within ±0.15 percent of scale capacity or ±0.4 percent of net applied load, whichever is greater, throughout the range of use. Scale accuracy shall be verified through a combination of test weights, substitute loads, and strain loads (Note 5). Test weights used for scale accuracy should be at least 10 percent of scale capacity. Test weights should be accurate to ±0.01 percent of indicated value verified at least once every two years (Note 6). For a digital read-out from a dial scale, the tolerance shall be increased to ± 0.25 percent of capacity to allow for tracking restriction (Note 7) [P]

Note 4: *The engineer supervising inspection may accept scale calibrations made by state or other agencies if these calibrations demonstrate compliance with the requirements of 2.1 and subsections.*

Note 5: *Substitute and strain loads are defined in the NRMCA Plant Inspector's Guide and in NIST Handbook 44, 2007 edition, Section 2.20, Notes N.1*

Note 6: *Verification of scale accuracy may be made by qualified plant personnel or by outside agencies or scale calibration companies. The required accuracy of standard test weights conforms to NIST Class F defined in NIST Handbook 105-1. Scale accuracy should be verified using certified test weights to not less than 10 percent of the scale capacity, substitute loads to not less than 50 percent of scale capacity, and combination of test weights, substitute loads or strain loads in not less than each of the upper two quarters of the scale capacity up through the normal range of use.*

Note 7: *The purpose of this increased tolerance is to allow for the fact that digital readings from a potentiometer attached to a dial scale are limited to whole-number values which cannot reproduce weight indications closer than ± 0.05 percent of capacity.*

2.1.3 Company official agrees to verify accuracy of scales not less frequently than every 6 months and arrange for prompt recalibration and correction in accordance with 2.1.2 if the plant is moved or noncompliance is indicated. Signed statement by responsible official is attached. See Agreement in Section 7. Note 8. [P]

Note 8: *The purpose of the Agreement in Section 7 is to assure awareness by the operator and the company official of the necessity to verify weighing accuracy continuously.*

2.1.4 At least 500 pounds of suitable test weights readily available for checking accuracy of scales. Note 9. [P]

Note 9: *The availability of test weights is considered essential to ensure continuous monitoring of weighing accuracy. This requirement is to serve as a quick check of scale accuracy and does not replace the agreement for the more thorough scale accuracy verification once every 6 months in 2.1.3. In lieu of on-site weights a letter from a scale calibration company that provides the calibration service is satisfactory as is one set of company test weights to serve several plants within a reasonable travel distance of each plant served. Test weights used for this purpose do not need to be certified for accuracy as in 2.1.2.*

2.1.5 *Weighing Container*: The weighing container or hopper shall be designed such that the center of gravity of gross load always lies between load supports. [P]

2.1.6 *Load-cell Scales*: Arranged to transmit load to one or more cells, directly or through a system of levers, in such a way that the cell system registers the entire load accurately on the load-indicating device; load cells indicated by the manufacturer to be accurate throughout the range of temperatures to which normally exposed during plant operation. [P]

2.1.7 Beam-Indicating Scales

2.1.7.1 Provided with zero balance beam, balance indicator, and separate weighing beam for each ingredient of a batch to be weighed on the same scale. [N]

2.1.7.2 Beam poises corrosion resistant, equipped with positive and accurate holding devices, and capable of being set to the minimum graduated interval which shall be not greater than 0.1 percent of capacity with a clear interval of not less than 0.03 in. (0.75 mm) [N]

2.1.7.3 Balance indicators sufficiently sensitive to show movement when weight corresponding to 0.10 percent of scale capacity is placed in the batch hopper at a load equal to or above 50 percent of scale capacity; pointer travel of balance indicators at least 5 percent of net-rated capacity of largest weigh beam or 200 pounds (90 kg), whichever is less, for underweight and 4 percent or 100 pounds (45 kg), whichever is less, for overweight; provision made for damping oscillation of indicator pointer. [N]

2.1.8 Dial-Indicating Scales:

2.1.8.1 Dial head mechanism enclosed so as to be dust tight. [N]

2.1.8.2 Dials indicate load in batcher continuously from zero balance to full weighing capacity of the scale. [N]

2.1.8.3 Dial faces have minimum of 1000 graduations on circular reading line at clear interval of not less than 0.03 in. (0.75 mm) [N]

2.1.9 Digital-Indicating Scales:

2.1.9.1 Equipped with a digital indicator or display protected from dust with numbers large enough for good readability; minimum numerical increment equal to or less than 0.1 percent of scale capacity. [P]

2.2 Weigh Batchers

2.2.1 Batchers for weighing cement, aggregates, and also water or admixtures (if measured by weight) consist of suitable containers freely suspended from a scale, equipped with necessary charging and discharging mechanisms. [P]

2.2.2 Cement and other cementitious materials weighed on scales and in weigh hoppers that are independent of scales and weigh hoppers used for non-cementitious ingredients; in cumulative weighing of cementitious materials the portland cement weighed before the supplementary cementitious materials. [P]

2.2.3 Batchers capable of receiving rated load without contact of the weighed material with the charging mechanism. [P]

2.2.4 Cement batchers provided with dust seal between charging mechanism and hopper, installed in such a way as not to affect weighing accuracy; weigh hopper vented to permit escape of air; hopper self-cleaning and fitted with means to assure complete discharge. [P]

2.2.5 Batcher charging mechanism capable of stopping flow of material within batching tolerances specified in 2.5 and preventing loss of material when closed. [P]

2.2.6 Vibrators or other appurtenances installed in such a way as not to affect accuracy of weighing. [P]

2.2.7 Wind protection sufficient to prevent interference with weighing accuracy. [P]

2.3 Volumetric Batching Devices for Water

2.3.1 *Water Meters*: (items 2.3.1.1 through 2.3.1.3 are applicable)

2.3.1.1 Equipped with a cut-off device capable of stopping the flow within the tolerances specified in 2.5.3; cut-off device free from leaks when closed. [N]

2.3.1.2 Equipped with a volume-setting device capable of being set to increments at least as small as one gallon (3.9 L) or a register capable of being read to one gallon (3.9 L), or both. Note 10. [N]

Note 10: *For water-measuring equipment that is graduated in pounds instead of gallons, use 10 pounds (4.5 kg) as the basic increment instead of one gallon (3.9 L).*

2.3.1.3 Provide an indication, visible to the batchman, of the volume batched at any point in the metering operation. [P]

2.3.2 *Volumetric Tank Water Batchers*: (items 2.3.2.1 through 2.3.2.3 are applicable)

2.3.2.1 Equipped with necessary filling and discharge valves that are leak-free when closed; fill valve capable of stopping flow within the tolerance specified in Section 2.5.3. [P]

2.3.2.2 Have a gauge or other device in the view of the batchman that indicates the volume of water in the tank from the zero point to capacity of the batcher and which can be read to one gallon (3.9 L). Note 10; tank equipped with an overflow pipe at batcher capacity level if it is less than tank capacity. [P]

2.3.2.3 Equipped with a valve to remove overloads. [P]

2.4 Dispensers for Liquid Admixtures

Note 11: *A dispenser is a device for batching liquid admixtures by weight or volume and must be affixed to the plant. Dispensing methods, which involve hand-carried containers for the measurement and discharge of admixtures, do not qualify. Dispensers that are weigh batchers must meet the applicable requirements of 2.2.*

2.4.1 Separate dispenser for each liquid admixture in regular use, except that more than one admixture can be batched through a single dispenser if the admixtures are compatible or if the dispenser is flushed with water after each cycle. See Notes 12 and 13. [P]

Note 12: *If more than one admixture is being used through a single dispenser without flushing of the dispenser with water after each cycle, the engineer should ascertain that the admixtures in actual use are compatible with each other and that the mixing of the admixtures prior to introduction into the concrete will not be detrimental.*

Note 13: *When the company operating the batch plant or delivery units regularly batches an admixture at the job site, the dispenser must comply with the requirements of 2.4 and subsections and 2.5.4. Occasional additions of admixtures at the job site to adjust entrained air content, etc., are not subject to the dispenser requirements of 2.4.*

2.4.2 Piping free of leaks and properly valved to prevent backflow or siphoning and to ensure that the measured amount is discharged. [P]

2.4.3 Each dispenser of liquid admixtures provided with an accurately calibrated container in which the admixture may be collected when it is desired to check the accuracy of measurement as in 2.5.4. [P]

2.4.4 For admixtures other than accelerating admixtures, silica fume slurry, corrosion inhibitors and viscosity modifying admixtures, used at less than 25 oz per 100 lb of cement (1630 mL per 100 kg cement), each dispenser of liquid admixtures equipped with a visual or other means of providing a gross check to the batchman of the amount of admixture batched during each cycle, within ± 20 percent. The gross check shall be independent of the accuracy, function, or operation of the primary metering device. See Note 14. [P]

Note 14: *This gross check is required to help the batchman prevent large overdoses or deficiencies of admixture due to dispenser malfunction in any batch, which could cause great changes in fresh and/or hardened concrete properties. Following are examples of how the gross check might be provided: (a) collecting the measured quantity of admixture in a dispenser measuring unit during each cycle and holding it for a short period to permit a visual check; (b) measuring the dispensed quantity through the use of an independent meter to obtain a rough check on the amount measured by observation of a volumetric indicator. Admixtures used at rates of 25 oz. per 100 lb. (1630 mL per 100 kg) of cement or greater are exempt from the independent check required in 2.4.4.*

2.4.5 Dispensers of liquid admixtures provide visible indication of the quantity batched or interlock cut-off when liquid admixture supply is not available to the dispenser. (This is to prevent dispensing air instead of admixture). [P]

2.5 Accuracy of Plant Batching.

Note 15: *For weighed ingredients, accuracy of batching is determined by comparison between the desired weight* and the actual scale reading; for volumetric measurement of water and admixtures, accuracy is determined by checking the discharged quantity either by weight on a scale or by volume in an accurately calibrated container.*

2.5.1 Cement and other cementitious materials measured by weight within ± 1 percent of the desired weight* in individual batchers, or ±1 percent of the desired intermediate and final cumulative weights* in cumulative batchers. The required accuracy of batching quantities of cementitious materials less than 30 percent of scale capacity is not less than the required amount or more than 4% in excess. P

2.5.2 Aggregate measured by weight within ± 2 percent of the desired weight* in individual aggregate batchers, or ±1 percent of the desired intermediate and final cumulative weights* in cumulative aggregate batchers, but, in either case, the required accuracy of batching applying to small loads is ± 0.3 percent of scale capacity (which governs for weights below 15 percent and 30 percent of scale capacity, respectively). See Notes 16 and 17. P

Note 16: *If the weight-setting system provides compensation for moisture on aggregates, the tolerance applies to the accuracy of measurement of the corrected weight.*

Note 17: *In some instances the accurate control of concrete containing lightweight aggregate is more feasible if the lightweight coarse aggregate is batched by bulk volume rather than by weight. When this is judged to be the case, the provisions of 2.5.2 can be waived for lightweight coarse aggregate.*

2.5.3 Water measured by volume or weight within ± 1.5 percent** of the desired amount*, or ± 1 gallon (3.9 L), whichever is greater. See Note 10. Company official agrees to recheck batching accuracy of volumetric water batching devices (including water meters) not less frequently than every 6 months. See Agreement in Section 7. P

2.5.4 Admixtures measured to within ± 3 percent of the desired amount* or ± the minimum dosage rate per 100 lb. of cement, whichever is greater. See Note 18. Company official agrees to recheck batching accuracy of dispensers of liquid admixtures at least every 6 months. See Agreement in Section 7. P

Note 18: *Liquid admixtures are to be measured by volume or weight and powdered admixtures are to be measured by weight. When it cannot be determined what admixture will normally be used in a dispenser of liquid admixtures, assume that the dosage will be at least 1 fl. oz. per 100 lbs of cement (65 mL per 100 kg).*

2.5.5 Compensation for free moisture on aggregates as it affects aggregate weights and slump control:

2.5.5.1 Suitable combination of pre-batching storage and manual or automatic measurement of aggregate moisture to provide aggregate of fairly consistent moisture content to the batcher and to detect changes of 1 percent in the moisture content of aggregate; procedure for adjustment of aggregate batch weights for changes in their moisture content of 1 percent by weight of dry aggregate. Accuracy of devices used for automated measurement of aggregate moisture, if used, is verified not less frequently than every 6 months. See Agreement in Section 7 P

2.5.5.2 Suitable procedures of maintaining control of slump. See Note 19. P

Note 19: *For central, shrink or truck mixing operations, this can be a visual or other method of estimating the slump of the concrete during mixing with consequent adjustments in added water made by the batchman or truck mixer driver; as an alternative, slump can be controlled by a method based on determination of aggregate free moisture to an accuracy of about ± 1½ gallons per cubic yard (7.4 L per cubic meter) of concrete so that the correct amount of added water can be batched to obtain the desired slump.*

---

* As indicated to the batchman, corrected for aggregate moisture, if required.

** This corresponds approximately to an accuracy of ± 1 percent based on total mixing water for typical aggregate moisture levels.

2.6.2 **System Requirements**

2.6.2.1 **Manual System:** A combination of the necessary individual weigh-batchers and volumetric batching devices (if any volumetric measuring of water or admixture is performed at the plant) to proportion concrete properly, the controls of which are all manual with the possible exception of semi-automatic or automatic controls for admixture and/or water. N

2.6.2.2 **Partially Automatic System:** A combination of the necessary individual weigh-batchers and volumetric batching devices (if any volumetric measuring of water or admixtures is performed at the plant), the controls of which are a combination of manual, semi-automatic, semi-automatic interlocked, and automatic controls not meeting the requirements of semi-automatic or automatic systems below; at least one of the non-manual controls shall be for controlling the batching of cement or aggregates. N

2.6.2.3 **Semi-Automatic System:** A combination of the necessary individual weigh-batchers and volumetric batching devices (if water or admixture is measured volumetrically), the controls of which are either all semi-automatic interlocked, a combination of semi-automatic interlocked and automatic, or all automatic controls [in accordance with 2.6.1.1(3), 2.6.1.1(4), or 2.6.1.2(2)] but not meeting all the system requirements for the automatic system as given below. N

2.6.2.4 **Automatic System:** A combination of the necessary individual weigh-batchers and volumetric batching devices (if water or admixture is measured volumetrically in the plant), the controls of which are all automatic [in accordance with 2.6.1.1(4) or 2.6.1.2(2)] and meet the following automatic-system requirements: P

(a) All batching equipment activated by a single starting mechanism, except that a separate starting mechanism is permitted for volumetric batching of water and/or admixture not batched at the time of weighing the other ingredients.

(b) The discharge of any weighed ingredient in the system may not start unless batching controls for all weigh batchers have been cleared of the previous batch, with scales returning to zero tolerance, and until all weighed ingredients have been weighed within the required tolerances.

(c) Volumetric admixture dispenser controls (if any) interlocked with volumetric water batching controls or the controls of at least one weigh batcher to prevent the discharge of both admixture and the interlocked ingredient(s) unless both the admixture dispenser and the interlocked batching device(s) have been cleared of the previous batch.

Note 22: *Definitions of Batching Controls and Systems conform to those in the standards of the Concrete Plant Manufacturers Bureau, CPMB 100. The inspector should verify the capability of these systems to comply with these requirements. Actual operation during concrete production may vary. In response to needs of increased production efficiency, certain automatic batching systems may conform to the intent of the requirements of 2.6.2.4 but allow for variations in the operating capabilities.*

2.7 Recorders:

Devices that provide a permanent record of the quantity of cementitious materials, aggregate, water or admixture measured into a particular batch of concrete.

	Cementitious Materials	Aggregate	Water	Chemical Admixtures
2.7.1 A graphical recorder provides a record on a chart simultaneously with the indication of the scale as the materials are being weighed or measured. A graphical recorder shall register scale readings within ± 2 percent of total scale capacity,	N	N	N	N
OR		**OR**		
A digital recorder provides a printed record of the quantity of material weighed or measured. A digital recorder shall reproduce the scale reading within ± 0.1 percent of scale capacity.	P	P	P	P
Recorders shall:				
2.7.2 Be properly protected, i.e., provided with effective security to prevent tampering with records. (Graphical recorders must be in a locked housing and capable of being read without unlocking.)	P	P	P	P
2.7.3 Provide for identifying the particular batch with the corresponding delivery ticket.	P	P	P	P
2.7.4 Register empty balance or tare to within 0.3% of scale capacity for weighed ingredients.	P	P	P	P
2.7.5 Register the quantity of ingredient or ingredients batched.	P	P	P	P

3. Central Mixer

Definition: A plant mixer installed at the plant for the purpose of mixing the concrete completely (central mixing) or partially (shrink mixing).

3.1 Central Mixing Operations

The mixer at the plant shall be:

3.1.1 Capable of producing uniform concrete (Note 23) in the mixing time regularly employed at the plant or in the time designated in ASTM C 94/C 94M *Specification for Ready Mixed Concrete* (Note 24), whichever is less, when operated with a capacity batch in accordance with the method regularly employed in operation of the plant. [P]

Note 23: *The concrete is considered uniform if samples taken after discharge of approximately 15 percent and 85 percent of the load do not differ more than the following: (1) in slump, 1 inch (25 mm) if the average slump is 4 inches (100 mm) or less, 1½ inches (38 mm) if the average slump is 4 to 6 inches (100 to 150 mm); and (2) in coarse aggregate content, 6 percent by weight of the concrete. Procedures for measuring uniformity of mixed concrete are discussed in References 1, 6 and 7.*

For plant mixers that bear a performance rating plate of the Concrete Plant Manufacturers Bureau a visual inspection of the mixer can be used in lieu of the mixing uniformity evaluation. The dimensions of the mixing blades shall exceed the minimum dimensions stated by the mixer manufacturer for the minimum mixing time stated on the manufacturer's data plate.

Note 24: *The mixing time designated in C 94/C 94M is 1 minute for mixers with capacities of 1 cubic yard (0.76 cubic meter) or less plus 15 seconds for each additional cubic yard (cubic meter) or fraction thereof.*

3.1.2 Equipped with a timing device that will not permit the batch to be discharged before the predetermined mixing time has elapsed. [P]

3.2 Shrink Mixing Operations

The mixer at the plant shall be:

3.2.1 Capable of partially blending the concrete ingredients to reduce their total bulk volume before discharge into a truck mixer. [N]

4. Ticketing System

Provision on delivery ticket for the following information [P]

a. Name of ready-mixed concrete company
b. Plant designation where batched if company operates more than one plant
c. Serial number of ticket
d. Truck number or designation
e. Name of contractor or other purchaser
f. Specific designation of job (name and location)
g. Specific class or designation of concrete identifiable with terminology employed in the job specifications
h. Amount of concrete in cubic yards
i. Date (of delivery)
j. Time when batch was loaded
k. Extra water added at the request of the receiver of the concrete and his signature or initials

5.4 Option A – Delivery Fleet Inspection by the Company

5.4.1 The delivery fleet inspection records show that not more than one unit or 10 percent of the units, whichever is greater; to be used at the plant fails to meet requirements. Report details in 5.6 [N]

5.4.2 The delivery fleet used on a normal business day during the period when the plant facilities are being inspected demonstrate compliance with requirements. [N]

5.4.3 The Company maintains records that indicate compliance with the requirements of this Check List for the inspection of delivery vehicles [N]

5.4.4 Personnel responsible for vehicle inspection have demonstrated knowledge of the required inspection procedures and requirements of (Sections 5.1, 5.2 and 5.3) of this Check List, as appropriate. [N]

5.4.5 Personnel responsible for vehicle inspection have demonstrated appropriate judgment of acceptable blade wear and accumulations of hardened concrete. [N]

OR

5.5 Option B – Delivery Fleet Inspection by the Inspecting Engineer

5.5.1 The delivery fleet inspection indicates that not more than one unit or 10 percent of the units, whichever is greater; to be used at the plant fails to meet requirements. Report details in 5.6 [N]

5.5.2 The delivery fleet used on a normal business day during the period when the plant facilities are being inspected demonstrate compliance with requirements. [N]

5.6 Summary of Fleet Operating from Plant

Number of units available for use N/A

Number of units certified or submitted for certification N/A

Number of Truck Mixers N/A Agitators N/A Nonagitating Units N/A

Section 5.6 validates indications in 5.4.1 or 5.5.1

6. VERIFICATION OF INSPECTION AND APPLICATION FOR CERTIFICATE.

The undersigned, a licensed professional engineer in Idaho, and assisted by Mr. Calkins
(State, Territory, or Jurisdiction)
has conducted the inspection of the ready-mixed concrete plant described as
REX CON Plant No. 1 Mountain Home, Idaho
(Specific Designation and Location of Plant)
and asserts that, in his/her professional judgment, the information provided on this Check List is accurate and complete. Application is hereby made for the issuance of a certificate for this plant, to be classified as follows:

NOTE: The engineer attesting to this inspection shall be licensed in the state where the production facility is located.

General Operation	Batching System	Recording (if any)
[N] Truck Mixing	[N] Manual	[P] Cementitious Materials
[P] Central Mixing	[N] Partially Automatic	[P] Aggregate
[N] Shrink Mixing	[N] Semi-Automatic	[P] Water
	[P] Automatic	[P] Chemical Admixtures

[P] I have advised the Company Official of the responsibilities for maintaining certification in Section 7.

[P] This plant has been previously certified. They have complied with the requirements indicated in the Agreement by Company Official in Section 7 during the previous certification period.

02/18/2015
Inspection Date

818346
NRMCA Inspector ID #

(SEAL) PROFESSIONAL ENGINEER REGISTERED 8863 2-18-2015 STATE OF IDAHO TRAVIS J. WAMBEKE

836440
NRMCA Assistant ID #

Travis Wambeke
PRINT Name of Licensed Professional Engineer

SIGNATURE of Licensed Professional Engineer

STRATA
PRINT Company Name

8653 West Hackamore Drive
PRINT Street Address

Boise, Idaho 83709
PRINT City, State, and Zip Code

(509)339-2000 (509)339-2001 twambeke@stratageotech.com
Phone Number Fax Number PRINT E-mail Address

Luke Calkins
PRINT Name of Asst. to Engineer Conducting Inspection

SIGNATURE of Asst. to Engineer Conducting Inspection

(208)376-8200 (208)376-8201 Lcalkins@stratageotech.com
Phone Number Fax Number PRINT E-mail Address

7. Agreement By Company Official[1]

The undersigned agrees that all scales in the plant described below will be checked at intervals not exceeding 6 months for conformance with Item 2.1.3 of the *Check list for Ready Mixed Concrete Production Facilities*. Any failure to meet the scale tolerance in Item 2.1.2 will be corrected promptly.

The undersigned also agrees that the batching accuracy of all volumetric admixture dispensers and all volumetric water batching devices (including water meters) in the plant will be checked at intervals not exceeding 6 months for conformance with the batching accuracy requirements for liquid admixtures and water contained in Items 2.5.3 and 2.5.4 of the Check List. Accuracy of devices for automated aggregate moisture measurement, when used, will be checked at intervals not exceeding 6 months (Item 2.5.5.1). Any failure to meet the required batching accuracy will be corrected promptly. More frequent verifications by other specifying agencies may apply (Note 3). *(Checks of accuracy of devices may be made by qualified company personnel, by outside agencies or by scale checking companies. These checks do not imply a requirement for calibration of such devices; however, documentation of these checks will be made available to the inspector on request.)*

The undersigned further agrees to have overall supervisory responsibility of the inspection of the delivery fleet and shall ensure that not more than one unit or 10 percent of the delivery vehicles operating from the plant fail to maintain current certification. It is understood that any lapse in the certification of the delivery fleet during the period of certification of the production facility will result in termination of a valid certification for the ready mixed concrete production facility.

PLEASE FILL OUT COMPLETELY AND PRINT CLEARLY!

Terry Hudson — Signature of Company Official

2-18-15 — Date

Terry Hudson — PRINT Company Official's Name

Manager — Title

2543 E. Encanto St. — PRINT Company Official's Street Address

Mesa AZ 85213 — PRINT City, State, and Zip Code

480-818-3263 — Phone Number

Fax Number

Thudson@swconcpave.com — E-mail address

South West Concrete Paving Co. 20430 N. 19th Ave Phx AZ 85027 — Parent Company Name & Mailing Address / City, State and Zip Code

David Nuttall V.P. — Company Official's Supervisor Name, Title / Email Address

Rexcon – Mountain Home ID — Plant Name and Street Address

City, State, and Zip Code

[1] The company official completing and signing this agreement should have financial and operational responsibility over the management of the production facility; for planning and directing the plant personnel; and taking corrective action when necessary.

Certification of Ready Mixed Concrete Production Facilities

Instructions for Payment

NRMCA's Plant & Truck Certification Program is Pre-paid

THIS FORM MUST ACCOMPANY PLANT CHECKLIST AND/OR FLEET INSPECTION REPORTING FORM

Instructions to the Inspecting Engineer or Company Personnel: Complete the attached Payment Information Form and mail or email with the Plant Checklist and/or Fleet Inspection Reporting form. This form may also be used to request the appropriate payment from the company's accounts payable department who have completed an inspection on their plants and trucks. *NRMCA will not invoice for plant and/or truck certifications as payment should accompany paperwork for certification.*

Payment can be sent from the inspecting engineer (on behalf of the company) or the company requesting certification.

Checks: Checks should be made payable to NRMCA. The Inspecting Engineer must complete the appropriate section of the attached blank Payment Information Form and submit the form to NRMCA and the company being inspected. Note: The processed check must accompany the certification checklist documents when submitted to NRMCA.

Credit Cards: NRMCA accepts American Express, Master Card and Visa for payment. The entity making the payment must complete the credit card section of the Payment Information Form and include this form of payment with the certification checklist documents when submitted to NRMCA.

Instructions to Company:

NRMCA

Certification of Ready Mixed Concrete Production Facilities

Plant & Truck Payment Form

Company Name:_____ Date: _____

For NRMCA Member Companies

$100.00 Per Plant Certification	Number of Plants _____ X $100.00 = $	_____
$15.00 Per Truck Certification	Number of Trucks _____ X $15.00 = $	_____
$75.00 Expedited Fee Per Plant (Or set of trucks if submitted separately)	Number of Expedited _____ X $75.00 = $	_____
$25.00 Certificate Reprint Per Plant (Plus shipping)	Number of Plant Reprints ____ X $25.00 = $	_____
$5.00 Truck Card Reprint Per Truck (Plus shipping)	Number of Truck Reprints ____ X $5.00 = $	_____

Total Amount Due $ _____
(Plus Shipping: If Reprints are Required)

For Non-Member Companies

$450.00 Per Plant Certification	Number of Plants _____ X $450.00 = $	_____
$35.00 Per Truck Certification	Number of Trucks _____ X $ 35.00 = $	_____
$100.00 Expedited Fee Per Plant (Or set of trucks if submitted separately)	Number of Expedited _____ X $100.00 = $	_____
$25.00 Certificate Reprint Per Plant (Plus shipping)	Number of Plant Reprints ____ X $25.00 = $	_____
$5.00 Truck Card Reprint Per Truck (Plus shipping)	Number of Truck Reprints ____ X $5.00 = $	_____

Total Amount Due $_____
(Plus Shipping: If Reprints are Required)

Credit Card: ☐ America Express ☐ Master Card ☐ Visa

Credit card Number: _____ Expiration Date:_____

Name on Credit Card: _____

Signature: _____

ATTENTION:

PLEASE DO NOT SEND PAYMENT DIRECTLY TO NRMCA WITHOUT ACCOMPANYING PLANT CERTIFICATION CHECK LIST OR FLEET INSPECTION REPORTING FORM. PLANT CERTIFICATES AND/OR TRUCK STICKERS WILL NOT BE EMAILED OR FAXED.

Checks should be made payable to NRMCA

Mail Plant Certification Check List paperwork, payment and payment form to the following address:

NRMCA • Attention: Plant Certification Program• 900 Spring Street, Silver Spring, Maryland 20910

This is to certify that

Chris Schmelling

has successfully completed the requirements for the NRMCA Plant Manager Certification Program and is duly recognized as a

Ready Mixed Concrete Plant Manager

Date of Certification:
April 28, 2017

Certification Expiration:
April 27, 2022

Robert C. Garbini
Robert C. Garbini
President

Gary M. Mullings
Gary M. Mullings
Senior Vice President of Compliance and Operations

STEPS
SEMINAR, TRAINING & EDUCATIONAL PROGRAMS

Certificate of Completion

This certificate is awarded to

Chris Schmelling

The Undersigned participant is awarded this certificate of Continuing Education according to the guidelines set forth by the National Ready Mixed Concrete Association for completing the
"Plant Manager's Certification Course"

2.4 Continuing Education Units
24 Professional Development Hours

NRMCA®

April 25 – 27, 2017
Date

Robert G. Garbini
Robert Garbini, P.E.
President


REXCOM
REXCOM
REXCOM

REXCON

RexCon
2841 Whiting Road
Burlington, WI 53105
262-539-4050
www.rexcon.com

Page	1
Date	
10/17/2017	

QUOTATION

SOLD TO
SOUTHWEST CONCRETE PAVING
ACCOUNTS PAYABLE
20430N. 19TH AVE
PHOENIX, AZ. 85027

SHIP TO
SOUTHWEST CONCRETE PAVING
ATTN: CHAD NUTTALL
23005 NORTH 15TH AVE #205
PHOENIX, AZ. 85027
623-516-0013

Quote No	Quote Date	Customer No	Loc	Slsmn	Purchase Order No	Job Number	Ship Via	Col/PPD
00258149	10/16/2017	5283	01	2	QUOTE - AGG BIN SPLIT		BEST WAY	PREPAY / ADD

Qty Quoted	Qty Backordered	Item Number / Description	UOM	Unit Price	Extended Price
1	0	512-06739-400 Prom: 10/16/2017 MODEL "S" AGG BIN END SPLIT (D) SHIPPING NOT INCLUDED, F.O.B. FACTORY	EA	6,279.00	6,279.00

3 TO 4 BIN OPTION

TERMS: NET 30 DAYS

Order Line Value: 6,279.00

Quote is valid for 60 days

Kirtland Air Force Base

Taxiway to Pad 5 Project

Supplement Concrete Batch Plant Equipment

Background: SWCP (Southwest Concrete Paving Co) has been selected to perform the heavy duty airfield concrete pavement on this project. The concrete pavement on this project is specified under section 32 13 11, wherein it requires that freshly mixed concrete be made within a certain temperature range, and that it be maintained within another temperature range for an extended period of time.

Reason of Intent: SWCP anticipates that the period of performance for the concrete work on this project will be in February and March of 2018. Historical weather data shows us that low ambient temperatures should be expected at Kirtland AFB during the period of interest. As part of our cold weather concreting plan, we intend to use a Pearson Chiller/Heater to condition the water to be incorporated into the concrete mix.

Equipment Information: SWCP has two Pearson Chiller/Heater Model PH-1390 units in its fleet of equipment. The serial number of the unit to be used on this project is 1127-08. Although these units are capable of both chilling and heating water, we expect the propane heating capability of this unit will be used on this project. The units are incorporated into a 25,000 gallon insulated storage tank. The Model Year of these units are 2008. We have attached Pearson Brochures with equipment data. Although we intend to use our Model PH-1390, it has since been succeeded by Pearson's Model PH-1400, which is similar in capacity to our PH-1390.

PEARSON SYSTEMS, INC

Water Heaters

Hot Water Systems

Stationary or Mobile | Basic to Turnkey

Low or High Volume? No Problem! Concrete Producers can rely on Pearson Systems for your hot water needs. Whether you have a precast plant doing smaller volumes or have dual central mix plants with high output, or anything in between. We have units for 100 yards to 5,000 yards+ per 8 hour production day.

Advantages of Pearson Water Heating Systems:

- Simple, efficient, rugged, reliable, and designed specifically for concrete plants
- Dozens of configurations can be custom built for your specific water heating demands and plant layout: seven different burner sizes, U.L.-approved burner operates on #2 fuel oil, natural gas, propane or combination of gas and oil, and high volume multi-burner units are available
- Complete turnkey stationary or portable systems available. Heater, tank, chiller and pumps all on one platform for ease of insulation and operation
- Sleek and simple design with few moving parts for greater reliability, and virtually maintenance free
- Save money: Built in insulated storage tank means there is no need to purchase an extra insulated recirculation tank for heated water. For the off season, units are designed for a chiller add-on or can be just used as a surge tank
- Works in hard well water or normal city water conditions
- No costly clogged coils or packing medium to replace

- No acid or chemical cleaning needed
- No need to pre-treat feed water
- No boiler room or boiler inspection required
- No gas ignition required with oil operation
- Digital temperature control can be remotely located

Exclusive on all Pearson heaters...The Pearson Power Flame Burner. Low fire with smooth lightoff/pulsation-free operation.

These patented burners feature:

- Solid state timer controls for low fire start to high fire operation
- Factory-wired burner
- Mounted Control Panel
- Patented flame retention head design
- Flange mounted
- All burners pre-tested
- Electric ignition standard
- Economically priced

PEARSON'S STANDARD DIRECT-FIRED WATER HEATERS Operating Capacities				
Model	Min. Makeup Water GPM/Flow Rate	Hourly Recovery Rate Gals/100° Rise	Available Gal. 1st Hr/100° Rise	Total Usable Gal. 8 Hr./100° Rise
P-3-2W	4.7	283	3,282	5,256
P-5-3W	7.0	423'	5,423	8,384
P-5-6W	14.1	846'	5,846	11,768
P-5-10W	23.5	1,410'	6,410	16,280
P-8-6W	14.1	846	8,846	14,768
P-8-10W	23.5	1,410	9,410	19,280
P-10-6W	14.1	846	10,846	16,768
P-10-10W	23.5	1,410	11,410	21,280
P-10-15W	35.5	2,115	12,115	26,920
P-10-20W	47.0	2,820	12,820	32,560
P-10-25W	59.0	2,820	12,820	32,560
P-15-10W	23.5	3,540	13,540	38,320
P-15-15W	35.5	2,115	17,115	31,920
P-15-20W	47.0	2,820	17,820	37,560
P-15-25W	59.0	3,540	18,540	43,320
P-20-10W	23.5	1,410	21,410	31,280
P-20-15W	35.5	2,115	22,115	36,920
P-20-20W	47.0	2,820	22,820	42,560
P-20-25W	59.0	3,540	23,540	48,320
P-25-15W	35.5	2,115	27,115	41,920
P-25-20W	47.0	2,820	27,820	47,560
P-25-25W	59.0	3,540	28,540	53,320
P-30-20W	47.0	2,820	32,820	52,569

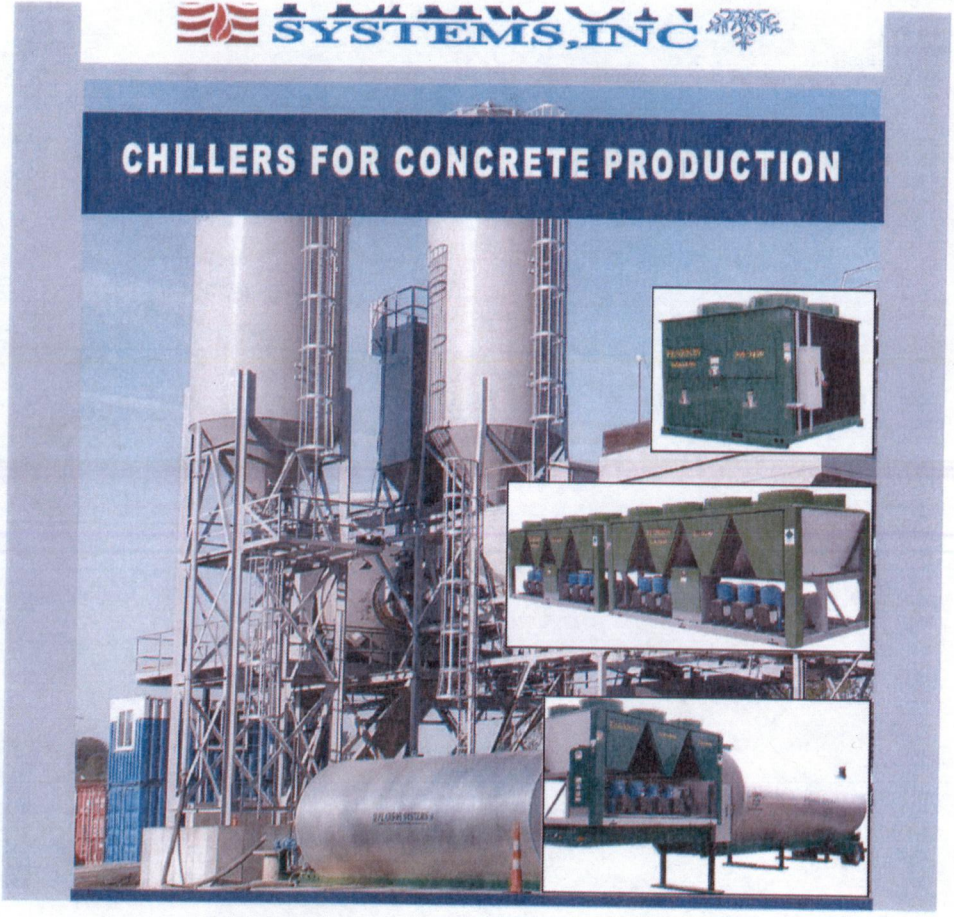
P-30-25W	59.0	3,540	35,540	58,320
P-15-2-20W	94.0	5,640	20,640	60,120
P-15-2-25W	118.0	7,080	22,080	71,640
P-20-2-20W	94.0	5,640	25,640	65,120
P-20-2-25W	118.0	7,080	27,080	76,640
P-25-2-20W	94.0	5,640	30,640	70,120
P-25-2-25W	118.0	7,080	32,080	81,640
P-30-2-20W	94.0	5,640	35,640	75,120
P-30-2-25W	118.0	7,080	37,080	86,640
Note: Multiple burners available in a single tank.				

Contact your Pearson Area Dealer or call our main office at 410.770.4617 to help you size which system is right for you.

29526 Canvasback Drive, Easton, MD 21601 | Phone 410.770.4617 | Fax 410.770.4619

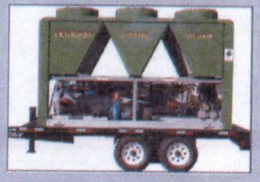
SYSTEMS, INC

CHILLERS FOR CONCRETE PRODUCTION



We have been supplying the Ready Mix I

PH-250 skid mount with P-1
1,000 gallon insulated tank



Portable PH-3240 Can be pulled to job site with pick up truck

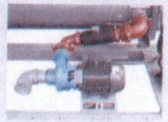
We have over 25 years of application experience and technical know-how. Customers can count on us before, during and after the sale. We analyze your concrete usage for proper unit sizing, help with chiller location, piping, programming, system operation, maintenance and troubleshooting.

Pearson water chillers are available from 200 to over 5,000 yards per day. They can eliminate the costs and liabilities that come with adding ice to your mix. They also allow precise control of water volume and temperature resulting in a more consistent mix.

Bottom line. Pearson is a family owned business that only focusses on controlling water temperature for concrete production. Producers can rely on our products, experience and knowledge.

- Simple to install and operate
- Diagnostic digital display and control module
- Durable epoxy coated aluminum coils
- High operation efficiency, with full load
- EER (Energy Efficiency Ratio) up to 10.5
- Multi-Scrolling compressors are maintenance free with auto-adaptive control to minimize wear with internal/external vibration isolation
- Pre-mounted Circulating pump with electric starter
- State-of-the-art heat exchanger maximizes cooling
- Two year warranty on parts and labor
- **Portable and Stationary units available**
- Initial start-up included

diagnostic Display & Control Scrolling Marque



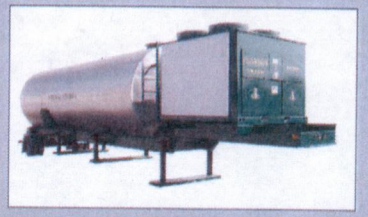
Pre-pipe and Wired Circulation Pump

Industry Water Chillers for over 25 years

STATIONARY, PORTABLE / TURNKEY

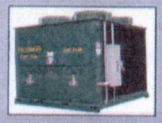
Custom sized and built per your demand. Stationary units, portable chillers, chillers mounted with insulated storage tanks or combo chiller/ heater systems that can be stationary or portable.

All can be built as basic or turn-key as your demands require.



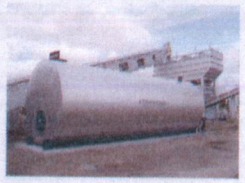
Portable PH-1440 Chiller P-10, Chiller & 10,000 Gallon Insulated Storage Tank

Portable PH-980



PH-1400

(2x) PH-4340 High Capacity



SAVE MONEY

Pearson Systems also Provides Direct Fired Water Heaters.

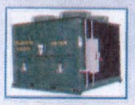
Our Water Heaters are extremely durable, reliable, efficient and can be sized to handle any volume. They are also designed to be a chilled water storage tank during the hot months. **Therefore, there is no need to purchase an additional costly insulated storage tank for your chilled water storage.** We also can provided insulated vertical or

PEARSON MODELS	YARDS PER DAY 25 gal/ yd	PEARSON MODELS	YARDS PER DAY 25 gal/ yd
PH-250	200 +	PH-1920	2000
PH-360	300 +	PH-2200	2200
PH-420	400 +	PH-2480	2400
PH-570	500 +	PH-2640	2600
PH-630	600 +	PH-3000	3000
PH-710	700 +	PH-3240	3300
PH-900	800 +	PH-3490	3500
PH-980	900 +	PH-3740	4000
PH-1120	1000 +	PH-4340	4300
PH-1230	1200 +		
PH-1400	1300 +		
PH-1500	1400 +		

Based on 65 F feed water temperature
85 F average ambient temperature

* Capacities will change based on variations in volume of storage tanks, average ambient temperatures , feed water temperature and gal/ yd. Call for precise chiller sizing.

Larger Units Available



PEARSON

Southwest Concrete Paving Co
SWCP Equipment No. C010005 CAT 972 Wheel Loader
Intended Use This Project: Concrete Batch Plant Aggregate Feed Loader
Model: 972M
Serial Number: A8P00421
Year of Make: 2015

WHEEL LOADERS

972M (TIER 3/STAGE IIIA) (2017)

< Back

REQUEST A QUOTE

FINANCING & INSURANCE
See our Current Offers

FIND YOUR DEALER

COMPARE MODELS

USED MIDSIZE WHEEL LOADERS

VIEW PRODUCT DOWNLOADS

972M Medium Wheel Loader

PHOTO **VIDEOS** **360 VIEW**






SPECIFICATIONS **BENEFITS & FEATURES** **RELATED PRODUCTS**

OVERVIEW

The new 972M Wheel Loader, with the 2017 product update, applies proven technologies systematically and strategically to meet your high expectations for reliability, productivity, fuel efficiency, and long service life. Meets U.S. EPA Tier 3 and EU Stage IIIA equivalent emission standards.

ENGINE

UNITS: **US** **METRIC**

Net Power - ISO 9249	298.0 hp
Engine Model	Cat C9.3 ACERT
Displacement	568.0 in^3
Maximum Power @ 1,800 rpm – SAE J1995	330.0 hp
Maximum Power @ 1,800 rpm – SAE J1995 (metric)	334.0 hp

Maximum Power @ 1,800 rpm – ISO 14396	325.0 hp
Maximum Power @ 1,800 rpm – ISO 14396 (metric)	329.0 hp
Maximum Net Power @ 1,700 rpm – SAE J1349	298.0 hp
Maximum Net Power @ 1,700 rpm – SAE J1349 (metric)	302.0 hp
Maximum Net Torque (1,000 rpm)	1204.0 lbf-ft
Maximum Net Power @ 1,700 rpm – ISO 9249	298.0 hp
Maximum Net Power @ 1,700 rpm – ISO 9249 (metric)	302.0 hp
Peak Gross Torque (1,200 rpm) – SAE J1995	1275.0 lbf-ft
Peak Gross Torque (1,200 rpm) – ISO 14396	1261.0 lbf-ft

WEIGHTS

Operating Weight	54871.0 lb
Note	Weight based on a machine configuration with Michelin 26.5R25 XHA2 L3 radial tires, full fluids, operator, standard counterweight, cold start, roading fenders, Product Link™, manual diff lock/open axles (front/rear), power train guard, secondary steering, sound suppression and a 4.8 m3 (6.28 yd3) general purpose bucket with BOCE.

BUCKETS

Bucket Capacities	3.20-9.94 m^3 (4.19-13.0 yd^3)

OPERATING SPECIFICATIONS

Breakout Force	44075.0 lbf
Static Tipping Load – Full 37° Turn – with Tire Deflection	35626.0 lb
Static Tipping Load – Full 37° Turn – No Tire Deflection	38396.0 lb
Note	For a machine configuration as defined under "Weight."
Note	Full compliance to ISO 143971:2007 Sections 1 thru 6, which requires 2% verification between calculations and testing.

TRANSMISSION

Forward 1	4.2 mph
Forward 2	8.1 mph
Forward 3	14.4 mph
Forward 4	24.5 mph
Reverse 1	4.7 mph
Reverse 2	9.3 mph

Reverse 3	16.5 mph
Reverse 4	24.5 mph
Note	Maximum travel speed in standard vehicle with empty bucket and standard L3 tires with 826 mm (32.5 in) roll radius.

HYDRAULIC SYSTEM

Implement Pump Type	Variable Displacement Piston
Implement System: Maximum Pump Output (2,200 rpm)	95.0 gal/min
Implement System: Maximum Operating Pressure	4496.0 psi
Hydraulic Cycle Time – Total	10.7 Seconds

SERVICE REFILL CAPACITIES

Fuel Tank	79.8 gal
Cooling System	18.9 gal
Crankcase	6.5 gal
Transmission	15.5 gal
Differentials and Final Drives – Front	15.1 gal
Differentials and Final Drives – Rear	15.1 gal
Hydraulic Tank	33.0 gal

SOUND

With Cooling Fan Speed at Maximum Value: Operator Sound Pressure Level (ISO 6396:2008)	70.0 dB(A)
With Cooling Fan Speed at Maximum Value: Exterior Sound Power Level (ISO 6395:2008)	109.0 dB(A)
With Cooling Fan Speed at Maximum Value: Exterior Sound Pressure Level (SAE J88:2013)	76 dB(A)*
Note	*Distance of 15 m (49.2 ft), moving forward in second gear ratio.

DIMENSIONS – STANDARD LIFT

Height to Top of Hood	9.25 ft
Height to Top of Exhaust Pipe	11.58 ft
Height to Top of ROPS	11.75 ft
Ground Clearance	1.42 ft
Center Line of Rear Axle to Edge of Counterweight	8.17 ft
Center Line of Rear Axle to Hitch	5.83 ft
Wheelbase	11.67 ft
Overall Length (without bucket)	25.58 ft

Hinge Pin Height at Maximum Lift	14.67 ft
Hinge Pin Height at Carry	2.25 ft
Lift Arm Clearance at Maximum Lift	12.58 ft
Rack Back at Maximum Lift	56 degrees
Rack Back at Carry Height	50 degrees
Rack Back at Ground	41 degrees
Maximum Width over Tires	9.92 ft
Tread Width	7.33 ft
Note	All dimensions are approximate and based on L3 XHA2 tires.

DIMENSIONS – HIGH LIFT

Height to Top of Hood	9.25 ft
Height to Top of Exhaust Pipe	11.58 ft
Height to Top of ROPS	11.75 ft
Ground Clearance	1.42 ft
Center Line of Rear Axle to Edge of Counterweight	8.17 ft
Center Line of Rear Axle to Hitch	5.83 ft

Wheelbase	11.67 ft
Overall Length (without bucket)	26.67 ft
Hinge Pin Height at Maximum Lift	15.75 ft
Hinge Pin Height at Carry	2.58 ft
Lift Arm Clearance at Maximum Lift	13.5 ft
Rack Back at Maximum Lift	71 degrees
Rack Back at Carry Height	49 degrees
Rack Back at Ground	39 degrees
Maximum Width over Tires	9.92 ft
Tread Width	7.33 ft
Note	All dimensions are approximate and based on L3 XHA2 tires.

BUCKET CAPACITIES

Bucket Range	3.20-9.94 m^3 (4.19-13.0 yd^3)

Kirtland Air Force Base

Taxiway to Pad 5 Project

Supplement Concrete Batch Plant Equipment

Background: SWCP (Southwest Concrete Paving Co) has been selected to perform the heavy duty airfield concrete pavement on this project. The concrete pavement on this project is specified under section 32 13 11, wherein it requires that freshly mixed concrete be made within a certain temperature range, and that it be maintained within another temperature range for an extended period of time.

Reason of Intent: SWCP anticipates that the period of performance for the concrete work on this project will be in February and March of 2018. Historical weather data shows us that low ambient temperatures should be expected at Kirtland AFB during the period of interest. As part of our cold weather concreting plan, we intend to use a Pearson Chiller/Heater to condition the water to be incorporated into the concrete mix.

Equipment Information: SWCP has two Pearson Chiller/Heater Model PH-1390 units in its fleet of equipment. The serial number of the unit to be used on this project is 1127-08. Although these units are capable of both chilling and heating water, we expect the propane heating capability of this unit will be used on this project. The units are incorporated into a 25,000 gallon insulated storage tank. The Model Year of these units are 2008. We have attached Pearson Brochures with equipment data. Although we intend to use our Model PH-1390, it has since been succeeded by Pearson's Model PH-1400, which is similar in capacity to our PH-1390.

PEARSON SYSTEMS, INC

Water Heaters

Hot Water Systems

Stationary or Mobile | Basic to Turnkey

Low or High Volume? No Problem! Concrete Producers can rely on Pearson Systems for your hot water needs. Whether you have a precast plant doing smaller volumes or have dual central mix plants with high output, or anything in between. We have units for 100 yards to 5,000 yards+ per 8 hour production day.











Advantages of Pearson Water Heating Systems:

- Simple, efficient, rugged, reliable, and designed specifically for concrete plants
- Dozens of configurations can be custom built for your specific water heating demands and plant layout: seven different burner sizes, U.L.-approved burner operates on #2 fuel oil, natural gas, propane or combination of gas and oil, and high volume multi-burner units are available
- Complete turnkey stationary or portable systems available. Heater, tank, chiller and pumps all on one platform for ease of insulation and operation
- Sleek and simple design with few moving parts for greater reliability, and virtually maintenance free
- Save money: Built in insulated storage tank means there is no need to purchase an extra insulated recirculation tank for heated water. For the off season, units are designed for a chiller add-on or can be just used as a surge tank
- Works in hard well water or normal city water conditions
- No costly clogged coils or packing medium to replace

- No acid or chemical cleaning needed
- No need to pre-treat feed water
- No boiler room or boiler inspection required
- No gas ignition required with oil operation
- Digital temperature control can be remotely located

Exclusive on all Pearson heaters...The Pearson Power Flame Burner. Low fire with smooth lightoff/pulsation-free operation.

These patented burners feature:

- Solid state timer controls for low fire start to high fire operation
- Factory-wired burner
- Mounted Control Panel
- Patented flame retention head design
- Flange mounted
- All burners pre-tested
- Electric ignition standard
- Economically priced

PEARSON'S STANDARD DIRECT-FIRED WATER HEATERS
Operating Capacities

Model	Min. Makeup Water GPM/Flow Rate	Hourly Recovery Rate Gals/100° Rise	Available Gal. 1st Hr/100° Rise	Total Usable Gal. 8 Hr./100° Rise
P-3-2W	4.7	283	3,282	5,256
P-5-3W	7.0	423'	5,423	8,384
P-5-6W	14.1	846'	5,846	11,768
P-5-10W	23.5	1,410'	6,410	16,280
P-8-6W	14.1	846	8,846	14,768
P-8-10W	23.5	1,410	9,410	19,280
P-10-6W	14.1	846	10,846	16,768
P-10-10W	23.5	1,410	11,410	21,280
P-10-15W	35.5	2,115	12,115	26,920
P-10-20W	47.0	2,820	12,820	32,560
P-10-25W	59.0	2,820	12,820	32,560
P-15-10W	23.5	3,540	13,540	38,320
P-15-15W	35.5	2,115	17,115	31,920
P-15-20W	47.0	2,820	17,820	37,560
P-15-25W	59.0	3,540	18,540	43,320
P-20-10W	23.5	1,410	21,410	31,280
P-20-15W	35.5	2,115	22,115	36,920
P-20-20W	47.0	2,820	22,820	42,560
P-20-25W	59.0	3,540	23,540	48,320
P-25-15W	35.5	2,115	27,115	41,920
P-25-20W	47.0	2,820	27,820	47,560
P-25-25W	59.0	3,540	28,540	53,320
P-30-20W	47.0	2,820	32,820	52,569

P-30-25W	59.0	3,540	35,540	58,320
P-15-2-20W	94.0	5,640	20,640	60,120
P-15-2-25W	118.0	7,080	22,080	71,640
P-20-2-20W	94.0	5,640	25,640	65,120
P-20-2-25W	118.0	7,080	27,080	76,640
P-25-2-20W	94.0	5,640	30,640	70,120
P-25-2-25W	118.0	7,080	32,080	81,640
P-30-2-20W	94.0	5,640	35,640	75,120
P-30-2-25W	118.0	7,080	37,080	86,640
Note: Multiple burners available in a single tank.				

Contact your Pearson Area Dealer or call our main office at 410.770.4617 to help you size which system is right for you.

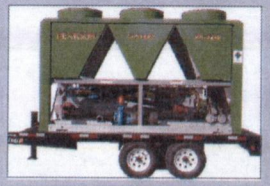
29526 Canvasback Drive, Easton, MD 21601 | Phone 410.770.4617 | Fax 410.770.4619

SYSTEMS, INC

CHILLERS FOR CONCRETE PRODUCTION

We have been supplying the Ready Mix I

PH-250 skid mount with P-1
1,000 gallon insulated tank



Portable PH-3240 Can be pulled to job
site with pick up truck

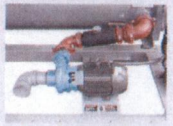
We have over 25 years of application experience and technical know-how. Customers can count on us before, during and after the sale. We analyze your concrete usage for proper unit sizing, help with chiller location, piping, programming, system operation, maintenance and troubleshooting.

Pearson water chillers are available from 200 to over 5,000 yards per day. They can eliminate the costs and liabilities that come with adding ice to your mix. They also allow precise control of water volume and temperature resulting in a more consistent mix.

Bottom line. Pearson is a family owned business that only focusses on controlling water temperature for concrete production. Producers can rely on our products, experience and knowledge.

- Simple to install and operate
- Diagnostic digital display and control module
- Durable epoxy coated aluminum coils
- High operation efficiency, with full load
- EER (Energy Efficiency Ratio) up to 10.5
- Multi-Scrolling compressors are maintenance free with auto-adaptive control to minimize wear with internal/external vibration isolation
- Pre-mounted Circulating pump with electric starter
- State-of-the-art heat exchanger maximizes cooling
- Two year warranty on parts and labor
- **Portable and Stationary units available**
- Initial start-up included

diagnostic Display & Control
Scrolling Marque



Pre-pipe and Wired
Circulation Pump

Industry Water Chillers for over 25 years

STATIONARY, PORTABLE / TURNKEY

Custom sized and built per your demand. Stationary units, portable chillers, chillers mounted with insulated storage tanks or combo chiller/ heater systems that can be stationary or portable.

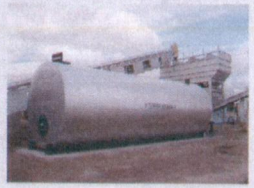
All can be built as basic or turn-key as your demands require.

Portable PH-1440 Chiller P-10, Chiller & 10,000 Gallon Insulated Storage Tank

Portable PH-980

PH-1400

(2x) PH-4340 High Capacity



SAVE MONEY

Pearson Systems also Provides Direct Fired Water Heaters.

Our Water Heaters are extremely durable, reliable, efficient and can be sized to handle any volume. They are also designed to be a chilled water storage tank during the hot months. **Therefore, there is no need to purchase an additional costly insulated storage tank for your chilled water storage.** We also can provided insulated vertical or

PEARSON MODELS	YARDS PER DAY 25 gal/ yd	PEARSON MODELS	YARDS PER DAY 25 gal/ yd
PH-250	200 +	PH-1920	2000
PH-360	300 +	PH-2200	2200
PH-420	400 +	PH-2480	2400
PH-570	500 +	PH-2640	2600
PH-630	600 +	PH-3000	3000
PH-710	700 +	PH-3240	3300
PH-900	800 +	PH-3490	3500
PH-980	900 +	PH-3740	4000
PH-1120	1000 +	PH-4340	4300
PH-1230	1200 +		
PH-1400	1300 +		
PH-1500	1400 +		

Based on 65 F feed water temperature
85 F average ambient temperature

* Capacities will change based on variations in volume of storage tanks, average ambient temperatures , feed water temperature and gal/ yd. Call for precise chiller sizing.

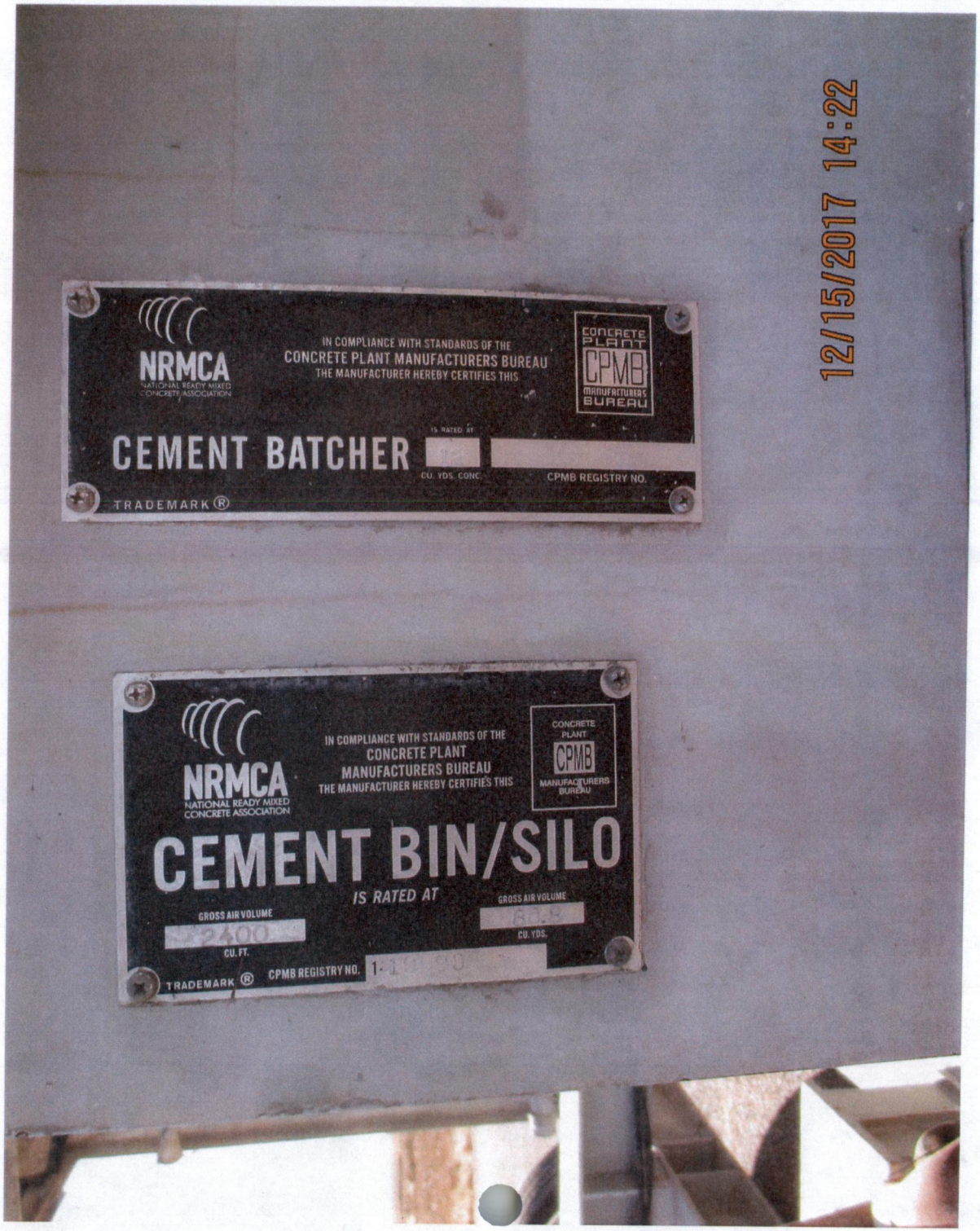
Larger Units Available

PEARSON


REXCON
12/15/2017 14:19


112-8180-1
CONCRETE PLANT EQUIPMENT
REXCON
MILWAUKEE, WISCONSIN 532
SERIAL No. 2195
NRMCA
NATIONAL READY MIXED CONCRETE ASSOCIATION
IN COMPLIANCE WITH STANDARDS OF THE
CONCRETE PLANT MANUFACTURERS BUREAU
THE MANUFACTURER HEREBY CERTIFIES THIS
CONCRETE PLANT
CPMB
MANUFACTURERS BUREAU
AGGREGATE BATCHER
IS RATED AT
CU. YDS. CONC.
CPMB REGISTRY NO.
TRADEMARK
NATIONAL READY MIXED CONCRETE ASSOCIATION
IN COMPLIANCE WITH STANDARDS OF THE
CONCRETE PLANT MANUFACTURERS BUREAU
THE MANUFACTURER HEREBY CERTIFIES THIS
CONCRETE PLANT
CPMB
MANUFACTURERS BUREAU
AGGREGATE BIN
IS RATED AT
WATER LEVEL VOLUME
80
CUBIC YARDS
HEAPED VOLUME
90
CUBIC YARDS
TRADEMARK ® CPMB REGISTRY NO. 1-
12/15/2017 14:19


REXCORP
SOUTHWEST
12/15/2017 14:23


12/15/2017 14:22
NRMCA
NATIONAL READY MIXED CONCRETE ASSOCIATION
IN COMPLIANCE WITH STANDARDS OF THE
CONCRETE PLANT MANUFACTURERS BUREAU
THE MANUFACTURER HEREBY CERTIFIES THIS
CONCRETE PLANT CPMB MANUFACTURERS BUREAU
CEMENT BATCHER
IS RATED AT
CU. YDS. CONC.
CPMB REGISTRY NO.
TRADEMARK ®
NRMCA
NATIONAL READY MIXED CONCRETE ASSOCIATION
IN COMPLIANCE WITH STANDARDS OF THE
CONCRETE PLANT MANUFACTURERS BUREAU
THE MANUFACTURER HEREBY CERTIFIES THIS
CONCRETE PLANT CPMB MANUFACTURERS BUREAU
CEMENT BIN/SILO
IS RATED AT
GROSS AIR VOLUME
2400
CU. FT.
GROSS AIR VOLUME
CU. YDS.
TRADEMARK ®
CPMB REGISTRY NO.


REXCOIL
REXCOIL
C130001C
12/15/2017 14:23


CI3-008
CI3-008
12/13/2017 17:42

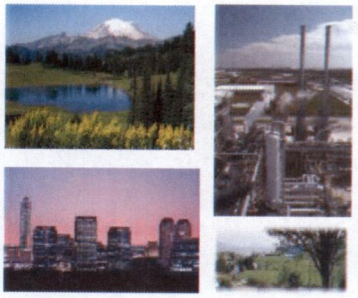

SOUTHWEST
Concrete Paving Co.
12/13/2017 17:41


SYSTEMS
Equipment Corporation
Waukon, Iowa 52172
Date 12/05
Model No. CCIL-1028PE
Serial No. 0512-3100-0285
Description CONTROL CENTER
12/13/2017 17:42


C 1300018
12/13/2017 17:39


PERFORMANCE RATED
CONCRETE PLANT MANUFACTURERS BUREAU
CPMB
CUBIC YARDS
CUBIC METERS
PLANT MIXER
PMMD
MANUFACTURERS DIVISION
MAXIMUM CAPACITY
CONCRETE PLANT MIXER
CERTIFIED BY THE MANUFACTURER TO COMPLY WITH THE CONCRETE PLANT MIXER STANDARDS OF THE PLANT MIXER MANUFACTURERS DIVISION, CONCRETE PLANT MANUFACTURERS BUREAU, WHEN OPERATED IN NORMAL MIXING POSITION
AT
RPM.
F-
PMMD REGISTRY No.
REX CONCRETE PLANT MIXER
CUBIC YARD MAXIMUM MIXING CAPACITY
WHEN OPERATED IN NORMAL MIXING POSITION WITH CONCRETE SLUMP BETWEEN 1 1/2" AND AGGREGATES OF 3" MAXIMUM SIZE
R.P.M. MIXING SPEED
SERIAL NUMBER
FOR SERVICE ALWAYS GIVE SERIAL NUMBER OF THE MACHINE
PATENT NO. 5,839,824
1999
REXCORD
MILWAUKEE, WISCONSIN 53209
102-7448-1
12/13/2017 17:39

Modeling Report



Southwest Concrete Paving Co.
Kirtland Air Force Base
Temporary Portable Concrete Batch Plant

Air Dispersion Modeling Report

December 29, 2017

Prepared for:

Southwest Concrete Paving Co.
20430 North 19th Ave., Suite B-100
Phoenix, AZ 85027

Prepared by:

Alliant Environmental, LLC
7804 Pan American Fwy. NE, Suite 5
Albuquerque, NM 87109

TABLE OF CONTENTS

List of Tables

List of Attachments

Section 1
Introduction

Southwest Concrete Paving Co. (SWCP) was contracted by Kirtland Air Force Base (KAFB) for repair work on the mission critical Taxiway Pad 5. A temporary portable concrete batch plant will be placed near the Taxiway Pad 5 during the time of the repair work. All haul roads to and from the concrete batch plant location are paved and will be sprayed with water as necessary.

Applicant Information:

Southwest Concrete Paving Co.
Mr. Chad Nuttall
20430 North 19th Ave. Suite B-100
Phoenix, AZ 85027
Office Phone: (623) 516-0013
E-mail: cnuttall@swcp.us

Air Dispersion Modeling Report Preparer Contact Information:

Alliant Environmental, LLC
Mr. Martin R. Schluep, Principal
7804 Pan American Fwy. NE, Suite 5
Albuquerque, NM 87109
Phone: (505) 205-4819
E-mail : mschluep@alliantenv.com

The temporary portable concrete batch plant has a maximum throughput capacity of 680 tons per hour and a maximum mixer unloading rate of 800 tons per hour. The anticipated maximum concrete production for this project is estimated at 25,000 cubic yards and the project will be completed in less than nine months. Power to operate the concrete batch plant is available on site from line power; i.e., there will be no electric generators operated at this site.

The concrete batch plant will consist of the following equipment and controls shown in Table 1 and Table 2 below.

Table 1. Concrete Batch Plant Equipment

Equipment Description	Control Method	Max Throughput
Aggregate Feed Bin	water	680 TPH
Aggregate Transfer Conveyors	water	680 TPH
Aggregate Storage Bin	water	680 TPH
Weigh Hopper #1	water	680 TPH
Aggregate Feed Conveyor	water	680 TPH
Cement/Fly Ash Storage Silo (single dual-compartment silo)	baghouse	120 TPH
Weigh Hopper #2	baghouse	120 TPH
Mixer	baghouse	800 TPH
Aggregate Stockpile	water	NA
Propane Hot Water Heater	NA	2.8 MMBtu/hr

Table 2. Concrete Batch Plant Equipment Control

Description	Control	Type	Rating
Aggregate Feed Conveyor	baghouse	fabric dust collector	10,000 cfm
Storage Silos			
Weigh Hopper #2			
Mixer			

Location of Temporary Portable Concrete Batch Plant :

Kirtland Air Force Base
UTM Coordinates (NAD83): 358,014 m East, 3,878,035 m North, Zone 13
Elevation = 5,375 feet

An aerial map showing the location of the temporary portable concrete batch plant and a process flow diagram are provided in Attachment A. The modeled receptor grid showing the KAFB fence line and discrete receptors inside the fence line is provided in Attachment B. Detailed emission calculations are provided in Attachment C.

Section 3
Modeling Requirements Description

The following pollutants and averaging periods were modeled and are included in this modeling analysis:

- All particulate matter standards: Total Suspended Particulates (TSP), Particulate Matter with an aerodynamic radius of 10 microns or less (PM_{10}), and Particulate Matter with an aerodynamic radius of 2.5 microns or less ($PM_{2.5}$)
- 1-Hour nitrogen dioxide (NO_2) and sulfur dioxide (SO_2), 3-Hour SO_2, 24-Hour SO_2, and 1-Hour and 8-Hour carbon monoxide (CO) as well as annual NO_2 and SO_2 from the hot water heater propane combustion emissions.

The calculated hourly pounds per hour (lb/hr) and annual tons per year (tpy) emission rates for TSP, PM_{10}, and $PM_{2.5}$ were applied in the AERMOD model.

All emission sources associated with the concrete batch plant were modeled as volume sources using the approximate representation volume sources set-up per EPA's User's Guide for Dispersion Models, Volume II (EPA-454/B-95-00b). The volume source characterization is used to simulate emissions that initially disperse in three dimensions with little or no plume rise, such as fugitive emissions. Model input parameters are emission rate, release height, area of volume source, and the initial horizontal and vertical dimensions of the volume, also referred to as initial sigmas.

Table 3 shows the emission unit number, description and volume source parameters used in the model.

Table 3-1. Emission Sources (Volume Sources) Modeled Parameters

EU	Source	Sigma Z_o (ft)	Release Height (ft)	Width of Volume (ft)	Sigma Y_o (ft)
1	Storage Pile	13.95	30	10	2.33
2, 4, 8, 10	Aggregate Feeder Bin	13.95	30	8	1.86
3, 6	Drop Points Conveyors	6.98	15	3	0.7
5	Weigh Hopper #1	5.58	12	10	2.33
7	Aggregate Feed to Mixer	5.58	12	10	2.33
12	Cement Feed to Mixer	5.58	12	10	2.33

Example Zo and Yo calculation:

Storage Pile Sigma Zo: Release Height / 2.15 = 30 ft / 2.15 = 13.95 ft

Storage Pile Sigma Yo: Stock Pile Width / 4.3 = 10 ft / 4.3 = 2.33 ft

Table 3-2. Point Source (Stack) Parameters

EU	Source Description	Stack Height (ft.)	Stack Temp. ('F)	Stack Velocity (ft/s)	Stack Dia. (ft.)	NO_x (lb/hr)	SO_2 (lb/hr)	CO (lb/hr)	TSP/PM_{10}/$PM_{2.5}$ (lb/hr)
14	Hot Water Heater Stack	13.5	500	18.7	0.83	**0.11**	**0.001**	**0.09**	**0.01**

24-Hour TSP, PM_{10}, and $PM_{2.5}$:

For the 24-Hour averaging period for PM_{10} and $PM_{2.5}$, the high 2nd high concentration modeled was compared to the National/New Mexico Ambient Air Quality Standard (N/NMAAQS), including background concentrations. This is a conservative comparison since five (5) years of local meteorological data, provided by the City of Albuquerque Air Quality Program, was used in the AERMOD model. "…[W]hen n years are modeled, the $(n+1)^{th}$ highest concentration over the n-year period is the design value, since this represents an average or expected exceedance rate of one year." http://www.epa.gov/ttn/scram/guidance/guide/appw_05.pdf

For the 24-Hour averaging period for TSP, the high 1st high concentration modeled was compared to the NMAAQS, including background concentration.

The following background concentrations, provided by Mr. Jeff Stonesifer from the Air Quality Program (Attachment D), were added to the 24-Hour modeled concentrations of TSP, PM_{10}, and $PM_{2.5}$:

TSP: 31.0 ug/m^3

PM_{10}: 31.0 ug/m^3

$PM_{2.5}$: 18.0 ug/m^3

Annual TSP, PM_{10}, and $PM_{2.5}$:

For the annual averaging period for TSP, PM_{10} and $PM_{2.5}$, the high 1st high concentration modeled was compared to the National/New Mexico Ambient Air Quality Standard (N/NMAAQS), including background concentrations.

The following background concentrations, provided by Mr. Jeff Stonesifer from the Air Quality Program, were added to the annual modeled concentrations of TSP, PM_{10}, and $PM_{2.5}$:

TSP: 31.0 ug/m^3

PM_{10}: 31.0 ug/m^3

$PM_{2.5}$: 7.1 ug/m^3

1-Hour and Annual NO_2:

The Tier 2 Ambient Ratio Method 2 (ARM2) technique was applied using default minimum (0.5) and maximum (0.9) ratios. The high first high concentration was used and compared against the 1-hour and annual NO_2 Significant Impact Levels (SIL) to determine the 1-Hour and annual NO_2 Radius of Impact (ROI), (see Table 5 for detailed results). The results show that the modeled impacts of NO_2 are insignificant; i.e., below the SIL. No further analysis is required.

1-Hour, 3-Hour, 24-Hour and Annual SO_2:

To determine the Radius of Impact (ROI) for all averaging periods for SO_2, the high first high concentrations modeled were compared against the SO_2 SILs (see Table 5 for detailed results). The results show that the modeled impacts of SO_2 are insignificant; i.e., below the SILs. No further analysis is required.

1-Hour and 8-Hour CO:

The radius of impact for each of these pollutant's averaging times were below the SIL. No further analysis is required.

Model Used: AERMOD model (Providence/Oris Solutions Beeline-BEEST software Version 11.10) was used to run the modeling analysis.

Number of Model Runs: AERMOD- 6 model runs (24-Hour TSP, PM_{10} and $PM_{2.5}$ and Annual TSP, PM_{10} and $PM_{2.5}$).

Modeling Parameters: The AERMOD regulatory default parameters were included in assumptions made by the model. Since there are no buildings close to the concrete batch plant, building downwash was not included in the AERMOD model.

Complex Terrain Data: Elevations of receptors and facility sources were obtained from 7.5-minute USGS topographical Digital Elevation Model (DEM) files downloaded from the Air Quality Program's website. The files were used in AERMAP to calculate the receptor and source elevations and hill heights.

Dispersion Coefficient: The selection of the appropriate dispersion coefficients used in the modeling analysis was based on the classification method defined by Auer (1978). This model considers the dispersion coefficients to be rural or urban depending on the land use within three kilometers (km) of the facility if greater than 50% meets certain land use or zoning classifications. Based on the site location (see aerial map), the rural dispersion was used.

Receptor Grid: The previously approved by the Air Quality Program receptors grid for KAFB's Permit No. 3331 for the Soil Vapor Extraction Unit Site 58 PL-567 was used for this modeling analysis.

Table 4. Used Grid Resolutions in the Modeling Domain

Grid Type	Description	Shape	Spacing (m)	Approx. Dimensions (km)
Cartesian	Extra Fine along Fence Line	Fence Line	50	NA
Cartesian	Fine	Rectangular	100	15 x 24
Cartesian	Intermediate	Rectangular	500	1.8 beyond fine grid

Meteorological Data: AERMOD – The AQP provided meteorological data set "KABQ-AERMET-v16216-2001-2005" was used as available on the AQP website. This data set best represents the meteorological data for this site.

Modeling Files: AERMOD – There are two (2) AERMOD modeling files associated with this air dispersion modeling project and report named "KAFB Concrete BP_Short Term" and "KAFP

Concrete BP_Annual". These two files include the 24-Hous and Annual TSP, PM_{10} and $PM_{2.5}$ analysis. All AERMOD files created with this file are included in the data CD submitted to the Air Quality Program.

Section 5
Results

This modeling analysis demonstrates that operation of the facility described in this report neither causes nor contributes to any exceedances of applicable NM/NAAQS for the modeled pollutants. The air quality analysis demonstrates compliance with applicable regulatory requirements. Tables 5 and 6 show a detailed summary of the modeled results compared to the applicable standards.

Table 5. Air Quality Impact Analysis (NM/NAAQS): Results

Units	Criteria Pollutant	Averaging Period	Significance Level (ug/m^3)	NM/NAAQS (ug/m^3)	GLC_{max} (ug/m^3)	Below SIL? If Yes, no further analysis required	Background Concentration (ug/m^3)	GLC_{max} incl. Background concentration (ug/m^3)	GLC_{max} incl. Background conc. < NM/NAAQS?	% of Standard	ROI (m)	Location of Modeled GLC_{max} UTM E (m)	Location of Modeled GLC_{max} UTM N (m)
Concrete Batch Plant and Boiler	$PM_{2.5}$	24-hour	1.2	35	1.55	No	18.00	19.55	Yes	56	1,906	358,705.1	3,877,823.3
Concrete Batch Plant and Boiler	$PM_{2.5}$	Annual	0.3	12	0.003	Yes	7.10	7.10	Yes	59	0		
Concrete Batch Plant and Boiler	PM_{10}	24-hour	5.0	150	14.41	No	31.00	45.41	Yes	30	4,031		
Concrete Batch Plant and Boiler	PM_{10}	Annual	1.0	NA	0.01	Yes	31.00	31.01	NA		0		
Concrete Batch Plant and Boiler	TSP	24-hour	--	150	47.15	Yes	31.00	78.15	Yes	52	--		
Concrete Batch Plant and Boiler	TSP	30-day	--	90	7.71	Yes	--	7.71	Yes	9	--		
Concrete Batch Plant and Boiler	TSP	Annual	--	60	0.03	Yes	31.00	31.03	Yes	52	--		
Boiler	NO_2	1-hour	7.5	188	1.34	Yes	NA	NA	NA	NA	0		
Boiler	NO_2	Annual	1.0	94	0.01	Yes	NA	NA	NA	NA	0		
Boiler	CO	1-hour	2000	14,992	1.29	Yes	NA	NA	NA	NA	0		
Boiler	CO	8-hour	500	9,957	0.28	Yes	NA	NA	NA	NA	0		
Boiler	SO_2	1-hour	7.8	196	0.01	Yes	NA	NA	NA	NA	0		
Boiler	SO_2	3-hour	25.0	1,309	0.01	Yes	NA	NA	NA	NA	0		
Boiler	SO_2	24-hour	5.0	261.8	0.001	Yes	NA	NA	NA	NA	0		
Boiler	SO_2	Annual	1.0	52.4	0.0001	Yes	NA	NA	NA	NA	0		

Note:

PM_{10} and $PM_{2.5}$: 24-hour modeled concentrations is high 2nd high, annual modeled concentration is high 1st high.

All TSP GLC_{max} are high 1st high.

All ROI determined with high first high modeled concentrations.

All modeled GLC_{max} are at the same location, the discrete receptor inside the KAFP fence line located at UTM Coordinates 358,705.1 mE and 3,877,823.3 mN).

Table 6. PSD Class II Increment Analysis

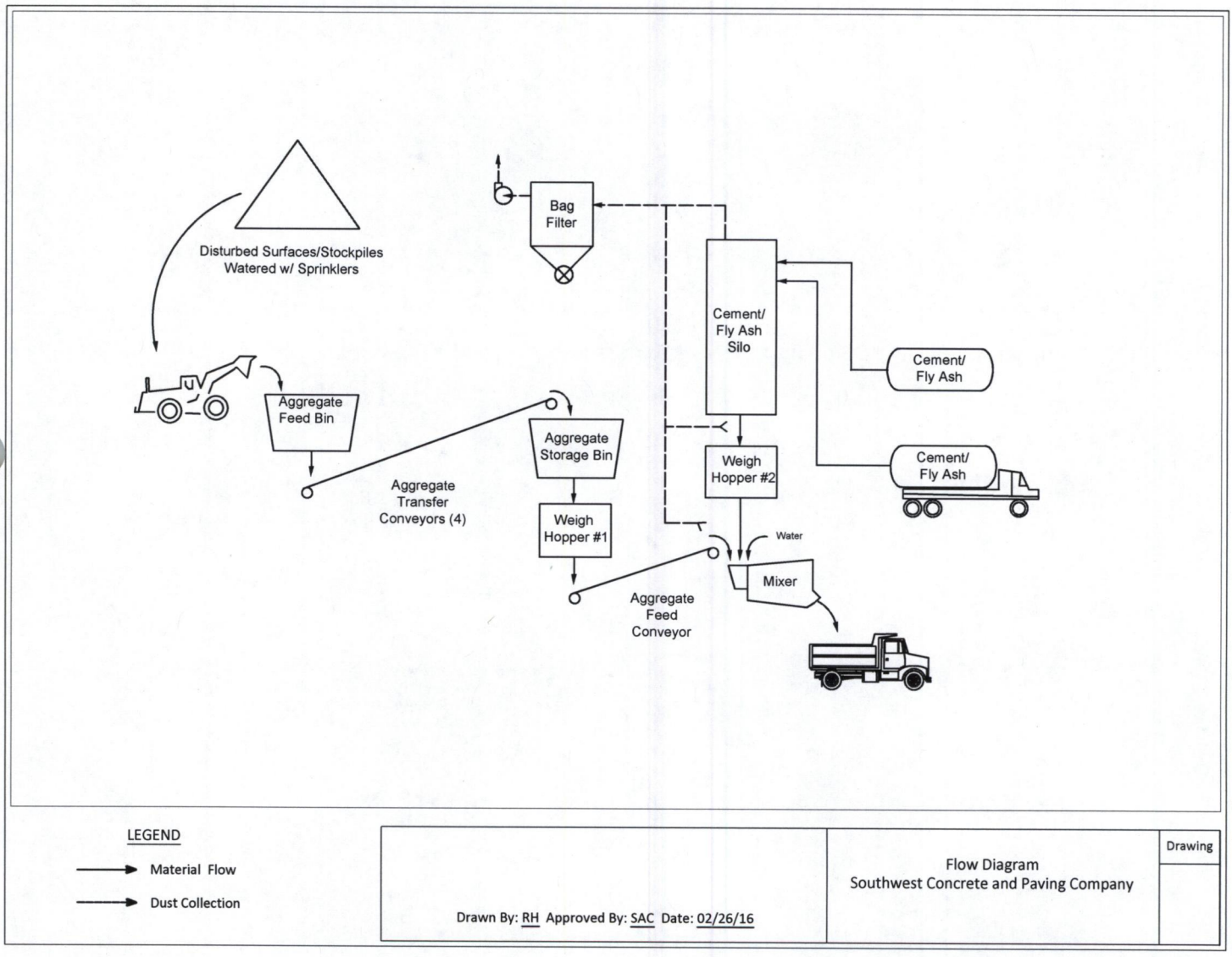
Units	Criteria Pollutant	Averaging Period	Modeled Concentration (ug/m^3)	PSD Class II Increment (ug/m^3)	Below PSD Class II Increment?
Concrete Batch Plant	$PM_{2.5}$	24-hour	1.55	9	**Yes**
Concrete Batch Plant	$PM_{2.5}$	Annual	0.003	4	**Yes**
Concrete Batch Plant	PM_{10}	24-hour	14.41	30	**Yes**
Concrete Batch Plant	PM_{10}	Annual	0.01	17	**Yes**

Note:

PM_{10} and $PM_{2.5}$: 24-hour modeled concentrations is high 2nd high, annual modeled concentration is high f^{t} high.

Attachment A
Area Map / Site Location And
Process Flow Diagram

ALLIANT ENVIRONMENTAL, LLC			**Area Map**	**Southwest Concrete Paving Co.** **Kirtland Air Force Base**	
Scale: **1:15,000**	Drawn by: MDF	Date: 12/19/2017	**Taxiway Pad 5 Repair** N 35° 2' 6.8" Latitude W 106° 33' 25.8" Longitude	Project No.:	File Name: **Taxiway Pad 5 Area Map**	Figure:
	Chk'd by:	Date:				



LEGEND

Material Flow

Dust Collection

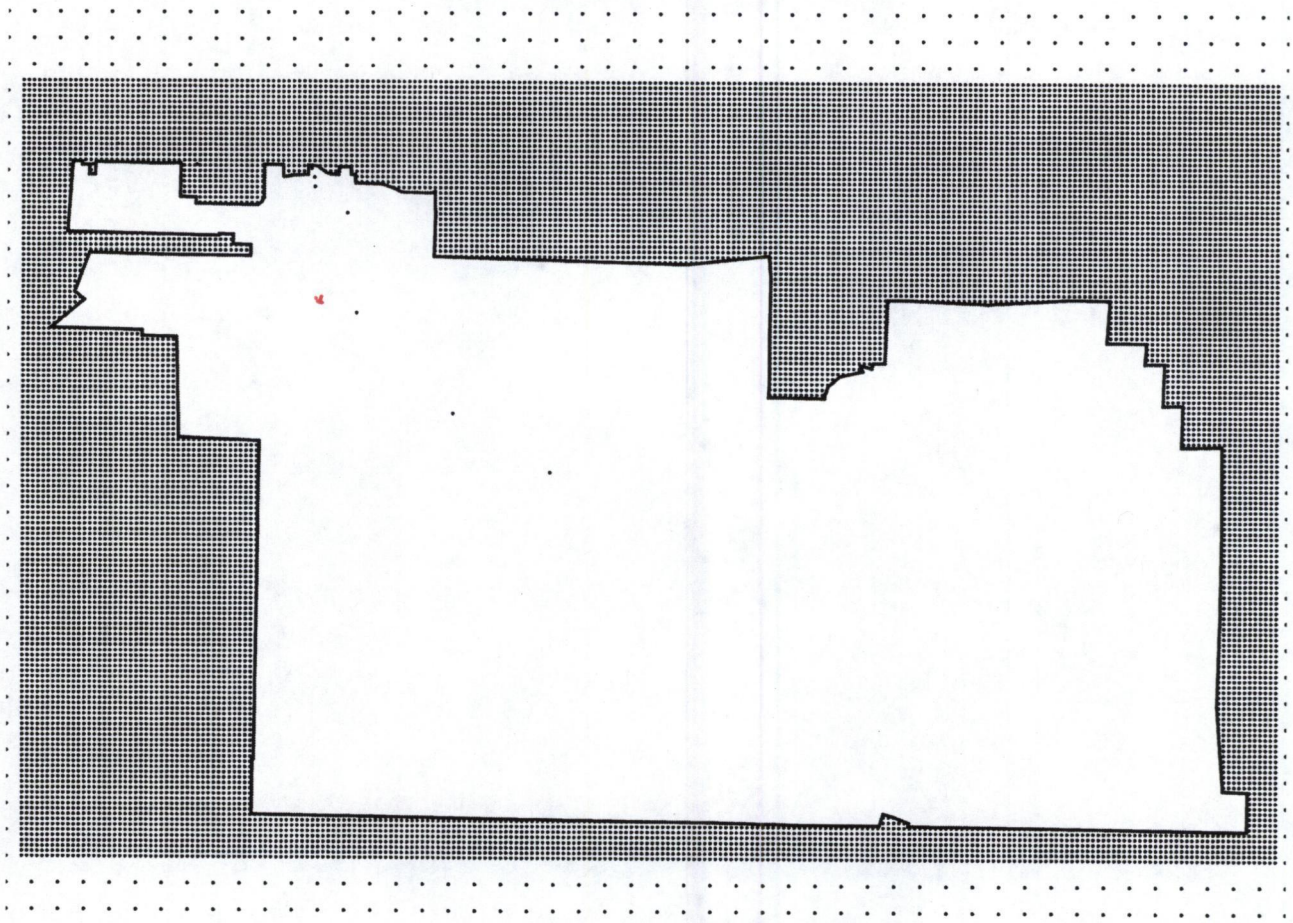
Drawn By: RH Approved By: SAC Date: 02/26/16

Flow Diagram
Southwest Concrete and Paving Company

Drawing

Attachment B
Modeled Receptor Grid / Fence Line Plot Plan

Receptor Grid Fence Line and Discrete Receptors on Base



Scale: 1" = 2722.9 Meters

Attachment C
Emission Rate Calculations

Southwest Concete Paving Co.
Kirtland Air Force Base - Concrete Batch Plant
Modeling Report

Proposed Emissions with Baghouse Control and Production Limitation (25,000 yd3)

12/27/2017

Concrete Batch Plant Particulate Emissions - CONTROLLED WITH PRODUCTION LIMITATIONS													
EU	Description	SCC	Throughput		PM EF[B]	PM_{10} EF[B]	$PM_{2.5}$ EF[B]	PM PTE		PM_{10} PTE		$PM_{2.5}$ PTE	
			tons/hour	tons/year	lbs/ton	lbs/ton	lbs/ton	lbs/hour	tons/year	lbs/hour	tons/year	lbs/hour	tons/year
1	Aggregate Storage Pile[A]	30502031	680	42,500	0.00014	0.000046	0.000013	0.10	0.003	0.03	0.001	0.01	0.0003
2	Loader to Aggregate Feed Bin	30501104	680	42,500	0.0069	0.0033	0.00043	4.69	0.15	2.24	0.07	0.29	0.01
3	Aggregate Feed Bin to Aggregate Transfer Conveyors	30501123	680	42,500	0.0069	0.0033	0.00043	4.69	0.15	2.24	0.07	0.29	0.01
4	Aggregate Transfer Conveyors to Aggregate Storage Bin	30501104	680	42,500	0.0069	0.0033	0.00043	4.69	0.15	2.24	0.07	0.29	0.01
5	Aggregate Storage Bin to Weigh Hopper #1	30501108	680	42,500	0.0048	0.0028	0.00036	3.26	0.10	1.90	0.06	0.25	0.01
6	Weigh Hopper #1 to Aggregate Feed Conveyor	30501123	680	42,500	0.0069	0.0033	0.00043	4.69	0.15	2.24	0.07	0.29	0.01
7	Aggregate Feed Conveyor to Mixer	30501109	680	42,500	0.0184	0.0055	0.00072	12.51	0.39	3.74	0.12	0.49	0.02
8	Cement Silo Loading	30501107	104	6,500	0.00099	0.00034	0.00004	0.10	0.003	0.04	0.001	0.005	0.0001
9	Cement Silo to Weigh Hopper #2	30501107	104	6,500	enclosed process								
10	Flyash Silo Loading	30501117	16	1,000	0.0089	0.0049	0.00064	0.14	0.004	0.08	0.002	0.01	0.0003
11	Flyash Silo to Weigh Hopper #2	30501117	16	1,000	enclosed process								
12	Weigh Hopper #2 to Mixer	30501109	120	7,500	0.0184	0.0055	0.00072	2.21	0.07	0.66	0.02	0.09	0.003
13	Mixer Unload[C]	30501109	800	50,000	wet process								
								lbs/hour	tons/year	lbs/hour	tons/year	lbs/hour	tons/year
Total Controlled Potential to Emit for Concrete Batch Plant Operations (PM and PM_{10})								37.09	1.16	15.43	0.48	2.01	0.06

[A] PM, PM10, and PM2.5 emission factors from AP-42 11.19.2-2

[B] PM and PM_{10} emission factors are from AP-42 Table 11.12-2. $PM_{2.5}$ emission factors are from AP-42, Chapter 11.12, Concrete Batching, Background Document, Table 17.1. (June 2006)

[C] Assumes 25,000 yd^3 of total production.

Southwest Concete Paving Co.
Kirtland Air Force Base - Concrete Batch Plant
Modeling Report

Proposed Emissions - Heater (Propane)

12/27/2017

EU:	**14**
Description of Unit:	**Water Heater/Boiler**
Manufacturer	Pearson Systems Model 25-20W

Fuel Used	Natural Gas/Propane	The boiler may be powered by Natural Gas/Propane or Diesel
Maximum Higher Heating Value (HHV)	2,500	Btu/scf
Heat Input (MMBtu/hr)	2.80	MMBtu/hr
Maximum Hourly Fuel Consumption	1120.00	scf/hr
Annual Hours of Operation	8,760	hr/yr
Annual Fuel Consumption	9.81	MMscf/yr

Emission Factors:

Pollutant	Emission Factor	Emission Factor Units	Emission Factor Source
NOx	100	lb/MMscf	a
CO	84	lb/MMscf	a
NM/NE VOC	5.5	lb/MMscf	a
PM10	7.6	lb/MMscf	b
PM2.5	7.6	lb/MMscf	b
SO2	0.6	lb/MMscf	b

[a] AP-42 Table 1.4-1 "Emission Factors for Nitrogen Oxides (NOx) and Carbon Monoxide (CO) from Natural Gas Combustion" (7/98).

[b] AP-42 Table 1.4-2 "Emission Factors for Criteria Pollutants from Natural Gas Combustion" (7/98).

Potential Emissions:

Pollutant	Emission Rate lb/hr	Calculation Methodology	Potential Emissions [d] ton/yr
NOx	0.11	c	0.49
CO	0.09	c	0.41
NM/NEVOC	0.01	c	0.03
PM10	0.01	c	0.04
PM2.5	0.01	c	0.04
SO2	0.001	c	0.003

[c] Emission Rate (lb/hr) = (Emission Factor, lb/MMScf) * (Annual Fuel Usage, MMscf/yr) / (Annual Hours, Hr/yr)

[d] Emission Rate (ton/yr) = (Hourly Emission Rate lb/hr) * (Annual Hours of Operation hrs/yr) * (1 ton/2000 lb)

HAP Calculated Emissions:

Pollutant	Emission Factor (lb/MMscf)[e]	Potential Emissions (lb/hr)[f]	Potential Emissions (tons/yr)[g]
HAPs:			
2-Methylnaphthalene	2.40E-05	2.69E-08	1.18E-07
3-Methylchloranthrene	1.80E-06	2.02E-09	8.83E-09
7,12-Dimethylbenz(a)anthracene	1.60E-05	1.79E-08	7.85E-08
Acenaphthene	1.80E-06	2.02E-09	8.83E-09
Acenaphthylene	1.80E-06	2.02E-09	8.83E-09
Anthracene	2.40E-06	2.69E-09	1.18E-08
Benz(a)anthracene	1.80E-06	2.02E-09	8.83E-09
Benzene	2.10E-03	2.35E-06	1.03E-05
Benzo(a)pyrene	1.20E-06	1.34E-09	5.89E-09
Benzo(b)fluoranthene	1.80E-06	2.02E-09	8.83E-09
Benzo(g,h,i)perylene	1.20E-06	1.34E-09	5.89E-09
Benzo(k)fluoranthene	1.80E-06	2.02E-09	8.83E-09
Chrysene	1.80E-06	2.02E-09	8.83E-09
Dibenzo(a,h)anthracene	1.20E-06	1.34E-09	5.89E-09
Dichlorobenzene	1.20E-03	1.34E-06	5.89E-06
Fluoranthene	3.00E-06	3.36E-09	1.47E-08
Fluorene	2.80E-06	3.14E-09	1.37E-08
Formaldehyde	7.50E-02	8.40E-05	3.68E-04
Hexane	1.80E+00	2.02E-03	8.83E-03
Indeno(1,2,3-cd)pyrene	1.80E-06	2.02E-09	8.83E-09
Naphthalene	6.10E-04	6.83E-07	2.99E-06
Phenanthrene	1.70E-05	1.90E-08	8.34E-08
Pyrene	5.00E-06	5.60E-09	2.45E-08
Toluene	3.40E-03	3.81E-06	1.67E-05
Lead	5.00E-04	5.60E-07	2.45E-06
Total HAP		**2.11E-03**	**9.24E-03**

[e] Based on AP-42 Table 1.4-3 "Emission Factors for Speciated Organic Compounds from Natural Gas Combustion" (7/98) and Table 1.4-4 "Emission Factors for Metals from Natural Gas Combustion" (7/98).

[f] Emission Rate (lb/hr) = (Emission Factor, lb/MMScf) * (Annual Fuel Usage, MMscf/yr) / (Annual Hours, Hr/yr)

[g] Emission Rate (ton/yr) = (Hourly Emission Rate lb/hr) * (Annual Hours of Operation hrs/yr) * (1 ton/2000 lb)

Attachment D
Background Data

Martin Schluep

From: Stonesifer, Jeff W. <JStonesifer@cabq.gov>
Sent: Tuesday, December 12, 2017 2:55 PM
To: 'Martin Schluep'
Subject: RE: PM10 and PM2.5 Background

Hi Martin,

Let's use with the following backgrounds for this project:
CO 1-hr: 2635 $\mu g/m^3$
CO 8-hr: 1718 $\mu g/m^3$
NO2 Annual: 30 $\mu g/m^3$
NO2 1-hr: 80.9 $\mu g/m^3$ or seasonally and hourly varying values
SO2 1-hr: 15.7 $\mu g/m^3$
PM2.5 24-hr: 18.0 $\mu g/m^3$
PM2.5 Annual: 7.1 $\mu g/m^3$
PM10 and TSP (both annual and 24-hour): 31 $\mu g/m^3$

Jeff Stonesifer
City of Albuquerque
Environmental Health Department
Staff Meteorologist
(505)767-5624

From: Martin Schluep [mailto:mschluep@alliantenv.com]
Sent: Monday, December 11, 2017 7:39 PM
To: Stonesifer, Jeff W.
Subject: PM10 and PM2.5 Background

Hi Jeff,

I am currently performing air dispersion modeling for the proposed portable concrete batch plant to be located at Kirtland Air Force Base (Southwest Concrete Paving Co. contracted Alliant for the modeling).
Can you provide PM10 and PM2.5 24-hr and annual background concentrations we should use for this area?

Please feel free to contact me if you have any questions.

Thank you,
Martin

Martin R. Schluep
Alliant Environmental, LLC
7804 Pan American Fwy. NE, Suite 5
Albuquerque, NM 87109
(C) 505.205.4819
(F) 505.771.0793

Letter of Support from KAFB : (See attached)

DEPARTMENT OF THE AIR FORCE
377TH CIVIL ENGINEER DIVISION (AFGSC)

MEMORANDUM FOR: CITY OF ALBUQUERQUE ENVIRONMENTAL HEALTH DEPARTMENT

FROM: 377 MSG/CE

SUBJECT: Emergency Air Quality Permit Application in Support of KAFB's Primary Mission

1. The Air Force Civil Engineer Center (AFCEC) and Kirtland Air Force Base Civil Engineering have been informed by Barlovento, LLC and Southwest Concrete Paving Co. (SCP) that a request will be submitted for an emergency air quality permit to allow the use of a concrete batch plant in support of the ongoing Repair Taxiway to Pad 5 (TO #F-0130, MHMV130079) construction project. Barlovento, LLC is the prime contractor and SCP have been retained as the main paving and dirt work subcontractor. The concrete paving operation schedule is a critical component for this construction project and the availability of a dependable batch plant with sufficient production capability on site is a key schedule component for the project. The initial plan was to pave at night and take advantage of minimal roadway traffic provided the operation requires a truck to be delivered every 3 minutes. The project is now substantially behind schedule and night time temperatures will no longer allow placement at night; therefore due to the ongoing delays and the issues that have surfaced regarding material transport from the plant, the government supports this request in the interest of Nuclear Surety and national security as this taxiway is vital to the accomplishment of KAFB's mission.

2. The timely completion of the Taxiway to Pad 5 project is a major concern for the Department of Defense and the US Government. This closure directly affects the USAF's mission and continued delays will further impact KAFB's support to the Nuclear Enterprise.

3. We understand that if the emergency air quality permit process is approved and can be used for this application, concrete production can be accelerated on the project, thereby shortening the overall time that the Taxiway to Pad 5 will be closed.

4. KAFB strives to ensure compliance with the air quality regulations set forth by the federal, state and local governments, and we are requesting an expedited review due to the critical nature of this project. Thank you for your consideration in this matter. Please contact Jason Underwood at jason.underwood.1@us.af.mil or (505) 934-1142 with any questions or for additional information.

KRUEGER.JEFFREY.SCOTT.1141897922

Digitally signed by KRUEGER.JEFFREY.SCOTT.1141897922
Date: 2017.12.21 15:29:45 -07'00'

JEFFERY KRUEGER, RA, GS-14, DAF
Engineering Branch Chief

A. City of Albuquerque Emergency Air Quality form:

Albuquerque Environmental Health Department - Air Quality Program
Please mail this application to **P.O. Box 1293, Albuquerque, NM 87103**
or hand deliver between 8:00am - 5:00pm Monday - Friday to:
3rd Floor, Suite 3023 - One Civic Plaza NW, Albuquerque, New Mexico 87103
(505) 768 – 1972 aqd@cabq.gov (505) 768 - 1977 (Fax)

Application for Air Pollutant Sources in Bernalillo County
Source Registration (20.11.40 NMAC) and Construction Permits (20.11.41 NMAC)

Clearly handwrite or type **Corporate Information** **Submittal Date: 12/22/17**

1. Company Name **Barlovento LLC2. Street Address 431 Technology DR.** Zip **36303**

3. Company City **Dothan** 4. Company State **AL** 5. Company Phone **334 983-9979** 6. Company Fax **850-862-8535**

7. Company Mailing Address **Corporate Office 431 Technology Drive Dothan Al 36303** Zip **36303**

8. Company Contact and Title: **Cindy Manley Contract Admin** 9. Phone 334-983-997910. E-mail **cmanley@barloventollc.com**

Stationary Source (Facility) Information: **Provide a plot plan (legal description/drawing of facility property) with overlay sketch of facility processes; Location of emission points; Pollutant type and distances to property boundaries]**

1. Facility Name **Taxiway Pad 5** 2. Street Address **8505 Pensylvania SE Kirtland AFB**

3. City **ALBUQUERQUE** 4. State **NM** 5. Facility Phone **(505)400-7640** 6. Facility E-mail **dbeauzekom@barloventolc.com**

7. Facility Mailing Address **Local 5524 Overlook Drive NE Albuquerque NM** Zip **87111**

8. Latitude - Longitude or UTM Coordinates of Facility **35degrees 02'09"North and 106degrees 33' 26" west**

Facility Contact and Title **Dave Beauzekom Project Manager** 10. Phone **505 410 8145** 11 .E-mail **dbeauzekom@barloventollc.com**

General Operation Information (if any further information request does not pertain to your facility, write N/A on the line or in the box)

1. Facility Type (description of your facility operations) **Portable concrete batch plant that will produce ready mix concrete Rexcon Model**

2. Standard Industrial Classification (SIC 4 digit#) **3273** 3. North American Industry Classification System (NAICS Code #) **327320**

4. Is facility currently operating in Bernalillo County. **NO** If yes, date of original construction ___/___/___ If no, planned startup is **01 / 15 / 18**

5. Is facility permanent **NO** If no, give dates for requested temporary operation - from **01 / 15 / 18** through **09/ 30 / 2018**

6. Is facility process equipment new **NO** If no, give actual or estimated manufacture or installation dates in the Process Equipment Table **07/07/2008**

7. Is application for a modification, expansion, or reconstruction (altering process, or adding, or replacing process equipment, etc.) to an existing facility which will result in a change in emissions **NO** If yes, give the manufacture date of modified, added, or replacement equipment in the Process Equipment Table modification date column, or the operation changes to existing process/equipment which cause an emission increase

8. Is facility operation (circle one)? [Continuous Intermittent (Batch)]

9. Estimated % of production Jan-Mar **78** Apr-Jun **22** Jul-Sep _ Oct-Dec_

10. **Current or requested operating times of facility 08 hrs/day 5 days/wk 4 wks/mo12 mos/yr** **11. Business hrs 6:00 am/** 5:00 pm

12. Will there be special or seasonal operating times other than shown above **NO** If yes, explain_____

13. Raw materials **processed Concrete Aggregates, Concrete, Fly ash** 14. Saleable item(s) **Concrete produced**

Application for Air Pollutant Sources in Bernalillo County
Source Registration (20.11.40 NMAC) and Authority-to-Construct Permits (20.11.41 NMAC)

15. Permitting Action Being Requested

X New Permit ☐ Permit Modification ☐ Technical Permit Revision ☐ Administrative Permit Revision

Current Permit #: _____ Current Permit #: _____ Current Permit #: _____

PROCESS EQUIPMENT TABLE

(Generator-Crusher-Screen-Conveyor-Boiler-Mixer-Spray Guns-Saws-Sander-Oven-Dryer-Furnace-Incinerator, etc.)

Process Equipment Unit	Manufacturer	Model #	Serial #	Manufacture Date	Installation Date	Modification Date	Size or Process Rate (Hp;kW;Btu;ft^3;lbs; tons;yd^3;etc.)	Fuel Type
Example 1. Generator	Unigen	B-2500	A56732195C-222	7/96	7/97	N/A	250 Hp - HR. ~~YR.~~	Diesel
Example 2. Spray Gun	HVLP Systems	Spray-N-Stay 1100	k26-56-95	01/97	11/97	N/A	0.25 gal. - HR. ~~YR.~~	Electric Compressor
1.Batch Plant	RexCon	S Batch Plant	2135	2007	07/07/08	NA	540 CY/HR.	Electric/base supplied power from grid
2.Feeder	RexCon	S Batch Plant	2135	2007	07/07/08	NA	30/CY	Electric/base supplied power from grid
eeder	RexCon	S Batch Plant	2135	2007	07/07/08	NA	30/CY	Electric/base supplied power from grid
4.Coneyors (4 Units)	RexCon	S Batch Plant	2135	2007	07/07/08	NA	90/CY	Electric/base supplied power from grid
5. Flyash Silo	RexCon	S Batch Plant	2135	2007	07/07/08	NA	90/CY	Electric/base supplied power from grid
6.Flyash Trailer	RexCon	S Batch Plant	2135	2007	07/07/08	NA	90/CY	Electric/base supplied power from grid
7. Cement Silo	RexCon	S Batch Plant	2135	2007	07/07/08	NA	90/CY	Electric/base supplied power from grid
8. Cement trailer	RexCon	S Batch Plant	2135	2007	07/07/08	NA	90/CY	Electric/base supplied power from grid
9.Water Chiller	Pearson	S Batch Plant	1418	2007	07/07/08	NA	25gal/YD-(1300 YD/DAY)	Electric/base supplied power from grid
10. Boiler	Pearson	S Batch Plant	1418	2007	07/07/08	NA	33,500 gal /HR	Propane
11.Aggregate Bin (3 compartments)	RexCon	S Batch Plant	2135	2007	07/07/08	NA	90/CY	Electric/base supplied power from grid

1. Basis for Equipment Size or Process Rate (Manufacturers data, Field Observation/Test, etc.) _____ Submit information for each unit as an attachment.

EXEMPTED SOURCES AND EXEMPTED ACTIVITES

(Generator-Crusher-Screen-Conveyor-Boiler-Mixer-Spray Guns-Saws-Sander-Oven-Dryer-Furnace-Incinerator, etc.)

Process Equipment Unit	Manufacturer	Model #	Serial #	Manufacture Date	Installation Date	Modification Date	Size or Process Rate (Hp;kW;Btu;ft^3;lbs; tons;yd^3;etc.)	Fuel Type
Example 1. Generator	Unigen	B-2500	A56732195C-222	7/96	7/97	N/A	250 Hp - HR. ~~YR.~~	Diesel
Example 2. Spray Gun	HVLP Systems	Spray-N-Stay 1100	k26-56-95	01/97	11/97	N/A	0.25 gal. - HR. ~~YR.~~	Electric Compressor
1.							HR. YR.	
2.							HR. YR.	
3.							HR. YR.	

1. Basis for Equipment Size or Process Rate (Manufacturers data, Field Observation/Test, etc.)_____ Submit information for each unit as an attachment

UNCONTROLLED EMISSIONS OF INDIVIDUAL AND COMBINED PROCESSES

(Process potential under physical/operational limitations during a 24 hr/day and 365 day/year = 8,760 hrs)

Process Equipment Unit*		Carbon Monoxide (CO)	Oxides of Nitrogen (NOx)	Nonmethane Hydrocarbons NMHC (VOCs)	Oxides of Sulfur (SOx)	Total Suspended Particulate Matter (TSP)	Method(s) used for Determination of Emissions (AP-42, Material balance, field tests, manufacturers' data, etc.)
Example I. Generator	1.	9.1 lbs/hr	27.7 lbs/hr	1.3 lbs/hr	0.5 lbs/hr	2.0 lbs/hr	AP-42
	1a.	18.05 tons/yr	121.3 tons/yr	5.7 tons/yr	2.2 tons/yr	8.8 tons/yr	
Boiler Water heater	1.	0.0 9 lbs/hr	0.11lbs/hr	.01 lbs/hr	.01lbs/hr	.01lbs/hr	AP-42
	1a.	0.41 tons/yr	0.49tons/yr	.03 tons/yr	.03tons/yr	.04tons/yr	
2.	2.	lbs/hr	lbs/hr	lbs/hr	lbs/hr	lbs/hr	
	2a.	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	
3.	3.	lbs/hr	lbs/hr	lbs/hr	lbs/hr	lbs/hr	
	3a.	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	

* **If any one (1) of these process units, or combination of units, has an uncontrolled emission greater than (>) 10 lbs/hr or 25 tons/yr for any of the above pollutants (based on 8760 hrs of operation), then a permit will be required. Complete this application along with additional checklist information requested on accompanying instruction sheet.**

* **If all of these process units, individually and in combination, have an uncontrolled emission less than or equal to (≤) 10 lbs/hr or 25 tons/yr for all of the above pollutants (based on 8760 hrs of operation), but > 1 ton/yr for any of the above pollutants - then a source registration is required.**

Note: If your source does not require a registration or permit, based on above pollutant emissions, complete the remainder of this application to determine if a registration or permit would be required for any Toxic or Hazardous air pollutants used at your facility.

Copy this page if additional space is needed for either table (begin numbering with 4., 5., etc.)

CONTROLLED EMISSIONS OF INDIVIDUAL AND COMBINED PROCESSES

(Based on current operations with emission controls OR requested operations with emission controls)

Process Equipment Units listed on this Table should match up to the same numbered line and Unit as listed on Uncontrolled Table (pg.2)

Process Equipment Unit	Carbon Monoxide (CO)	Oxides of Nitrogen (NOx)	Nonmethane Hydrocarbons NMHC (VOCs)	Oxides of Sulfur (SOx)	Total Suspended Particulate Matter (TSP)	Control Equipment	% Efficiency
I. Example Generator	1. 9.1 lbs/hr	27.7 lbs/hr	1.3 lbs/hr	0.5 lbs/hr	2.0 lbs/hr	Operating Hours	N/A
	1a. 18.2 tons/yr	55.4 tons/yr	2.6 tons/yr	1.0 tons/yr	4.0 tons/yr		
1. Boiler for water	1. 0.09 lbs/hr	0.11lbs/hr	.01 lbs/hr	0.001 lbs/hr	0.01 lbs/hr	6:30 am to 5:30 pm	N/A
	1a. .041 tons/yr	.49 tons/yr	.03 tons/yr	.03 tons/yr	.04 tons/yr		
2.	2. lbs/hr	lbs/hr	lbs/hr	lbs/hr	lbs/hr		
	2a. tons/yr	tons/yr	tons/yr	tons/yr	tons/yr		
3.	3. lbs/hr	lbs/hr	lbs/hr	lbs/hr	lbs/hr		
	3a. tons/yr	tons/yr	tons/yr	tons/yr	tons/yr		

1. Basis for Control Equipment % Efficiency (Manufacturers data, Field Observation/Test, AP-42, etc.)
Submit information for each unit as an attachment ____Manufacture Spec AP-42___

EU:	**14**	
Description of Unit:	**Water Heater/Boiler**	
Manufacturer	Pearson Systems Model 25-20W	
Fuel Used	Natural Gas/Propane	The boiler may be powered by Natural Gas/Propane or Diesel
Maximum Higher Heating Value (HHV)	2,500	Btu/scf
Heat Input (MMBtu/hr)	2.80	MMBtu/hr
Maximum Hourly Fuel Consumption	1120.00	scf/hr
Annual Hours of Operation	8,760	hr/yr
Annual Fuel Consumption	9.81	MMscf/yr

Emission Factors:

Pollutant	Emission Factor	Emission Factor Units	Emission Factor Source
NOx	100	lb/MMscf	a
CO	84	lb/MMscf	a
NM/NE VOC	5.5	lb/MMscf	a
PM10	7.6	lb/MMscf	b
PM2.5	7.6	lb/MMscf	b
SO2	0.6	lb/MMscf	b

[a] AP-42 Table 1.4-1 "Emission Factors for Nitrogen Oxides (NOx) and Carbon Monoxide (CO) from Natural Gas Combustion" (7/98).
[b] AP-42 Table 1.4-2 "Emission Factors for Criteria Pollutants from Natural Gas Combustion" (7/98).

Potential Emissions:

Pollutant	Emission Rate lb/hr	Calculation Methodology	Potential Emissions [d] ton/yr
NOx	0.11	c	0.49
CO	0.09	c	0.41
NM/NEVOC	0.01	c	0.03
PM10	0.01	c	0.04
PM2.5	0.01	c	0.04
SO2	0.001	c	0.003

[c] Emission Rate (lb/hr) = (Emission Factor, lb/MMScf) * (Annual Fuel Usage, MMscf/yr) / (Annual Hours, Hr/yr)

[d] Emission Rate (ton/yr) = (Hourly Emission Rate lb/hr) * (Annual Hours of Operation hrs/yr) * (1 ton/2000 lb)

HAP Calculated Emissions:

Pollutant	Emission Factor (lb/MMscf)[e]	Potential Emissions (lb/hr)[f]	Potential Emissions (tons/yr)[g]
HAPs:			
2-Methylnaphthalene	2.40E-05	2.69E-08	1.18E-07
3-Methylchloranthrene	1.80E-06	2.02E-09	8.83E-09
7,12-Dimethylbenz(a)anthracene	1.60E-05	1.79E-08	7.85E-08
Acenaphthene	1.80E-06	2.02E-09	8.83E-09
Acenaphthylene	1.80E-06	2.02E-09	8.83E-09
Anthracene	2.40E-06	2.69E-09	1.18E-08
Benz(a)anthracene	1.80E-06	2.02E-09	8.83E-09
Benzene	2.10E-03	2.35E-06	1.03E-05
Benzo(a)pyrene	1.20E-06	1.34E-09	5.89E-09
Benzo(b)fluoranthene	1.80E-06	2.02E-09	8.83E-09
Benzo(g,h,i)perylene	1.20E-06	1.34E-09	5.89E-09
Benzo(k)fluoranthene	1.80E-06	2.02E-09	8.83E-09
Chrysene	1.80E-06	2.02E-09	8.83E-09
Dibenzo(a,h)anthracene	1.20E-06	1.34E-09	5.89E-09
Dichlorobenzene	1.20E-03	1.34E-06	5.89E-06
Fluoranthene	3.00E-06	3.36E-09	1.47E-08
Fluorene	2.80E-06	3.14E-09	1.37E-08
Formaldehyde	7.50E-02	8.40E-05	3.68E-04
Hexane	1.80E+00	2.02E-03	8.83E-03
Indeno(1,2,3-cd)pyrene	1.80E-06	2.02E-09	8.83E-09
Naphthalene	6.10E-04	6.83E-07	2.99E-06
Phenanthrene	1.70E-05	1.90E-08	8.34E-08
Pyrene	5.00E-06	5.60E-09	2.45E-08
Toluene	3.40E-03	3.81E-06	1.67E-05
Lead	5.00E-04	5.60E-07	2.45E-06
Total HAP		**2.11E-03**	**9.24E-03**

[e] Based on AP-42 Table 1.4-3 "Emission Factors for Speciated Organic Compounds from Natural Gas Combustion" (7/98) and Table 1.4-4 "Emission Factors for Metals from Natural Gas Combustion" (7/98).

[f] Emission Rate (lb/hr) = (Emission Factor, lb/MMScf) * (Annual Fuel Usage, MMscf/yr) / (Annual Hours, Hr/yr)

[g] Emission Rate (ton/yr) = (Hourly Emission Rate lb/hr) * (Annual Hours of Operation hrs/yr) * (1 ton/2000 lb)

2. Explain and give estimated amounts of any Fugitive Emissions associated with facility processes:

Table 1. Concrete Batch Plant Equipment

Equipment Description	Control Method	Max Throughput
Aggregate Feed Bin	water	680 TPH
Aggregate Transfer Conveyors	water	680 TPH
Aggregate Storage Bin	water	680 TPH
Weigh Hopper #1	water	680 TPH
Aggregate Feed Conveyor	water	680 TPH
Cement/Fly Ash Storage Silo (single dual-compartment silo)	baghouse	120 TPH
Weigh Hopper #2	baghouse	120 TPH
Mixer	baghouse	800 TPH
Aggregate Stockpile	water	NA
Propane Hot Water Heater	NA	2.8 MMBtu/hr

Table 2. Concrete Batch Plant Equipment Control

Description	Control	Type	Rating
Aggregate Feed Conveyor	baghouse	fabric dust collector	10,000 cfm
Storage Silos			
Weigh Hopper #2			
Mixer			

**TOXIC EMISSIONS

VOLATILE, HAZARDOUS, & VOLATILE HAZARDOUS AIR POLLUTANT EMISSION TABLE

Product Categories (Coatings, Solvents, Thinners, etc.)	Volatile Organic Compound (VOC), Hazardous Air Pollutant (HAP), or Volatile Hazardous Air Pollutant (VHAP) Primary To The Representative As Purchased Product	Chemical Abstract Service Number (CAS) Of VOC, HAP, Or VHAP From Representative As Purchased Product	VOC, HAP, Or VHAP Concentration Of Representative As Purchased Product (pounds/gallon, or %)	1. How were Concentrations Determined (CPDS, MSDS, etc.)	Total Product Purchases For Category	(-)	Quantity Of Product Recovered & Disposed For Category	(=)	Total Product Usage For Category
EXAMPLE 1. Cleaning Solvents	TOLUENE	108883	70%	PRODUCT LABEL	lbs/yr 200 gal/yr	(-)	lbs/yr 50 gal/yr	(=)	lbs/yr 150 gal/yr
1.					lbs/yr gal/yr	(-)	lbs/yr gal/yr	(=)	lbs/yr gal/yr
2.					lbs/yr gal/yr	(-)	lbs/yr gal/yr	(=)	lbs/yr gal/yr
3.					lbs/yr gal/yr	(-)	lbs/yr gal/yr	(=)	lbs/yr gal/yr

1. Basis for percent (%) determinations (Certified Product Data Sheets, Material Safety Data Sheets, etc.). Submit, as an attachment, information on one (1) product from each Category listed above which best represents the average of all the products purchased in that Category.

NOTE: A REGISTRATION IS REQUIRED, AT MINIMUM, FOR ANY AMOUNT OF HAP OR VHAP EMISSION. A PERMIT MAY BE REQUIRED FOR THESE EMISSIONS, IF THE SOURCE MEETS THE REQUIREMENTS OF PART 41.

MATERIAL AND FUEL STORAGE TABLE

(Tanks, barrels, silos, stockpiles, etc.) Copy this table if additional space is needed (begin numbering with 4., 5., etc.)

Storage Equipment	Product Stored	Capacity (bbls - tons gal - acres,etc)	Above or Below Ground	Construction (welded, riveted) & Color	Install Date	Loading Rate	Offloading Rate	True Vapor Pressure	Control Equipment	Seal Type	% Eff.
Example 1. Tank	diesel fuel	5,000 gal.	Below	welded/ brown	3/93	3000gal HR. ~~YR.~~	500 gal. - HR. ~~YR.~~	N/A Psia	N/A	N/A	N/A
Example 2. Barrels	Solvent	55 gal Drum	Above - in storage room	welded/green	N/A	N/A HR. YR.	N/A HR. YR.	N/A Psia	N/A	N/A	N/A
1.T2	Water Tank	20,000 gallons	Above	Welded gray	2008	23.5 (gal)HR..	HR. N/A YR.	ATM	NA	NA	NA
2.T3	Aditive tank	55 gal Drum	Above in Conex	Poly Plastic	2008	10 (Gal) Hr.	HR. N/A YR.	ATM	NA	NA	NA
3.T4	Additive Tanks	55 gal Drum	Above in Conex	Poly Plastic	2008	48 (Gal) HR. .	NA HR. YR.	ATM	NA	NA	NA
4. T5	Additive Tanks	55 gal Drum	Above in Conex	Poly Plastic	2008	32 (GAL) hR.	NA	ATM	NA	NA	NA
5. T5	Propane Tanks	1000 gallon Tank	Above ground on pad	Metal	2008	15 gl per hour High low Burn	15 gl per hour High/ low burn	ATM	NA	NA	NA

1. Basis for Loading/Offloading Rate (Manufacturers data, Field Observation/Test, etc.) **See Attachment 01A Equipment**
Submit information for each unit as an attachment.

2. Basis for Control Equipment % Efficiency (Manufacturers data, Field Observation/Test, AP-42, etc.) **See Attachment 01A Equipment**
Submit information for each unit as an attachment.

STACK AND EMISSION MEASUREMENT TABLE

If any equipment from the Process Equipment Table (Page 2) is also listed in this Stack Table, use the same numbered line for the Process Equipment unit on both Tables to show the association between the Process Equipment and it's Stack. Copy this table if additional space is needed (begin numbering with 4., 5., etc.).

Process Equipment	Pollutant (CO,NOx,TSP, Toluene,etc)	Control Equipment	Control Efficiency	Stack Height & Diameter in feet	Stack Temp.	Stack Velocity & Exit Direction	Emission Measurement Equipment Type	Range-Sensitivity-Accuracy-
Example 1. Generator	CO, NOx, TSP, SO_2, NMHC	N/A	N/A	18 ft. - H 0.8 ft. - D	225 °F	6,000 ft^3/min - V Exit - upward	N/A	N/A
Example 2. Spray Gun	TSP, xylene, toluene, MIBK	Spray Booth	99% for TSP	9 ft. - H 0.5 ft. -D	ambient	10,000 ft^3/min - V Exit - horizontal	N/A	N/A
1. Water boiler	(NO2) (SO2) (CO)		99% for TSP	13.5 Feet	500 ('F)	18.7 (Ft/s)	N/A	NA
2.								
3.								

1. Basis for Control Equipment % Efficiency (Manufacturers data, Field Observation/Test, AP-42, etc.) Submit information for each unit as an attachment
See Attachment 01A

Application for Air Pollutant Sources in Bernalillo County
Source Registration (20.11.40 NMAC) and Construction Permits (20.11.41 NMAC)

STACK AND EMISSION MEASUREMENT TABLE

If any equipment from the Process Equipment Table (Page 2) is also listed in this Stack Table, use the same numbered line for the Process Equipment unit on both Tables to show the association between the Process Equipment and its Stack. Copy this table if additional space is needed (begin numbering with 6., 7., etc.).

Process Equipment	Pollutant (CO,NOx,TSP, Toluene,etc)	Control Equipment	Control Efficiency	Stack Height & Diameter in feet	Stack Temp.	Stack Velocity & Exit Direction	Emission Measurement Equipment Type	Range-Sensitivity-Accuracy-
Example 1. Generator	CO, NOx, TSP, SO_2, NMHC	N/A	N/A	18 ft. - H 0.8 ft. - D	225 ^{0}F	6,000 ft^3/min - V Exit - upward	N/A	N/A
Example 2. Spray Gun	TSP, xylene, toluene, MIBK	Paint Booth	99% for TSP	9 ft. - H 0.5 ft. -D	ambient	10,000 ft^3/min - V Exit - horizontal	N/A	N/A
1.								
2.								
3.								
4.								

1. Basis for Control Equipment % Efficiency (Manufacturers data, Field Observation/Test,AP-42, etc.) Submit information for each unit as an attachment

I, the undersigned, a responsible officer of the applicant company, certify that to the best of my knowledge, the information stated on this application, together with associated drawings, specifications, and other data, give a true and complete representation of the existing, modified existing, or planned new stationary source with respect to air pollution sources and control equipment. I also understand that any significant omissions, errors, or misrepresentations in these data will be cause for revocation of part or all of the resulting registration or permit.

Signed this 2nd day of January, 20 18

Cindy Manley, Director of Contracts

Print Name

Print Title

Cindy Manley

Signature

Signed and sealed before me this 2nd day of Jan. 2018

Jewel B. Bodiford

Jewel B. Bodiford

My Commission Expires: 09/21/2021

B. Proof that all fees have been paid : (See attached Work sheet)

City of Albuquerque

Environmental Health Department
Air Quality Program

Permit Application Review Fee Instructions

All source registration, authority-to-construct, and operating permit applications for stationary or portable sources shall be charged an application review fee according to the fee schedule in 20.11.2 NMAC. These filing fees are required for both new construction, reconstruction, and permit modifications applications. Qualified small businesses as defined in 20.11.2 NMAC may be eligible to pay one-half of the application review fees and 100% of all applicable federal program review fees.

Please fill out the permit application review fee checklist and submit with a check or money order payable to the "City of Albuquerque Fund 242" and either:

1. be delivered in person to the Albuquerque Environmental Health Department, 3rd floor, Suite 3023 or Suite 3027, Albuquerque-Bernalillo County Government Center, south building, One Civic Plaza NW, Albuquerque, NM or,

2. mailed to Attn: Air Quality Program, Albuquerque Environmental Health Department, P.O. Box 1293, Albuquerque, NM 87103.

The department will provide a receipt of payment to the applicant. The person delivering or filing a submittal shall attach a copy of the receipt of payment to the submittal as proof of payment Application review fees shall not be refunded without the written approval of the manager. If a refund is requested, a reasonable professional service fee to cover the costs of staff time involved in processing such requests shall be assessed. Please refer to 20.11.2 NMAC (effective January 10, 2011) for more detail concerning the "Fees" regulation as this checklist does not relieve the applicant from any applicable requirement of the regulation.

City of Albuquerque

Environmental Health Department
Air Quality Program
Permit Application Review Fee Checklist

Please completely fill out the information in each section. Incompleteness of this checklist may result in the Albuquerque Environmental Health Department not accepting the application review fees. If you should have any questions concerning this checklist, please call 768-1972.

I. COMPANY INFORMATION:

Company Name	Barlovento LLC		
Company Address	431 Technology Dr. Dothan, AL 36303		
Facility Name			
Facility Address			
Contact Person	Michael Clodfelter		
Contact Person Phone Number	505 · 410 · 8145		
Are these application review fees for an existing permitted source located within the City of Albuquerque or Bernalillo County?		**Yes**	**No**
If yes, what is the permit number associated with this modification?		**Permit #**	
Is this application review fee for a Qualified Small Business as defined in 20.11.2 NMAC? (See Definition of Qualified Small Business on Page 4)		**Yes**	**No** (circled)

II. STATIONARY SOURCE APPLICATION REVIEW FEES:

If the application is for a new stationary source facility, please check all that apply. If this application is for a modification to an existing permit please see Section III.

Check All That Apply	Stationary Sources	Review Fee	Program Element
Stationary Source Review Fees (Not Based on Proposed Allowable Emission Rate)			
	Source Registration required by 20.11.40 NMAC	$ 549.00	2401
✓	A Stationary Source that requires a permit pursuant to 20.11.41 NMAC or other board regulations and are not subject to the below proposed allowable emission rates	$ 1,097.00	2301
	Not Applicable	*See Sections Below*	
Stationary Source Review Fees (Based on the Proposed Allowable Emission Rate for the single highest fee pollutant)			
✓	Proposed Allowable Emission Rate Equal to or greater than 1 tpy and less than 5 tpy	$ 823.00	2302
	Proposed Allowable Emission Rate Equal to or greater than 5 tpy and less than 25 tpy	$ 1,646.00	2303
	Proposed Allowable Emission Rate Equal to or greater than 25 tpy and less than 50 tpy	$ 3,291.00	2304
	Proposed Allowable Emission Rate Equal to or greater than 50 tpy and less than 75 tpy	$ 4,937.00	2305
	Proposed Allowable Emission Rate Equal to or greater than 75 tpy and less than 100 tpy	$ 6,582.00	2306
	Proposed Allowable Emission Rate Equal to or greater than 100 tpy	$8,228.00	2307
	Not Applicable	*See Section Above*	
Federal Program Review Fees (In addition to the Stationary Source Application Review Fees above)			
✓	40 CFR 60 - "New Source Performance Standards" (NSPS)	$ 1,097.00	2308
	40 CFR 61 - "Emission Standards for Hazardous Air Pollutants (NESHAPs)	$ 1,097.00	2309
	40 CFR 63 - (NESHAPs) Promulgated Standards	$ 1,097.00	2310
	40 CFR 63 - (NESHAPs) Case-by-Case MACT Review	$ 10,971.00	2311
	20.11.61 NMAC, Prevention of Significant Deterioration (PSD) Permit	$ 5,485.00	2312
	20.11.60 NMAC, Non-Attainment Area Permit	$ 5,485.00	2313
	Not Applicable	*Not Applicable*	

III. MODIFICATION TO EXISTING PERMIT APPLICATION REVIEW FEES:

If the permit application is for a modification to an existing permit, please check all that apply. If this application is for a new stationary source facility, please see Section II.

Check All That Apply	Modifications	Review Fee	Program Element
Modification Application Review Fees (Not Based on Proposed Allowable Emission Rate)			
	Proposed modification to an existing stationary source that requires a permit pursuant to 20.11.41 NMAC or other board regulations and are not subject to the below proposed allowable emission rates	$ 1,097.00	2321
	Not Applicable	*See Sections Below*	
Modification Application Review Fees (Based on the Proposed Allowable Emission Rate for the single highest fee pollutant)			
	Proposed Allowable Emission Rate Equal to or greater than 1 tpy and less than 5 tpy	$ 823.00	2322
	Proposed Allowable Emission Rate Equal to or greater than 5 tpy and less than 25 tpy	$ 1,646.00	2323
	Proposed Allowable Emission Rate Equal to or greater than 25 tpy and less than 50 tpy	$ 3,291.00	2324
	Proposed Allowable Emission Rate Equal to or greater than 50 tpy and less than 75 tpy	$ 4,937.00	2325
	Proposed Allowable Emission Rate Equal to or greater than 75 tpy and less than 100 tpy	$ 6,582.00	2326
	Proposed Allowable Emission Rate Equal to or greater than 100 tpy	$ 8,228.00	2327
	Not Applicable	*See Section Above*	
Major Modifications Review Fees (In addition to the Modification Application Review Fees above)			
	20.11.60 NMAC, Permitting in Non-Attainment Areas	$ 5,485.00	2333
	20.11.61 NMAC, Prevention of Significant Deterioration	$ 5,485.00	2334
	Not Applicable	*Not Applicable*	
Federal Program Review Fees (This section applies only if a Federal Program Review is triggered by the proposed modification) (These fees are in addition to the Modification and Major Modification Application Review Fees above)			
	40 CFR 60 - "New Source Performance Standards" (NSPS)	$ 1,097.00	2328
	40 CFR 61 - "Emission Standards for Hazardous Air Pollutants (NESHAPs)	$ 1,097.00	2329
	40 CFR 63 - (NESHAPs) Promulgated Standards	$ 1,097.00	2330
	40 CFR 63 - (NESHAPs) Case-by-Case MACT Review	$ 10,971.00	2331
	20.11.61 NMAC, Prevention of Significant Deterioration (PSD) Permit	$ 5,485.00	2332
	20.11.60 NMAC, Non-Attainment Area Permit	$ 5,485.00	2333
	Not Applicable	*Not Applicable*	

IV. ADMINISTRATIVE AND TECHNICAL REVISION APPLICATION REVIEW FEES:

If the permit application is for an administrative or technical revision of an existing permit issued pursuant to 20.11.41 NMAC, please check one that applies.

Check One	Revision Type	Review Fee	Program Element
	Administrative Revisions	$ 250.00	2340
	Technical Revisions	$ 500.00	2341
	Not Applicable	*See Sections II, III or V*	

V. PORTABLE STATIONARY SOURCE RELOCATION FEES:

If the permit application is for a portable stationary source relocation of an existing permit, please check one that applies.

Check One	Portable Stationary Source Relocation Type	Review Fee	Program Element
	No New Air Dispersion Modeling Required	$ 500.00	2501
	New Air Dispersion Modeling Required	$ 750.00	2502
	Not Applicable	*See Sections II, III or V*	

VI. Please submit a check or money order in the amount shown for the total application review fee.

Section Totals	Review Fee Amount
Section II Total	$
Section III Total	$
Section IV Total	$
Section V Total	$
Total Application Review Fee	$

I, the undersigned, a responsible official of the applicant company, certify that to the best of my knowledge, the information stated on this checklist, give a true and complete representation of the permit application review fees which are being submitted. I also understand that an incorrect submittal of permit application reviews may cause an incompleteness determination of the submitted permit application and that the balance of the appropriate permit application review fees shall be paid in full prior to further processing of the application.

Signed this 2nd **day of** January **20** 18

Cindy Manley, Director of Contracts

Print Name **Print Title**

Cindy Manley

Signature

Definition of Qualified Small Business as defined in 20.11.2 NMAC:
"Qualified small business" means a business that meets all of the following requirements:

(1) a business that has 100 or fewer employees;
(2) a small business concern as defined by the federal Small Business Act;
(3) a source that emits less than 50 tons per year of any individual regulated air pollutant, or less than 75 tons per year of all regulated air pollutants combined; and
(4) a source that is not a major source or major stationary source.

Note: Beginning January 1, 2011, and every January 1 thereafter, an increase based on the consumer price index shall be added to the application review fees. The application review fees established in Subsection A through D of 20.11.2.18 NMAC shall be adjusted by an amount equal to the increase in the consumer price index for the immediately-preceding year. Application review fee adjustments equal to or greater than fifty cents ($0.50) shall be rounded up to the next highest whole dollar. Application review fee adjustments totaling less than fifty cents ($0.50) shall be rounded down to the next lowest whole dollar. The department shall post the application review fees on the city of Albuquerque environmental health department air quality program website.

Signed and Sealed before me this 2nd day of Jan. 2018

My Commission Expires: 09/21/2021

Jewel B. Bodiford

Jewel B. Bodiford

C. Contain the applicant's Name, Address :
(See attached owners and Operators address sheet)

Prime: Barlovento, LLC

431 Technology Drive

Dothan, AL 36303

Phone 334-983-9979

Project Manager David Beuzekom

8505 Pennsylvania SE KAFB

Albuquerque NM 87117

Phone 505-400-7640

Operator: South West Concrete

20430 N 19th Ave STE B100

Phoenix, AZ 85027

Office Phone 623-516-0013

Project Manager Jim Street

Phone 623-810-7178

D. Contact Name and information.

Dave Beauzekom PM Barlovento **505-410-8145**

Gerald Axford QCM Barlovento **719-246-6294**

Mark Pettyjohn Site Super Barlovento 302-604-2517

Michael Clodfelter Site Engineer **505-410-8145**

8401 Spain Drive Apt 3-f

Albuquerque NM 87111

E. Date Submitted

01/07/2018

F. Company Site Name:

Aires Testing Site

Barlovento Batch Plant Site

Taxiway Pad 5 Repair Project

Kirtland Air Force Base

8505 Pennsylvania SE

Albuquerque NM 87117

G. Written Description of the Facility

b. Type and Capacity: The batching and mixing plant shall be a stationary-type central mix plant, including permanent installations or portable/relocatable plants installed on stable foundations. The plant shall be designed and operated to produce concrete within the specified tolerances, and shall have a capacity of at least 250 cubic yards per hour. The batching and mixing plant shall conform to the requirements of NRMCA QC 3 including provisions addressing:

1. Material Storage and Handling
2. Batching Equipment
3. Central Mixer
4. Ticketing System
5. Delivery System

c. Tolerances: The following tolerances shall apply.

Materials Percentage of Required Mass
Cementitious Materials plus or minus 1
Aggregate plus or minus 2
Water plus or minus 1
Admixture plus or minus 3

For volumetric batching equipment for water and admixtures, the above numeric tolerances shall apply to the required volume of material being batched. Concentrated admixtures shall be uniformly diluted, if necessary, to provide sufficient volume per batch to ensure that the batchers will consistently operate within the above tolerance.

d. Moisture Control: The plant shall be capable of ready adjustment to compensate for the varying moisture contents of the aggregates and to change the quantities of the materials being batched.

2.10.2 Concrete Mixers

a. General: Mixers shall be stationary or truck mixers. Mixers shall be capable of combining the materials into a uniform mixture and of discharging this mixture without segregation. The mixers shall not be charged in excess of the capacity recommended by the manufacturer. The mixers shall be operated at the drum or mixing blade speed designated by the manufacturer. The mixers shall be maintained in satisfactory operating condition, and the mixer drums shall be kept free of hardened concrete. Mixer blades or paddles shall be replaced when worn down more than 10 percent of their depth when compared with the manufacturer's dimension for new blades or paddles.

b. Stationary: Stationary mixers shall be drum or pan mixers. Mixers shall be provided with an acceptable device to lock the discharge mechanism until the required mixing time has elapsed.

c. Mixing Time and Uniformity for Stationary Mixers: For stationary mixers, before uniformity data are available, the mixing time for each

batch after all solid materials are in the mixer, provided that all of the mixing water is introduced before one-fourth of the mixing time has elapsed, shall be 1 minute for mixers having a capacity of 1 cubic yard. For mixers of greater capacity, this minimum time shall be increased 20 seconds for each additional 1.33 cubic yard or fraction thereof. After results of uniformity tests are available, the mixing time may be reduced to the minimum time required to meet uniformity requirements; but if uniformity requirements are not being met, the mixing time shall be increased as directed. The mixing time for full batch production shall be a minimum of 75 seconds. Mixer performance tests at new mixing times shall be performed immediately after any change in mixing time. The Regular Test sequence shall be conducted for initial determination of the mixing time or as directed. When regular testing is performed, the concrete shall meet the limits of any five of the six uniformity requirements listed in Table 1 below.

d. The Abbreviated Test sequence shall be conducted for production concrete verification at the frequency specified in Table 6. When abbreviated testing is performed, the concrete shall meet only those requirements listed for abbreviated testing. The concrete proportions used for uniformity tests shall be as used on the project. Regular testing shall consist of performing all six tests on three batches of concrete. The range for regular testing shall be the average of the ranges of the three batches. Abbreviated testing shall consist of performing the three required tests on a single batch of concrete. The range for abbreviated testing shall be the range for one batch. If more than one mixer is used and all are identical in terms of make, type, capacity, condition, speed of rotation, etc., the results of tests on one of the mixers shall apply to the others, subject to the approval of the Contracting Officer. All mixer performance (uniformity) testing shall be performed in accordance with COE CRD-C 55 and with paragraph titled TESTING AND INSPECTION FOR CONTRACTOR QUALITY CONTROL in PART 3.

Dust particles, aerosols and gaseous by-products from construction activities, and processing and preparation of materials (such as from asphaltic batch plants) must be controlled at all times, including weekends, holidays, and hours when work is not in progress. Maintain excavations, stockpiles, haul roads, permanent and temporary access roads, plant sites, spoil areas, borrow areas, and other work areas within or outside the project boundaries free from particulates that would exceed 40 CFR 50, state, and local air pollution standards or that would cause a hazard or a nuisance. Sprinkling, chemical treatment of an approved type, baghouse, scrubbers, electrostatic precipitators, or other methods will be permitted to control particulates in the work area. Sprinkling, to be efficient, must be repeated to keep the disturbed area damp. Provide sufficient, competent equipment available to accomplish these tasks. Perform particulate control as the work proceeds and whenever a particulate nuisance or hazard occurs. Comply with state and local visibility regulations.

Boilers: Natural gas boilers/hot water heaters of size greater than five (5) million BTU (MMBTU) require Stationary Source Air Permitting. If planning to install a boiler fueled by anything other than natural gas, contact Air Quality Program personnel immediately to determine if a permit is needed. If an air permit is required, the permit must be issued prior to purchase of the boiler(s) and can take up to seven (7) months to accomplish. The Air Quality Program is required to track boilers of all sizes/fuel types to comply with the basewide air permit (Title V Operating Permit). ***Coordination/Consultation with Air Quality Program POC required.***

H. Operating Schedules

Daily hours 6:00am to 5:00PM

Weekdays working Monday thru Friday

Months working February, March, April

I. quanties and nature of any regulated air contaminate

Table 3-2. Point Source (Stack) Parameters

EU	Source Description	Stack Height (ft.)	Stack Temp. ('F)	Stack Velocity (ft/s)	Stack Dia. (ft.)	NO_x (lb/hr)	SO_2 (lb/hr)	CO (lb/hr)	TSP/PM_{10}/$PM_{2.5}$ (lb/hr)
14	Hot Water Heater Stack	13.5	500	18.7	0.83	**0.11**	**0.001**	**0.09**	**0.01**

The temporary portable concrete batch plant has a maximum throughput capacity of 680 tons per hour and a maximum mixer unloading rate of 800 tons per hour. The anticipated maximum concrete production for this project is estimated at 25,000 cubic yards and the project will be completed in less than nine months. Power to operate the concrete batch plant is available on site from line power; i.e., there will be no electric generators operated at this site.

The concrete batch plant will consist of the following equipment and controls shown in Table 1 and Table 2 below.

Table 1. Concrete Batch Plant Equipment

Equipment Description	Control Method	Max Throughput
Aggregate Feed Bin	water	680 TPH
Aggregate Transfer Conveyors	water	680 TPH
Aggregate Storage Bin	water	680 TPH
Weigh Hopper #1	water	680 TPH
Aggregate Feed Conveyor	water	680 TPH
Cement/Fly Ash Storage Silo (single dual-compartment silo)	baghouse	120 TPH
Weigh Hopper #2	baghouse	120 TPH
Mixer	baghouse	800 TPH
Aggregate Stockpile	water	NA
Propane Hot Water Heater	NA	2.8 MMBtu/hr

Table 2. Concrete Batch Plant Equipment Control

Description	Control	Type	Rating
Aggregate Feed Conveyor	baghouse	fabric dust collector	10,000 cfm
Storage Silos			
Weigh Hopper #2			
Mixer			

Table 3-2. Point Source (Stack) Parameters

EU	Source Description	Stack Height (ft.)	Stack Temp. ('F)	Stack Velocity (ft/s)	Stack Dia. (ft.)	NO_x (lb/hr)	SO_2 (lb/hr)	CO (lb/hr)	TSP/PM_{10}/$PM_{2.5}$ (lb/hr)
14	Hot Water Heater Stack	13.5	500	18.7	0.83	**0.11**	**0.001**	**0.09**	**0.01**

The following pollutants and averaging periods were modeled and are included in this modeling analysis:

- All particulate matter standards: Total Suspended Particulates (TSP), Particulate Matter with an aerodynamic radius of 10 microns or less (PM_{10}), and Particulate Matter with an aerodynamic radius of 2.5 microns or less ($PM_{2.5}$)
- 1-Hour nitrogen dioxide (NO_2) and sulfur dioxide (SO_2), 3-Hour SO_2, 24-Hour SO_2, and 1-Hour and 8-Hour carbon monoxide (CO) as well as annual NO_2 and SO_2 from the hot water heater propane combustion emissions.

Table 3-1. Emission Sources (Volume Sources) Modeled Parameters

EU	Source	Sigma Z_o (ft)	Release Height (ft)	Width of Volume (ft)	Sigma Y_o (ft)
1	Storage Pile	13.95	30	10	2.33
2, 4, 8, 10	Aggregate Feeder Bin	13.95	30	8	1.86
3, 6	Drop Points Conveyors	6.98	15	3	0.7
5	Weigh Hopper #1	5.58	12	10	2.33
7	Aggregate Feed to Mixer	5.58	12	10	2.33
12	Cement Feed to Mixer	5.58	12	10	2.33

Table 3-2. Point Source (Stack) Parameters

EU	Source Description	Stack Height (ft.)	Stack Temp. ('F)	Stack Velocity (ft/s)	Stack Dia. (ft.)	NO_x (lb/hr)	SO_2 (lb/hr)	CO (lb/hr)	TSP/PM_{10}/$PM_{2.5}$ (lb/hr)
14	Hot Water Heater Stack	13.5	500	18.7	0.83	**0.11**	**0.001**	**0.09**	**0.01**

Table 3-2. Point Source (Stack) Parameters

EU	Source Description	Stack Height (ft.)	Stack Temp. ('F)	Stack Velocity (ft/s)	Stack Dia. (ft.)	NO_x (lb/hr)	SO_2 (lb/hr)	CO (lb/hr)	$TSP/PM_{10}/PM_{2.5}$ (lb/hr)
14	Hot Water Heater Stack	13.5	500	18.7	0.83	**0.11**	**0.001**	**0.09**	**0.01**

24-Hour TSP, PM_{10}, and $PM_{2.5}$:

For the 24-Hour averaging period for PM_{10} and $PM_{2.5}$, the high 2nd high concentration modeled was compared to the National/New Mexico Ambient Air Quality Standard (N/NMAAQS), including background concentrations. This is a conservative comparison since five (5) years of local meteorological data, provided by the City of Albuquerque Air Quality Program, was used in the AERMOD model. "…[W]hen n years are modeled, the $(n+1)^{th}$ highest concentration over the n-year period is the design value, since this represents an average or expected exceedance rate of one year." http://www.epa.gov/ttn/scram/guidance/guide/appw_05.pdf

For the 24-Hour averaging period for TSP, the high 1st high concentration modeled was compared to the NMAAQS, including background concentration.

The following background concentrations, provided by Mr. Jeff Stonesifer from the Air Quality Program (Attachment D), were added to the 24-Hour modeled concentrations of TSP, PM_{10}, and $PM_{2.5}$:

TSP: 31.0 ug/m^3

PM_{10}: 31.0 ug/m^3

$PM_{2.5}$: 18.0 ug/m^3

Annual TSP, PM_{10}, and $PM_{2.5}$:

For the annual averaging period for TSP, PM_{10} and $PM_{2.5}$, the high 1st high concentration modeled was compared to the National/New Mexico Ambient Air Quality Standard (N/NMAAQS), including background concentrations.

The following background concentrations, provided by Mr. Jeff Stonesifer from the Air Quality Program, were added to the annual modeled concentrations of TSP, PM_{10}, and $PM_{2.5}$:

TSP: 31.0 ug/m^3

PM_{10}: 31.0 ug/m^3

$PM_{2.5}$: 7.1 ug/m^3

1-Hour and Annual NO_2:

The Tier 2 Ambient Ratio Method 2 (ARM2) technique was applied using default minimum (0.5) and maximum (0.9) ratios. The high first high concentration was used and compared against the 1-hour and annual NO_2 Significant Impact Levels (SIL) to determine the 1-Hour and annual NO_2 Radius of Impact (ROI), (see Table 5 for detailed results). The results show that the modeled impacts of NO_2 are insignificant; i.e., below the SIL. No further analysis is required.

1-Hour, 3-Hour, 24-Hour and Annual SO_2:

To determine the Radius of Impact (ROI) for all averaging periods for SO_2, the high first high concentrations modeled were compared against the SO_2 SILs (see Table 5 for detailed results). The results show that the modeled impacts of SO_2 are insignificant; i.e., below the SILs. No further analysis is required.

EU	Source Description	Stack Height (ft.)	Stack Temp. ('F)	Stack Velocity (ft/s)	Stack Dia. (ft.)	NO_x (lb/hr)	SO_2 (lb/hr)	CO (lb/hr)	TSP/PM_{10}/$PM_{2.5}$ (lb/hr)
14	Hot Water Heater Stack	13.5	500	18.7	0.83	**0.11**	**0.001**	**0.09**	**0.01**

Table 3-2. Point Source (Stack) Parameters

EU	Source Description	Stack Height (ft.)	Stack Temp. ('F)	Stack Velocity (ft/s)	Stack Dia. (ft.)	NO_x (lb/hr)	SO_2 (lb/hr)	CO (lb/hr)	TSP/PM_{10}/$PM_{2.5}$ (lb/hr)
14	Hot Water Heater Stack	13.5	500	18.7	0.83	**0.11**	**0.001**	**0.09**	**0.01**

j. Operational needs

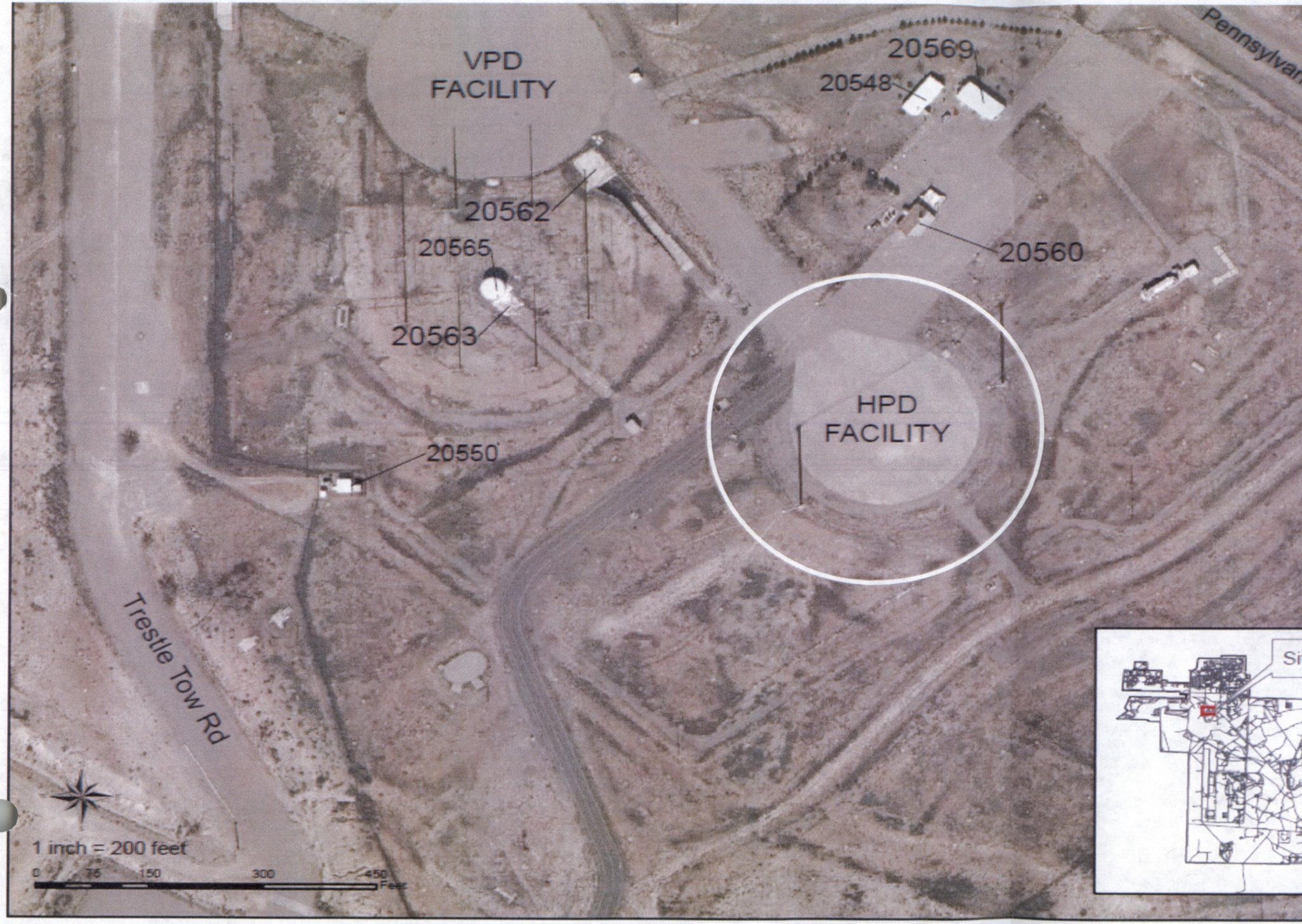
If weather is rainy or snowing operations may change to working Saturday and Sunday to make up the days of inclement weather

K. Map

Location of Temporary Portable Concrete Batch Plant :

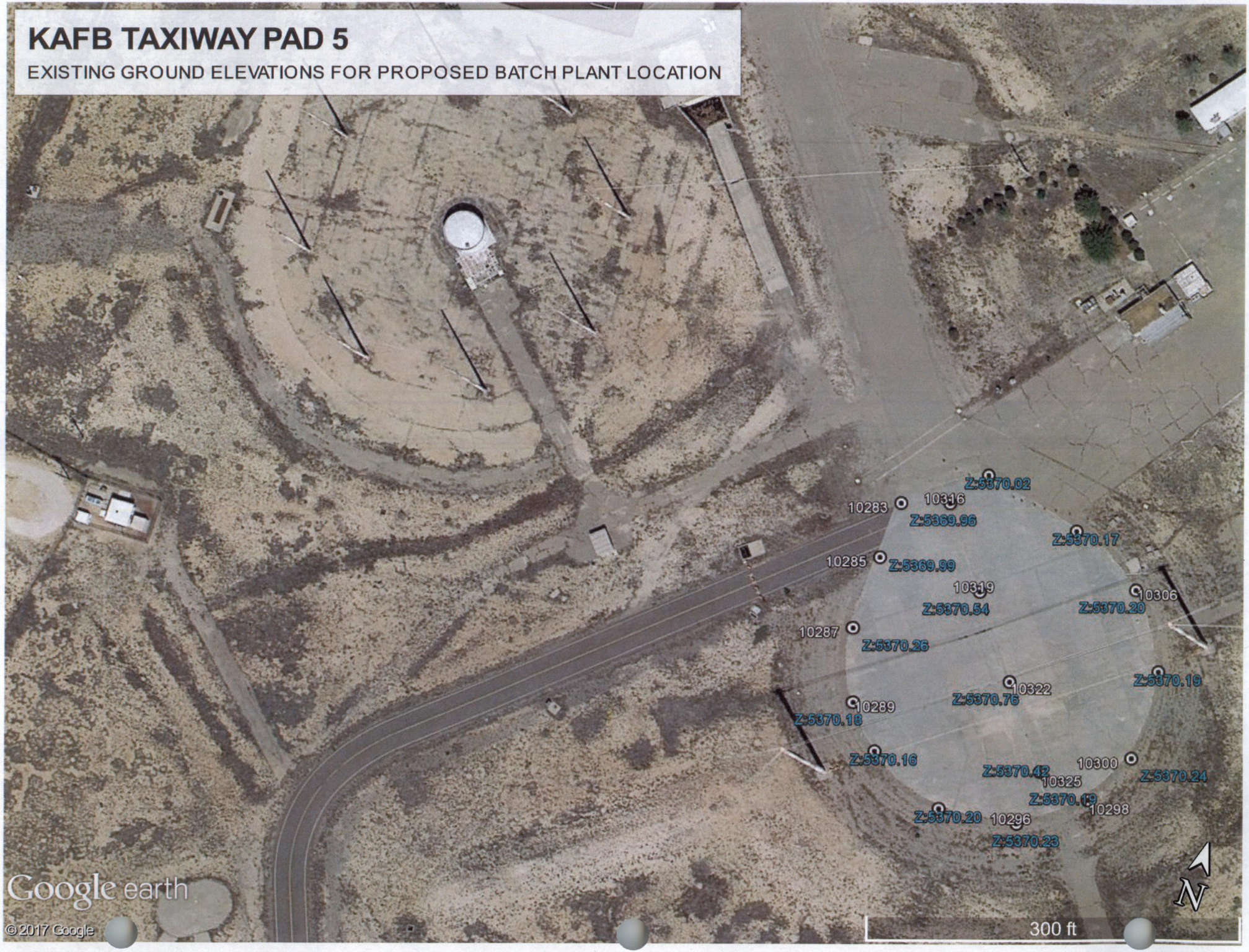
Kirtland Air Force Base
UTM Coordinates (NAD83): 358,014 m East, 3,878,035 m North, Zone 13
Elevation = 5,375 feet

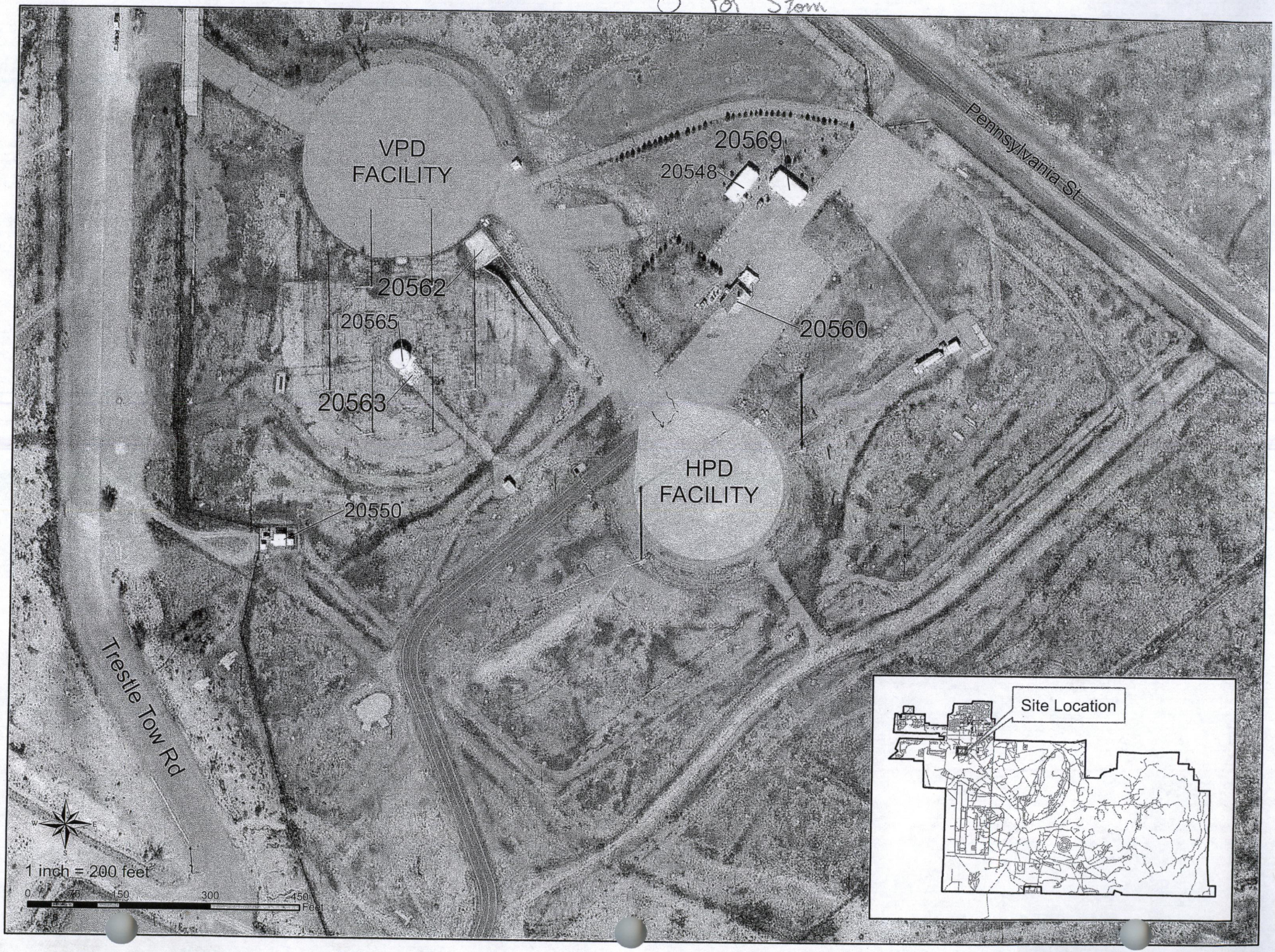
An aerial map showing the location of the temporary portable concrete batch plant and a process flow diagram are provided in Attachment A. The modeled receptor grid showing the KAFB fence line and discrete receptors inside the fence line is provided in Attachment B. Detailed emission calculations are provided in Attachment C.


VPD
FACILITY
20569
20548
Pennsylvan
20562
20565
20560
20563
HPD
FACILITY
20550
Trestle Tow Rd
1 inch = 200 feet
0
75
150
300
450
Feet

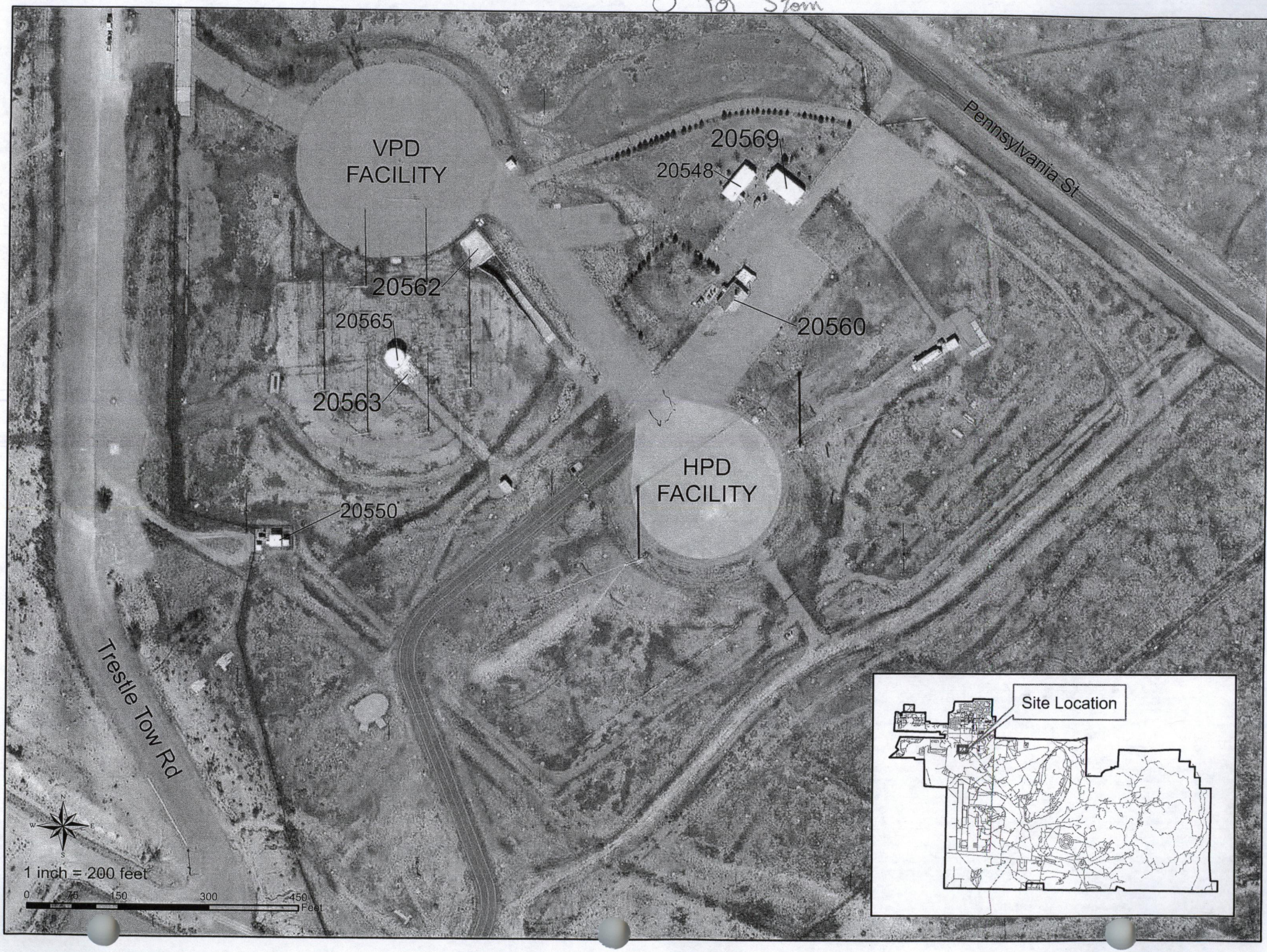
KAFB TAXIWAY PAD 5

EXISTING GROUND ELEVATIONS FOR PROPOSED BATCH PLANT LOCATION


KAFB TAXIWAY PAD 5
EXISTING GROUND ELEVATIONS FOR PROPOSED BATCH PLANT LOCATION
Z:5370.02
10316
10283
Z:5369.96
Z:5370.17
10285
Z:5369.99
10319
10306
Z:5370.54
Z:5370.20
10287
Z:5370.26
Z:5370.19
10322
Z:5370.76
10289
Z:5370.18
Z:5370.16
10300
Z:5370.42
Z:5370.24
10325
Z:5370.19
10298
Z:5370.20
10296
Z:5370.23
Google earth
© 2017 Google
N
300 ft


VPD
FACILITY
20569
20548
Pennsylvania St
20562
20565
20560
20563
HPD
FACILITY
20550
Trestle Tow Rd
Site Location
1 inch = 200 feet
0
75
150
300
450
Feet

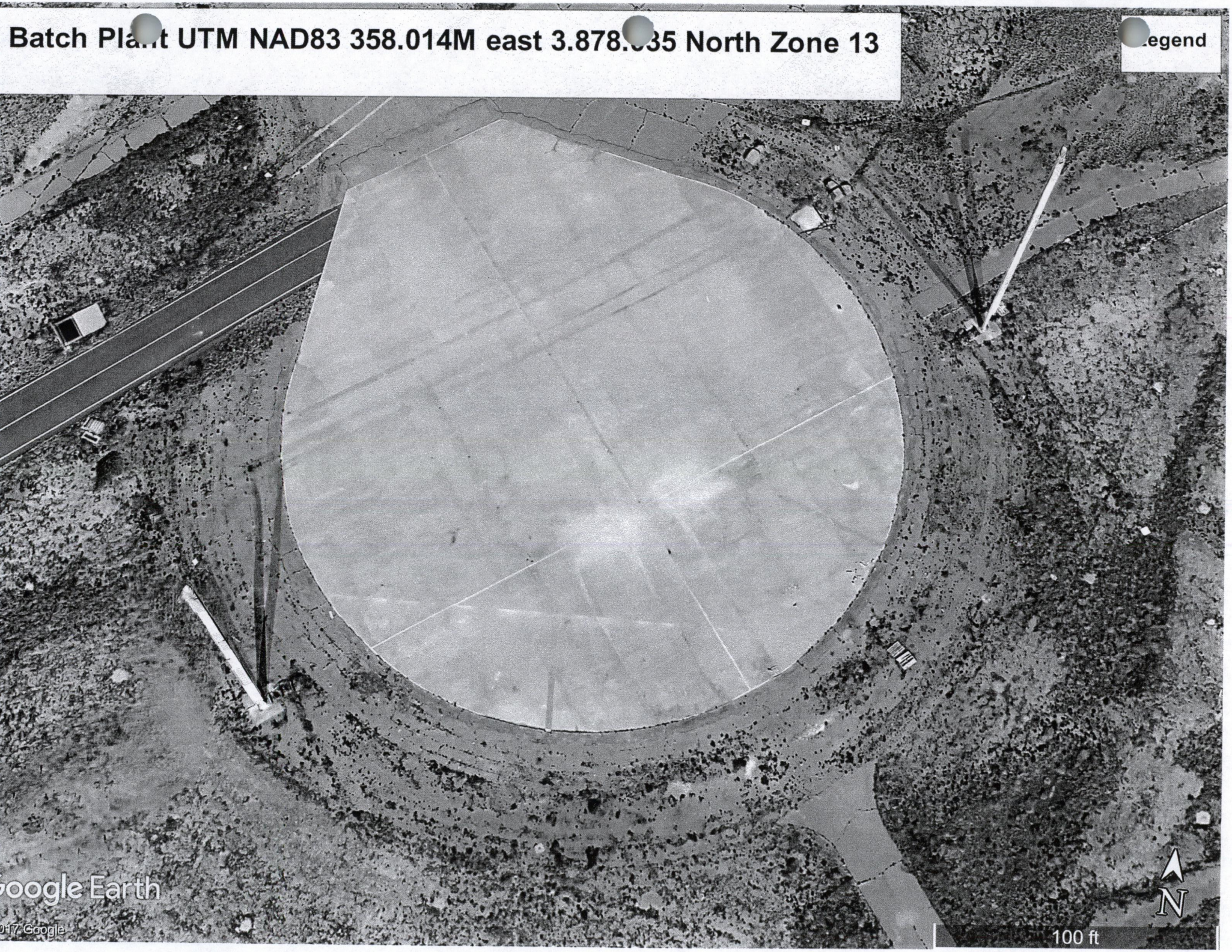

KAFB TAXIWAY PAD 5
EXISTING GROUND ELEVATIONS FOR PROPOSED BATCH PLANT LOCATION
Z:5370.02
10316
10283
Z:5369.96
Z:5370.17
10285
Z:5369.99
10319
10306
Z:5370.54
Z:5370.20
10287
Z:5370.26
10322
Z:5370.10
Z:5370.76
10289
Z:5370.18
Z:5370.16
10300
Z:5370.42
Z:5370.24
10325
Z:5370.19
10298
Z:5370.20
10296
Z:5370.23
N
300 ft
Google earth
© 2017 Google


VPD
FACILITY
20569
20548
Pennsylvania St
20562
20565
20560
20563
HPD
FACILITY
20550
Trestle Tow Rd
N
W
E
S
1 inch = 200 feet
0
75
150
300
450
Feet
Site Location

I. Aerial Photograph

L. Aerial Photograph


Batch Plant UTM NAD83 358.014M east 3.878.035 North Zone 13
Legend
oogle Earth
017 Google
N
2000 ft


Batch Plant UTM NAD83 358.014M east 3.878.035 North Zone 13
Legend
Google Earth
2017 Google
N
100 ft

M.

Location of Temporary Portable Concrete Batch Plant :

Kirtland Air Force Base
UTM Coordinates (NAD83): 358,014 m East, 3,878,035 m North, Zone 13
Elevation = 5,375 feet

N. Standard Industrialized Code

NAICS Code: **327320**

Code Title: **Ready-Mix Concrete Manufacturing**
Code Sector:
NAICS 327320 Ready-Mix Concrete Manufacturing Description
This industry comprises establishments, such as batch plants or mix plants, primarily engaged in manufacturing concrete delivered to a purchaser in a plastic and unhardened state. Ready-mix concrete manufacturing establishments may mine, quarry, or purchase sand and gravel.

Alternate Titles

- Central-mixed concrete manufacturing
- Concrete batch plants (including temporary)
- Ready-mix concrete manufacturing and distributing
- Transit-mixed concrete manufacturing
- Truck-mixed concrete manufacturing

O. Potential emission rate

Southwest Concete Paving Co.
Kirtland Air Force Base - Concrete Batch Plant
Modeling Report

Proposed Emissions with Baghouse Control and Production Limitation (25,000 yd3)

12/27/2017

Concrete Batch Plant Particulate Emissions - CONTROLLED WITH PRODUCTION LIMITATIONS													
EU	Description	SCC	Throughput		PM EF[B]	PM_{10} EF[B]	$PM_{2.5}$ EF[B]	PM PTE		PM_{10} PTE		$PM_{2.5}$ PTE	
			tons/hour	tons/year	lbs/ton	lbs/ton	lbs/ton	lbs/hour	tons/year	lbs/hour	tons/year	lbs/hour	tons/year
1	Aggregate Storage Pile[A]	30502031	680	42,500	0.00014	0.000046	0.000013	0.10	0.003	0.03	0.001	0.01	0.0003
2	Loader to Aggregate Feed Bin	30501104	680	42,500	0.0069	0.0033	0.00043	4.69	0.15	2.24	0.07	0.29	0.01
3	Aggregate Feed Bin to Aggregate Transfer Conveyors	30501123	680	42,500	0.0069	0.0033	0.00043	4.69	0.15	2.24	0.07	0.29	0.01
4	Aggregate Transfer Conveyors to Aggregate Storage Bin	30501104	680	42,500	0.0069	0.0033	0.00043	4.69	0.15	2.24	0.07	0.29	0.01
5	Aggregate Storage Bin to Weigh Hopper #1	30501108	680	42,500	0.0048	0.0028	0.00036	3.26	0.10	1.90	0.06	0.25	0.01
6	Weigh Hopper #1 to Aggregate Feed Conveyor	30501123	680	42,500	0.0069	0.0033	0.00043	4.69	0.15	2.24	0.07	0.29	0.01
7	Aggregate Feed Conveyor to Mixer	30501109	680	42,500	0.0184	0.0055	0.00072	12.51	0.39	3.74	0.12	0.49	0.02
8	Cement Silo Loading	30501107	104	6,500	0.00099	0.00034	0.00004	0.10	0.003	0.04	0.001	0.005	0.0001
9	Cement Silo to Weigh Hopper #2	30501107	104	6,500	enclosed process								
10	Flyash Silo Loading	30501117	16	1,000	0.0089	0.0049	0.00064	0.14	0.004	0.08	0.002	0.01	0.0003
11	Flyash Silo to Weigh Hopper #2	30501117	16	1,000	enclosed process								
12	Weigh Hopper #2 to Mixer	30501109	120	7,500	0.0184	0.0055	0.00072	2.21	0.07	0.66	0.02	0.09	0.003
13	Mixer Unload[C]	30501109	800	50,000	wet process								
								lbs/hour	tons/year	lbs/hour	tons/year	lbs/hour	tons/year
Total Controlled Potential to Emit for Concrete Batch Plant Operations (PM and PM_{10})								37.09	1.16	15.43	0.48	2.01	0.06

[A] PM, PM10, and PM2.5 emission factors from AP-42 11.19.2-2

[B] PM and PM_{10} emission factors are from AP-42 Table 11.12-2. $PM_{2.5}$ emission factors are from AP-42, Chapter 11.12, Concrete Batching, Background Document, Table 17.1. (June 2006)

[C] Assumes 25,000 yd^3 of total production.

P. Controlled Regulated air Contaminants

Controls in that shut offs are in place

EU:	**14**	
Description of Unit:	**Water Heater/Boiler**	
Manufacturer	Pearson Systems Model 25-20W	
Fuel Used	Natural Gas/Propane	The boiler may be powered by Natural Gas/Propane or Diesel
Maximum Higher Heating Value (HHV)	2,500	Btu/scf
Heat Input (MMBtu/hr)	2.80	MMBtu/hr
Maximum Hourly Fuel Consumption	1120.00	scf/hr
Annual Hours of Operation	8,760	hr/yr
Annual Fuel Consumption	9.81	MMscf/yr

Emission Factors:

Pollutant	Emission Factor	Emission Factor Units	Emission Factor Source
NOx	100	lb/MMscf	a
CO	84	lb/MMscf	a
NM/NE VOC	5.5	lb/MMscf	a
PM10	7.6	lb/MMscf	b
PM2.5	7.6	lb/MMscf	b
SO2	0.6	lb/MMscf	b

[a] AP-42 Table 1.4-1 "Emission Factors for Nitrogen Oxides (NOx) and Carbon Monoxide (CO) from Natural Gas Combustion" (7/98).

[b] AP-42 Table 1.4-2 "Emission Factors for Criteria Pollutants from Natural Gas Combustion" (7/98).

Potential Emissions:

Pollutant	Emission Rate lb/hr	Calculation Methodology	Potential Emissions [d] ton/yr
NOx	0.11	c	0.49
CO	0.09	c	0.41
NM/NEVOC	0.01	c	0.03
PM10	0.01	c	0.04
PM2.5	0.01	c	0.04
SO2	0.001	c	0.003

[c] Emission Rate (lb/hr) = (Emission Factor, lb/MMScf) * (Annual Fuel Usage, MMscf/yr) / (Annual Hours, Hr/yr)

[d] Emission Rate (ton/yr) = (Hourly Emission Rate lb/hr) * (Annual Hours of Operation hrs/yr) * (1 ton/2000 lb)

P. Controlled Regulated air Contaminants

Controls in that shut offs are in place

EU:	**14**	
Description of Unit:	**Water Heater/Boiler**	
Manufacturer	Pearson Systems Model 25-20W	
Fuel Used	Natural Gas/Propane	The boiler may be powered by Natural Gas/Propane or Diesel
Maximum Higher Heating Value (HHV)	2,500	Btu/scf
Heat Input (MMBtu/hr)	2.80	MMBtu/hr
Maximum Hourly Fuel Consumption	1120.00	scf/hr
Annual Hours of Operation	8,760	hr/yr
Annual Fuel Consumption	9.81	MMscf/yr

Emission Factors:

Pollutant	Emission Factor	Emission Factor Units	Emission Factor Source
NOx	100	lb/MMscf	a
CO	84	lb/MMscf	a
NM/NE VOC	5.5	lb/MMscf	a
PM10	7.6	lb/MMscf	b
PM2.5	7.6	lb/MMscf	b
SO2	0.6	lb/MMscf	b

[a] AP-42 Table 1.4-1 "Emission Factors for Nitrogen Oxides (NOx) and Carbon Monoxide (CO) from Natural Gas Combustion" (7/98).

[b] AP-42 Table 1.4-2 "Emission Factors for Criteria Pollutants from Natural Gas Combustion" (7/98).

Potential Emissions:

Pollutant	Emission Rate lb/hr	Calculation Methodology	Potential Emissions [d] ton/yr
NOx	0.11	c	0.49
CO	0.09	c	0.41
NM/NEVOC	0.01	c	0.03
PM10	0.01	c	0.04
PM2.5	0.01	c	0.04
SO2	0.001	c	0.003

[c] Emission Rate (lb/hr) = (Emission Factor, lb/MMScf) * (Annual Fuel Usage, MMscf/yr) / (Annual Hours, Hr/yr)

[d] Emission Rate (ton/yr) = (Hourly Emission Rate lb/hr) * (Annual Hours of Operation hrs/yr) * (1 ton/2000 lb)

Proposed Emissions - Heater (Propane)

HAP Calculated Emissions:

Pollutant	Emission Factor (lb/MMscf)[e]	Potential Emissions (lb/hr)[f]	Potential Emissions (tons/yr)[g]
HAPs:			
2-Methylnaphthalene	2.40E-05	2.69E-08	1.18E-07
3-Methylchloranthrene	1.80E-06	2.02E-09	8.83E-09
7,12-Dimethylbenz(a)anthracene	1.60E-05	1.79E-08	7.85E-08
Acenaphthene	1.80E-06	2.02E-09	8.83E-09
Acenaphthylene	1.80E-06	2.02E-09	8.83E-09
Anthracene	2.40E-06	2.69E-09	1.18E-08
Benz(a)anthracene	1.80E-06	2.02E-09	8.83E-09
Benzene	2.10E-03	2.35E-06	1.03E-05
Benzo(a)pyrene	1.20E-06	1.34E-09	5.89E-09
Benzo(b)fluoranthene	1.80E-06	2.02E-09	8.83E-09
Benzo(g,h,i)perylene	1.20E-06	1.34E-09	5.89E-09
Benzo(k)fluoranthene	1.80E-06	2.02E-09	8.83E-09
Chrysene	1.80E-06	2.02E-09	8.83E-09
Dibenzo(a,h)anthracene	1.20E-06	1.34E-09	5.89E-09
Dichlorobenzene	1.20E-03	1.34E-06	5.89E-06
Fluoranthene	3.00E-06	3.36E-09	1.47E-08
Fluorene	2.80E-06	3.14E-09	1.37E-08
Formaldehyde	7.50E-02	8.40E-05	3.68E-04
Hexane	1.80E+00	2.02E-03	8.83E-03
Indeno(1,2,3-cd)pyrene	1.80E-06	2.02E-09	8.83E-09
Naphthalene	6.10E-04	6.83E-07	2.99E-06
Phenanthrene	1.70E-05	1.90E-08	8.34E-08
Pyrene	5.00E-06	5.60E-09	2.45E-08
Toluene	3.40E-03	3.81E-06	1.67E-05
Lead	5.00E-04	5.60E-07	2.45E-06
Total HAP		**2.11E-03**	**9.24E-03**

[e] Based on AP-42 Table 1.4-3 "Emission Factors for Speciated Organic Compounds from Natural Gas Combustion" (7/98) and Table 1.4-4 "Emission Factors for Metals from Natural Gas Combustion" (7/98).

[f] Emission Rate (lb/hr) = (Emission Factor, lb/MMScf) * (Annual Fuel Usage, MMscf/yr) / (Annual Hours, Hr/yr)

[g] Emission Rate (ton/yr) = (Hourly Emission Rate lb/hr) * (Annual Hours of Operation hrs/yr) * (1 ton/2000 lb)

Q. source for each emission rate

Southwest Concete Paving Co.
Kirtland Air Force Base - Concrete Batch Plant
Modeling Report

Proposed Emissions with Baghouse Control and Production Limitation (25,000 yd3)

12/27/2017

Concrete Batch Plant Particulate Emissions - CONTROLLED WITH PRODUCTION LIMITATIONS													
EU	Description	SCC	Throughput		PM EF[B]	PM_{10} EF[B]	$PM_{2.5}$ EF[B]	PM PTE		PM_{10} PTE		$PM_{2.5}$ PTE	
			tons/hour	tons/year	lbs/ton	lbs/ton	lbs/ton	lbs/hour	tons/year	lbs/hour	tons/year	lbs/hour	tons/year
1	Aggregate Storage Pile[A]	30502031	680	42,500	0.00014	0.000046	0.000013	0.10	0.003	0.03	0.001	0.01	0.0003
2	Loader to Aggregate Feed Bin	30501104	680	42,500	0.0069	0.0033	0.00043	4.69	0.15	2.24	0.07	0.29	0.01
3	Aggregate Feed Bin to Aggregate Transfer Conveyors	30501123	680	42,500	0.0069	0.0033	0.00043	4.69	0.15	2.24	0.07	0.29	0.01
4	Aggregate Transfer Conveyors to Aggregate Storage Bin	30501104	680	42,500	0.0069	0.0033	0.00043	4.69	0.15	2.24	0.07	0.29	0.01
5	Aggregate Storage Bin to Weigh Hopper #1	30501108	680	42,500	0.0048	0.0028	0.00036	3.26	0.10	1.90	0.06	0.25	0.01
6	Weigh Hopper #1 to Aggregate Feed Conveyor	30501123	680	42,500	0.0069	0.0033	0.00043	4.69	0.15	2.24	0.07	0.29	0.01
7	Aggregate Feed Conveyor to Mixer	30501109	680	42,500	0.0184	0.0055	0.00072	12.51	0.39	3.74	0.12	0.49	0.02
8	Cement Silo Loading	30501107	104	6,500	0.00099	0.00034	0.00004	0.10	0.003	0.04	0.001	0.005	0.0001
9	Cement Silo to Weigh Hopper #2	30501107	104	6,500	enclosed process								
10	Flyash Silo Loading	30501117	16	1,000	0.0089	0.0049	0.00064	0.14	0.004	0.08	0.002	0.01	0.0003
11	Flyash Silo to Weigh Hopper #2	30501117	16	1,000	enclosed process								
12	Weigh Hopper #2 to Mixer	30501109	120	7,500	0.0184	0.0055	0.00072	2.21	0.07	0.66	0.02	0.09	0.003
13	Mixer Unload[C]	30501109	800	50,000	wet process								
Total Controlled Potential to Emit for Concrete Batch Plant Operations (PM and PM_{10})								lbs/hour	tons/year	lbs/hour	tons/year	lbs/hour	tons/year
								37.09	1.16	15.43	0.48	2.01	0.06

[A] PM, PM10, and PM2.5 emission factors from AP-42 11.19.2-2

[B] PM and PM_{10} emission factors are from AP-42 Table 11.12-2. $PM_{2.5}$ emission factors are from AP-42, Chapter 11.12, Concrete Batching, Background Document, Table 17.1. (June 2006)

[C] Assumes 25,000 yd^3 of total production.

Proposed Emissions - Heater (Propane)

EU:	**14**
Description of Unit:	**Water Heater/Boiler**
Manufacturer	Pearson Systems Model 25-20W

Fuel Used	Natural Gas/Propane	The boiler may be powered by Natural Gas/Propane or Diesel
Maximum Higher Heating Value (HHV)	2,500	Btu/scf
Heat Input (MMBtu/hr)	2.80	MMBtu/hr
Maximum Hourly Fuel Consumption	1120.00	scf/hr
Annual Hours of Operation	8,760	hr/yr
Annual Fuel Consumption	9.81	MMscf/yr

Emission Factors:

Pollutant	Emission Factor	Emission Factor Units	Emission Factor Source
NOx	100	lb/MMscf	a
CO	84	lb/MMscf	a
NM/NE VOC	5.5	lb/MMscf	a
PM10	7.6	lb/MMscf	b
PM2.5	7.6	lb/MMscf	b
SO2	0.6	lb/MMscf	b

[a] AP-42 Table 1.4-1 "Emission Factors for Nitrogen Oxides (NOx) and Carbon Monoxide (CO) from Natural Gas Combustion" (7/98).

[b] AP-42 Table 1.4-2 "Emission Factors for Criteria Pollutants from Natural Gas Combustion" (7/98).

Potential Emissions:

Pollutant	Emission Rate lb/hr	Calculation Methodology	Potential Emissions [d] ton/yr
NOx	0.11	c	0.49
CO	0.09	c	0.41
NM/NEVOC	0.01	c	0.03
PM10	0.01	c	0.04
PM2.5	0.01	c	0.04
SO2	0.001	c	0.003

[c] Emission Rate (lb/hr) = (Emission Factor, lb/MMScf) * (Annual Fuel Usage, MMscf/yr) / (Annual Hours, Hr/yr)

[d] Emission Rate (ton/yr) = (Hourly Emission Rate lb/hr) * (Annual Hours of Operation hrs/yr) * (1 ton/2000 lb)

R. Calculation for Potential emission rate

The calculated hourly pounds per hour (lb/hr) and annual tons per year (tpy) emission rates for TSP, PM_{10}, and $PM_{2.5}$ were applied in the AERMOD model.

All emission sources associated with the concrete batch plant were modeled as volume sources using the approximate representation volume sources set-up per EPA's User's Guide for Dispersion Models, Volume II (EPA-454/B-95-00b). The volume source characterization is used to simulate emissions that initially disperse in three dimensions with little or no plume rise, such as fugitive emissions. Model input parameters are emission rate, release height, area of volume source, and the initial horizontal and vertical dimensions of the volume, also referred to as initial sigmas.

Example Zo and Yo calculation:

Storage Pile Sigma Zo: Release Height / 2.15 = 30 ft / 2.15 = 13.95 ft

Storage Pile Sigma Yo: Stock Pile Width / 4.3 = 10 ft / 4.3 = 2.33 ft

The following background concentrations, provided by Mr. Jeff Stonesifer from the Air Quality Program (Attachment D), were added to the 24-Hour modeled concentrations of TSP, PM_{10}, and $PM_{2.5}$:

TSP: 31.0 ug/m^3

PM_{10}: 31.0 ug/m^3

$PM_{2.5}$: 18.0 ug/m^3

The following background concentrations, provided by Mr. Jeff Stonesifer from the Air Quality Program, were added to the annual modeled concentrations of TSP, PM_{10}, and $PM_{2.5}$:

TSP: 31.0 ug/m^3

PM_{10}: 31.0 ug/m^3

$PM_{2.5}$: 7.1 ug/m^3

S. Engineering data

See attached Model

T. Fuel Data

Southwest Concete Paving Co.
Kirtland Air Force Base - Concrete Batch Plant
Modeling Report

Proposed Emissions - Heater (Propane)

12/27/2017

EU:	**14**	
Description of Unit:	**Water Heater/Boiler**	
Manufacturer	Pearson Systems Model 25-20W	
Fuel Used	Natural Gas/Propane	The boiler may be powered by Natural Gas/Propane or Diesel
Maximum Higher Heating Value (HHV)	2,500	Btu/scf
Heat Input (MMBtu/hr)	2.80	MMBtu/hr
Maximum Hourly Fuel Consumption	1120.00	scf/hr
Annual Hours of Operation	8,760	hr/yr
Annual Fuel Consumption	9.81	MMscf/yr

Emission Factors:

Pollutant	Emission Factor	Emission Factor Units	Emission Factor Source
NOx	100	lb/MMscf	a
CO	84	lb/MMscf	a
NM/NE VOC	5.5	lb/MMscf	a
PM10	7.6	lb/MMscf	b
PM2.5	7.6	lb/MMscf	b
SO2	0.6	lb/MMscf	b

[a] AP-42 Table 1.4-1 "Emission Factors for Nitrogen Oxides (NOx) and Carbon Monoxide (CO) from Natural Gas Combustion" (7/98).

[b] AP-42 Table 1.4-2 "Emission Factors for Criteria Pollutants from Natural Gas Combustion" (7/98).

Potential Emissions:

Pollutant	Emission Rate lb/hr	Calculation Methodology	Potential Emissions [d] ton/yr
NOx	0.11	c	0.49
CO	0.09	c	0.41
NM/NEVOC	0.01	c	0.03
PM10	0.01	c	0.04
PM2.5	0.01	c	0.04
SO2	0.001	c	0.003

[c] Emission Rate (lb/hr) = (Emission Factor, lb/MMScf) * (Annual Fuel Usage, MMscf/yr) / (Annual Hours, Hr/yr)

[d] Emission Rate (ton/yr) = (Hourly Emission Rate lb/hr) * (Annual Hours of Operation hrs/yr) * (1 ton/2000 lb)

U. Anticipated maximum production Capacity

REXCON Model S
Process Flow Chart

The REXCON Model S Concrete Batch Plant has been selected to be used to produce the concrete for the Heavy Duty Airfield Concrete Pavement. REXCON rates this plant to produce a maximum of 400 cy per hr. On this project the anticipated maximum production rate is 250 cy per hr.

The component materials to make the concrete will be cement, fly ash, aggregates, water, and chemical admixtures. The concrete will weigh about 3,850 lb per cy and component proportions will be about 420 lb of cement, 225 lb of fly ash, 583 lb of ASTM #4 Rock (1-1/2" Size), 1252 lb of ASTM #67 Rock (3/4" Size), 410 lb of ASTM #89 Rock (3/8" size), 734 lb of sand, 0.9 lb of Air Entraining Agent, 1.7 lb of Water Reducing Agent, and 224 lb of water. This mix is unique to this project, and component amounts may be adjusted and vary slightly.

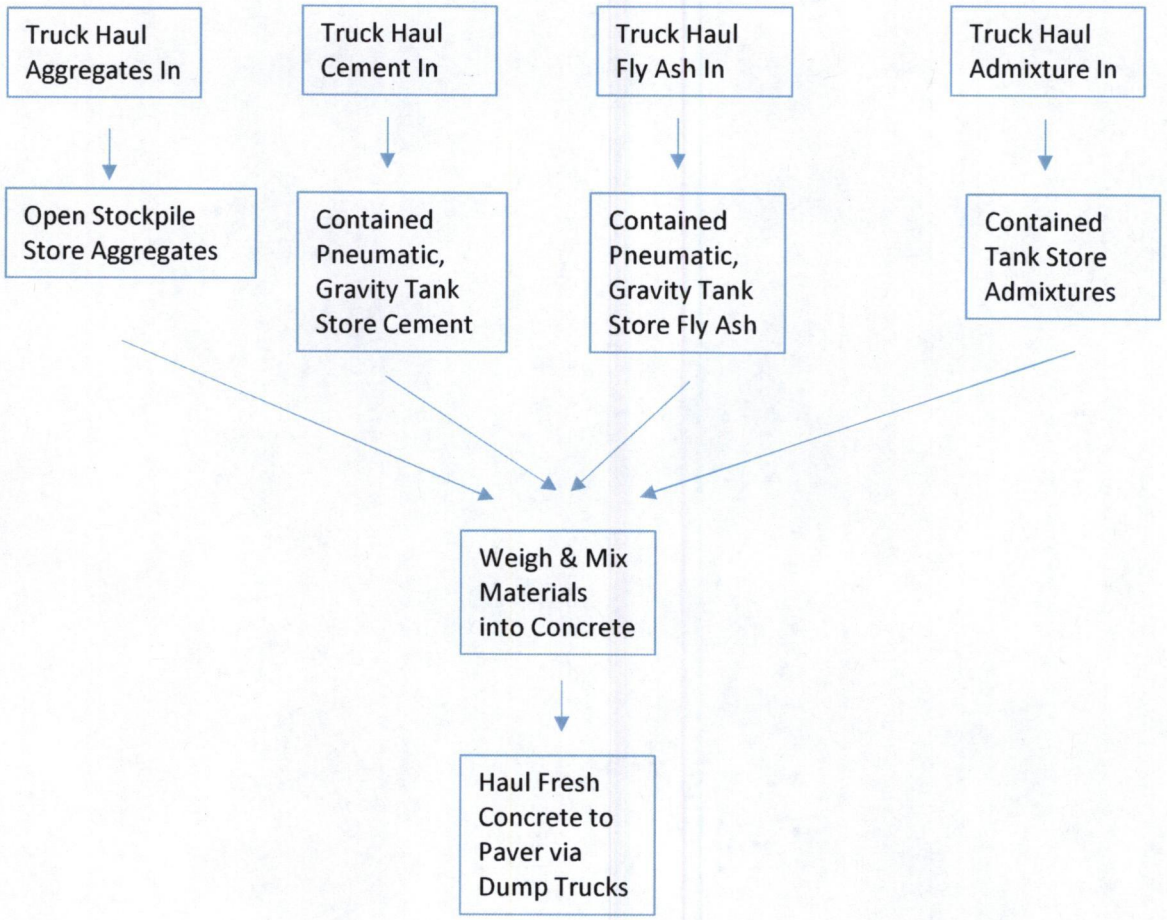
The supply chain will to be truck hauling of all aggregate, cementitious material, and admixtures from offsite. The ASTM #4, 67, 89 will be hauled from the Mountain States Constructor's Los Lunas Pit, which is just west of Los Lunus, NM about 8 miles on NM Hwy 6. The sand will be hauled from the Coyote Gravel Products pit, which is about 2 miles west of Coors Road on Los Padillas Road. The cement powder will be hauled from the GCC Tijeras Plant east of Albuquerque on I-40, and the fly ash will be hauled in from the Salt River Materials Group facility in the four corners region of NM. Chemical Admixtures (Air Entraining Agent & Water Reducing Agent will be hauled in from the Grace Concrete Products facility in Albuquerque, NM. Water will be from the KAFB water utility system.

The aggregate materials will be stockpiled on site with a total stockpile size of about 6,000 tons. The aggregates will be sprinkled with water for a dual purpose of dust control and moisture conditioning for concrete mixing. The cement and fly ash will be hauled in pneumatic bulk trucks, and transfer to both pneumatic and gravity storage containers on site. A dust collection system (bag house) will collect the cementitous powder dust caused during the pneumatic transfer. The admixtures will be hauled in tank trucks and stored onsite in tanks. Product Data and MSDA for all materials will be on file on site in hard copy, as well as pdf. None of the component materials use are hazardous or toxic.

If any system used for the purpose of emission control has a mechanical failure, the concrete production operation will be shut down, as reasonably as soon possible, and repaired before resuming. Spare parts and component systems such as air compressors, electric motor, valves, solenoids, or actuators will be on site in order to make prompt repairs. Filters in the bag house will be inspected before start up to assure good operating condition, and if the filters are not in good shape, they will be replaced with new.

This REXCON Model S plant is equiped with a C&W Dust Collection system. This system uses a squirecage fan where the discharge side of the fan blows through a series bank of filters, while the intake side creates a lower pressure, or suction that collects the air borne cementitous. Monitoring of the dust at the plant site is opacity meter. The emissions from the water heater will be performed an Industrial Combustion Analyzing device, such as a UEI Test Instrument C255.

Process Flow Chart



v. Stack and exhaust gas parameters

Table 3-2. Point Source (Stack) Parameters

EU	Source Description	Stack Height (ft.)	Stack Temp. ('F)	Stack Velocity (ft/s)	Stack Dia. (ft.)	NO_x (lb/hr)	SO_2 (lb/hr)	CO (lb/hr)	TSP/PM_{10}/$PM_{2.5}$ (lb/hr)
14	Hot Water Heater Stack	13.5	500	18.7	0.83	**0.11**	**0.001**	**0.09**	**0.01**

W. Ambient impact analysis

See modeling Report

X. Operational plan defining the measures to be taken to mitigate sourse emissions

2. BATCHING EQUIPMENT

Note 3: *This Check List indicates minimum requirements for verification of the accuracy of measuring devices. Records of such verifications should be reviewed by the inspector. For agencies that require NRMCA certification that have provisions for accuracy verification that are more restrictive than those stated here, those provisions would govern for the applicable plants. The requirements of this Check List govern when provisions of other agencies are less restrictive than stated here.*

2.1 Scales

2.1.1 Each scale comprised of a suitable system of levers or load cells which will weigh consistently within the tolerances given in 2.1.2, with loads indicated either by means of a beam with balance indicator, a full-reading dial, or a digital read-out or display. For all types of batching systems, manual through automatic, the batchman must be able to read the load indicating devices from his normal station. Where the controls are remotely located with respect to the batching equipment, monitors or scale-follower devices may be used if they repeat the indication of the master scale within ± 0.2 percent of scale capacity. [P]

2.1.2 Each scale accurate (Note 4) within ±0.15 percent of scale capacity or ±0.4 percent of net applied load, whichever is greater, throughout the range of use. Scale accuracy shall be verified through a combination of test weights, substitute loads, and strain loads (Note 5). Test weights used for scale accuracy should be at least 10 percent of scale capacity. Test weights should be accurate to ±0.01 percent of indicated value verified at least once every two years (Note 6). For a digital read-out from a dial scale, the tolerance shall be increased to ± 0.25 percent of capacity to allow for tracking restriction (Note 7) [P]

Note 4: *The engineer supervising inspection may accept scale calibrations made by state or other agencies if these calibrations demonstrate compliance with the requirements of 2.1 and subsections.*

Note 5: *Substitute and strain loads are defined in the NRMCA Plant Inspector's Guide and in NIST Handbook 44, 2007 edition, Section 2.20, Notes N.1*

Note 6: *Verification of scale accuracy may be made by qualified plant personnel or by outside agencies or scale calibration companies. The required accuracy of standard test weights conforms to NIST Class F defined in NIST Handbook 105-1. Scale accuracy should be verified using certified test weights to not less than 10 percent of the scale capacity, substitute loads to not less than 50 percent of scale capacity, and combination of test weights, substitute loads or strain loads in not less than each of the upper two quarters of the scale capacity up through the normal range of use.*

Note 7: *The purpose of this increased tolerance is to allow for the fact that digital readings from a potentiometer attached to a dial scale are limited to whole-number values which cannot reproduce weight indications closer than ± 0.05 percent of capacity.*

2.1.3 Company official agrees to verify accuracy of scales not less frequently than every 6 months and arrange for prompt recalibration and correction in accordance with 2.1.2 if the plant is moved or noncompliance is indicated. Signed statement by responsible official is attached. See Agreement in Section 7. Note 8. [P]

Note 8: *The purpose of the Agreement in Section 7 is to assure awareness by the operator and the company official of the necessity to verify weighing accuracy continuously.*

2.1.4 At least 500 pounds of suitable test weights readily available for checking accuracy of scales. Note 9. [P]

Note 9: *The availability of test weights is considered essential to ensure continuous monitoring of weighing accuracy. This requirement is to serve as a quick check of scale accuracy and does not replace the agreement for the more thorough scale accuracy verification once every 6 months in 2.1.3. In lieu of on-site weights a letter from a scale calibration company that provides the calibration service is satisfactory as is one set of company test weights to serve several plants within a reasonable travel distance of each plant served. Test weights used for this purpose do not need to be certified for accuracy as in 2.1.2.*

2.1.5 *Weighing Container*: The weighing container or hopper shall be designed such that the center of gravity of gross load always lies between load supports. [P]

2.1.6 *Load-cell Scales*: Arranged to transmit load to one or more cells, directly or through a system of levers, in such a way that the cell system registers the entire load accurately on the load-indicating device; load cells indicated by the manufacturer to be accurate throughout the range of temperatures to which normally exposed during plant operation. [P]

2.1.7 Beam-Indicating Scales

2.1.7.1 Provided with zero balance beam, balance indicator, and separate weighing beam for each ingredient of a batch to be weighed on the same scale. [N]

2.1.7.2 Beam poises corrosion resistant, equipped with positive and accurate holding devices, and capable of being set to the minimum graduated interval which shall be not greater than 0.1 percent of capacity with a clear interval of not less than 0.03 in. (0.75 mm) [N]

2.1.7.3 Balance indicators sufficiently sensitive to show movement when weight corresponding to 0.10 percent of scale capacity is placed in the batch hopper at a load equal to or above 50 percent of scale capacity; pointer travel of balance indicators at least 5 percent of net-rated capacity of largest weigh beam or 200 pounds (90 kg), whichever is less, for underweight and 4 percent or 100 pounds (45 kg), whichever is less, for overweight; provision made for damping oscillation of indicator pointer. [N]

2.1.8 Dial-Indicating Scales:

2.1.8.1 Dial head mechanism enclosed so as to be dust tight. [N]

2.1.8.2 Dials indicate load in batcher continuously from zero balance to full weighing capacity of the scale. [N]

2.1.8.3 Dial faces have minimum of 1000 graduations on circular reading line at clear interval of not less than 0.03 in. (0.75 mm) [N]

2.1.9 Digital-Indicating Scales:

2.1.9.1 Equipped with a digital indicator or display protected from dust with numbers large enough for good readability; minimum numerical increment equal to or less than 0.1 percent of scale capacity. [P]

2.2 Weigh Batchers

2.2.1 Batchers for weighing cement, aggregates, and also water or admixtures (if measured by weight) consist of suitable containers freely suspended from a scale, equipped with necessary charging and discharging mechanisms. [P]

2.2.2 Cement and other cementitious materials weighed on scales and in weigh hoppers that are independent of scales and weigh hoppers used for non-cementitious ingredients; in cumulative weighing of cementitious materials the portland cement weighed before the supplementary cementitious materials. [P]

2.2.3 Batchers capable of receiving rated load without contact of the weighed material with the charging mechanism. [P]

2.2.4 Cement batchers provided with dust seal between charging mechanism and hopper, installed in such a way as not to affect weighing accuracy; weigh hopper vented to permit escape of air; hopper self-cleaning and fitted with means to assure complete discharge. [P]

2.2.5 Batcher charging mechanism capable of stopping flow of material within batching tolerances specified in 2.5 and preventing loss of material when closed. [P]

2.2.6 Vibrators or other appurtenances installed in such a way as not to affect accuracy of weighing. [P]

2.2.7 Wind protection sufficient to prevent interference with weighing accuracy. [P]

2.3 Volumetric Batching Devices for Water

2.3.1 *Water Meters*: (items 2.3.1.1 through 2.3.1.3 are applicable)

2.3.1.1 Equipped with a cut-off device capable of stopping the flow within the tolerances specified in 2.5.3; cut-off device free from leaks when closed. [N]

2.3.1.2 Equipped with a volume-setting device capable of being set to increments at least as small as one gallon (3.9 L) or a register capable of being read to one gallon (3.9 L), or both. Note 10. [N]

Note 10: *For water-measuring equipment that is graduated in pounds instead of gallons, use 10 pounds (4.5 kg) as the basic increment instead of one gallon (3.9 L).*

2.3.1.3 Provide an indication, visible to the batchman, of the volume batched at any point in the metering operation. [P]

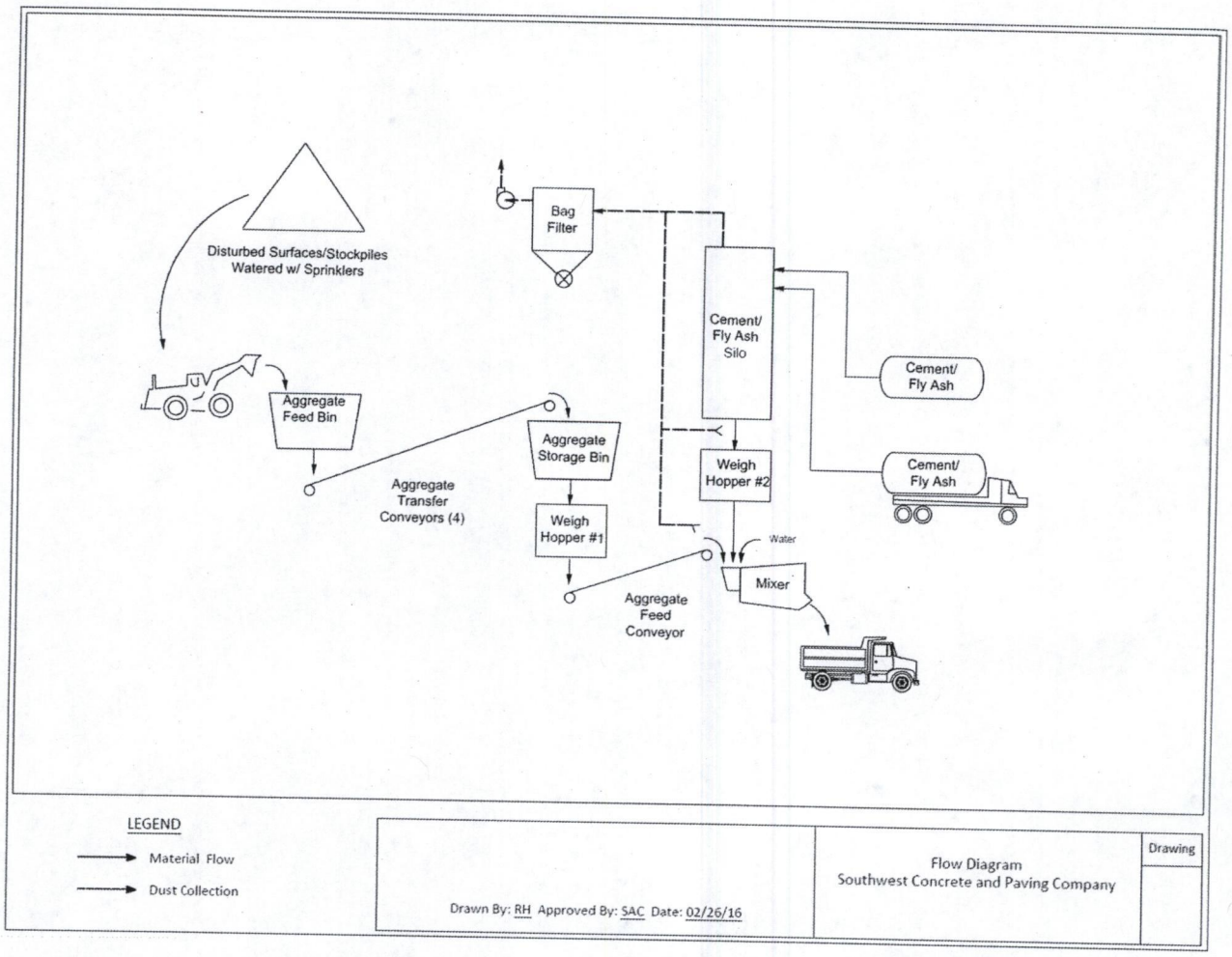
2.3.2 *Volumetric Tank Water Batchers*: (items 2.3.2.1 through 2.3.2.3 are applicable)

2.3.2.1 Equipped with necessary filling and discharge valves that are leak-free when closed; fill valve capable of stopping flow within the tolerance specified in Section 2.5.3. [P]

2.3.2.2 Have a gauge or other device in the view of the batchman that indicates the volume of water in the tank from the zero point to capacity of the batcher and which can be read to one gallon (3.9 L). Note 10; tank equipped with an overflow pipe at batcher capacity level if it is less than tank capacity. [P]

2.3.2.3 Equipped with a valve to remove overloads. [P]

Y. Process flow sheet for materials



z. full description

See Modeling report

AA. equipment monitoring methods

2. BATCHING EQUIPMENT

Note 3: *This Check List indicates minimum requirements for verification of the accuracy of measuring devices. Records of such verifications should be reviewed by the inspector. For agencies that require NRMCA certification that have provisions for accuracy verification that are more restrictive than those stated here, those provisions would govern for the applicable plants. The requirements of this Check List govern when provisions of other agencies are less restrictive than stated here.*

2.1 Scales

2.1.1 Each scale comprised of a suitable system of levers or load cells which will weigh consistently within the tolerances given in 2.1.2, with loads indicated either by means of a beam with balance indicator, a full-reading dial, or a digital read-out or display. For all types of batching systems, manual through automatic, the batchman must be able to read the load indicating devices from his normal station. Where the controls are remotely located with respect to the batching equipment, monitors or scale-follower devices may be used if they repeat the indication of the master scale within ± 0.2 percent of scale capacity. P

2.1.2 Each scale accurate (Note 4) within ±0.15 percent of scale capacity or ±0.4 percent of net applied load, whichever is greater, throughout the range of use. Scale accuracy shall be verified through a combination of test weights, substitute loads, and strain loads (Note 5). Test weights used for scale accuracy should be at least 10 percent of scale capacity. Test weights should be accurate to ±0.01 percent of indicated value verified at least once every two years (Note 6). For a digital read-out from a dial scale, the tolerance shall be increased to ± 0.25 percent of capacity to allow for tracking restriction (Note 7) P

Note 4: *The engineer supervising inspection may accept scale calibrations made by state or other agencies if these calibrations demonstrate compliance with the requirements of 2.1 and subsections.*

Note 5: *Substitute and strain loads are defined in the NRMCA Plant Inspector's Guide and in NIST Handbook 44, 2007 edition, Section 2.20, Notes N.1*

Note 6: *Verification of scale accuracy may be made by qualified plant personnel or by outside agencies or scale calibration companies. The required accuracy of standard test weights conforms to NIST Class F defined in NIST Handbook 105-1. Scale accuracy should be verified using certified test weights to not less than 10 percent of the scale capacity, substitute loads to not less than 50 percent of scale capacity, and combination of test weights, substitute loads or strain loads in not less than each of the upper two quarters of the scale capacity up through the normal range of use.*

Note 7: *The purpose of this increased tolerance is to allow for the fact that digital readings from a potentiometer attached to a dial scale are limited to whole-number values which cannot reproduce weight indications closer than ± 0.05 percent of capacity.*

2.1.3 Company official agrees to verify accuracy of scales not less frequently than every 6 months and arrange for prompt recalibration and correction in accordance with 2.1.2 if the plant is moved or noncompliance is indicated. Signed statement by responsible official is attached. See Agreement in Section 7. Note 8. P

Note 8: *The purpose of the Agreement in Section 7 is to assure awareness by the operator and the company official of the necessity to verify weighing accuracy continuously.*

2.1.4 At least 500 pounds of suitable test weights readily available for checking accuracy of scales. Note 9. [P]

Note 9: *The availability of test weights is considered essential to ensure continuous monitoring of weighing accuracy. This requirement is to serve as a quick check of scale accuracy and does not replace the agreement for the more thorough scale accuracy verification once every 6 months in 2.1.3. In lieu of on-site weights a letter from a scale calibration company that provides the calibration service is satisfactory as is one set of company test weights to serve several plants within a reasonable travel distance of each plant served. Test weights used for this purpose do not need to be certified for accuracy as in 2.1.2.*

2.1.5 *Weighing Container*: The weighing container or hopper shall be designed such that the center of gravity of gross load always lies between load supports. [P]

2.1.6 *Load-cell Scales*: Arranged to transmit load to one or more cells, directly or through a system of levers, in such a way that the cell system registers the entire load accurately on the load-indicating device; load cells indicated by the manufacturer to be accurate throughout the range of temperatures to which normally exposed during plant operation. [P]

2.1.7 Beam-Indicating Scales

2.1.7.1 Provided with zero balance beam, balance indicator, and separate weighing beam for each ingredient of a batch to be weighed on the same scale. [N]

2.1.7.2 Beam poises corrosion resistant, equipped with positive and accurate holding devices, and capable of being set to the minimum graduated interval which shall be not greater than 0.1 percent of capacity with a clear interval of not less than 0.03 in. (0.75 mm) [N]

2.1.7.3 Balance indicators sufficiently sensitive to show movement when weight corresponding to 0.10 percent of scale capacity is placed in the batch hopper at a load equal to or above 50 percent of scale capacity; pointer travel of balance indicators at least 5 percent of net-rated capacity of largest weigh beam or 200 pounds (90 kg), whichever is less, for underweight and 4 percent or 100 pounds (45 kg), whichever is less, for overweight; provision made for damping oscillation of indicator pointer. [N]

2.1.8 Dial-Indicating Scales:

2.1.8.1 Dial head mechanism enclosed so as to be dust tight. [N]

2.1.8.2 Dials indicate load in batcher continuously from zero balance to full weighing capacity of the scale. [N]

2.1.8.3 Dial faces have minimum of 1000 graduations on circular reading line at clear interval of not less than 0.03 in. (0.75 mm) [N]

2.1.9 Digital-Indicating Scales:

2.1.9.1 Equipped with a digital indicator or display protected from dust with numbers large enough for good readability; minimum numerical increment equal to or less than 0.1 percent of scale capacity. [P]

2.2 Weigh Batchers

2.2.1 Batchers for weighing cement, aggregates, and also water or admixtures (if measured by weight) consist of suitable containers freely suspended from a scale, equipped with necessary charging and discharging mechanisms. [P]

2.2.2 Cement and other cementitious materials weighed on scales and in weigh hoppers that are independent of scales and weigh hoppers used for non-cementitious ingredients; in cumulative weighing of cementitious materials the portland cement weighed before the supplementary cementitious materials. [P]

2.2.3 Batchers capable of receiving rated load without contact of the weighed material with the charging mechanism. [P]

2.2.4 Cement batchers provided with dust seal between charging mechanism and hopper, installed in such a way as not to affect weighing accuracy; weigh hopper vented to permit escape of air; hopper self-cleaning and fitted with means to assure complete discharge. [P]

2.2.5 Batcher charging mechanism capable of stopping flow of material within batching tolerances specified in 2.5 and preventing loss of material when closed. [P]

2.2.6 Vibrators or other appurtenances installed in such a way as not to affect accuracy of weighing. [P]

2.2.7 Wind protection sufficient to prevent interference with weighing accuracy. [P]

2.3 Volumetric Batching Devices for Water

2.3.1 *Water Meters*: (items 2.3.1.1 through 2.3.1.3 are applicable)

2.3.1.1 Equipped with a cut-off device capable of stopping the flow within the tolerances specified in 2.5.3; cut-off device free from leaks when closed. [N]

2.3.1.2 Equipped with a volume-setting device capable of being set to increments at least as small as one gallon (3.9 L) or a register capable of being read to one gallon (3.9 L), or both. Note 10. [N]

Note 10: *For water-measuring equipment that is graduated in pounds instead of gallons, use 10 pounds (4.5 kg) as the basic increment instead of one gallon (3.9 L).*

2.3.1.3 Provide an indication, visible to the batchman, of the volume batched at any point in the metering operation. [P]

2.3.2 *Volumetric Tank Water Batchers*: (items 2.3.2.1 through 2.3.2.3 are applicable)

2.3.2.1 Equipped with necessary filling and discharge valves that are leak-free when closed; fill valve capable of stopping flow within the tolerance specified in Section 2.5.3. [P]

2.3.2.2 Have a gauge or other device in the view of the batchman that indicates the volume of water in the tank from the zero point to capacity of the batcher and which can be read to one gallon (3.9 L). Note 10; tank equipped with an overflow pipe at batcher capacity level if it is less than tank capacity. [P]

2.3.2.3 Equipped with a valve to remove overloads. [P]

BB. Signatures

See attached signatures for Modeling report, application, and fee application.