

# Pierre Pfeffer

to: EIB in the matter of 22-34 Roper Construction Permit

From: Pierre Pfeffer (augment oral testimony)

Hearing Date: 2022.10.18

Submission Date: 2022.10.21

Re: Testimony in opposition to granting Roper Construction a permit to build a concrete batch plant at designated location

Follow on submission after oral statement on 2022.10.20

- \* 74 year old retired lawyer, homeowner, full time resident of Alto, living ~2.5 miles from the proposed plant on lake shore drive
- \* Lifetime asthmatic, retired here not just for the climate and the beauty, but the purity of the air
- \* I am opposed to construction of a concrete batch plant at the designated location

In response to Board Member Garcia's expressed concerns with Roper self reporting - those concerns are well founded

Roper has not demonstrated the kind of credibility that would allow him to meet the burden of persuasion to secure a permit Carrizozo plant because ...

Roper misled the Board when he testified regarding the emissions from his Carrizozo facility

Per Roper: "The Carrizozo facility is in compliance with the applicable air quality permit. NMED has not issued notices of violation or compliance orders for that facility." (Roper exhibit 3, p.5 - my attachment 1)

The truth - the Carrizozo facility has never been inspected by, nor does the NMED have any self reporting records of, the Carrizozo facility.

Ruidoso News media request for NMED inspection records (attachment 3) resulted in no records provided, but a statement from NMED that states in part "The permit for the concrete batch plant in Carrizozo contains similar requirements, but no further specifics nor dates of previous monitoring were provided. " This is the same Response Bill Horton, Alto resident, received - as he has testified to. See full article:

<https://www.ruidosonews.com/story/news/local/2022/02/23/alto-concrete-batch-plant-hearing-draws-critics-support/6753434001/>  
A look at the "draft permit" confirms that it is up to the operator to monitor, keep records, and supply those records to NMED on demand. B110

Roper misled the realtor who sold him the property

1. Purchased property with deed restrictions (attachment 5) which first he denied existed, then denied having received notice of. Realtor who sold him the property, and the escrow officer (supported by email exchange) both proved otherwise. His denial of receiving notice was within a verified pleading submitted to the District Court in Carrizozo

Roper misled the Carrizozo court by filing a "related matter" pleading filed 2022.10.11 (see my attachment 4)

Attached to it was an NMED draft

The pleading itself advised the court that "... Roper hereby provides notice that the Air Quality Bureau and the Environmental Protection Division of the New Mexico Environment Department (NMED) has approved Roper's revised air quality permit application ..."

On the date that was filed Roper knew the EIB had jurisdiction and NMED could NOT approve his air quality permit.

The misrepresentation was obviously designed to mislead the District Judge into believing Roper's permit had been approved.

Roper has consistently submitted testimony and plant configurations in the District Court that contradict the testimony and plant configurations he submits to NMED and the EIB

two conflicting stories in two courts - under oath

How can he do this? Silo the cases with two separate law firms, both located in Sante Fe

Atty Rose can't knowingly offer testimony that contradicts other testimony given under oath in another court ... unless he doesn't know about it.

Vigil plays the same game ... don't ask my staff about that other case ... they know nothing!

**STATE OF NEW MEXICO  
ENVIRONMENTAL IMPROVEMENT BOARD**

**IN THE MATTER OF THE PETITION FOR  
HEARING ON AIR QUALITY PERMIT NO.  
9295, ROPER CONSTRUCTION, INC.'S  
ALTO CONCRETE BATCH PLANT,**

**No. EIB 22-34**

**Roper Construction Inc.,  
Petitioner.**

**DIRECT TESTIMONY OF RYAN ROPER,  
ON BEHALF OF ROPER CONSTRUCTION, INC.**

September 21, 2022

**Direct Testimony of Ryan Roper  
Docket No. EIB 22-34**

**I. INTRODUCTION**

**Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

A. My name is Ryan Roper. My business address is PO Box 969; Alto, NM 88312.

**Q. ON WHOSE BEHALF ARE YOU SUBMITTING DIRECT TESTIMONY?**

A. I am submitting this direct testimony on behalf of Roper Construction Incorporated.  
(“Roper Construction”)

**Q. BY WHOM ARE YOU EMPLOYED AND WHAT IS YOUR POSITION?**

A. I am the President of Roper Construction.

**Q. WHAT ARE YOUR RESPONSIBILITIES AS THE OWNER AND PRESIDENT?**

A. My responsibilities include overseeing daily operations and all aspects of the business.

**II. PURPOSE OF TESTIMONY**

**Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

A. The purpose of my testimony is to address the questions on the Carrizozo facility, the change in the Alto project layout, and water availability for dust suppression and concrete production raised in the hearing before the New Mexico Environment Department.

**III. WATER AND WATER-RELATED FACILITIES**

**Q. DURING THE NMED HEARING, SONTERRA AND SOME PUBLIC COMMENTERS RAISED QUESTIONS ABOUT WATER AVAILABILITY FOR THE DUST SUPPRESSION SYSTEMS PROPOSED FOR THE FACILITY. ARE YOU FAMILIAR WITH THOSE QUESTIONS?**

A. Yes.

**Q. PLEASE EXPLAIN HOW WATER WILL BE USED AT THE PROPOSED FACILITY?**

**Direct Testimony of Ryan Roper**  
**Docket No. EIB 22-34**

**A.** The bulk of the water used at the facility will be used in the production of concrete. Approximately 30 gallons of water is required to make a cubic yard of concrete. A much smaller amount of water will be required for dust suppression, including water sprays, the addition of water to the aggregate stockpiles, and water required for haul road maintenance. Concrete aggregates will be delivered to the facility already containing adequate moisture to prevent dust; thereafter, water will be added to the aggregate as required to maintain aggregate moisture levels that prevent dust.

**Q. HOW MUCH WATER DO YOU EXPECT TO USE?**

**A.** Given expected market demand, I anticipate that the facility will need on average 3,000 gallons of water for the production of concrete and 500 gallons of water for dust control per day of operation. On an annual basis, that's 750,000 gallons or 2.3 acre ft of water per year in the production of concrete and 125,000 gallons or 0.38 acre ft of water per year for dust control.

**Q. PLEASE EXPLAIN HOW YOU DETERMINED THE EXPECTED WATER USE.**

**A.** There is about 18 cubic ft of aggregate in a cubic yard of concrete. So, if you need to increase the moisture percentage by:

1% you would need to add 1.3 gal of water per cy of concrete aggregate

2% you would need to add 2.7 gal of water per cy of concrete aggregate

3% you would need to add 4.0 gal of water per cy of concrete aggregate

My experience is that concrete aggregates will average at least 2% moisture. So, at most, we might have to add 2%. Aggregates are never at 0% moisture unless you put them in the oven.

**Direct Testimony of Ryan Roper**  
**Docket No. EIB 22-34**

Theoretical Permitted Yearly Maximums: 50,000 cubic yards = 1,500,000 gallons or 4.6 acre ft for production and 135,000 gallons or 0.4 acre ft for dust control (this is adding 2% to the aggregate).

**Q. DOES ROPER CONSTRUCTION INTEND TO HAVE WATER STORAGE TANKS AT THE PROPOSED FACILITY?**

**A.** Yes. We intend to have two 11,000-gallon water tanks that will be used to store water for the wet dust suppression system and also to supply the concrete production. Those tanks will store water that is trucked to the facility. At present, Roper Construction does not have authorization for groundwater extraction at the site.

**Q. HOW WILL YOU OBTAIN WATER TO USE AT THE PROPOSED FACILITY?**

**A.** We intend to purchase water from a number of possible sources, including nearby municipalities (Town of Carrizozo, Village of Capitan, Village of Ruidoso), and multiple private water sources, and have it delivered by truck to the water storage tank approximately 4-5 times per week. Each water delivery truck holds about 4,000 gallons.

**IV. CHANGES TO PROPOSED SITE PLAN, PLANT THROUGHPUT,  
AND TRUCK TRAFFIC**

**Q. IN MR. WADE'S DIRECT TESTIMONY, HE DISCUSSED ROPER CONSTRUCTION'S PROPOSED SITE PLAN CHANGES AND REDUCTION IN PLANT THROUGHPUT AND TRUCK TRAFFIC. PLEASE EXPLAIN THE CHANGES.**

**A.** The proposed changes to the site plan were based on my intent to lower other impacts, in addition to air quality impacts, on the surrounding neighbors. The proposed production equipment did not change. The changes are to the location of the equipment, haul roads, and storage facilities. Also, during the hearing process, it became apparent to me that there

**Direct Testimony of Ryan Roper**  
**Docket No. EIB 22-34**

was confusion between the theoretical maximum operations proposed for air permitting and the actual expected operations. Expected operations are based on actual market conditions; that is to say, what amount of concrete can actually be sold in the area. As a result, I advised Mr. Wade to lower the requested plant throughput and resulting truck traffic to more closely reflect expected **maximum** operations.

**Q. WILL THE CHANGES IDENTIFIED BY MR. WADE CHANGE YOUR ESTIMATE OF WATER NEEDS FOR THE PLANT?**

**A.** The changes identified by Mr. Wade will not change the actual amount of water used to produce a cubic yard of concrete, but they will significantly reduce the theoretical amount of water required to produce the permitted volume. On an annual basis, they will reduce the theoretical permitted yearly maximum amount of water required to produce the permitted volume of concrete by 90%.

**V. CARRIZOZO FACILITY**

**Q. DURING THE HEARING BEFORE NMED, PUBLIC COMMENTERS QUESTIONED ROPER CONSTRUCTION'S COMPLIANCE WITH AIR QUALITY REGULATIONS AT ITS CARRIZOZO FACILITY. COULD YOU DISCUSS THE CARRIZOZO FACILITY'S COMPLIANCE STATUS?**

**A.** The Carrizozo facility is in compliance with the applicable air quality permit. NMED has not issued notices of violation or compliance orders for that facility.

**Q. CAN YOU EXPLAIN THE DIFFERENCES BETWEEN YOUR EXISTING CARRIZOZO FACILITY AND THE PROPOSED FACILITY?**

**A.** Roper Construction purchased the Carrizozo plant from another concrete batch plant owner/operator in central Ruidoso and relocated it to the Carrizozo location in 2015. The

**Direct Testimony of Ryan Roper**  
**Docket No. EIB 22-34**

Carrizozo plant was manufactured and has been in production since 1985. The Carrizozo facility consists of a concrete batch plant and a construction yard. The construction yard houses several different types of construction materials. The Carrizozo plant is permitted under GCP-5, the general construction permit for concrete batch plants. GCP-5 does not require haul roads to be paved and authorizes particulate emissions that are much less stringent than the proposed Alto operation. The proposed Alto facility is a new batch plant, which consists of newly manufactured equipment, modern dust suppression systems, and paved haul roads. Further, there will not be a construction yard at the proposed Alto facility.

**VI. CONCLUSION**

- Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**
- A. Yes.**

From Ruidoso News

February 23, 2022

"...When a media request was submitted to NMED inquiring specifically on the dates that the Carrizozo concrete batch plant was monitored, a response was returned which stated in part that an air quality permit "establishes allowable emission limits for each piece of equipment, which is accompanied by monitoring, recordkeeping, and reporting requirements that ensure process equipment and control devices are operating effectively to reduce emissions." The statement concluded with: "The permit for the concrete batch plant in Carrizozo contains similar requirements," but no further specifics nor dates of previous monitoring were provided. ...."

For full article, see:

<https://www.ruidosonews.com/story/news/local/2022/02/23/alto-concrete-batch-plant-hearing-draws-critics-support/6753434001/>





SV FILE 140258-175



WHITNEY WHITTAKER, CLERK  
201904624  
Book 2019 Page 4624  
1 of 3  
8/30/2019 4:00:43 PM  
eRecorded

This Correction Special Warranty Deed is being re-recorded to correct an incorrect legal description and in correction of, substitution for and in lieu of that certain Special Warranty Deed filed of record in the Lincoln County Records on July 18, 2019 in Book 2019 at Page 3746 (2 pages).

### CORRECTION SPECIAL WARRANTY DEED

**FRANK REED** and **ELLEN BRAMBLETT**, husband and wife, as joint tenants, for consideration paid, grant to **ROBERT F. REED** and **ELLEN E. BRAMBLETT**, Trustees of the **FRANK REED AND ELLEN BRAMBLETT TRUST** under Trust Agreement dated July 9, 2019, as may be amended, whose address is 108 Walkabout Loop, Ruidoso, New Mexico 88345, and any successor trustee, the following described real estate in Lincoln County, New Mexico, together with all improvements thereon and all easements appurtenant thereto:

Tract 1, being a tract of land within the NW/4NE/4, lying North of NM 220, Section 27, Township 10 South Range 13 East, N.M.P.M., Lincoln County, New Mexico, as shown by the Boundary Survey Replat Family Claim of Exemption Plat filed for record in the Office of the County Clerk of Lincoln County, New Mexico, May 23, 2012, in Cabinet J, Slide No. 739;

and

REED TRACT 4A-1, within the NW/4 NE/4 of Section 27, Township 10 South, Range 13 East, N.M.P.M., Lincoln County, New Mexico, as shown by the Boundary Survey Replat of Tract 3 and Tract 4A, filed in the office of the County Clerk of Lincoln County, New Mexico, June 25, 2018, in Book C-K, page 266;

and

Tract 4B, within the NW/4 NE/4 of Section 27, Township 10 South, Range 13 East, N.M.P.M., Lincoln County, New Mexico, as shown by the Boundary Survey Replat and Grant of Easement in Tract 3 and Tract 4, filed in the office of the County Clerk of Lincoln County, New Mexico, December 31, 2014, in Book C-J, page 1062;

**SUBJECT TO** all restrictions, reservations, easements and rights-of-way of record;

AND FURTHER SUBJECT TO the following LIMITATIONS AND RESTRICTIONS:

1. **GENERAL RESTRICTIONS:** All of the property shall be owned, held, encumbered, leased, used, occupied and enjoyed subject to the Declaration and following limitations and restrictions:
2. **USES:** The property may be used for any legal purpose, save and except the following which shall not be allowed:
  - a. Salvage, scrap metal, or "junk" operations of any kind;
  - b. Swine, poultry, or other livestock operations which deal in the commercial feeding, raising or slaughter of animals;
  - c. Sexually oriented businesses;
  - d. And other use which, by it's nature (whether noise, odor, hours of operation, etc.) would be a nuisance to adjoining owners.
3. **IMPROVEMENTS:** All improvements to the property shall be done in a professional and workmanlike manner and any residence on the property shall be constructed on site from the ground up;

with special warranty covenants.

EXECUTED this 30<sup>th</sup> day of August, 2019.

  
FRANK REED

  
ELLEN BRAMBLETT



8/30/2019

4:00:43 PM

STATE OF NEW MEXICO )  
COUNTY OF LINCOLN ) SS.

This instrument was acknowledged before me on the 30<sup>th</sup> day of August, 2019 by **FRANK REED** and **ELLEN BRAMBLETT**, husband and wife, as joint tenants.

My Commission Expires:

6/12/2023

After recording, Return to:  
Mark W. Taylor & Associates, P.C.  
P.O. Box 898  
Roswell, NM 83202-0898

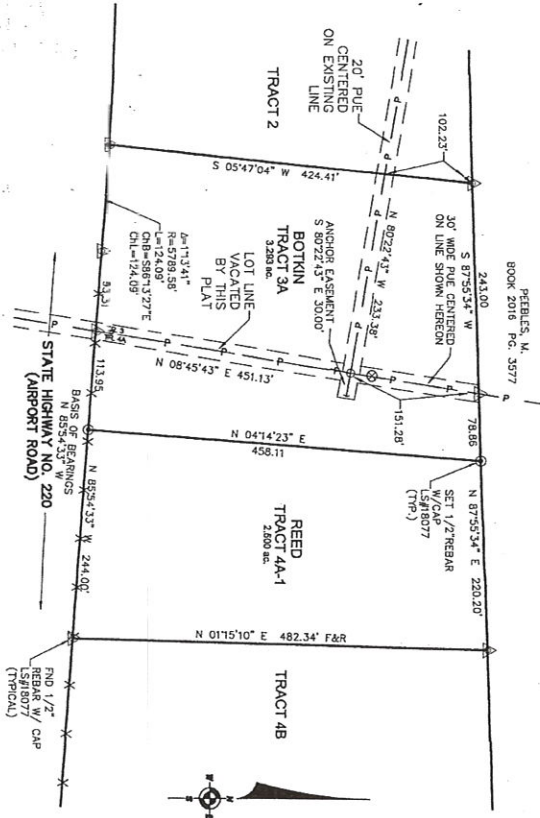


Mike Seelbach  
Notary Public  
OFFICIAL SEAL  
Mike Seelbach

NOTARY PUBLIC - State of New Mexico  
My Commission Expires 6/12/2023

W:\Reed, Frank & Bramblett, Ellen.4576\Deed, Lincoln, Tract 1 & 4, Sec 27, T10S, R13E, CORRECTION, Final.wpd

**BOUNDARY SURVEY REPLAT**  
**TRACT 3 AND TRACT 4A**  
 WITHIN THE NW/4 NE/4 OF SECTION 27,  
 TOWNSHIP 10 SOUTH, RANGE 13 EAST, N.M.P.M.,  
 LINCOLN COUNTY, NEW MEXICO



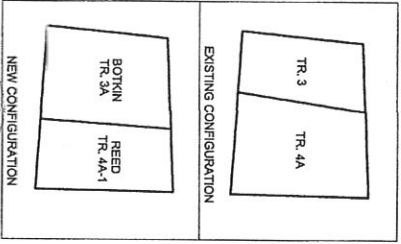
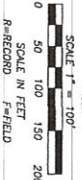
APPROVAL BY LIAISON HOLDER OF TRACT 3  
 LIAISON HOLDER: MARLA PONERO, AVE  
 NAME AND TITLE: MARLA PONERO, AVE  
 DATE: 5-17-2018

PUE = PUBLIC UTILITY EASEMENT  
 D.T. COLLINS & ASSOCIATES P.C.  
 SURVEYING, MAPPING  
 1042 MECHEM DR. 575-258-8272  
 RUIDOSO, LINCOLN COUNTY, NEW MEXICO

FLOOD ZONING:  
 THESE TRACTS ARE LOCATED OUT OF A SPECIAL FLOOD  
 HAZARD AREA AS SHOWN ON THE LINCOLN COUNTY FEMA  
 FLOOD MAPS DATED NOVEMBER 18, 2011.

APPROVAL BY UTILITY COMPANIES: NOTE: AN EASEMENT IS RESERVED FOR ALL OVERHEAD UNDERGROUND PUBLIC  
 UTILITIES ON THE LINES PLATTED HEREON. THIS EASEMENT INCLUDES THE RIGHT OF ACCESS AND EGRESS ACROSS  
 THE LINES PLATTED HEREON FOR THE PURPOSES OF MAINTENANCE, REPAIRS OR REPAIRS ON THE LINES OR  
 APPURTENANCES THEREON.

TO: <u>to whom</u>	TITLE: <u>OWNER</u>	DATE: <u>5/15/18</u>
WINDSTREAM COMMUNICATIONS	TITLE: <u>OWNER</u>	DATE: <u>5/15/18</u>
DISH NETWORK	TITLE: <u>OWNER</u>	DATE: <u>5/15/18</u>
ZACHRY GROUP	TITLE: <u>OWNER</u>	DATE: <u>5/15/18</u>



**AFFIDAVIT**  
 STATE OF NEW MEXICO, )  
 COUNTY OF LINCOLN, ) SS

KNOW ALL MEN BY THESE PRESENTS THAT FRANK REED, A SINGLE MAN AND ELLEN BRAMBLETT, A SINGLE WOMAN, AS JOINT  
 OWNERS OF TRACT 3 AND TRACT 4A, SECTION 27, TOWNSHIP 10 SOUTH, RANGE 13 EAST, N.M.P.M., LINCOLN COUNTY, NEW MEXICO, AS SHOWN BY THE BOUNDARY SURVEY REPLAT FILED IN THE OFFICE OF THE COUNTY CLERK AND EX-OFFICIO RECORDER OF LINCOLN COUNTY, NEW MEXICO ON DECEMBER 31, 2014,  
 IN BOOK C.A. PAGE 1902.  
 THAT JOSHUA C. BOTKIN AND SARAH L. BOTKIN, HUSBAND AND WIFE, AS JOINT TENANTS, ARE THE RECORD OWNERS AND  
 PROPRIETORS OF TRACT 3 WITHIN THE NW/4 NE/4 OF SECTION 27, TOWNSHIP 10 SOUTH, RANGE 13 EAST, N.M.P.M., LINCOLN  
 COUNTY, NEW MEXICO, AS SHOWN BY THE BOUNDARY SURVEY REPLAT FILED IN THE OFFICE OF THE COUNTY CLERK AND  
 EX-OFFICIO RECORDER OF LINCOLN COUNTY, NEW MEXICO ON MAY 23, 2018, IN BOOK C.A. PAGE 728.  
 BY THE FILING OF THIS PLAT SAID OWNERS AND PROPRIETORS DO HEREBY CAUSE SAID TRACTS TO BE REPLATTED AS SHOWN  
 HEREON AND TO BE RECORDED WITH THE FULL CONSENT AND IN ACCORDANCE WITH THE DESIRES OF THE  
 UNDISBURSED OWNERS THEREOF.

**CLAIM OF EXEMPTION**  
 WE, FRANK REED, ELLEN BRAMBLETT, JOSHUA C. BOTKIN AND SARAH L. BOTKIN, CLAIM AN EXEMPTION FROM THE  
 REQUIREMENTS OF THE NEW MEXICO SUBDIVISION ACT AND THE LINCOLN COUNTY, NEW MEXICO, SUBDIVISION REGULATIONS  
 FOR THE FOLLOWING REASON: WE CERTIFY THAT THIS INSTRUMENT INVOLVES:  
 THE DIVISION OF LAND RESULTING ONLY IN THE ALTERATION OF PARCEL BOUNDARIES WHERE PARCELS ARE ALTERED FOR  
 NOT INCORPORATED

FRANK REED Frank Reed  
 JOSHUA C. BOTKIN Sarah L. Botkin  
 ELLEN BRAMBLETT Ellen Bramblett  
 SARAH L. BOTKIN Sarah L. Botkin

AGNOME EQUIPMENT ) SS  
 STATE OF NEW MEXICO ) SS  
 COUNTY OF LINCOLN ) SS  
 THIS INSTRUMENT WAS ACKNOWLEDGED BEFORE ME THIS 17th DAY OF April, 2018, BY FRANK REED,  
 BRAMBLETT, A SINGLE WOMAN.  
 MY COMMISSION EXPIRES: 4/30/20  
 OFFICIAL SEAL  
 ERIC E. COLLINS  
 NOTARY PUBLIC  
 STATE OF NEW MEXICO  
 My Commission Expires 1/18/21

AGNOME EQUIPMENT ) SS  
 STATE OF NEW MEXICO ) SS  
 COUNTY OF LINCOLN ) SS  
 THIS INSTRUMENT WAS ACKNOWLEDGED BEFORE ME THIS 25th DAY OF April, 2018, BY JOSHUA C.  
 BOTKIN AND SARAH L. BOTKIN, HUSBAND AND WIFE, AS JOINT TENANTS.  
 MY COMMISSION EXPIRES: 4/30/20  
 OFFICIAL SEAL  
 ERIC E. COLLINS  
 NOTARY PUBLIC  
 STATE OF NEW MEXICO  
 My Commission Expires 1/18/21

APPROVED BY LINCOLN COUNTY  
 APPROVED BY SUMMARY PROCEDURE BY LINCOLN COUNTY THIS 14th DAY OF June, 2018.  
 NOTARY PUBLIC  
 ERIC E. COLLINS  
 STATE OF NEW MEXICO  
 My Commission Expires 1/18/21

APPROVAL BY LINCOLN COUNTY  
 APPROVED BY SUMMARY PROCEDURE BY LINCOLN COUNTY THIS 14th DAY OF June, 2018.  
 NOTARY PUBLIC  
 ERIC E. COLLINS  
 STATE OF NEW MEXICO  
 My Commission Expires 1/18/21

TRAC NUMBERS:  
 TRACT 3, 4-472-058-329-027  
 INSTRUMENT OF TITLE  
 TRACT 3 - BOTKIN, BOOK 2014, PAGE 2018  
 TRACT 4A - REED/BRAMBLETT, BOOK 2014, PAGE 2015  
 OWNERS OF PROPERTY:  
 REED/BOTKIN ) N/A - SEE PLAT  
 TO )  
 SECTION )  
 TOWNSHIP )  
 RANGE )  
 COUNTY )  
 INDEXING INFORMATION FOR COUNTY CLERK



COUNTY CLERK  
 LINCOLN COUNTY

STATE OF NEW MEXICO  
COUNTY OF LINCOLN  
TWELFTH JUDICIAL DISTRICT

FILED  
12th JUDICIAL DISTRICT COURT  
Lincoln County  
10/11/2022 10:32 AM  
AUDREY HUKARI  
CLERK OF THE COURT  
Yazmin Helmick

DALE A. ANTILLA, et. al.,

Plaintiffs,

v.

No. D-1226-CV-2021-00241  
(consolidated with)

ROPER CONSTRUCTION, INC.

Defendant,

and

JAMES A. MILLER, SARAH L. MILLER and  
JOSHUA C. BOTKIN,

Plaintiffs/Counter-Defendants,

v.

No. D-1226-CV-2021-00261

ROPER CONSTRUCTION, INC. and  
ROPER INVESTMENTS, LLC,

Defendants/Counter-Plaintiffs.

**NOTICE OF NMED DECISION IN RELATED PROCEEDING**

Defendant Roper Construction, Inc. (“Roper”) hereby provides notice that the Air Quality Bureau within the Environmental Protection Division of the New Mexico Environment Department (“NMED”) has approved Roper’s revised air quality permit application, in advance of the scheduled October 18, 2022 hearing before the New Mexico Environmental Improvement Board to address Roper’s objections to / appeal of the NMED’s May 2022 denial of Air Quality Permit No. 9295. A copy of the approved revised NMED draft permit, No. 9295 Version 2022-10-3, is attached herewith. NMED has further taken the position in the appeal that Roper’s previous draft air quality permit complied with all applicable state and federal requirements for approval,

and otherwise generally agreed with Roper's statement of objections to the May 2022 denial. *See* NMED Answer to Petition. All briefing by the parties concerning the appeal can be found at <https://www.env.nm.gov/opf/docketed-matters/> - Environmental Improvement Board folder - *EIB 22-34: In the Matter of the Petition for Hearing on Air Quality Permit No. 9295, Roper Construction Inc.'s Alto Concrete Batch.*

Respectfully submitted,

MONTGOMERY & ANDREWS, P.A.

By: /s/ Shelly L. Dalrymple  
Shelly L. Dalrymple  
Jocelyn Barrett-Kapin  
Troy S. Lawton  
P.O. Box 2307  
Santa Fe, NM 87504-2307  
(505) 982-3873  
[sdalrymple@montand.com](mailto:sdalrymple@montand.com)  
[jbarrettkapin@montand.com](mailto:jbarrettkapin@montand.com)  
[tlawton@montand.com](mailto:tlawton@montand.com)

*Attorneys for Defendants*

**CERTIFICATE OF SERVICE**

I hereby certify that on October 11, 2022, the foregoing was filed electronically with the Court's electronic filing system, with a copy electronically served on the following:

Thomas M. Hnasko  
Julie A. Sakura  
Hinkle Shanor LLP  
P.O. Box 2068  
Santa Fe, NM 87504  
[thnasko@hinklelawfirm.com](mailto:thnasko@hinklelawfirm.com)  
[jsakura@hinklelawfirm.com](mailto:jsakura@hinklelawfirm.com)  
*Attorneys for Plaintiffs*

/s/ Shelly L. Dalrymple  
Shelly L. Dalrymple

# Universal Application 4

## Air Dispersion Modeling Report

Refer to and complete Section 16 of the Universal Application form (UA3) to assist your determination as to whether modeling is required. If, after filling out Section 16, you are still unsure if modeling is required, e-mail the completed Section 16 to the AQB Modeling Manager for assistance in making this determination. If modeling is required, a modeling protocol would be submitted and approved prior to an application submittal. The protocol should be emailed to the modeling manager. A protocol is recommended but optional for minor sources and is required for new PSD sources or PSD major modifications. Fill out and submit this portion of the Universal Application form (UA4), the "Air Dispersion Modeling Report", only if air dispersion modeling is required for this application submittal. This serves as your modeling report submittal and should contain all the information needed to describe the modeling. No other modeling report or modeling protocol should be submitted with this permit application.

<b>16-A: Identification</b>		
1	Name of facility:	Alto Concrete Batch Plant
2	Name of company:	Roper Construction, Inc
3	Current Permit number:	New Permit #9295
4	Name of applicant's modeler:	Paul Wade
5	Phone number of modeler:	(505) 830-9680 ext6
6	E-mail of modeler:	pwade@montrose-env.com

<b>16-B: Brief</b>			
1	Was a modeling protocol submitted and approved? Original Submitted 04/18/2021; No Approval; This is revised modeling for site layout change.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
2	Why is the modeling being done?	Moving Equipment	
3	Describe the permit changes relevant to the modeling. Revised modeling will address reduction in daily throughput and reduction in daily operation hours.		
4	What geodetic datum was used in the modeling?	NAD83	
5	How long will the facility be at this location?	Permanent	
6	Is the facility a major source with respect to Prevention of Significant Deterioration (PSD)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>



7	Identify the Air Quality Control Region (AQCR) in which the facility is located	153
8	List the PSD baseline dates for this region (minor or major, as appropriate).	
	NO2	08/02/1995
	SO2	N/A
	PM10	06/16/2000
	PM2.5	N/A
9	Provide the name and distance to Class I areas within 50 km of the facility (300 km for PSD permits). White Mountain Wilderness Area, 1.91 kilometers	
10	Is the facility located in a non-attainment area? If so describe below	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
11	Describe any special modeling requirements, such as streamline permit requirements. None	

### 16-C: Modeling History of Facility

1	Describe the modeling history of the facility, including the air permit numbers, the pollutants modeled, the National Ambient Air Quality Standards (NAAQS), New Mexico AAQS (NMAAQs), and PSD increments modeled. (Do not include modeling waivers).			
	Pollutant	Latest permit and modification number that modeled the pollutant facility-wide.	Date of Permit	Comments
	CO			New Permit – No Previous Modeling
	NO <sub>2</sub>			New Permit – No Previous Modeling
	SO <sub>2</sub>			New Permit – No Previous Modeling
	H <sub>2</sub> S			Not Emitted
	PM2.5			New Permit – No Previous Modeling
	PM10			New Permit – No Previous Modeling
	Lead			None
	Ozone (PSD only)			Not a PSD Permit
NM Toxic Air Pollutants (20.2.72.402 NMAC)			Not Emitted	

### 16-D: Modeling performed for this application

1	For each pollutant, indicate the modeling performed and submitted with this application. Choose the most complicated modeling applicable for that pollutant, i.e., culpability analysis assumes ROI and cumulative analysis were also performed.					
	Pollutant	ROI	Cumulative analysis	Culpability analysis	Waiver approved	Pollutant not emitted or not changed.
	CO	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	NO <sub>2</sub>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	SO <sub>2</sub>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

H <sub>2</sub> S	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PM2.5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PM10	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lead	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Ozone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
State air toxic(s) (20.2.72.402 NMAC)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**16-E: New Mexico toxic air pollutants modeling**

1	List any New Mexico toxic air pollutants (NMTAPs) from Tables A and B in 20.2.72.502 NMAC that are modeled for this application. None					
2	List any NMTAPs that are emitted but not modeled because stack height correction factor. Add additional rows to the table below, if required.					
	Pollutant	Emission Rate (pounds/hour)	Emission Rate Screening Level (pounds/hour)	Stack Height (meters)	Correction Factor	Emission Rate/Correction Factor

**16-F: Modeling options**

1	Was the latest version of AERMOD used with regulatory default options? If not explain below.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
For volume sources were processed in flat terrain mode.			

**16-G: Surrounding source modeling**

1	Date of surrounding source retrieval	March 16, 2021
2	If the surrounding source inventory provided by the Air Quality Bureau was believed to be inaccurate, describe how the sources modeled differ from the inventory provided. If changes to the surrounding source inventory were made, use the table below to describe them. Add rows as needed.	
	AQB Source ID	Description of Corrections

**16-H: Building and structure downwash**

1	How many buildings are present at the facility?	1 - Office
2	How many above ground storage tanks are present at the facility?	1 - Cement/Fly Ash Storage Silo

3	Was building downwash modeled for all buildings and tanks? If not explain why below.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
4	Building comments		

**16-I: Receptors and modeled property boundary**

1	<p>“Restricted Area” is an area to which public entry is effectively precluded. Effective barriers include continuous fencing, continuous walls, or other continuous barriers approved by the Department, such as rugged physical terrain with a steep grade that would require special equipment to traverse. If a large property is completely enclosed by fencing, a restricted area within the property may be identified with signage only. Public roads cannot be part of a Restricted Area. A Restricted Area is required in order to exclude receptors from the facility property. If the facility does not have a Restricted Area, then receptors shall be placed within the property boundaries of the facility.</p> <p>Describe the fence or other physical barrier at the facility that defines the restricted area.</p>					
	Site is fenced on all sides of the facility with gates at entrances.					
2	Receptors must be placed along publicly accessible roads in the restricted area. Are there public roads passing through the restricted area?				Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
3	Are restricted area boundary coordinates included in the modeling files?				Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
4	Describe the receptor grids and their spacing. The table below may be used, adding rows as needed.					
	Grid Type	Shape	Spacing	Start distance from restricted area or center of facility	End distance from restricted area or center of facility	Comments
	Very fine	Cartesian	25	0	250 meters	
	Very fine	Cartesian	50	250	500 meters	
	Fine	Cartesian	100	500 meters	1000 meters	
Course	Cartesian	250	1000 meters	3000 meters		
5	Describe receptor spacing along the fence line.					
	25 meters					
6	Describe the PSD Class I area receptors.					
	100 meters spacing across east side of White Mountain Wilderness Area					

**16-J: Sensitive areas**

1	Are there schools or hospitals or other sensitive areas near the facility? If so describe below. This information is optional (and purposely undefined) but may help determine issues related to public notice.	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
---	---	------------------------------	--

3	The modeling review process may need to be accelerated if there is a public hearing. Are there likely to be public comments opposing the permit application?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

### 16-K: Modeling Scenarios

Identify, define, and describe all modeling scenarios. Examples of modeling scenarios include using different production rates, times of day, times of year, simultaneous or alternate operation of old and new equipment during transition periods, etc. Alternative operating scenarios should correspond to all parts of the Universal Application and should be fully described in Section 15 of the Universal Application (UA3).

The concrete batch plant will limit hourly processing rate to 125 cubic yard per hour and 500,000 cubic yard per year. The hours of operation are presented below in Table 1. Seasonal daily throughputs are presented in Table 2.

**TABLE 1: CBP Plant Hours of Operation (MST)**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	1	1	1	1	1	1	0	0	0
6:00 AM	0	0	1	1	1	1	1	1	1	1	0	0
7:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
8:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
9:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
10:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
11:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
12:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
1:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
2:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
3:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
4:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
5:00 PM	0	0	1	1	1	1	1	1	1	1	0	0
6:00 PM	0	0	0	1	1	1	1	1	1	0	0	0
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	10	10	12	14	14	14	14	14	14	12	10	10

1

**TABLE 2: HMA Daily Production Rates and Corresponding Max Hours of Production**

Month	Cubic Yards Per Day	At Max Hourly Throughput – Hours per Day
November - February	750	6
March, October	750	6
April - September	750	6

Table 3 presents the 3 model scenarios modeled hours for showing compliance with the worst-case operating scenario.

**TABLE 3: HMA Model Scenario Time Segments - Particulate**

Model Scenario	Time Segments 10-Hour Blocks November - February	Time Segments 12-Hour Blocks March & October	Time Segments 14-Hour Blocks April - September
1	7 AM to 1 PM	6 AM to 12 PM	5 AM to 11 AM
2	9 AM to 3 PM	8 AM to 2 PM	7 AM to 1 PM
3	11 AM to 5 PM	10 AM to 4 PM	9 AM to 3 PM
4	11 AM to 5 PM	12 PM to 6 PM	11 AM to 5 PM
5	11 AM to 5 PM	12 PM to 6 PM	1 PM to 7 PM

2 Which scenario produces the highest concentrations? Why?

PM10 – Scenario 1 – Year 2019, low wind speed.  
PM2.5 - Scenario 1 – Year 2016, low wind speed.

3 Were emission factor sets used to limit emission rates or hours of operation?  
(This question pertains to the "SEASON", "MONTH", "HROFDY" and related factor sets, not to the factors used for calculating the maximum emission rate.)

Yes  No

4 If so, describe factors for each group of sources. List the sources in each group before the factor table for that group.  
(Modify or duplicate table as necessary. It's ok to put the table below section 16-K if it makes formatting easier.)  
Sources:

Hour of Day	Factor	Hour of Day	Factor								
1		13									
2		14									
3		15									
4		16									
5		17									
6		18									
7		19									
8		20									
9		21									
10		22									
11		23									
12		24									

	If hourly, variable emission rates were used that were not described above, describe them below.		
6	Were different emission rates used for short-term and annual modeling? If so describe below.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
	An hourly factor was used for the PM2.5 annual averaging period. If based on all hours of operation the maximum annual production rate would be 273,750 cubic yards. Since the annual throughput will be limited to 50,000 cubic yards a factor of 0.18 for all hours of operations will reduce the annual modeled emissions to proposed maximum annual emission rates. (50,000 cy/yr / 273,750 cy/yr = 0.18)		

**16-L: NO<sub>2</sub> Modeling**

1	Which types of NO <sub>2</sub> modeling were used? Check all that apply.		
	<input checked="" type="checkbox"/>	ARM2	
	<input type="checkbox"/>	100% NO <sub>x</sub> to NO <sub>2</sub> conversion	
	<input type="checkbox"/>	PVMRM	
	<input type="checkbox"/>	OLM	
	<input type="checkbox"/>	Other:	
2	Describe the NO <sub>2</sub> modeling.		
	ARM2 for both 1-hour and annual averaging period modeling. All ARM2 default values were used.		
3	Were default NO <sub>2</sub> /NO <sub>x</sub> ratios (0.5 minimum, 0.9 maximum or equilibrium) used? If not describe and justify the ratios used below.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
4	Describe the design value used for each averaging period modeled.		
	1-hour: 98th percentile as calculated by AERMOD Annual: One Year Annual Average		

**16-M: Particulate Matter Modeling**

1	Select the pollutants for which plume depletion modeling was used.											
	<input type="checkbox"/>	PM2.5										
	<input checked="" type="checkbox"/>	PM10										
	<input type="checkbox"/>	None										
2	Describe the particle size distributions used. Include the source of information.											
	Representative average particle densities were obtained from NMED accepted values.											
		<table border="1"> <thead> <tr> <th>Material</th> <th>Density (g/cm<sup>3</sup>)</th> <th>Reference</th> </tr> </thead> <tbody> <tr> <td>Road Dust – Roper Construction</td> <td>2.5</td> <td>NMED Value</td> </tr> <tr> <td>Cement – Roper Construction</td> <td>3.3</td> <td>NMED Value</td> </tr> </tbody> </table>		Material	Density (g/cm <sup>3</sup> )	Reference	Road Dust – Roper Construction	2.5	NMED Value	Cement – Roper Construction	3.3	NMED Value
	Material	Density (g/cm <sup>3</sup> )	Reference									
Road Dust – Roper Construction	2.5	NMED Value										
Cement – Roper Construction	3.3	NMED Value										

Fly Ash – Roper Construction	1.04	NMED Value
Combustion – Roper Construction and Neighbor	1.5	NMED Value
Fugitive Dust – Roper Construction and Neighbor	2.5	NMED Value

The densities and size distribution for PM<sub>10</sub> emission sources are presented in Tables 4 - 8.

**TABLE 4: Unpaved Road Vehicle Fugitive Dust Depletion Parameters**

Particle Size Category (µm)	Mass Mean Particle Diameter (µm)	Mass Weighted Size Distribution (%)	Density (g/cm <sup>3</sup> )
PM10			
0 – 2.5	1.57	25.0	2.5
2.5 – 10	6.91	75.0	2.5

Based on NMED Particle Size Distribution Spreadsheet – April 25, 2007

**TABLE 5: Cement Baghouse Source Depletion Parameters**

Particle Size Category (µm)	Mass Mean Particle Diameter (µm)	Mass Weighted Size Distribution (%)	Density (g/cm <sup>3</sup> )
PM10			
0-2.5	1.57	25	3.3
2.5-10	6.91	75	3.3

Parameters based on baghouse exhaust capture percentages.

**TABLE 6: Fly Ash Baghouse Source Depletion Parameters**

Particle Size Category (µm)	Mass Mean Particle Diameter (µm)	Mass Weighted Size Distribution (%)	Density (g/cm <sup>3</sup> )
PM10			
0-2.5	1.57	25	3.3
2.5-10	6.91	75	3.3

Parameters based on baghouse exhaust capture percentages

**TABLE 7: Combustion Source Depletion Parameters**

Particle Size Category (µm)	Mass Mean Particle Diameter (µm)	Mass Weighted Size Distribution (%)	Density (g/cm <sup>3</sup> )
PM10			
0 - 2.5	1.57	100	1.5

Based on NMED Particle Size Distribution Spreadsheet – April 25, 2007

<b>TABLE 8: Fugitive Dust Source Depletion Parameters</b>			
Particle Size Category ( $\mu\text{m}$ )	Mass Mean Particle Diameter ( $\mu\text{m}$ )	Mass Weighted Size Distribution (%)	Density ( $\text{g}/\text{cm}^3$ )
<b>PM10</b>			
2.5 – 5	3.88	22.6	2.5
5 – 10	7.77	77.4	2.5
Parameters based on values from the Albuquerque Air Quality Division Modeling Guidelines.			
3	Does the facility emit at least 40 tons per year of $\text{NO}_x$ or at least 40 tons per year of $\text{SO}_2$ ? Sources that emit at least 40 tons per year of $\text{NO}_x$ or at least 40 tons per year of $\text{SO}_2$ are considered to emit significant amounts of precursors and must account for secondary formation of $\text{PM}_{2.5}$ .		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
4	Was secondary PM modeled for $\text{PM}_{2.5}$ ?		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
5	If MERPs were used to account for secondary $\text{PM}_{2.5}$ fill out the information below. If another method was used describe below.		
	$\text{NO}_x$ (ton/yr)	$\text{SO}_2$ (ton/yr)	$[\text{PM}_{2.5}]_{\text{annual}}$
			$[\text{PM}_{2.5}]_{24\text{-hour}}$

<b>16-N: Setback Distances</b>	
1	Portable sources or sources that need flexibility in their site configuration requires that setback distances be determined between the emission sources and the restricted area boundary (e.g. fence line) for both the initial location and future locations. Describe the setback distances for the initial location.  Permanent Site
2	Describe the requested, modeled, setback distances for future locations, if this permit is for a portable stationary source. Include a haul road in the relocation modeling.  N/A

<b>16-O: PSD Increment and Source IDs</b>			
1	The unit numbers in the Tables 2-A, 2-B, 2-C, 2-E, 2-F, and 2-I should match the ones in the modeling files. Do these match? If not, provide a cross-reference table between unit numbers if they do not match below.		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
	Unit Number in UA-2	Unit Number in Modeling Files	
	Concrete Plant Truck Load Baghouse (Unit 7,8)	TMBH	
	Concrete Plant Cement Silo Baghouse (Unit 9)	CSBH	
	Concrete Plant Fly Ash Baghouse (Unit 10)	FASBH	



	Concrete Batch Plant Heater (Unit 12)	CBPH																																												
	Feed Hopper Loading (Unit 2)	FH																																												
	Feed Hopper Unloading to Conveyor (Unit 3)	TP																																												
	Aggregate Bin Loading (Unit 4)	AB																																												
	Aggregate Weigh Batch and Conveyor (Unit 5,6)	WH																																												
	Storage Piles (Aggregate) (Unit 11)	SP1																																												
	Storage Piles (Aggregate) (Unit 11)	SP2																																												
	Storage Piles (Aggregate) (Unit 11)	SP3																																												
	Storage Piles (Sand) (Unit 11)	SP4																																												
	Storage Piles (Sand) (Unit 11)	SP5																																												
	Storage Piles (Sand) (Unit 11)	SP6																																												
	Aggregate Haul Trucks Volume 1 (Unit 1)	AGG_0001 – 25 One Way																																												
	Concrete Cement Fly Ash Haul Trucks Volume1 (Unit 1)	CON_0001 – 7 Round Trip																																												
	The emission rates in the Tables 2-E and 2-F should match the ones in the modeling files. Do these match? If not, explain why below.		Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>																																										
	Hourly model emission rates for material handling sources (Emissions calculated using AP-42 Section 13.2.4) are calculated using annual average windspeed for Ruidoso 1996 - 2006. Mineral filler silo modeled emission rate is based on the hourly usage (3 tons/hr) times the silo baghouse particulate emission factor.																																													
2	<table border="1"> <thead> <tr> <th rowspan="2">Emission Point #</th> <th rowspan="2">Process Unit Description</th> <th>PM10</th> <th>PM2.5</th> </tr> <tr> <th>lbs/hr</th> <th>lbs/hr</th> </tr> </thead> <tbody> <tr> <td>FH</td> <td>Feed Hopper Loading (Unit 2)</td> <td>0.27369</td> <td>0.04144</td> </tr> <tr> <td>SP1</td> <td>Storage Piles (Aggregate) (Unit 11)</td> <td>0.05970</td> <td>0.00904</td> </tr> <tr> <td>SP2</td> <td>Storage Piles (Aggregate) (Unit 11)</td> <td>0.05970</td> <td>0.00904</td> </tr> <tr> <td>SP3</td> <td>Storage Piles (Aggregate) (Unit 11)</td> <td>0.05970</td> <td>0.00904</td> </tr> <tr> <td>SP4</td> <td>Storage Piles (Sand) (Unit 11)</td> <td>0.05970</td> <td>0.00904</td> </tr> <tr> <td>SP5</td> <td>Storage Piles (Sand) (Unit 11)</td> <td>0.05970</td> <td>0.00904</td> </tr> <tr> <td>SP6</td> <td>Storage Piles (Sand) (Unit 11)</td> <td>0.05970</td> <td>0.00904</td> </tr> <tr> <td>CSBH</td> <td>Concrete Plant Cement Silo Baghouse (Unit 9)</td> <td>0.01436</td> <td>0.00331</td> </tr> <tr> <td>FASBH</td> <td>Concrete Plant Fly Ash Baghouse (Unit 10)</td> <td>0.00908</td> <td>0.00209</td> </tr> </tbody> </table>		Emission Point #	Process Unit Description	PM10	PM2.5	lbs/hr	lbs/hr	FH	Feed Hopper Loading (Unit 2)	0.27369	0.04144	SP1	Storage Piles (Aggregate) (Unit 11)	0.05970	0.00904	SP2	Storage Piles (Aggregate) (Unit 11)	0.05970	0.00904	SP3	Storage Piles (Aggregate) (Unit 11)	0.05970	0.00904	SP4	Storage Piles (Sand) (Unit 11)	0.05970	0.00904	SP5	Storage Piles (Sand) (Unit 11)	0.05970	0.00904	SP6	Storage Piles (Sand) (Unit 11)	0.05970	0.00904	CSBH	Concrete Plant Cement Silo Baghouse (Unit 9)	0.01436	0.00331	FASBH	Concrete Plant Fly Ash Baghouse (Unit 10)	0.00908	0.00209		
Emission Point #	Process Unit Description	PM10			PM2.5																																									
		lbs/hr	lbs/hr																																											
FH	Feed Hopper Loading (Unit 2)	0.27369	0.04144																																											
SP1	Storage Piles (Aggregate) (Unit 11)	0.05970	0.00904																																											
SP2	Storage Piles (Aggregate) (Unit 11)	0.05970	0.00904																																											
SP3	Storage Piles (Aggregate) (Unit 11)	0.05970	0.00904																																											
SP4	Storage Piles (Sand) (Unit 11)	0.05970	0.00904																																											
SP5	Storage Piles (Sand) (Unit 11)	0.05970	0.00904																																											
SP6	Storage Piles (Sand) (Unit 11)	0.05970	0.00904																																											
CSBH	Concrete Plant Cement Silo Baghouse (Unit 9)	0.01436	0.00331																																											
FASBH	Concrete Plant Fly Ash Baghouse (Unit 10)	0.00908	0.00209																																											
3	Have the minor NSR exempt sources or Title V Insignificant Activities" (Table 2-B) sources been modeled?		Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>																																										
4	Which units consume increment for which pollutants?																																													
	Unit ID	NO <sub>2</sub>	SO <sub>2</sub>	PM10	PM2.5																																									
	TMBH			X																																										
	CSBH			X																																										
	FASBH			X																																										
	CBPH	X		X																																										
	FH			X																																										
	TP			X																																										
	AB			X																																										
	WH			X																																										
	SP1			X																																										

	SP2			X		
	SP3			X		
	SP4			X		
	SP5			X		
	SP6			X		
	AGG_0001 - 25			X		
	CON_0001 - 7			X		
5	PSD increment description for sources. (for unusual cases, i.e., baseline unit expanded emissions after baseline date).			Baseline unit expanded emissions after minor baseline date		
6	Are all the actual installation dates included in Table 2A of the application form, as required? This is necessary to verify the accuracy of PSD increment modeling. If not please explain how increment consumption status is determined for the missing installation dates below.				Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
	Facility has not been installed. Is a new facility that will consume increment for NO <sub>2</sub> and PM <sub>10</sub>					

**16-P: Flare Modeling**

1	For each flare or flaring scenario, complete the following			
	Flare ID (and scenario)	Average Molecular Weight	Gross Heat Release (cal/s)	Effective Flare Diameter (m)
	NA			

**16-Q: Volume and Related Sources**

1	Were the dimensions of volume sources different from standard dimensions in the Air Quality Bureau (AQB) Modeling Guidelines?			Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
	If not please explain how increment consumption status is determined for the missing installation dates below.					
Volume sources for storage piles are based on 8 feet release height and 50 feet width.						
2	Describe the determination of sigma-Y and sigma-Z for fugitive sources.					
	For storage piles, the model inputs were based on the size (50 feet) of the pile/4.3 (sigma-Y) and a release height of 8 feet or a sigma-Z of 8ft*2/2.15. All others followed standard dimensions from Air Quality Bureau (AQB) Modeling Guidelines.					
3	Describe how the volume sources are related to unit numbers. Or say they are the same.					
	<b>Model ID</b>	<b>Source Description</b>				
	TMBH	Concrete Plant Truck Load Baghouse (Unit 7,8)				
	CSBH	Concrete Plant Cement Silo Baghouse (Unit 9)				
	FASBH	Concrete Plant Fly Ash Baghouse (Unit 10)				
	CBPH	Concrete Batch Plant Heater (Unit 12)				

	FH	Feed Hopper Loading (Unit 2)		
	TP	Feed Hopper Unloading to Conveyor (Unit 3)		
	AB	Aggregate Bin Loading (Unit 4)		
	WH	Aggregate Weigh Batcher and Conveyor (Unit 5,6)		
	SP1	Storage Piles (Aggregate) (Unit 11)		
	SP2	Storage Piles (Aggregate) (Unit 11)		
	SP3	Storage Piles (Aggregate) (Unit 11)		
	SP4	Storage Piles (Sand) (Unit 11)		
	SP5	Storage Piles (Sand) (Unit 11)		
	SP6	Storage Piles (Sand) (Unit 11)		
	AGG_0001-0025	Aggregate Haul Trucks (Unit 1)		
	CON_0001-0007	Concrete Cement Fly Ash Haul Trucks (Unit 1)		
4	Describe any open pits.			
	None			
5	Describe emission units included in each open pit.			
	None			
<b>16-R: Background Concentrations</b>				
1	Were NMED provided background concentrations used? Identify the background station used below. If non-NMED provided background concentrations were used describe the data that was used.		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
	CO: Del Norte High School (350010023)			
	NO <sub>2</sub> : Outside Carlsbad (350151005)			
	PM <sub>2.5</sub> : Las Cruces Distric Office (350130025)			
	PM <sub>10</sub> : Las Cruces City Well #46 (350130024)			
	SO <sub>2</sub> : Bloomfield( 350450009)			
	Other:			
	Comments:			
2	Were background concentrations refined to monthly or hourly values? If so describe below.		Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

<b>16-S: Meteorological Data</b>				
1	Was NMED provided meteorological data used? If so select the station used.		Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
2	If NMED provided meteorological data was not used describe the data set(s) used below. Discuss how missing data were handled, how stability class was determined, and how the data were processed.			
	Dispersion model meteorological input files were created from meteorological data collected at Holloman AFB, NM for the years 2016 - 2020, about 45 miles south-southwest from the site. The similar elevation, topography, terrain, vegetation, and			

climate of both sites make this meteorological data representative of the model area. Figure 3 shows wind rose diagram of the meteorological wind speed versus direction data that has been collected for the years 2016 - 2020.

AERMET wind speed threshold for surface data is 0.5 meters per second.

Santa Teresa Airport 2016-2020 data was used for upper air.

Since the meteorological input data does not include turbulence data, the adjust U\* option in AERMET was used during processing of the meteorological data.

AERMET/AERMOD requires that several additional parameters be input during data processing in AERMET:

- Surface roughness length (m)
- Albedo
- Bowen Ratio

The surface roughness length influences the surface shear stress and is an important factor in determining the magnitude of mechanical turbulence and the stability of the boundary layer. The albedo is the fraction of total incident solar radiation reflected by the surface back to space without absorption. The daytime Bowen ratio, an indicator of surface moisture, is the ratio of sensible heat flux to latent heat flux and, together with albedo and other meteorological observations, is used for determining planetary boundary layer parameters for convective conditions driven by the surface sensible heat flux.

These parameters would be obtained using AERSURFACE (*Version 20060*). AERSURFACE requires the input of land cover data from the U.S. Geological Survey (USGS) National Land Cover Data (NLCD) 2016 archives, which it uses to determine the land cover types for the Alamogordo airport-specified location. AERSURFACE matches the 2016 NLCD land cover categories to seasonal values of albedo, Bowen ratio, and surface roughness. Values of surface characteristics are calculated based on the land cover data for the study area and output in a format for input into AERMET Stage 3.

Site descriptive questions required by AERSURFACE include:

- Meteorological data from airport
- Continuous snowcover for a month in winter
- Arid climate
- Dry climate

For the Holloman AFB meteorological data, YES was checked for airport data, NO was checked for continuous snowcover in winter, YES was checked for arid climate, and YES was checked for dry climate. For each parameter, data was extracted from land cover data for each month of the year and 12 equal sectors radiating from the Alamogordo Airport.

The meteorological data was processed using AERMET (*Version 19191*) and upper air from Santa Teresa Airport for the same time period. The upper air and surface data are considered to be representative and comparable with both the Holloman AFB and Roper Construction's Alto CBP site. The Holloman AFB meteorological data files, Santa Teresa upper air files, and Holloman AFB surface air file are submitted to the NMED-AQB Modeling Section for review with this modeling protocol.

No missing hours were substituted.

**16-T: Terrain**

1	Was complex terrain used in the modeling? If not, describe why below.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
---	---	---	-----------------------------

2	What was the source of the terrain data?
	NED

**16-U: Modeling Files**

1	Describe the modeling files:		
	File name (or folder and file name)	Pollutant(s)	Purpose (ROI/SIA, cumulative, culpability analysis, other)
	RoperAltaCombustionROI	CO, NO2, SO2	ROI
	RoperAltaPMROIS1-5	PM10, PM2.5	ROI
	RoperAltaCIANO21Hr	NO2	Cumulative
	RoperAltaCIAPM10dS1-5	PM10 24 Hour and Annual Increment	Cumulative, PSD Class II Increment
	RoperAltaCIAPM25_24S1-5	PM2.5 24 Hour	Cumulative
	RoperAltaCIAPM25_YrS1-5	PM2.5 Annual	Cumulative
	RoperAltaNO2IncSIL	NO2	Class I Increment SIL
	RoperAltaPM10dS1IncSIL – S5	PM10	Class I Increment SIL
RoperAltaPM10dS1Inc – S5	PM10 24 Hour and Annual	Class I Increment Cumulative	

**16-V: PSD New or Major Modification Applications**

1	A new PSD major source or a major modification to an existing PSD major source requires additional analysis. Was preconstruction monitoring done (see 20.2.74.306 NMAC and PSD Preapplication Guidance on the AQB website)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
2	If not, did AQB approve an exemption from preconstruction monitoring?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
3	Describe how preconstruction monitoring has been addressed or attach the approved preconstruction monitoring or monitoring exemption. NA		
4	Describe the additional impacts analysis required at 20.2.74.304 NMAC. NA		
5	If required, have ozone and secondary PM2.5 ambient impacts analyses been completed? If so describe below.	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
	Total facility emissions of NO2, SO2, and VOC are all less than <1.0 tons per year		

<b>16-W: Modeling Results</b>			
1	If ambient standards are exceeded because of surrounding sources, a culpability analysis is required for the source to show that the contribution from this source is less than the significance levels for the specific pollutant. Was culpability analysis performed? If so describe below.		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
2	Identify the maximum concentrations from the modeling analysis. Rows may be modified, added and removed from the table below as necessary.		

Pollutant, Time Period and Standard	Modeled Facility Concentration (µg/m3)	Modeled Concentration with Surrounding Sources (µg/m3)	Secondary PM (µg/m3)	Background Concentration (µg/m3)	Cumulative Concentration (µg/m3)	Value of Standard (µg/m3)	Percent of Standard	Location		
								UTM E (m)	UTM N (m)	Elevation (ft)
NO <sub>2</sub> 1 Hour H8H	16.1	-	-	38.7	54.8	188.03	29.1	438227.4	3697886.7	2209.64
NO <sub>2</sub> Annual H1H	0.96	-	-	-	-	SIL-1	96.0	438323.1	3697946.9	-
NO <sub>2</sub> Annual Class II	0.96	-	-	-	-	SIL-1	96.0	438323.1	3697946.9	-
NO <sub>2</sub> Annual Class I	0.0052	-	-	-	-	SIL-0.1	52.0	437055.0	3699583.7	-
CO 1 Hour H1H	41.4	-	-	-	-	SIL-2000	2.1	438160.0	3697961.5	-
CO 8 Hour H1H	8.69	-	-	-	-	SIL-500	1.7	438150.0	3697950.0	-
SO <sub>2</sub> 1 Hour H1H	0.53	-	-	-	-	SIL-7.8	6.8	438160.0	3697961.5	-
SO <sub>2</sub> 3 Hour H1H	0.20	-	-	-	-	SIL-25	0.8	438325.0	3697950.0	-
SO <sub>2</sub> 24 Hour H1H	0.07	-	-	-	-	SIL-5	1.4	438251.6	3697885.1	-
SO <sub>2</sub> Annual H1H	0.01	-	-	-	-	SIL-1	1.0	438209.9	3698032.4	-
PM <sub>2.5</sub> 24 Hour H8H	3.2	3.4	-	14.9	18.3	35	52.3	438232.3	3698033.1	2208.8

Pollutant, Time Period and Standard	Modeled Facility Concentration (µg/m3)	Modeled Concentration with Surrounding Sources (µg/m3)	Secondary PM (µg/m3)	Background Concentration (µg/m3)	Cumulative Concentration (µg/m3)	Value of Standard (µg/m3)	Percent of Standard	Location		
								UTM E (m)	UTM N (m)	Elevation (ft)
PM <sub>2.5</sub> Annual H1H	0.42	0.44	-	5.1	5.54	12	46.2	438232.3	3698033.1	2208.8
PM <sub>10</sub> 24 Hour H2H	29.1	29.3	-	94.7	124.0	150	82.7	438209.9	3698032.4	2209.71
PM <sub>10</sub> 24 Hour Class II	29.1	29.3	-	-	29.3	30	97.7	438209.9	3698032.4	2209.71
PM <sub>10</sub> Annual Class II	9.19	9.23	-	-	9.23	17	54.3	438232.3	3698033.1	2208.8
PM <sub>10</sub> 24 Hour Class I	0.32	0.58	-	-	0.58	8	7.3	437142.4	3699642.1	2195.77
PM <sub>10</sub> Annual Class I	0.0083	-	-	-	-	SIL-0.2	4.2	437055.0	3699583.7	2222.57

**16-X: Summary/conclusions**

1	<p>A statement that modeling requirements have been satisfied and that the permit can be issued.</p> <p>Dispersion modeling was performed for all regulated sources at Roper Construction's Alto CBP. All facility pollutants with ambient air quality standards were modeled to show compliance with those standards. All results of this modeling analysis showed the facility is in compliance with applicable ambient air quality standards and PM<sub>10</sub> and NO<sub>2</sub> PSD Class I and Class II increment limits. Based on the dispersion modeling analysis, the permit can be issued.</p>
---	--