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TCEQ Public Hearing Form
October 14, 2019

TXI Operations, LP
Air Quality Standard Permit for a Concrete Batch Plant
with Enhanced Controls
Proposed Air Quality Registration No. 157413

PLEASE PRINT

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(Written comments may be submitted at any time during the hearing)

Please give this form to the person at the information table. Thank you.

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Air Quality Modeling Analysis
TXI Farmersville Ready Mix

RN110677986

Prepared for
LAW OFFICE OF JOHN J. VAY

2019-10-01

10/11/2019

Contents

EXECUTIVE SUMMARY

Project Identification

Applicant	TXI OPERATIONS, LP CN600125157
Site	TXI FARMERSVILLE READY MIX RN110677986
Permit Number	157413
County of Site	Collin
Air Quality Analysis Contact	Robert Opiela, PE Opiela Consulting Services Email: ceo@opielaconsulting.com Phone: (320) 500-1247
Technical Point of Contact	Jerry Demo, PE Pollution Solutions Email: jdemo@austin.rr.com Phone: (512) 259-3277

Project Description

TXI Operations, LP (CN600125157) (TXI) proposes to construct and operate new facilities comprising a concrete batch plant, to be located at a site near Farmersville, Collin County, Texas, generally known as Farmersville Ready Mix (RN110677986). The primary function of the concrete batch plant is to receive cement, gravel, and sand as raw materials, mix the raw materials to clients' specifications, and then load the mixed materials onto trucks to take the material off-site for use. Cement will be stored on-site in large silos. Sand and gravel will be stored on-site in stockpiles. TXI is seeking authorization to construct and operate the concrete batch plant at the site under the TCEQ's Standard Permit for Concrete Batch Plants with Enhanced Controls (Standard Permit).

The air quality analysis (AQA) described in this report examines whether operation of the proposed facilities at the Farmersville Ready Mix site would comply with applicable state and federal air quality standards, specifically for emissions of particulate matter into the atmosphere. The AQA was performed based on the representations made by the applicant in its application for the Standard Permit and the allowable emissions and limitations under the Standard Permit.

Air Contaminants Evaluated

Table 1. Air Quality Standards Evaluated – National Ambient Air Quality Standards (NAAQS)

Air Contaminant	Standard Name	Standard Value µg/m^3
PM_{10}	PM10 24-HR NAAQS	150
$PM_{2.5}$	PM2.5 24-HR NAAQS	35
$PM_{2.5}$	PM2.5 ANNUAL NAAQS	12

MODEL RESULTS

The AQA model results presented below demonstrate that the operations of the proposed concrete batch plant at the site, Farmersville Ready Mix, would violate the PM10 24-hour, PM2.5 24-hour, and PM2.5 Annual National Ambient Air Quality Standards (NAAQS) as described in detail below.

Table 2, below, lists results by air contaminant and averaging time for appropriate comparison to the applicable NAAQS. The scenarios (24-HR and ANNUAL) represent the maximum 24-hour operation of the plant as represented in the Standard Permit application and enforceable short-term limits under the Standard Permit rule. ANNUAL represents the annual average operation throughout the year as represented in the Standard Permit application and enforceable annual limits in the Standard Permit rule. The maximum model predicted ground-level concentrations (GLCmax) are listed as is the representative background concentration for the appropriate air contaminant and averaging time combination. Consistent with established modeling procedures, the sum (TOTAL Impact) of the GLCmax and background concentration is compared the NAAQS to determine compliance. If the TOTAL Impact is less than the appropriate NAAQS value, then compliance has been demonstrated. If the TOTAL Impact is equal to or greater than the NAAQS value, the modeling analysis would predict a violation of the NAAQS.

Full NAAQS Analysis

Table 2. Modeling Results Summary for Criteria Pollutants NAAQS Analysis

Air Contaminant	Avg Time	Scenario	NAAQS Standard µg/m³	Modeled GLCmax µg/m³	Background µg/m³	TOTAL Impact µg/m³	Compliance
$PM_{2.5}$	24-HR	24-HR	35	79.6	17	96.6	NO
$PM_{2.5}$	ANNUAL	ANNUAL	12	65.5	8.6	74.1	NO
PM_{10}	24-HR	24-HR	150	346.5	33	379.5	NO

MODELING ANALYSIS APPROACH

Overview

When dispersion modeling is performed in support of a new source review permit application , the model inputs are based upon the representations provided by the applicant in its application and the allowable emissions under the authorization. The model program requires precise input values of source characteristics such as stack heights, exhaust temperatures, and flow rates. For a case-by-case permit, the application typically provides those precise input values. For a Standard Permit, the application often states the operation will meet the requirements specified in the Standard Permit, such as hourly, daily, and annual production limits, without providing operational details and precise input values. Due to the general nature of Standard Permit applications, certain of the precise input values for the dispersion model are estimated based on a typical operation of this kind.

Source Characteristics

Figure 1 below depicts a typical concrete batch plant of the type specified in TXI's Standard Permit application. Model inputs, when not provided in the application, are based on this typical operation. The

annotations on the image depict the emission source release heights used in this analysis since none were provided in the application for the Farmersville Ready Mix site.

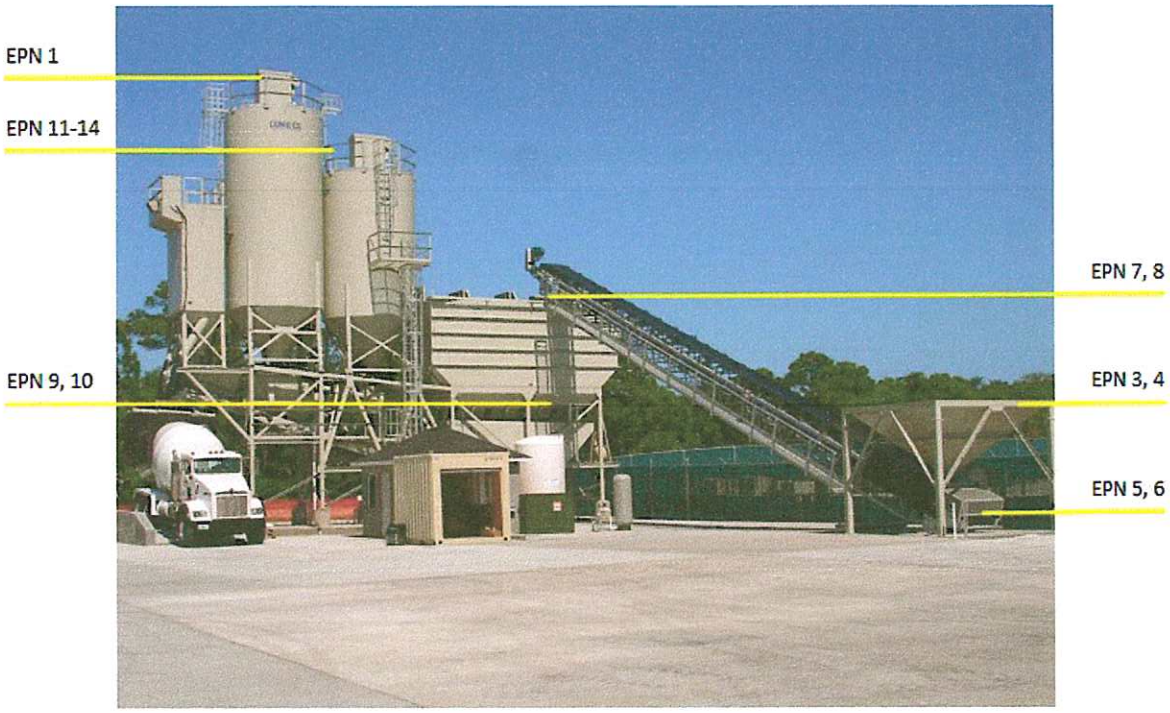


Figure 1. Depiction of a Typical Concrete Batch Plant And Modeled Emission Source Release Heights

Operating Schedules

The Standard Permit application represents an operating schedule of 24 hours per day, 7 day per week, and 8,760 hours per year.

Emissions Calculations

The technical point of contact supplied the emission rates that were used in the air dispersion model. The emission rates were calculated based on the following: (i) maximum allowable production rates authorized by TCEQ in the requested Standard Permit; (ii) TCEQ Concrete Batch Plant Emission Rate Calculation Worksheet for calculating emissions from Drop Points and Truck Loading Fugitives; (iii) application information, control efficiency required in the Standard Permit, and emission factors from the TCEQ Concrete Batch Plant Emission Rate Calculation Worksheet for calculating emissions from stockpiles; and (iv) required grain-loading standard for fabric filters in the Standard Permit for calculating emissions from baghouses.

Modeling Scenarios

The modeling scenarios used for this analysis are listed in Table 3 and correlate to the relevant NAAQS for particulate matter emissions.

Table 3. Modeling Scenarios

Scenario	Scenario Description
24-HR	24-hour emission rates
ANNUAL	Annual emission rates

SITE DESCRIPTION

The Farmersville Ready Mix site (RN110677986) is proposed to be located in Collin county. Figure 2 is a close-up of a larger Area Map that depicts the site property line, emission source locations, ambient air monitors, school locations within the modeling domain, EPA Class I areas, and nonattainment areas in Texas. The nearest EPA Class I area to the site is Wichita Mountains National Wildlife Refuge, located over 350 km from the site.

To view an interactive version of the full Area Map, navigate to the following URL in your web browser: https://drive.google.com/open?id=1nIYHhKNjsVz-01ISD1cUFep7yY7ai-Q3&usp=sharing (or click on the image below).

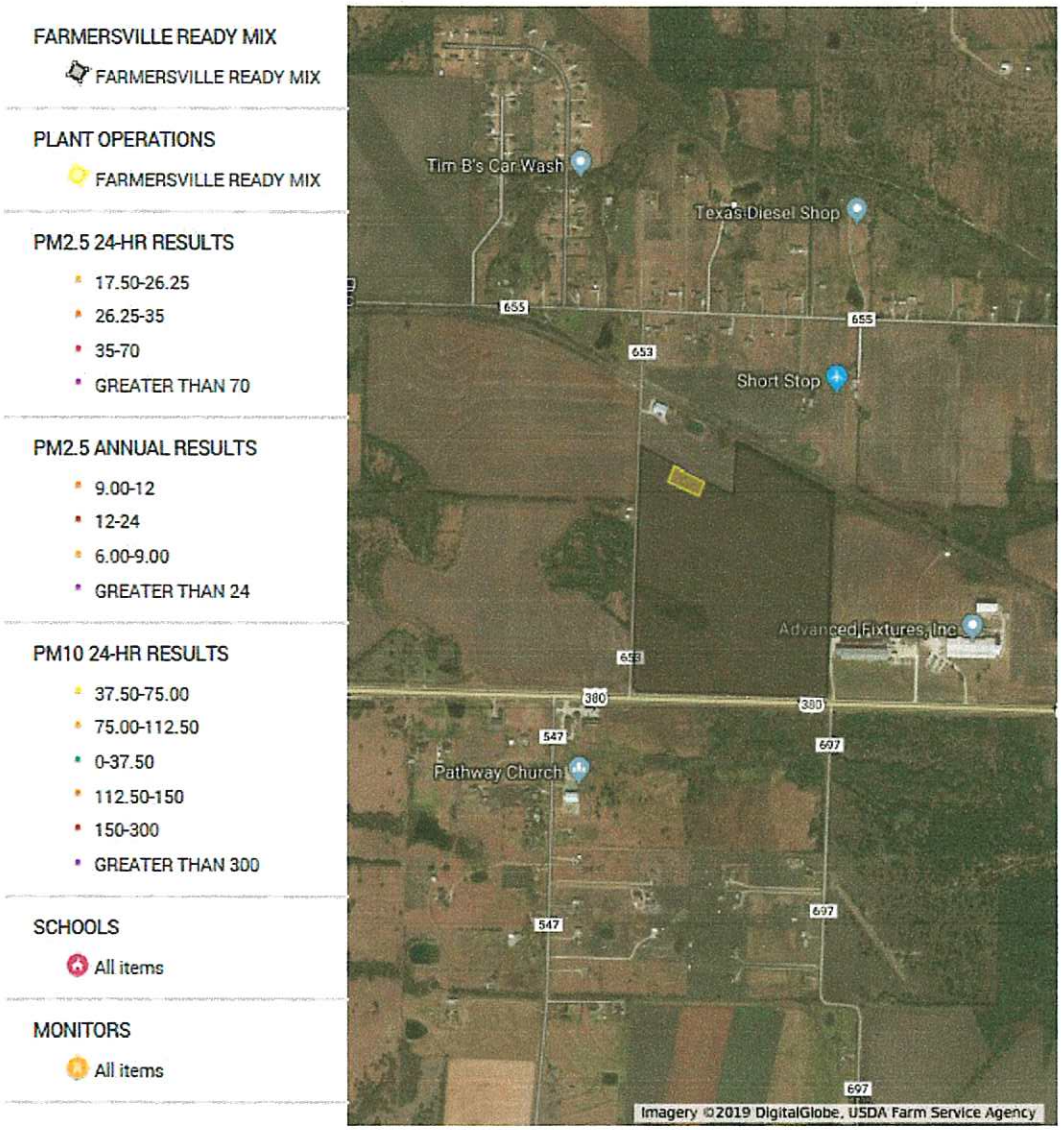


Figure 2. Area Map for TXI Operations, LP Farmersville Ready Mix Site

MODELING PROGRAMS AND DATA SOURCES

Modeling Programs Used

This AQA relied upon the following EPA approved programs:

- AERMOD – VERSION 18081
- AERMAP - VERSION 18081; for source, receptor, building elevations
- BPIPPRM – VERSION 04274; for building downwash parameter calculation
- AERSURFACE – VERSION 13016; for surface roughness length calculation

Data Sources Relied Upon

The following data sources were used:

Table 4. Data Sources

Data	Data Source	Data Source Location
Monitors	EPA	https://aqs.epa.gov/aqsweb/airdata/download_files.html#Annual
Design Values	EPA	https://www.epa.gov/air-trends/air-quality-design-values#report
NEI Sites	EPA	https://www.epa.gov/air-emissions-inventories/2014-national-emissions-inventory-nei-data
Texas Schools	UT Austin School of Journalism	https://github.com/utdata/texas-schools
Class I Areas	EPA	https://www.epa.gov/green-book/green-book-gis-download
NAA (National)	EPA	https://www.epa.gov/green-book/green-book-gis-download
Elevations	USGS	https://www.mrlc.gov/viewerjs/
Meteorology	TCEQ	https://www.tceq.texas.gov/permitting/air/modeling/aermod-datasets.html
Land Cover	USGS	https://www.mrlc.gov/viewerjs/

Based on the data sources listed above, the following design values were considered in this AQA. A detailed explanation of the selection of the representative monitored background values is contained in Appendix A.

Table 5. Monitored Background Concentrations

Air Contaminant	Avg Time	Monitor Name	AQS ID	Design Value µg/m3
PM2.5	24-HR	Karnack	482030002	17
PM2.5	ANNUAL	Karnack	482030002	8.6
PM10	24-HR	Karnack	482030002	33

The proposed meteorological input files for this AQA are listed in Table 6. AERSURFACE was used to justify the medium roughness length. The output and log file from AERSURFACE have been submitted are available for review.

Table 6. Meteorological Input Files

Surface File	Upper Air File	Surface WBAN	Upper Air WBAN	Elev (m)	Year
Collin_TKIFWD12M.SFC	Collin_TKIFWD12M.PFL	53914	03990	178.3	2012

Elevation terrain data used for this analysis were obtained from the files listed in Table 7. These data files were used with AERMAP to determine source and receptor elevations and Zhill values for receptors.

Table 7. Elevation Data Files

File Name	Format	Coordinate System
n34w096.tif	NED	NAD83
n33w097.tif	NED	NAD83
n34w097.tif	NED	NAD83

PROJECT-LEVEL INFORMATION

Control Pathway Options

Model options were set to DEFAULT and CONC for all model runs.

Project Receptor Grid

The receptor grid, locations where the model calculates estimated concentrations, were developed using the following criteria:

- Property line; 25-meter maximum spacing along the site property line;
- Tight resolution; 25-meter spacing out to a minimum of 300 meters from the property line;
- Fine resolution: 100-meter spacing for an additional kilometer from the property line;
- Medium resolution: 500-meter spacing for an additional 5 kilometers from the property line;
- Course resolution: 1,000-meter spacing for an additional 10 kilometers from the property line.

SOURCE INFORMATION

All on-site sources modeled are listed in Table 8. The source locations were graphically represented in the Standard Permit application. The coordinate values of the source locations were estimated based on the graphical representations in the Standard Permit application and geo-referenced aerial imagery.

All source locations coordinates are given in the WGS84/UTM14 coordinate system (EPSG Code 32614 see http://spatialreference.org/ref/epsg/).

Table 8. On-Site Source Locations

EPN	Source ID	Source Type	UTM E (m)	UTM N (m)	Elev (m)	Coordinate System
1	001	POINT	749283.47	3672356.87	201.88	WGS84/UTM14
2	002	AREA	749256.94	3672406.34	202.26	WGS84/UTM14
3	003	AREA	749278.66	3672377.76	202.01	WGS84/UTM14
4	004	AREA	749282.89	3672376.3	201.95	WGS84/UTM14
5	005	AREA	749276.94	3672374.05	202.03	WGS84/UTM14
6	006	AREA	749281.04	3672372.6	201.97	WGS84/UTM14
7	007	AREA	749271.76	3672362.64	202.10	WGS84/UTM14
8	008	AREA	749275.67	3672360.93	202.03	WGS84/UTM14
9	009	AREA	749270.83	3672359.68	202.12	WGS84/UTM14
10	010	AREA	749274.42	3672357.96	202.05	WGS84/UTM14
11	011	POINT	749278.79	3672357.49	201.97	WGS84/UTM14
12	012	POINT	749280.03	3672354.53	201.94	WGS84/UTM14
13	013	POINT	749280.82	3672356.4	201.93	WGS84/UTM14
14	014	POINT	749281.75	3672358.12	201.91	WGS84/UTM14
FUG	015	AREA	749282.13	3672354.13	201.90	WGS84/UTM14
2	016	AREA	749261.99	3672369.82	202.27	WGS84/UTM14
2	017	AREA	749278.66	3672362.62	201.98	WGS84/UTM14

All on-site source emission rates modeled are listed in Table 9. The emission rates are based on the methodology contained in the TCEQ Concrete Batch Plant Emission Rate Calculation Worksheet (draft 11-09-2011) and the operational limitations explicitly listed in the Concrete Batch Plants with Enhanced Controls Standard Permit rule language.

Table 9. Modeled Emission Rates

EPN	Source ID	Air Contaminant	Scenario	Rate	Rate Units	Value Modeled	Value Units
1	001	PM10	24-HR	5.5714E-01	LB/HR	7.0200E-02	G/SEC
1	001	PM2.5	24-HR	5.5714E-01	LB/HR	7.0200E-02	G/SEC
1	001	PM2.5	ANNUAL	2.4403E+00	TPY	7.0200E-02	G/SEC
2	002	PM10	24-HR	1.8147E-02	LB/HR	1.8100E-06	G/SEC-M2
2	002	PM2.5	24-HR	2.7220E-03	LB/HR	2.7150E-07	G/SEC-M2
2	002	PM2.5	ANNUAL	1.1922E-02	TPY	2.7150E-07	G/SEC-M2
3	003	PM10	24-HR	1.0600E-02	LB/HR	1.4376E-04	G/SEC-M2
3	003	PM2.5	24-HR	9.6000E-03	LB/HR	1.3020E-04	G/SEC-M2
3	003	PM2.5	ANNUAL	4.2200E-02	TPY	5.7234E-04	G/SEC-M2
4	004	PM10	24-HR	2.7700E-01	LB/HR	3.7568E-03	G/SEC-M2
4	004	PM2.5	24-HR	4.1900E-02	LB/HR	5.6827E-04	G/SEC-M2

EPN	Source ID	Air Contaminant	Scenario	Rate	Rate Units	Value Modeled	Value Units
4	004	PM2.5	ANNUAL	1.8370E-01	TPY	2.4914E-03	G/SEC-M2
5	005	PM10	24-HR	1.0600E-02	LB/HR	1.5974E-03	G/SEC-M2
5	005	PM2.5	24-HR	9.6000E-03	LB/HR	1.4467E-03	G/SEC-M2
5	005	PM2.5	ANNUAL	4.2200E-02	TPY	6.3593E-03	G/SEC-M2
6	006	PM10	24-HR	2.7700E-01	LB/HR	4.1742E-02	G/SEC-M2
6	006	PM2.5	24-HR	4.1900E-02	LB/HR	6.3141E-03	G/SEC-M2
6	006	PM2.5	ANNUAL	1.8370E-01	TPY	2.7683E-02	G/SEC-M2
7	007	PM10	24-HR	1.0600E-02	LB/HR	6.3895E-05	G/SEC-M2
7	007	PM2.5	24-HR	9.6000E-03	LB/HR	5.7867E-05	G/SEC-M2
7	007	PM2.5	ANNUAL	4.2200E-02	TPY	2.5437E-04	G/SEC-M2
8	008	PM10	24-HR	2.7700E-01	LB/HR	1.6697E-03	G/SEC-M2
8	008	PM2.5	24-HR	4.1900E-02	LB/HR	2.5256E-04	G/SEC-M2
8	008	PM2.5	ANNUAL	1.8370E-01	TPY	1.1073E-03	G/SEC-M2
9	009	PM10	24-HR	1.0600E-02	LB/HR	3.9934E-04	G/SEC-M2
9	009	PM2.5	24-HR	9.6000E-03	LB/HR	3.6167E-04	G/SEC-M2
9	009	PM2.5	ANNUAL	4.2200E-02	TPY	1.5898E-03	G/SEC-M2
10	010	PM10	24-HR	2.7700E-01	LB/HR	1.0436E-02	G/SEC-M2
10	010	PM2.5	24-HR	4.1900E-02	LB/HR	1.5785E-03	G/SEC-M2
10	010	PM2.5	ANNUAL	1.8370E-01	TPY	6.9207E-03	G/SEC-M2
11	011	PM10	24-HR	5.7429E-01	LB/HR	7.2360E-02	G/SEC
11	011	PM2.5	24-HR	5.7429E-01	LB/HR	7.2360E-02	G/SEC
11	011	PM2.5	ANNUAL	2.5154E+00	TPY	7.2361E-02	G/SEC
12	012	PM10	24-HR	5.7429E-01	LB/HR	7.2360E-02	G/SEC
12	012	PM2.5	24-HR	5.7429E-01	LB/HR	7.2360E-02	G/SEC
12	012	PM2.5	ANNUAL	2.5154E+00	TPY	7.2361E-02	G/SEC
13	013	PM10	24-HR	5.7429E-01	LB/HR	7.2360E-02	G/SEC
13	013	PM2.5	24-HR	5.7429E-01	LB/HR	7.2360E-02	G/SEC
13	013	PM2.5	ANNUAL	2.5154E+00	TPY	7.2361E-02	G/SEC
14	014	PM10	24-HR	5.7429E-01	LB/HR	7.2360E-02	G/SEC
14	014	PM2.5	24-HR	5.7429E-01	LB/HR	7.2360E-02	G/SEC
14	014	PM2.5	ANNUAL	2.5154E+00	TPY	7.2361E-02	G/SEC
FUG	015	PM10	24-HR	7.0800E-01	LB/HR	2.4006E-03	G/SEC-M2
FUG	015	PM2.5	24-HR	1.2100E-01	LB/HR	4.1027E-04	G/SEC-M2
FUG	015	PM2.5	ANNUAL	4.4200E-01	TPY	1.4987E-03	G/SEC-M2
2	016	PM10	24-HR	2.8052E-02	LB/HR	1.9763E-05	G/SEC-M2
2	016	PM2.5	24-HR	4.2077E-03	LB/HR	2.9644E-06	G/SEC-M2

EPN	Source ID	Air Contaminant	Scenario	Rate	Rate Units	Value Modeled	Value Units
2	016	PM2.5	ANNUAL	1.8429E-02	TPY	2.9644E-06	G/SEC-M2
2	017	PM10	24-HR	2.8052E-02	LB/HR	1.9763E-05	G/SEC-M2
2	017	PM2.5	24-HR	4.2077E-03	LB/HR	2.9644E-06	G/SEC-M2
2	017	PM2.5	ANNUAL	1.8429E-02	TPY	2.9644E-06	G/SEC-M2

On-site point source parameters modeled are listed in Table 10a. The parameter values are based on what would be typical for a concrete batch plant of the type specified in the Standard Permit application.

Table 10a. Point Source parameters in SI and English units

EPN	Source ID	H (ft)	H (m)	T (°F)	T (°K)	V (ft/sec)	V (m/sec)	D (ft)	D (m)
1	001	60	18.3	AMBIENT	0	0.003	0.001	0.003	0.001
11	011	45	13.7	AMBIENT	0	0.003	0.001	0.003	0.001
12	012	45	13.7	AMBIENT	0	0.003	0.001	0.003	0.001
13	013	45	13.7	AMBIENT	0	0.003	0.001	0.003	0.001
14	014	45	13.7	AMBIENT	0	0.003	0.001	0.003	0.001

On-site area source parameters modeled are listed in Table 10a. The parameter values for drop points (EPNs 3-10 and FUG) are based on what would be typical for a concrete batch plant of the type specified in the Standard Permit application. The parameter values for the stock piles are based on representations made in the application.

Table 10b. Area Source parameters in SI and English units

EPN	Source ID	H (ft)	H (m)	E-W Length (ft)	E-W Length (m)	N-S Length (ft)	N-S Length (m)	Rotation Angle	Sigma Z (m)
2	002	8	2.4	340	103.6	40	12.2	24	0
3	003	10	3	10	3	10	3	24	0
4	004	10	3	10	3	10	3	24	0
5	005	3	0.9	3	0.9	3	0.9	24	0
6	006	3	0.9	3	0.9	3	0.9	24	0
7	007	20	6.1	15	4.6	15	4.6	24	0
8	008	20	6.1	15	4.6	15	4.6	24	0
9	009	10	3	6	1.8	6	1.8	24	0
10	010	10	3	6	1.8	6	1.8	24	0
FUG	015	10	3	20	6.1	20	6.1	24	0
2	016	4.5	1.4	35	10.7	55	16.8	24	0
2	017	4.5	1.4	35	10.7	55	16.8	24	0

APPENDIX A – Background Concentration Analysis

The proposed background concentrations for use with the air quality analysis (AQA) are listed below.

Air Contaminant	Avg Time	Monitor Name	AQS ID	Design Value µg/m3
PM2.5	24-HR	Karnack	482030002	17
PM2.5	ANNUAL	Karnack	482030002	8.6
PM10	24-HR	Karnack	482030002	33

The design values were obtained from the USEPA 2017 Design Value Reports (https://www.epa.gov/air-trends/air-quality-design-values). The design values selected are demonstrated to be representative of the air quality near the site. The monitors selected are located in areas with substantially equivalent emissions and conditions or with higher emissions and conditions more likely to cause air contaminant concentrations higher than would be expected near the application site.

Methodology

The methodology used to determine whether an existing ambient air monitor provides measurements that are representative of the air quality near the proposed Farmersville Ready Mix site (Site), is based on three comparative criteria:

- Regional (county-wide) annual emissions;
- Nearby annual emissions; and
- Nearby land use.

Values for each of these criteria have been computed by pollutant for both the ambient monitor and the Site location. Values for a monitor nearest to or exceeding the values for the Site are considered representative of the air quality near the Site.

Regional emissions have been computed using data from the most recent (2014) EPA National Emissions Inventory (NEI). The NEI data are reported on a county-wide basis and by 14 different classifications. The classifications have been segmented into industrial emissions (11 of the 14), mobile source emission (2 of the 14), and biogenic emissions (1 of the 14) and the emissions subtotaled based on these classification segments. For the pollutants for this analysis, no biogenic emissions were reported.

Nearby emissions have been computed using reported emissions from the EPA 2014 NEI and supplemented with the TCEQ emissions inventory questionnaire (EIQ) for 2017. The data used are site-wide emissions for 2014 (EPA NEI) and 2017 (TCEQ EIQ). Only sites within 10 kilometers (km) of an ambient monitor and the Site were considered.

Nearby land use has been computed using the most recent national land cover data (2011 NLCD). The percentage of area by land use classification has been computed for the region within 10 kilometers (km) of an ambient monitor and the Site. Land use classifications are grouped by those considered urban or rural.

Monitor Analysis – PM2.5 and PM10

There are no PM2.5 or PM10 monitors in Collin County nor near the Site. The analysis below demonstrates the Karnack monitor (AQS ID 482030002) would provide representative PM2.5 and PM10 concentration measurements indicative of air quality near the Site.

When comparing county-wide emissions, reported PM2.5 and PM10 emissions for Harrison County were approximately equivalent for Collin County. County-wide emissions for Harrison County were slightly lower than for Collin County. When comparing nearby industrial source emissions, the latest report levels were equivalent between the two locations. When comparing nearby land use, the percentages of rural to urban land use were equivalent.

Regional Emissions Analysis

PM2.5 County-wide Emissions

COUNTY	Collin	Harrison
TOTAL	3,475	3,037
TOTAL INDUSTRIAL	3,226	2,905
TOTAL MOBILE	249	132

PM10 County-wide Emissions

COUNTY	Collin	Harrison
TOTAL	19,427	19,091
TOTAL INDUSTRIAL	18,847	18,914
TOTAL MOBILE	580	177

Nearby Industrial Sites Analysis

When comparing reported emissions from industrial sites near the Karnack monitor location and the Farmersville Ready Mix site, the reported NEI PM2.5 and PM10 emissions of sites within 10 km of both locations are relatively small. Both locations are located a significant distance away from any large industrial sources of PM2.5 and PM10.

Nearby Emissions

LOCATION	Farmersville Ready Mix SITE	Karnack AQS ID 482030002
PM2.5 (TPY)	0.04	0.004
PM10 (TPY)	0.06	0.005

Nearby Land Use Analysis

When comparing analysis of the land use within 10 km of the Karnack monitor location and the Farmersville Ready Mix site, the land use near both locations is predominately rural. The land use percentages of rural and urban are equivalent.

Nearby Land Use

LOCATION	Farmersville Ready Mix SITE	Karnack AQS ID 482030002
RURAL	92.71%	93.99%
URBAN	7.29%	6.01%

Appendix B – Listing of Supporting Electronic Files

Below is an inventory of electronic files in used in this analysis available upon request.

Table B-1. Listing of Model Input Files

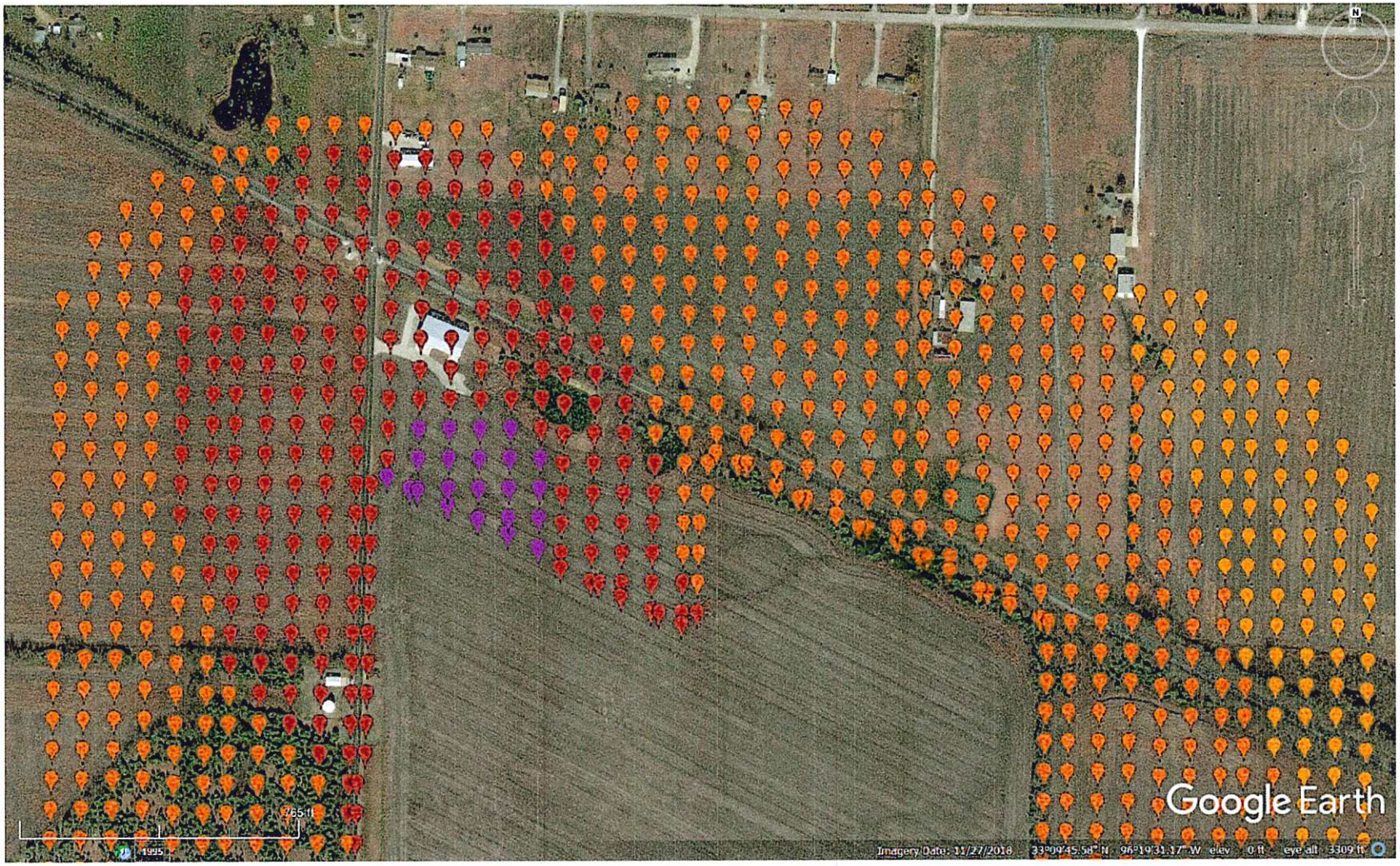
File Name	Air Standard	Scenario	Met Year
1033_RUN_001.INP	PM10 24-HR NAAQS	24-HR	2012
1033_RUN_002.INP	PM2.5 24-HR NAAQS	24-HR	2012
1033_RUN_003.INP	PM2.5 ANNUAL NAAQS	ANNUAL	2012

Table B-2. Listing of Model Output (Result) Files

File Name	Parent File	Air Standard	Scenario	Met Year
1033_RUN_001.PLT	1033_RUN_001.INP	PM10 24-HR NAAQS	24-HR	2012
1033_RUN_002.PLT	1033_RUN_002.INP	PM2.5 24-HR NAAQS	24-HR	2012
1033_RUN_003.PLT	1033_RUN_003.INP	PM2.5 ANNUAL NAAQS	ANNUAL	2012

Air Dispersion Modeling – TXI Farmersville

$PM_{2.5}$ Annual Results – GLC Distribution Compared to NAAQS



John Vay Comments
Air Quality Analysis – Dispersion Modeling

We respectfully take issue with any suggestion that the Protectiveness Review conducted for this particular standard permit for concrete batch plants with enhanced controls was technically sufficient.

When this particular standard permit was first enacted in 2004, there was no contemporaneous air dispersion modeling performed by TCEQ with inputs based on the allowable emissions authorized under this standard permit. The agency simply referred, in a few sentences, to previous modeling efforts conducted for the other standard permit for concrete batch plants, four years earlier, in 2000.

Notwithstanding any increased setbacks for this particular standard permit (e.g., going from 50- to 100-foot offsets), there are material differences in the allowable emissions under this standard permit (e.g., the daily and annual maximum production limits are higher, and emissions factors for silos are more forgiving, among other distinguishing characteristics).

Plus, the previous modeling—for the other standard permit—used the currently outmoded ISC-3 model, rather than a state-of-the-art AERMOD model; and the initial modeling used PM-10 as a surrogate for PM-2.5.

Even when this particular standard permit was renewed in 2014, we could find no indication of any contemporaneous air dispersion modeling with inputs based on the allowable emissions authorized under this standard permit.

I am submitting as a technical comment a sealed/stamped engineering report—an Air Quality Modeling Analysis for the TXI Farmersville Ready Mix project. This report will speak for itself, and I have included a DVD containing the underlying modeling files.

The emissions calculations and inputs for this air quality analysis were calculated as Mr. Demo previously explained in his comments and as set forth in the modeling report.

We used the same modeling protocols employed by applicant's for case-by-case, New Source Review permit applications and consistent with TCEQ's modeling protocols. A state-of-the-art AERMOD model was used to calculate the ground level concentrations (GLCs) of fine particulate matter both on and off of TXI's site, including the neighboring properties.

Quoting from the last full paragraph on page 2, and first full paragraph on page 3:

[Excerpts]

One final note: The modeling files include, among other things, a KML file linked to Google Earth. That file and link launches a Ground Level Concentration (GLC) distribution map, which shows the modeled concentrations of PM-10 and PM-2.5 extending onto the neighboring properties.

I separately offer a screen grab from the PM-2.5 (Annual) GLC distribution, from which you can see yellow, orange, red, and purple flags. The yellow and orange flags are where particulate matter concentrations are approaching, but within, the applicable NAAQS. The red and purple flags, however, indicate various degrees of exceedances of the applicable NAAQS.

Due to the type and size of the attachments to this public comment, the attachment documents are unavailable online.
(CD with MODELING REPORT/FILES)

To request a copy of the CD:

Please visit the Office of the Chief Clerk at
12100 Park 35 Circle,
Building F, Austin, Texas 78753
or
Call the
Office of the Chief Clerk at
(512) 239-3300