STATE OF MISSISSIPPI
PHIL BRYANT
GOVERNOR
MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY
GARY C. RIKARD, EXECUTIVE DIRECTOR

July 01, 2018

Gregg Worley
Chief, Air Analysis and Support Branch
US EPA Region 4
61 Forsyth St., SW
Atlanta, GA 30303-8960

Dear Mr. Worley,

Please find enclosed the 2019 Annual Monitoring Network Plan for the Mississippi Department of Environmental Quality. The 2019 Annual Monitoring Network Plan was posted on the MDEQ website from May 30 through June 30 where public comments were requested. No comments were received. If additional information is needed, please call me at 601-961-5790.

Sincerely,

Michael Jordan
Chief, Air Monitoring Section

cc: Todd Rinck
Darren Palmer

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

MONITORING NETWORK PLAN 2019

The MDEQ Air Division received comments on the 2019 monitoring plan from May 30th to June 30th 2018.

MDEQ did not receive any public comments about the 2019 Annual Monitoring Network Plan.

Address comments to: MJordan@mdeq.ms.gov

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I. Background:

Federal Regulations (40 CFR 58.10) require that State and Local Agencies operating an ambient air quality monitoring network shall review their air quality monitoring network on an annual basis. Any needed modifications to the network should be identified. A detailed monitoring network description should also be included. In addition, the plan shall be available for public comment. MDEQ's Monitoring Network Plan is available on the MDEQ website at *http://www.deq.state.ms.us*.

The Monitoring Network review that is specified in *40 CFR 58.10* contains the following elements that apply to each monitoring site:

- The AQS site identification number.
- The location, including street address and geographical coordinates.
- The sampling and analysis method(s) for each measured parameter.
- The operating schedules for each monitor.
- Any proposals to remove or move a monitoring station within a period of 18 months following plan submittal.
- The monitoring objective and spatial scale of representativeness for each monitor as defined in appendix D of part 58.
- The identification of any sites that are suitable and sites that are not suitable for comparison against the annual $PM_{2.5}$ and Ozone NAAQS as described in part 58.30.
- The MSA, CBSA, CSA or other area represented by the monitor.
- The annual monitoring network plans and or periodic network assessments are subject to Regional approval according to part 58.14.

II. Overview:

In the State of Mississippi, the Mississippi Department of Environmental Quality is the only agency operating an ambient air quality network. There are no local agencies. In Mississippi, as in other State agencies, network monitors are operated for a variety of monitoring objectives. These objectives include determining if an area of the State meets the NAAQS, for public information such as EPA's AirNow data mapping web site, Air Quality Index reporting for public information, background data collection, spatial considerations and special projects. The AQI forecast is currently reported for the Jackson Metro area, Biloxi/Gulfport area and DeSoto County area on the MDEQ web site at https://www.mdeq.ms.gov/air/air-quality-forecast/. In addition, hourly ozone, PM continuous, NO_2, SO_2, and CO data is reported to the EPA AirNow site.

All site data are suitable for NAAQS comparisons per appendices A, C, D, and E. MDEQ's Quality Management Plan is current with an approval date of 08/13/14, while the Criteria Pollutants QAPP is dated 10/01/06. MDEQ has submitted an updated QAPP to EPA for review.

40 CFR 58 has set minimum monitoring requirements for the pollutants that are to be compared with the NAAQS. These minimum requirements are based on population, the level of monitored pollutants, and MSA as defined in the latest US Census information. The tables below and the discussion on the following pages summarize this information.

Mississippi MSA	Pop 2010 Census
Memphis	1,316,100
Jackson	539,057
Hattiesburg	142,842
Gulfport – Biloxi	248,820
Pascagoula	162,246

Mississippi CSA	Pop 2010 Census
Jackson-Yazoo	567,122
Gulfport-Biloxi-Pascagoula	411,066

III. Site Discussion:

Mississippi's air quality monitoring network has been reviewed based on the historic monitoring data, air quality monitoring regulations, data representation based on spatial considerations, special data needs and changes needed based on the monitoring regulations. The items used in the evaluation were the AQS database, the 40 CFR parts 53 and 58 documents, census data and maps. All monitors operated by MDEQ are SLAMS.

MDEQ has installed eight FEM $PM_{2.5}$ continuous monitors at sites across the state. MDEQ will report this data to AQS with no exclusion beginning January 01, 2019. The following sections describe the purposes and any changes related to each site in the ambient monitoring network in the State of Mississippi based on our review of existing monitoring efforts.

Memphis MSA:

1. **Hernando** (DeSoto Co. 28.033.0002) – MDEQ will discontinue the FRM $PM_{2.5}$ and Collocated FRM $PM_{2.5}$ monitor at this site. In 2017, MDEQ installed a continuous FEM $PM_{2.5}$ monitor at this site that is designated as a transport monitor and therefore is a required monitor. In addition, an ozone monitor is required and operated at this site. MDEQ has a regional monitoring agreement with Memphis, TN, and AR to meet Appendix D requirements section 2, e. A copy of this agreement is attached (see Appendix III) and is on file at EPA Region 4.

    - **Site Approval Status:** Site and monitors meet all design criteria for the monitoring network. The ozone sample inlet is approximately 4 meters above ground level, and 69 meters, southwest, from the nearest road. There are no trees or obstacles that would impact the siting criteria for this site.

    - **Sampling train:** The probe tubing is FEP and the fittings are PFA. The stainless steel fitting at the funnel has been drilled and the FEP tubing pushed through the fitting and extends into the funnel.

Jackson MSA:

1. **Jackson NCore** (Hinds Co. 28.049.0020) – The NCore site contains a full complement of instruments, including meteorological. The monitoring parameters currently include Ozone, Sulfur Dioxide, Carbon Monoxide, Nitric Oxides as NOy, manual FRM $PM_{2.5}$, continuous

FEM $PM_{2.5,}$ continuous FEM $PM_{10,}$ FEM $PM_{10-2.5}$, speciated $PM_{2.5}$, wind speed, wind direction, ambient temperature, and relative humidity. The FEM $PM_{2.5}$ continuous monitor will operate as the primary $PM_{2.5}$ monitor while the FRM $PM_{2.5}$ will operate 1/3 days.

- **Site Approval Status:** Site and monitors meet all design criteria for the monitoring network. The ozone, carbon monoxide and sulfur dioxide sample inlet is approximately 4.5 meters above ground level. The nitric oxide sample inlet is approximately 8 meters above ground level. The continuous FEM $PM_{2.5,}$ FEM PM_{10}, FEM $PM_{10-2.5}$, and speciated $PM_{2.5}$ sample inlet is approximately 4 meters above ground level. Each sample inlet is approximately 40 meters, east, from the nearest road. There are no trees or obstacles that would impact the siting criteria for this site.

- **Sampling train:** The probe tubing is FEP and the fittings are PFA. The stainless steel fitting at the funnel has been drilled and the FEP tubing pushed through the fitting and extends into the funnel.

2. **Jackson Metro** (Hinds Co. 28.049.0021) – MDEQ will discontinue the FRM $PM_{2.5}$ monitor. In 2017, MDEQ installed a continuous FEM $PM_{2.5}$ monitor at this site. This monitor will continue to operate at this site. In addition, an ozone monitor is required and operated in this MSA.

- **Site Approval Status:** Site and monitors meet all design criteria for the monitoring network. The ozone sample inlet is approximately 4.5 meters above ground level, while the continuous $PM_{2.5}$ is approximately 4.2 meters above ground level. Both the ozone and continuous $PM_{2.5}$ monitors are approximately 247 meters, northeast, from the nearest road. There are no trees or obstacles that would impact the siting criteria for this site.

- **Sampling train:** The probe tubing is FEP and the fittings are PFA. The stainless steel fitting at the funnel has been drilled and the FEP tubing pushed through the fitting and extends into the funnel.

Hattiesburg MSA:

1. **Hattiesburg** (Forrest Co. 28.035.0004) – MDEQ will discontinue the FRM $PM_{2.5}$ monitor. The collocated FRM $PM_{2.5}$ monitor will continue to operate on a 1/6 day schedule to meet MDEQ's collocated requirements. In 2017, MDEQ installed a continuous FEM $PM_{2.5}$ monitor at this site. This monitor will continue to operate as the primary $PM_{2.5}$ monitor at this site.

- **Site Approval Status:** Site and monitors meet all design criteria for the monitoring network. The continuous FEM $PM_{2.5}$ sample inlet is approximately 3.5 meters above ground level and 14 meters, northwest, from the nearest road. There are no trees or obstacles that would impact the siting criteria for this site.

- **Sampling train:** The probe tubing is FEP and the fittings are PFA. The stainless steel fitting at the funnel has been drilled and the FEP tubing pushed through the fitting and extends into the funnel.

Gulfport-Biloxi MSA:

1. **Gulfport** (Harrison Co. 28.047.0008) – MDEQ will discontinue the FRM $PM_{2.5}$ monitor. In 2017, MDEQ installed a continuous FEM $PM_{2.5}$ monitor at this site. This monitor will continue to operate at this site. In addition, an ozone monitor is operated at this site.

- **Site Approval Status:** Site and monitors meet all design criteria for the monitoring network. The ozone sample inlet is approximately 4.5 meters above ground level, while the continuous $PM_{2.5}$ is approximately 4.2 meters above ground level. Both the ozone and continuous $PM_{2.5}$ monitors are approximately 45 meters, east, from the nearest road. There are no trees or obstacles that would impact the siting criteria for this site.

- **Sampling train:** The probe tubing is FEP and the fittings are PFA. The stainless steel fitting at the funnel has been drilled and the FEP tubing pushed through the fitting and extends into the funnel.

2. **Waveland** (Hancock Co. 28.045.0003) – MDEQ will discontinue the FRM $PM_{2.5}$ monitor. In 2017, MDEQ installed a continuous FEM $PM_{2.5}$ monitor at this site. This monitor will continue to operate at this site. In addition, an ozone monitor is operated at this site.

- **Site Approval Status:** Site and monitors meet all design criteria for the monitoring network. The ozone sample inlet is approximately 5.5 meters above ground level while the continuous $PM_{2.5}$ is approximately 5.2 meters above ground level. Both the ozone and continuous $PM_{2.5}$ monitors are approximately 24 meters, northwest, from the nearest road.

- **Sampling train:** The probe tubing is FEP and the fittings are PFA. The stainless steel fitting at the funnel has been drilled and the FEP tubing pushed through the fitting and extends into the funnel.

Pascagoula MSA:

1. **Pascagoula** (Jackson Co. 28.059.0006) – MDEQ will discontinue the FRM $PM_{2.5}$ monitor. In 2017, MDEQ installed a continuous FEM $PM_{2.5}$ monitor at this site. This monitor will continue to operate at this site. In addition, an ozone, NO_x, and SO_2 monitor is operated at this site. The NO_x analyzer is designated as a RA-40 site.

- **Site Approval Status:** Site and monitors meet all design criteria for the monitoring network. The ozone, SO2, and NOx sample inlet is approximately 4.5 meters above ground level, while the continuous FEM $PM_{2.5}$ inlet is approximately 4.2 meters above ground level. The ozone, SO2, NOx, and continuous FEM $PM_{2.5}$ monitor inlet is approximately 43 meters, northwest, from the nearest road. There are no trees or obstacles that would impact the siting criteria for this site.

- **Sampling train:** The probe tubing is FEP and the fittings are PFA. The stainless steel fitting at the funnel has been drilled and the FEP tubing pushed through the fitting and extends into the funnel.

Non- MSA Sites:

1. **Grenada** (Grenada Co. 28.043.0001) – MDEQ is asking permission, from EPA, to discontinue the FRM $PM_{2.5}$ monitor and shut down the site on December 31, 2018. The FRM $PM_{2.5}$ is the only monitor at this site. The site is close to an airplane hangar that is used to paint airplanes. As noted in the last TSA, the site should be relocated because of paint particles being exhausted in the direction of the FRM $PM_{2.5}$. MDEQ will use the Cleveland site, 28.011.0002, as the new background site to meet the requirements of 40 CFR Part 58, Appendix D, Section 4.7.3. The annual mean and 24 hour design values from 2011 through 2017, for the Grenada site, are below the 85% NAAQS. See the table below.

Grenada 2.5 NAAQS Information

Annual Mean Design value. Standard 12 ug/m^3	Years	Design Value	Percent of NAAQS
	2011-13	9.3	77.5
	2012-14	9.0	75.0
	2013-15	8.1	67.5
	2014-15	7.5	62.5
	2015-17	7.2	60.0
24 Hour Design Value. Standard 35 ug/m^3	Years	Design Value	Percent of NAAQS
	2011-13	20.0	57.1
	2012-14	19.7	56.4
	2013-15	18.0	51.4
	2014-15	16.6	47.4
	2015-17	14.3	40.9

2. **Meridian** (Lauderdale Co. 28.075.0003) – An ozone monitor is operated at this site.

   - **Site Approval Status:** Site and monitor meet all design criteria for the monitoring network. The ozone sample inlet is approximately 4.5 meters above ground level and approximately 22 meters, west, from the nearest road. There are no trees or obstacles that would impact the siting criteria for this site.

   - **Sampling train:** The probe tubing is FEP and the fittings are PFA. The stainless steel fitting at the funnel has been drilled and the FEP tubing pushed through the fitting and extends into the funnel.

3. **Tupelo** (Lee Co. 28.081.0005) – An ozone monitor is operated at this site.

    - **Site Approval Status:** Site and monitor meet all design criteria for the monitoring network. The ozone sample inlet is approximately 4 meters above ground level and approximately 14.5 meters, south, from the nearest road. There are no trees or obstacles that would impact the siting criteria for this site.

    - **Sampling train:** The probe tubing is FEP and the fittings are PFA. The stainless steel fitting at the funnel has been drilled and the FEP tubing pushed through the fitting and extends into the funnel.

4. **Cleveland** (Bolivar Co. 28.011.0002) – MDEQ received approval from EPA to relocate the Cleveland site to Delta State University. The physical address for Delta State University is Highway 8 West, Cleveland, MS 38733 and the GPS coordinates are latitude 33˚ 45’ 3.02˚N and longitude 90˚ 44’ 3.03˚W. The new site location is approximately 0.72 miles northwest of the previous site (28.011.0001). The new AQS number for the new Cleveland site (Delta State) is 28.011.0002. In 2018, MDEQ installed a continuous FEM $PM_{2.5}$ monitor at this site as a background monitor for $PM_{2.5}$ as required by regulations. In addition, an ozone monitor will be operated at this site.

    - **Site Approval Status:** Site and monitors meet all design criteria for the monitoring network. The ozone sample inlet is approximately 4.5 meters above ground level, while the continuous FEM $PM_{2.5}$ is approximately 4.2 meters above ground level. Both the ozone and continuous FEM $PM_{2.5}$ are approximately 71.7 meters, west, from the nearest road. There are no trees or obstacles that would impact the siting criteria for this site.

    - **Sampling train:** The probe tubing is FEP and the fittings are PFA. The stainless steel fitting at the funnel has been drilled and the FEP tubing pushed through the fitting and extends into the funnel.

IV. *NCore Tables:*

NCore Site Table

AQS ID	MSA	Site Name	County	City	Latitude	Longitude	Street Address	Elevation (meters)	Site start date	Location Setting
28-049-0020	Jackson	Jackson NCore	Hinds	Jackson	32.19.45	90.10.58	232 E Woodrow Wilson	93	7/01/2013	Urban and city center

NCore Parameter Table

Parameter	Monitoring Objective	Measurement Scale	Designation	Type	Method	Schedule	Comment
CO	Pop. Exp.	Neighborhood	NCore	Continuous Monitor	Non-Dispersive IR	Jan-Dec	
NO_y	Pop. Exp.	Neighborhood /Urban	NCore	Continuous Monitor	Chemiluminescence	Jan-Dec	
O_3	Pop. Exp.	Neighborhood /Urban	NCore	Continuous Monitor	UV Photometry	Jan-Dec	
SO_2	Pop. Exp.	Neighborhood	NCore	Continuous Monitor	UV fluorescence	Jan-Dec	
FRM $PM_{2.5}$	Pop. Exp	Neighborhood	NCore	Manual Reference Monitor (3 Day)	Gravimetric Analysis	Jan-Dec	
FEM $PM_{2.5}$	Pop. Exp	Neighborhood	NCore	Continuous Monitor	Broadband Spectroscopy	Jan-Dec	T640x
$PM_{2.5}$ Speciation	Pop. Exp	Neighborhood	NCore	Manual Monitor	Multiple Methods	Jan-Dec	
PM coarse	Pop. Exp	Neighborhood	NCore	Continuous Monitor	Difference by Broadband Spectroscopy	Jan-Dec	T640x
Meteorological	--	--	NCore	--	Wind speed, direction, ambient temperature, humidity	Jan-Dec	
Radiation	Pop. Exp	Urban	Rad Net	Continuous / Manual Monitor		Jan-Dec	Non NCore

V. *Network Tables:*

NETWORK DESIGN TABLES MISSISSIPPI

PM_{10}

Location	County	MSA	AQS ID	Monitoring Objective	Measurement Scale	MSA Min Required	Collocated	Type	Method	Schedule	Comment
Jackson NCore	Hinds	Jackson	28-049-0020	Pop. Exp.	Urban	1	No	Continuous	239	Jan-Dec	T640x

$PM_{2.5}$

Location	County	MSA	AQS ID	Monitoring Objective	Measurement Scale	MSA Min Required	Collocated	Type	Method	Schedule
Hernando	DeSoto	Memphis	28-033-0002	Transport	Urban	1	No	Continuous	236 T640	Jan-Dec
Hattiesburg	Forrest	Hattiesburg	28-035-0004	Pop. Exp.	Neighborhood	1	Yes	Manual (1/6 day) collocated Continuous	145 SEQ 236 T640	Jan-Dec Jan-Dec
Waveland	Hancock	Gulf/Biloxi	28-045-0003	Pop. Exp.	Neighborhood	0	No	Continuous	236 T640	Jan-Dec
Gulfport	Harrison	Gulf/Biloxi	28-047-0008	Pop. Exp.	Neighborhood	1	No	Continuous	236 T640	Jan-Dec
Pascagoula	Jackson	Pascagoula	28-059-0006	Pop. Exp.	Neighborhood	0	No	Continuous	236 T640	Jan-Dec
Jackson NCore	Hinds	Jackson	28-049-0020	Pop. Exp.	Neighborhood	1	No	Manual (3 Day) Continuous (primary) PM10-2.5	145 SEQ 238 T640x 240 T640x	Jan-Dec Jan-Dec Jan-Dec
Jackson	Hinds	Jackson	28-049-0021	Pop. Exp.	Neighborhood	1	No	Continuous	236 T640	Jan-Dec
Cleveland	Bolivar	N/A	28-011-0002	Background	Neighborhood	1	No	Continuous	236 T640	Jan-Dec

Comments: All manual monitors are FRM and classified as SLAMS. The continuous FEM monitors will be primary.

SO_2

Location	County	MSA	AQS ID	Monitoring Objective	Measurement Scale	MSA Min Required	Type	Method	Schedule
Jackson NCore	Hinds	Jackson	28-049-0020	Pop. Exp.	Neighborhood	1	Continuous	600	Jan-Dec
Pascagoula	Jackson	Pascagoula	28-059-0006	Pop. Exp.	Neighborhood	0	Continuous	060	Jan-Dec

Comments: All monitors are classified as SLAMS

NO_x/NO_y

Location	County	MSA	AQS ID	Monitoring Objective	Measurement Scale	MSA Min Required	Type	Method	Schedule
Jackson NCore	Hinds	Jackson	28-049-0020	Pop. Exp.	Neighborhood /Urban	1	Continuous	599	Jan-Dec
Pascagoula	Jackson	Pascagoula	28-059-0006	Pop. Exp.	Neighborhood	0	Continuous	200	Jan-Dec

Comments: All monitors are classified as SLAMS

CO

Location	County	MSA	AQS ID	Monitoring Objective	Measurement Scale	MSA Min Required	Type	Method	Schedule
Jackson NCore	Hinds	Jackson	28-049-0020	Pop. Exp.	Neighborhood	1	Continuous	055	Jan-Dec

OZONE

Location	County	MSA	AQS ID	Monitoring Objective	Measurement Scale	MSA Min Required	Type	Method	Schedule
Cleveland	Bolivar	N/A	28-011-0002	Pop. Exp.	Urban	0	Continuous	UV Absorp	Mar - Oct
Gulfport	Harrison	Gulf/Biloxi	28-047-0008	Pop. Exp.	Urban	1	Continuous	UV Absorp	Mar - Oct
Waveland	Hancock	Gulf/Biloxi	28-045-0003	Pop. Exp.	Urban	0	Continuous	UV Absorp	Mar - Oct
Hernando	DeSoto	Memphis	28-033-0002	Pop. Exp.	Urban	1	Continuous	UV Absorp	Mar - Oct
Jackson	Hinds	Jackson	28-049-0021	Pop. Exp.	Urban	1	Continuous	UV Absorp	Mar - Oct
Jackson NCore	Hinds	Jackson	28-049-0020	Pop. Exp.	Urban	1	Continuous	UV Absorp	Jan - Dec
Meridian	Lauderdale	N/A	28-075-0003	Pop. Exp.	Urban	0	Continuous	UV Absorp	Mar - Oct
Pascagoula	Jackson	Pascagoula	28-059-0006	Pop. Exp.	Urban	1	Continuous	UV Absorp	Mar - Oct
Tupelo	Lee	N/A	28-081-0005	Pop. Exp.	Urban	0	Continuous	UV Absorp	Mar - Oct

Comments: All monitors are classified as SLAM

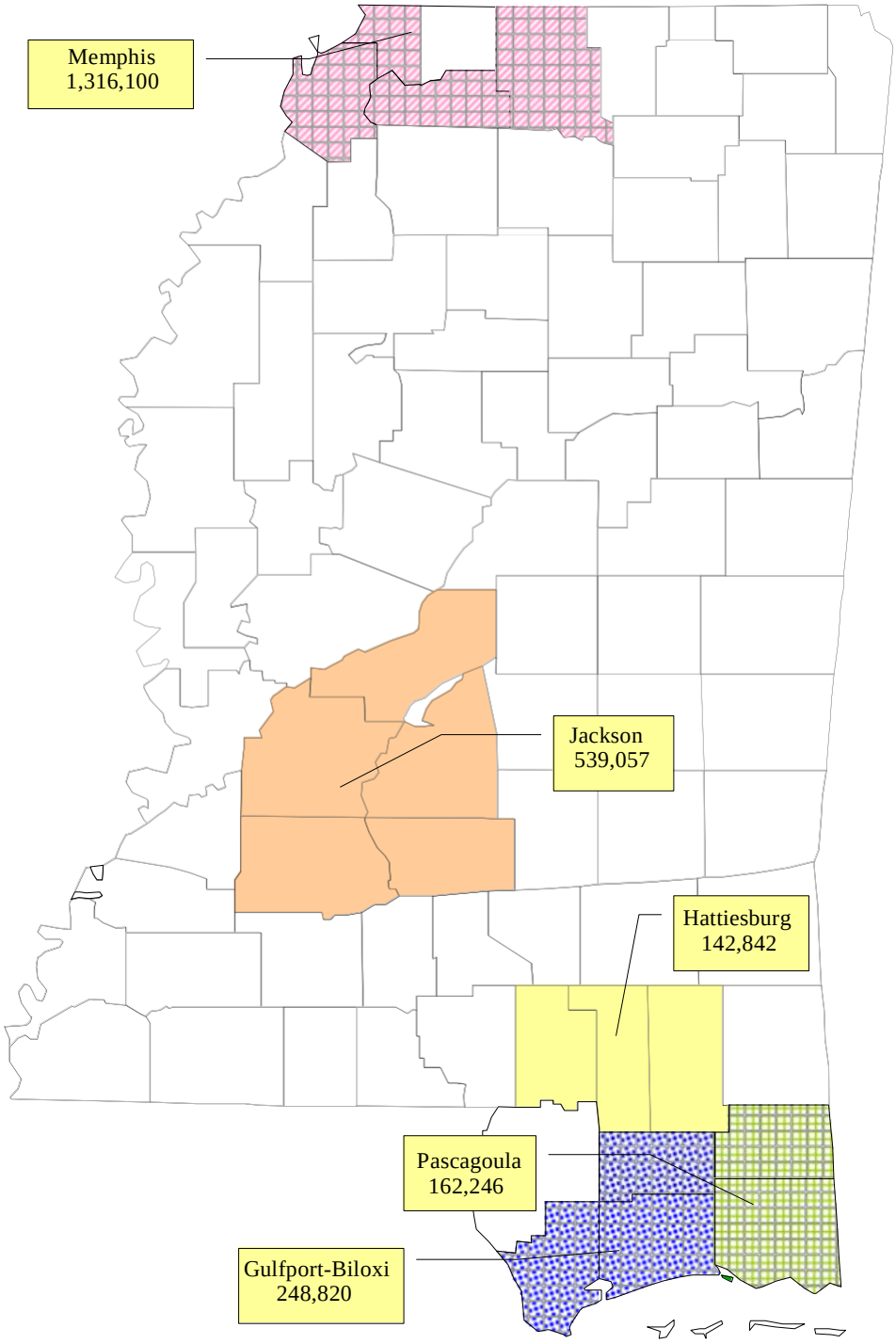
Site Location Coordinates

#	SITE ID	LAT			LONG			NAME	COUNTY	ADDRESS
1	28-011-0002	33	45	3	90	44	3	CLEVELAND	BOLIVAR	HWY 8 Cleveland (Delta State)
2	28-033-0002	34	49	14	89	59	16	HERNANDO	DESOTO	5 East South St.
3	28-035-0004	31	19	26	89	17	32	HATTIESBURG	FORREST	101 Ferguson St.
4	28-045-0003	30	18	4	89	23	45	WAVELAND	HANCOCK	400 Baltic St.
5	28-047-0008	30	23	24	89	2	59	GULFPORT YC	HARRISON	47 Maples Dr.
6	28-049-0021	32	19	14	90	10	50	HINDS CC	HINDS	3925 Sunset Dr.
7	28-049-0020	32	19	45	90	10	58	JACKSON NCORE	HINDS	232 E Woodrow Wilson
8	28-059-0006	30	22	41	88	32	2	PASCAGOULA	JACKSON	Hospital Rd. and Vega St.
9	28-075-0003	32	21	52	88	43	53	MERIDIAN	LAUDERDALE	Hwy 19 and 53rd Ave.
10	28-081-0005	34	15	54	88	45	58	TUPELO	LEE	West Jackson at Tupelo Airport

Appendix I

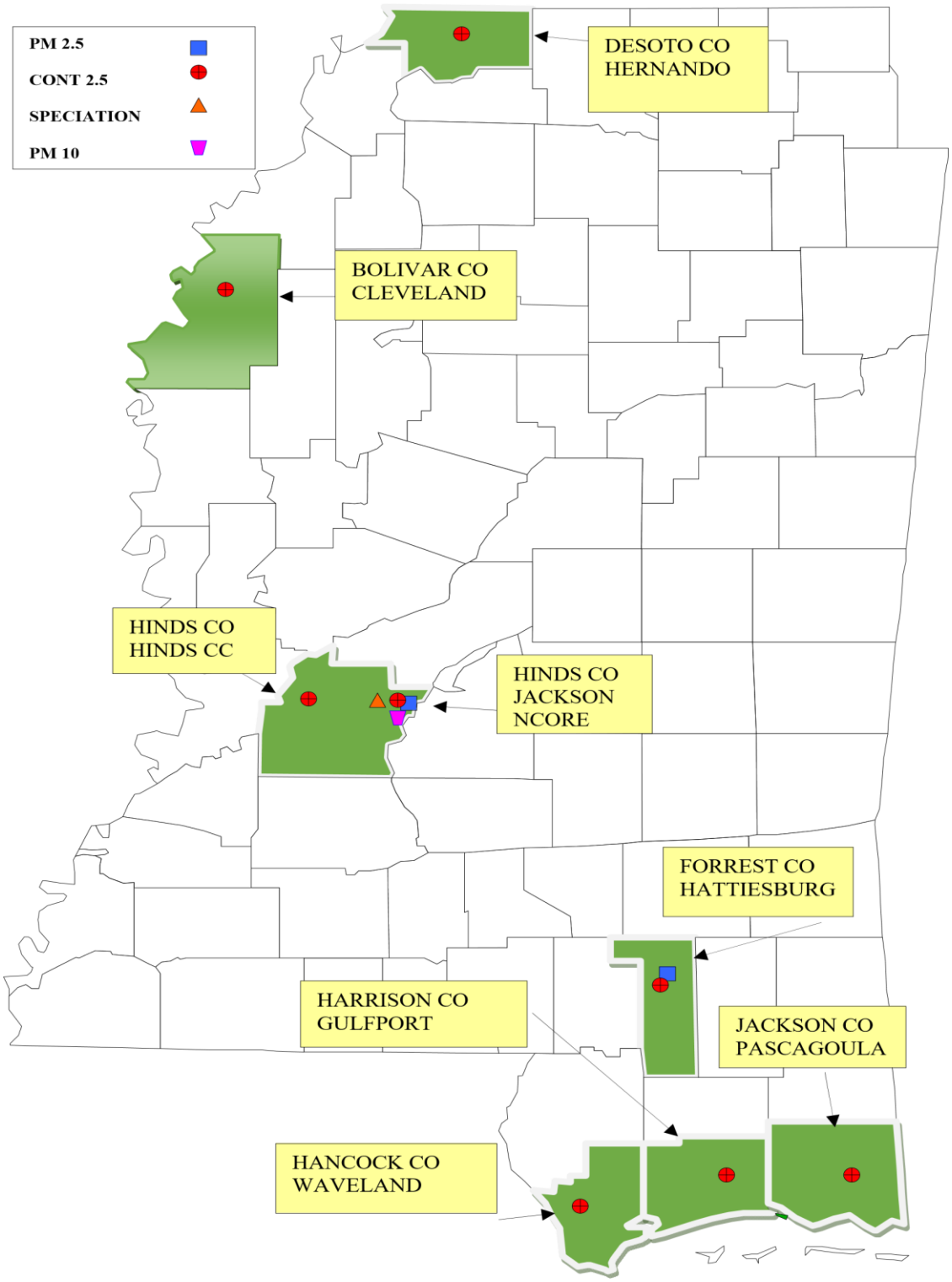
MSA and Pollutant Maps

MSA MAP:

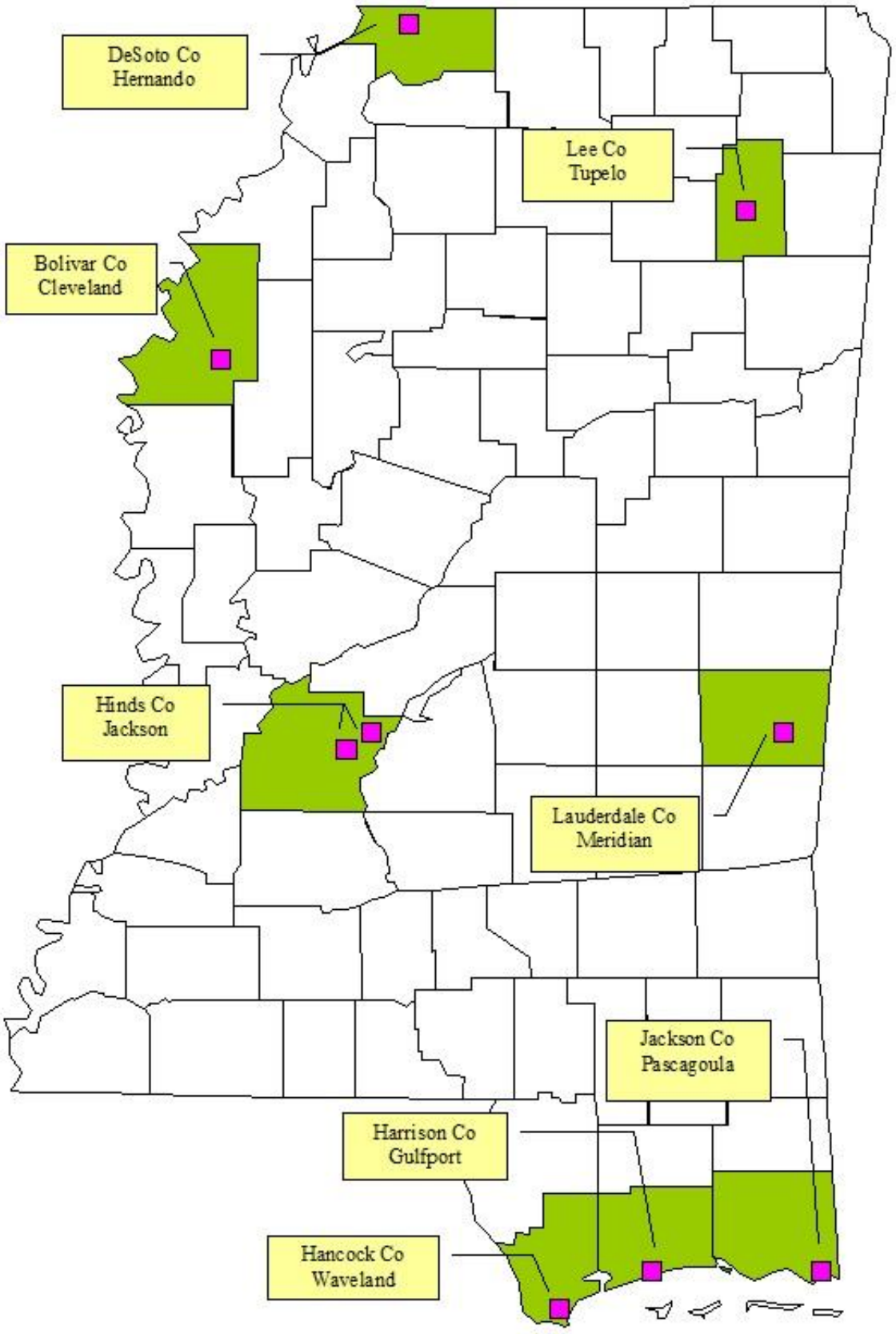


MISSISSIPPI MSA AREAS

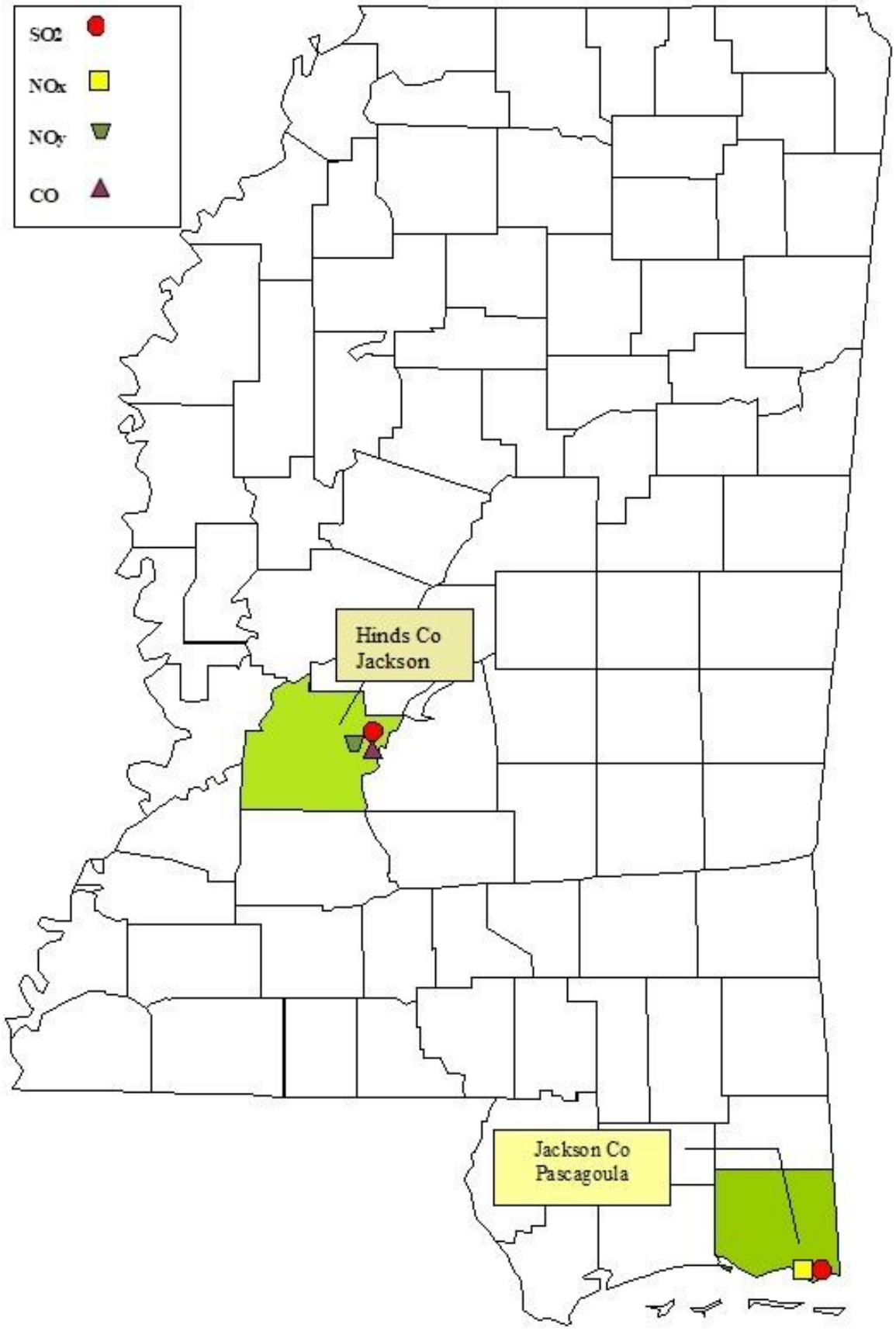
MEMPHIS – DeSoto, Tunica, Marshall, Tate
JACKSON – Hinds, Rankin, Copiah, Simpson, Madison
HATTIESBURG – Lamar, Forrest, Perry GULFPORT-BILOXI – Hancock, Harrison, Stone PASCAGOULA – Jackson, George



MDEQ PARTICUALTE SITES-2019



MDEQ Ozone Sites - 2019



MDEQ SO2 / NOx/ NOy/ CO SITES - 2019

Appendix II

Site Maps and Photos

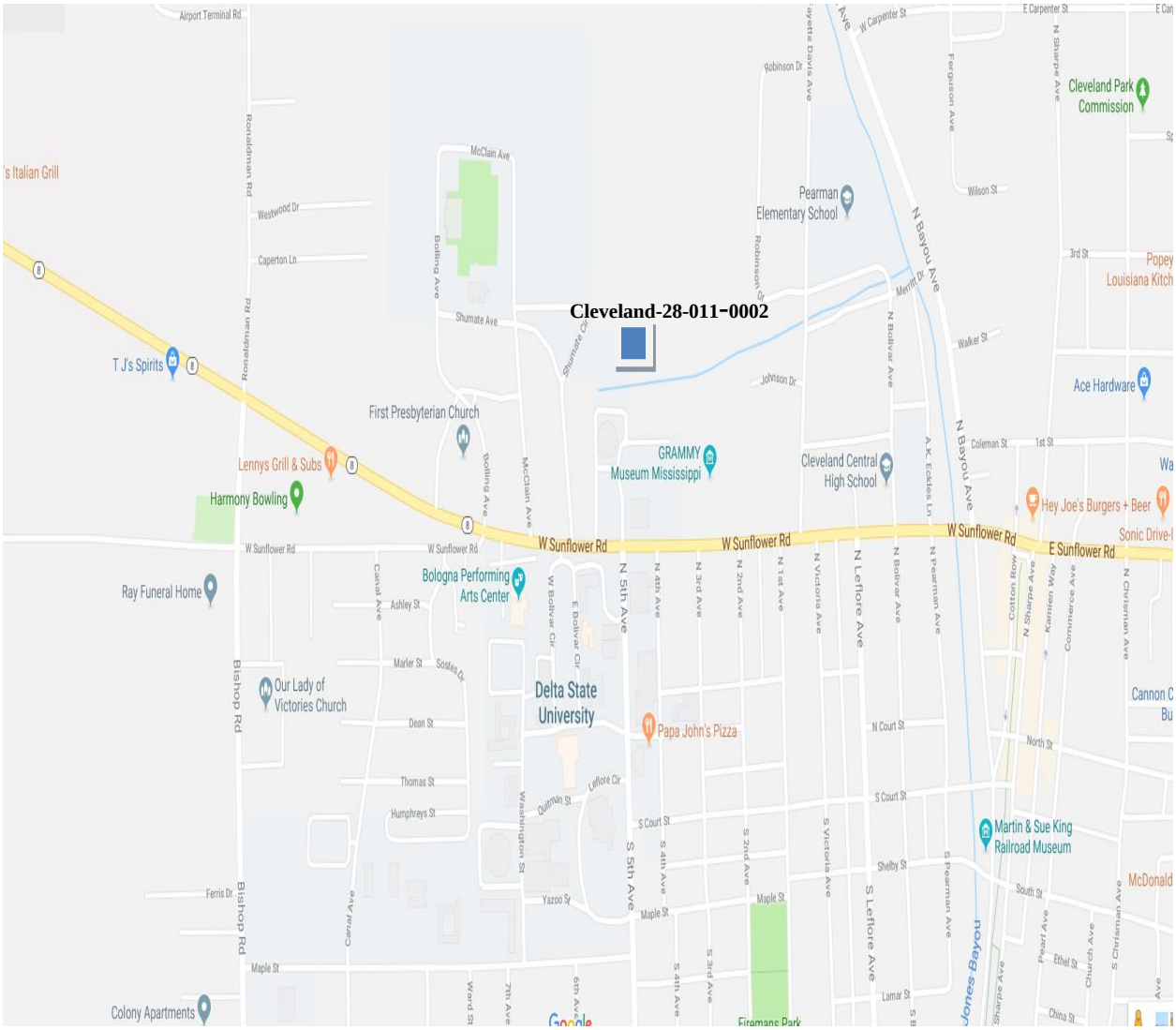
Cleveland - N

Cleveland - E

Cleveland - S

Cleveland – W

Cleveland 28-011-0002


Cleveland-28-011-0002
Airport Terminal Rd
Ronaldsman Rd
Westwood Dr
Caperton Ln
McClain Ave
Bolling Ave
Shumate Ave
Robinson Dr
W Carpenter St
Ferguson Ave
Cleveland Park Commission
Pearman Elementary School
Wilson St
N Bayou Ave
3rd St
Merrit Dr
Walker St
Johnson Dr
Ace Hardware
Coleman St
1st St
A.K. Eckles Ln
Cleveland Central High School
GRAMMY Museum Mississippi
First Presbyterian Church
Lennys Grill & Subs
Harmony Bowling
T J's Spirits
W Sunflower Rd
E Sunflower Rd
Hey Joe's Burgers + Beer
Ray Funeral Home
Bologna Performing Arts Center
Ashley St
Canal Ave
W Bolivar Cir
E Bolivar Cir
N 5th Ave
N 4th Ave
N 3rd Ave
N 2nd Ave
N 1st Ave
N Victoria Ave
N Leflore Ave
N Bolivar Ave
N Pearman Ave
Cotton Row
N Sharpe Ave
Kamien Way
Commerce Ave
N Chrisman Ave
Bishop Rd
Marler St
Sostes Dr
Our Lady of Victories Church
Dean St
Delta State University
Papa John's Pizza
N Court St
North St
Thomas St
Humphreys St
Leflore Cir
Quitman St
Washington St
S Court St
S 5th Ave
S 4th Ave
S 2nd Ave
S Victoria Ave
S Leflore Ave
Martin & Sue King Railroad Museum
Shelby St
South St
McDonald
Ferris Dr
Canal Ave
Yazoo St
Maple St
Colony Apartments
Ward St
7th Ave
6th Ave
S 3rd Ave
Jones Bayou
Pearl Ave
Ethel St
Church Ave
S Chrisman Ave
Lamar St
Sharpe Ave
China St
Firemans Park
Google


Tim & Nancy Harvey Stadium at Dave " Boo...
Robinson Dr
Cleveland 28-011-0002
Shumate Cir
Shumate Cir
Walter Sillers Coliseum
GRAMMY Museum Mississippi
Interactive exhibits &...
Office of Admissions
McClain Ave
Shumate Cir
ATM
W Sunflower Rd
W Sunflower Rd
W Sunflower Rd

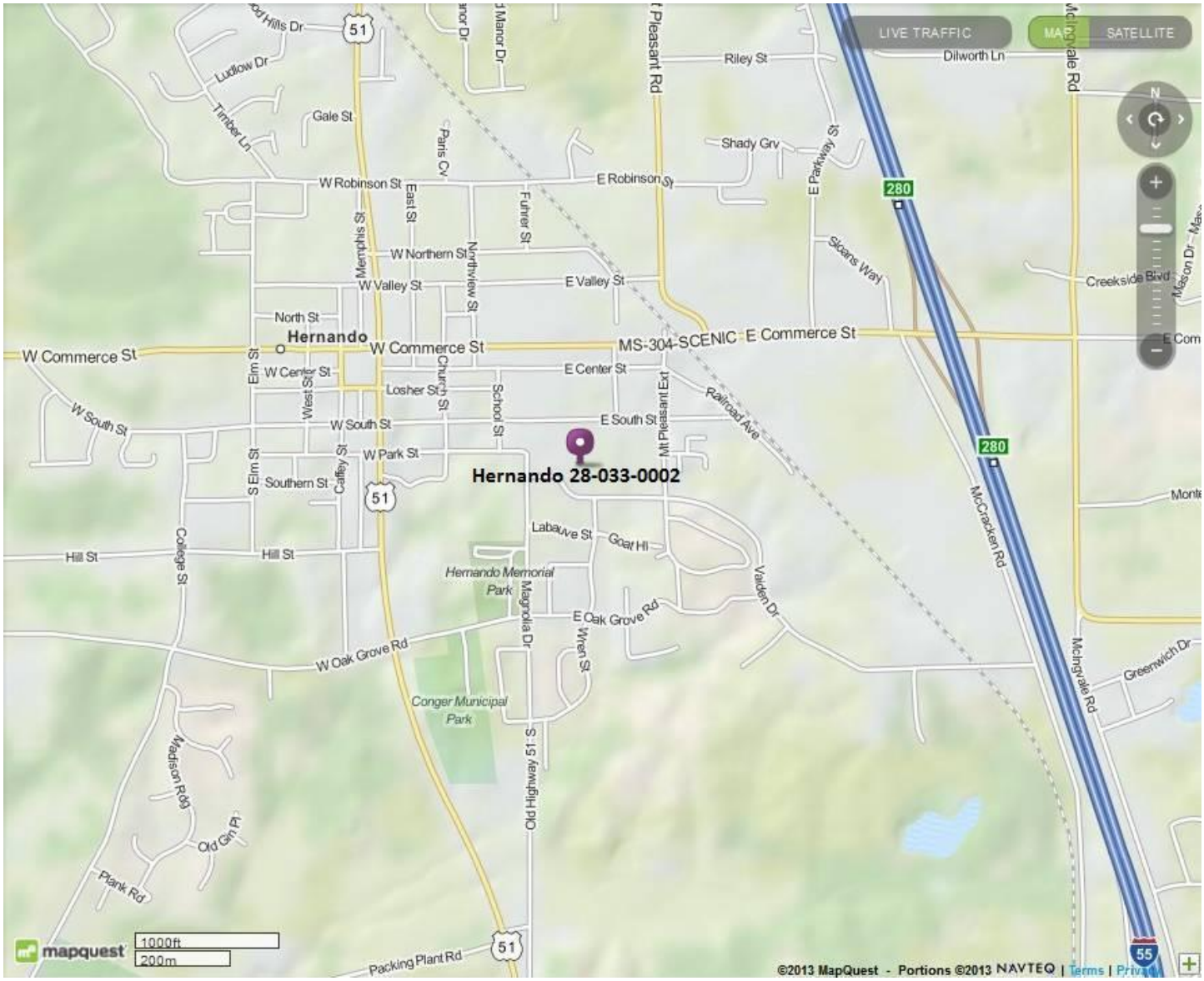
Hernando - N

Hernando - E

Hernando - S

Hernando -W

Hernando 28-033-0002


LIVE TRAFFIC
MAP
SATELLITE
Hernando 28-033-0002
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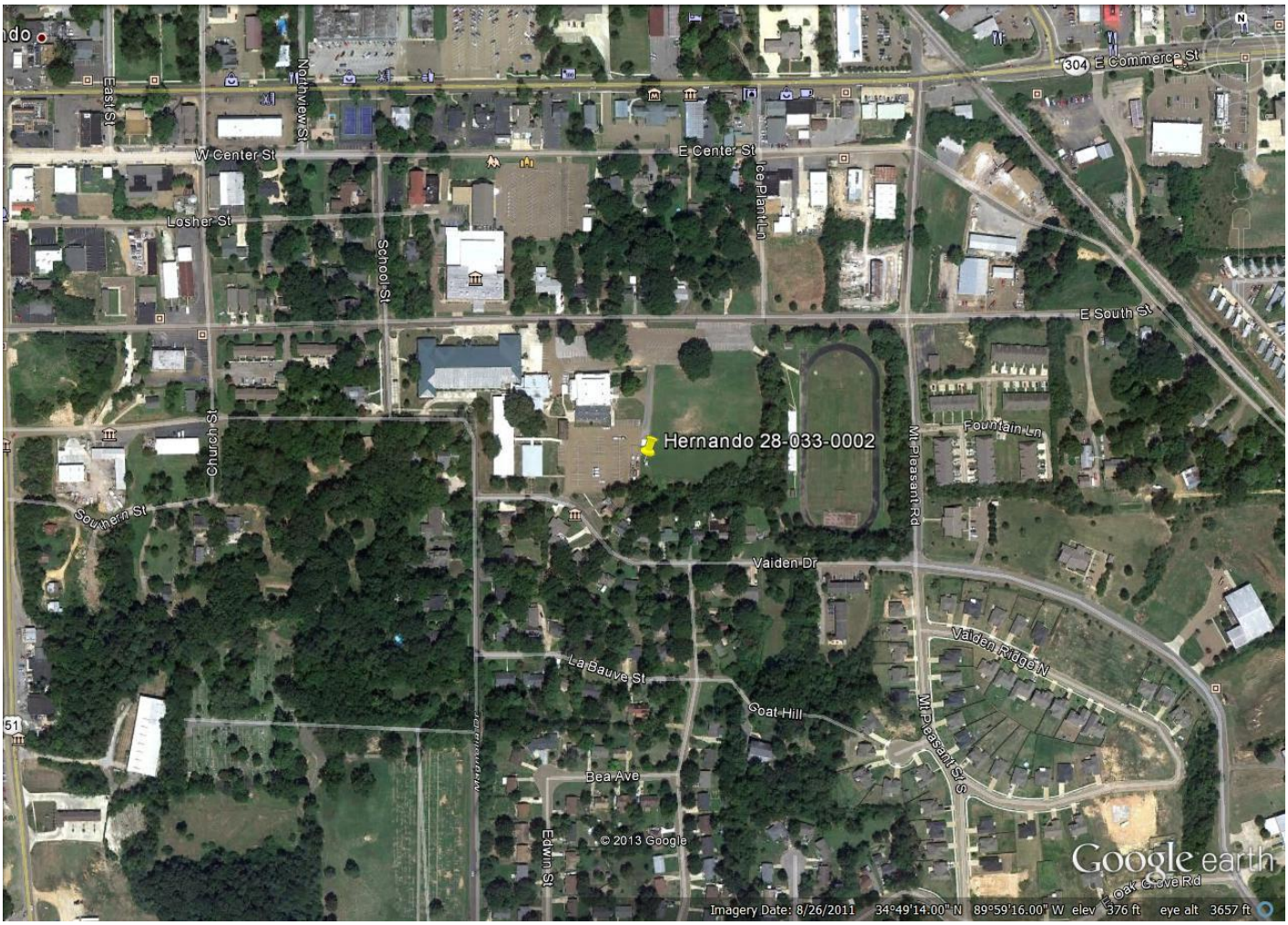
E Commerce St
W Robinson St
E Robinson St
W Northern St
W Valley St
E Valley St
North St
W Center St
E Center St
Losher St
W South St
E South St
W Park St
Southern St
Hill St
Hernando Memorial Park
Conger Municipal Park
W Oak Grove Rd
E Oak Grove Rd
Packing Plant Rd
Plank Rd
Old Gin Pl
Madison Rd
Old Highway 51 S
Gale St
Ludlow Dr
Timber Ln
Riley St
Dilworth Ln
Shady Grv
Sloans Way
Creekside Blvd
Railroad Ave
Mt Pleasant Ext
Pleasant Rd
Paris Cv
East St
Memphis St
Northview St
Fulmer St
Church St
School St
West St
Elm St
S Elm St
Caffey St
College St
Magnolia Dr
Wren St
Valden Dr
Goat Hl
Labauve St
McCracken Rd
McIngvale Rd
Greenwich Dr
Mason Dr
Parkway St
280
55
51
1000ft
200m
mapquest
©2013 MapQuest - Portions ©2013 NAVTEQ | Terms | Privacy


Hernando 28-033-0002
E Commerce St
304
East St
Northview St
W Center St
E Center St
Ice Plant Ln
Losher St
School St
E South St
Church St
Fountain Ln
Mt Pleasant Rd
Southern St
Vaiden Dr
Vaiden Ridge N
La Bauve St
Goat Hill
Mt Pleasant St S
Bea Ave
Edwin St
E Oak Grove Rd
51
© 2013 Google
Google earth
Imagery Date: 8/26/2011 34°49'14.00" N 89°59'16.00" W elev 376 ft eye alt 3657 ft

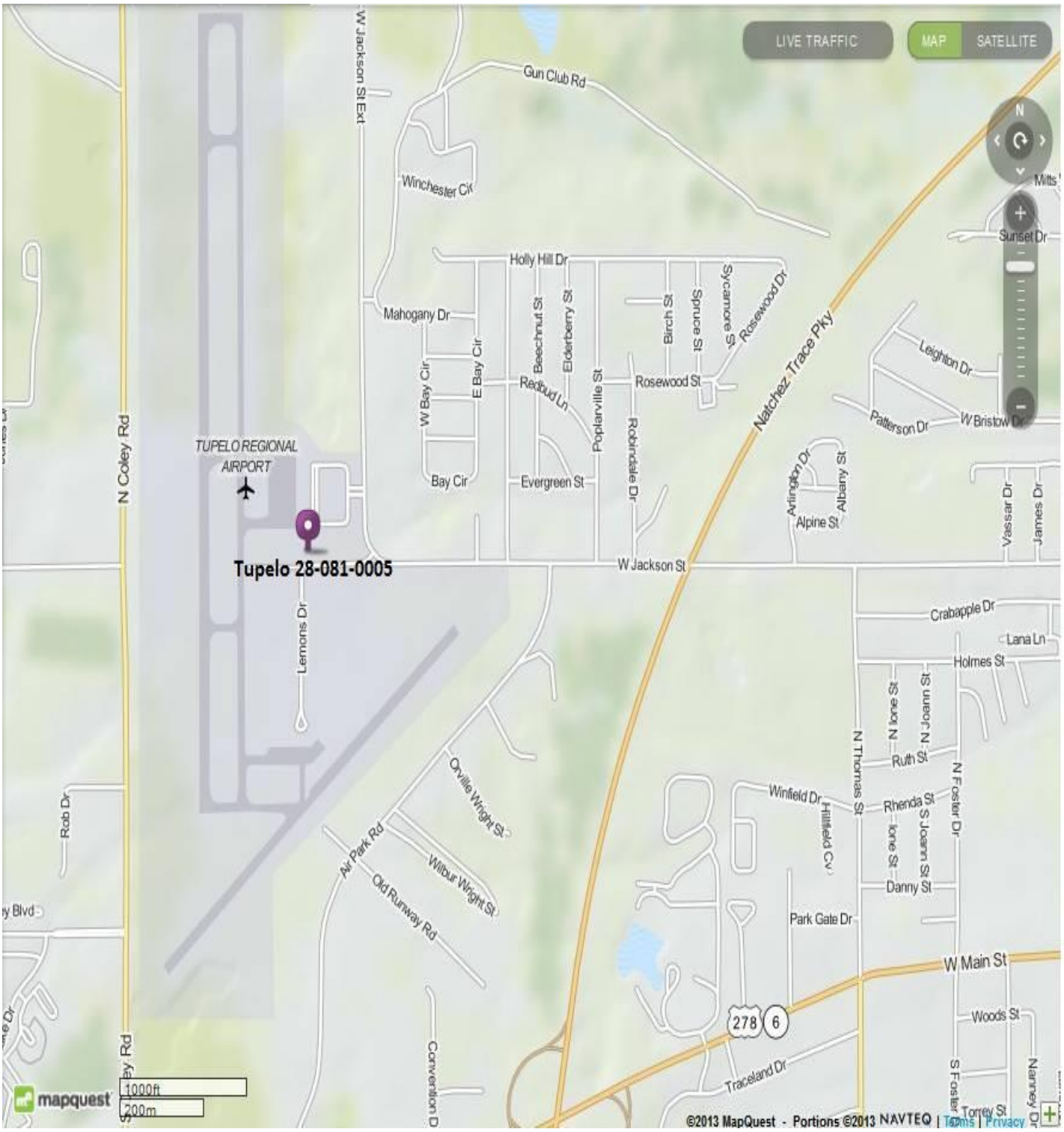
Tupelo - N

Tupelo - E

Tupelo - S

Tupelo - W

Tupelo 28-08-0005


LIVE TRAFFIC
MAP
SATELLITE
Gun Club Rd
W Jackson St Ext
Winchester Cir
Holly Hill Dr
Mahogany Dr
W Bay Cir
E Bay Cir
Beechnut St
Elderberry St
Redbud Ln
Poplarville St
Rhododendron Dr
Birch St
Spruce St
Sycamore St
Rosewood Dr
Rosewood St
Natchez Trace Pky
Leighton Dr
Patterson Dr
W Bristow Dr
Sunset Dr
N Coley Rd
TUPELO REGIONAL AIRPORT
Tupelo 28-081-0005
Bay Cir
Evergreen St
Arlington Dr
Albany St
Alpine St
Vassar Dr
James Dr
W Jackson St
Lemons Dr
Crabapple Dr
Lana Ln
Holmes St
N Thomas St
N Joann St
N Ione St
Ruth St
N Foster Dr
Winfield Dr
Hillfield Cv
Rhenda St
S Joann St
Ione St
Danny St
Park Gate Dr
Orville Wright St
Air Park Rd
Wilbur Wright St
Old Runway Rd
Rob Dr
W Main St
278
6
Woods St
Traceland Dr
S Foster Dr
Torrey St
Convention D
mapquest
1000ft
200m
©2013 MapQuest - Portions ©2013 NAVTEQ | Terms | Privacy


Mahogany Dr
W Jackson Street Extended
Sourwood Dr
E Bay Cir
Persimmon Dr
Huckleberry Trail
Bay Cir
Beechnut St
Elderberry St
Redbud Ln
Hickory Dr
Evergreen St
Holly Hill Dr
Poplarville St
Tupelo 28-081-0005
W Jackson St
Lemons Dr
Coley Rd
AO Park Rd
© 2013 Google
Google earth
Imagery Date: 10/28/2012 34°15'56.88" N 88°45'50.19" W elev 342 ft eye alt 5372 ft

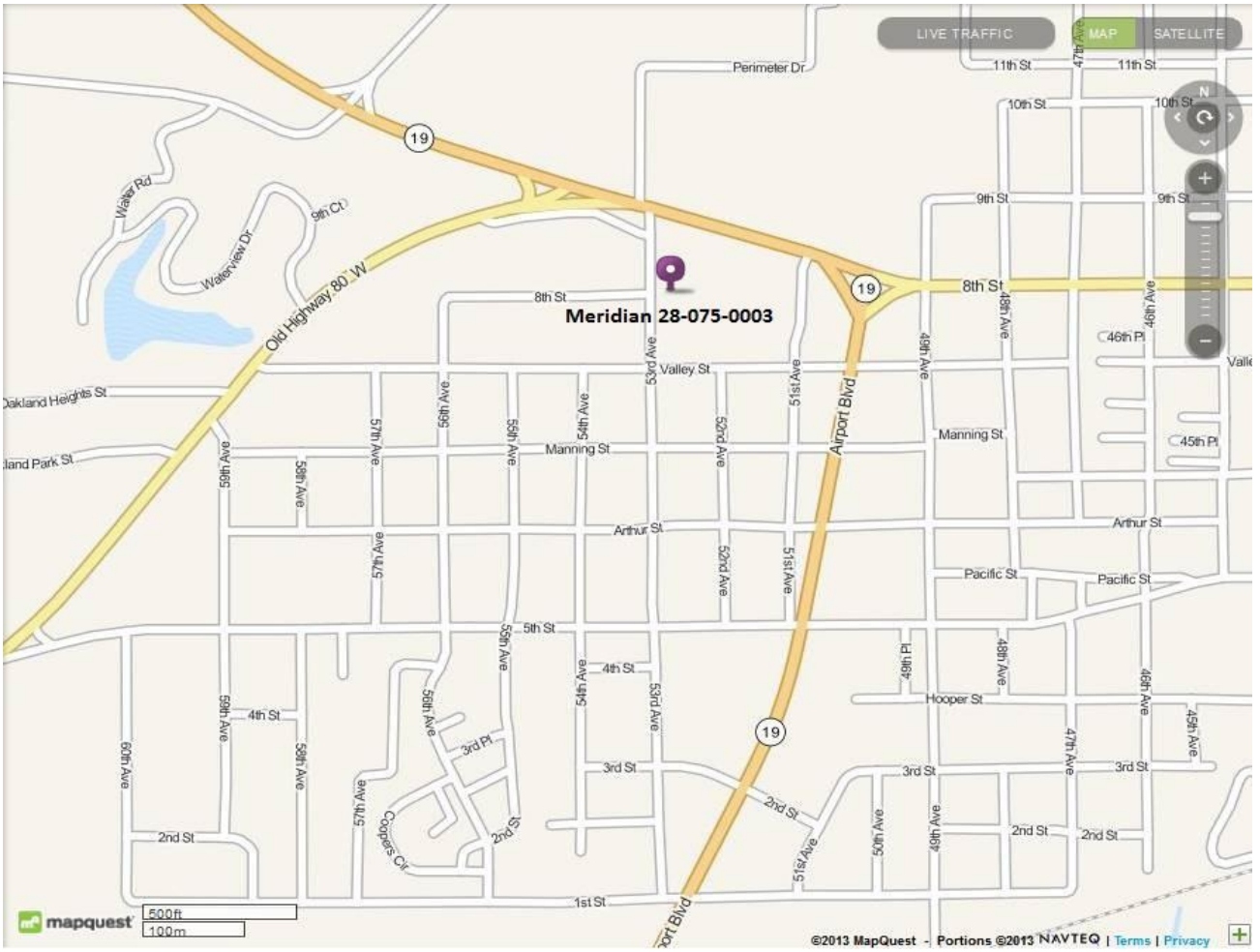
Meridian - N

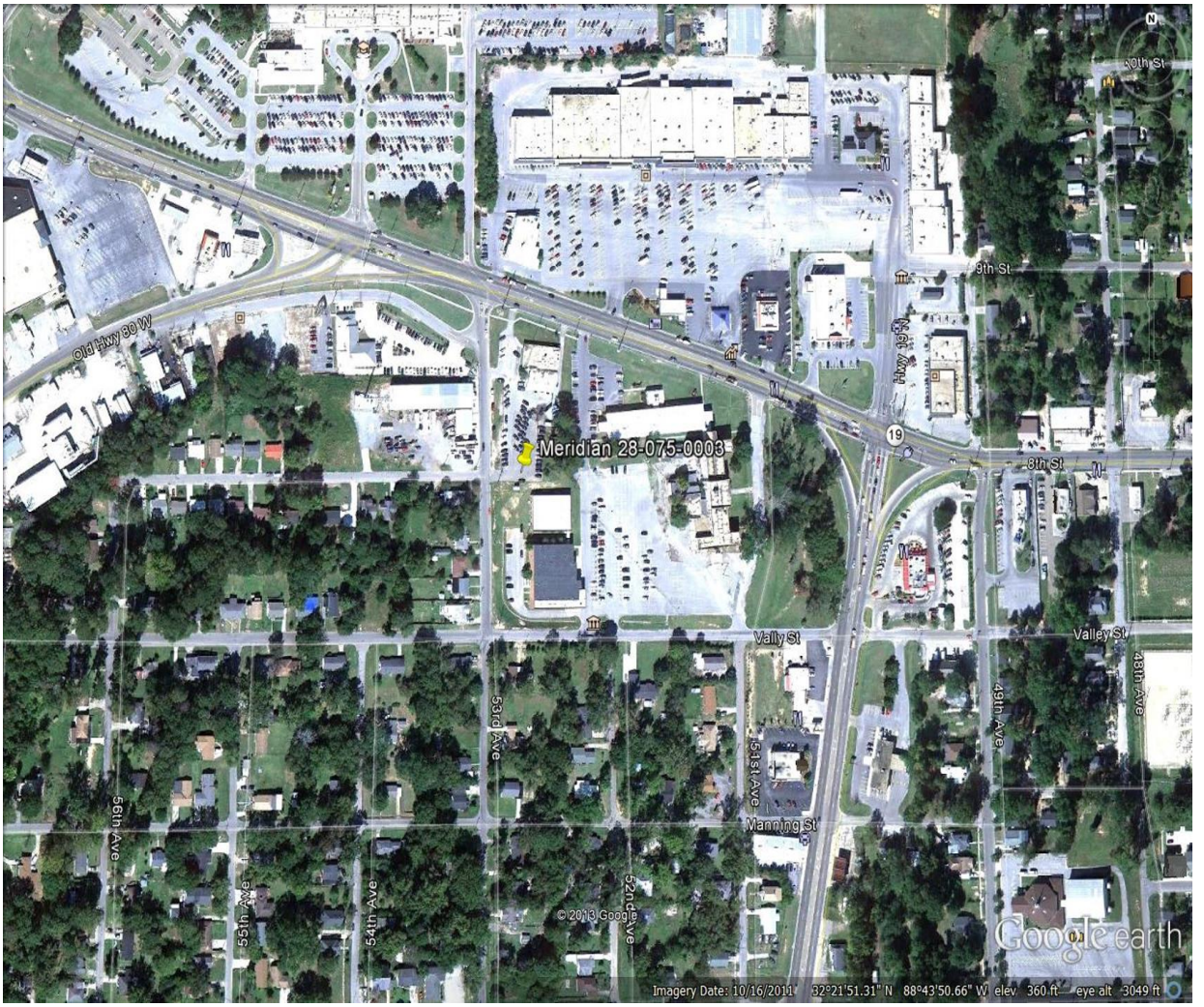
Meridian - E

Meridian - S

Meridian - W

Meridian 28-075-0003


LIVE TRAFFIC
MAP
SATELLITE
Meridian 28-075-0003
Perimeter Dr
11th St
10th St
9th St
8th St
Old Highway 80 W
Water Rd
9th Ct
Waterview Dr
Oakland Heights St
Valley St
Manning St
Arthur St
Pacific St
Hooper St
5th St
4th St
3rd St
2nd St
1st St
Airport Blvd
Cooper's Cir
45th Pl
46th Pl
45th Ave
46th Ave
47th Ave
48th Ave
49th Ave
50th Ave
51st Ave
52nd Ave
53rd Ave
54th Ave
55th Ave
56th Ave
57th Ave
58th Ave
59th Ave
60th Ave
19
mapquest
500 ft
100 m
©2013 MapQuest - Portions ©2013 NAVTEQ | Terms | Privacy


Meridian 28-075-0003
Old Hwy 80 W
9th St
8th St
Hwy 19 N
19
Vally St
Valley St
53rd Ave
51st Ave
49th Ave
48th Ave
56th Ave
55th Ave
54th Ave
52nd Ave
Manning St
© 2013 Google
Google earth
Imagery Date: 10/16/2011 32°21'51.31" N 88°43'50.66" W elev 360 ft eye alt 3049 ft

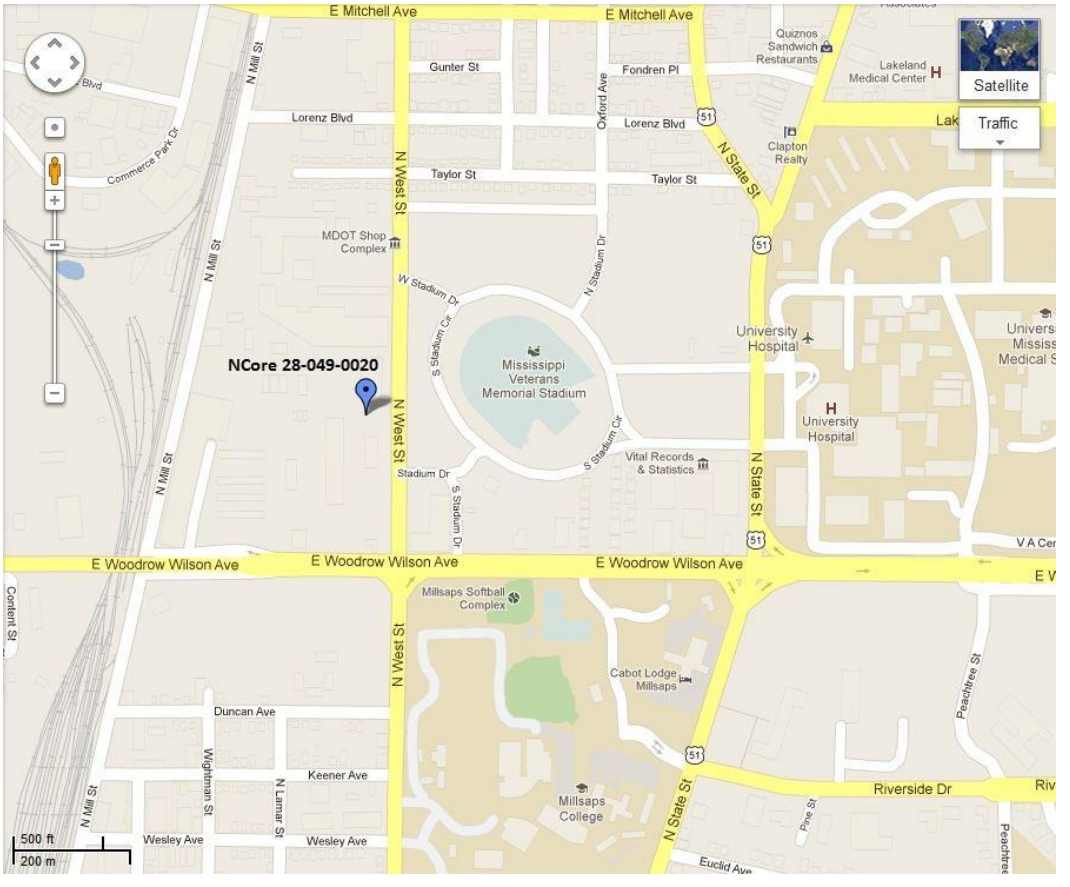
Jackson NCore - N

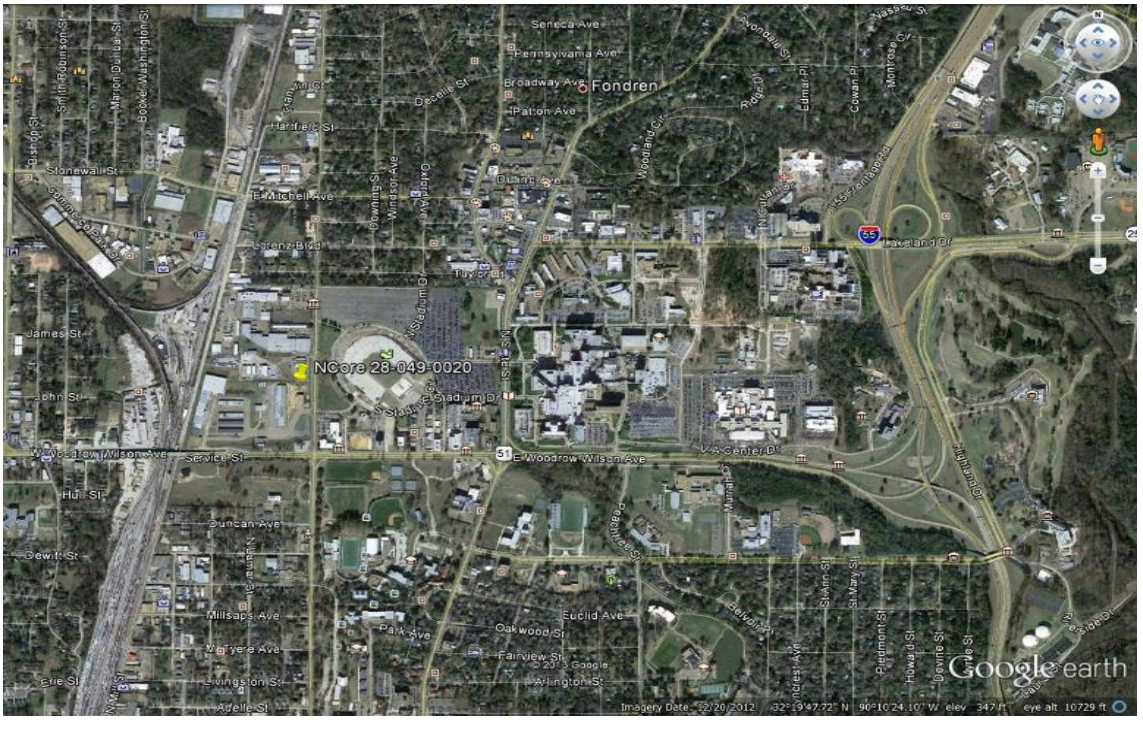
Jackson NCore - E

Jackson NCore - S

Jackson NCore - W

Jackson NCore 28-049-0020


E Mitchell Ave
E Mitchell Ave
Quiznos Sandwich Restaurants
Lakeland Medical Center
Satellite
Traffic
Gunter St
Fondren Pl
Oxford Ave
Lorenz Blvd
Lorenz Blvd
Clapton Realty
N Mill St
N West St
N State St
Taylor St
Taylor St
Commerce Park Dr
MDOT Shop Complex
W Stadium Dr
N Stadium Dr
S Stadium Cir
NCore 28-049-0020
Mississippi Veterans Memorial Stadium
University Hospital
University Hospital
Vital Records & Statistics
Stadium Dr
S Stadium Dr
E Woodrow Wilson Ave
E Woodrow Wilson Ave
E Woodrow Wilson Ave
Millsaps Softball Complex
Cabot Lodge Millsaps
Duncan Ave
Keener Ave
Wesley Ave
Wesley Ave
Millsaps College
Riverside Dr
Peachtree St
Euclid Ave
Content St
Wightman St
N Lamar St
Pine St
500 ft
200 m


Seneca Ave
Pennsylvania Ave
Broadway Ave
Fondren
Paton Ave
Stonewall St
E Mitchell Ave
Lorenz Blvd
James St
John St
NCore 28-049-0020
E Woodrow Wilson Ave
Service St
Hull St
Duncan Ave
Dewitt St
Millsaps Ave
Maryee Ave
Erie St
Livingston St
Adelle St
Park Ave
Oakwood St
Fairview St
Arlington St
Euclid Ave
Lakeland Dr
V A Center Dr
Highland Dr
Piedmont St
Howard St
Irvine St
Google earth
Imagery Date: 2/20/2012 32° 19' 47.72" N 90° 10' 24.10" W elev 347 ft eye alt 10729 ft

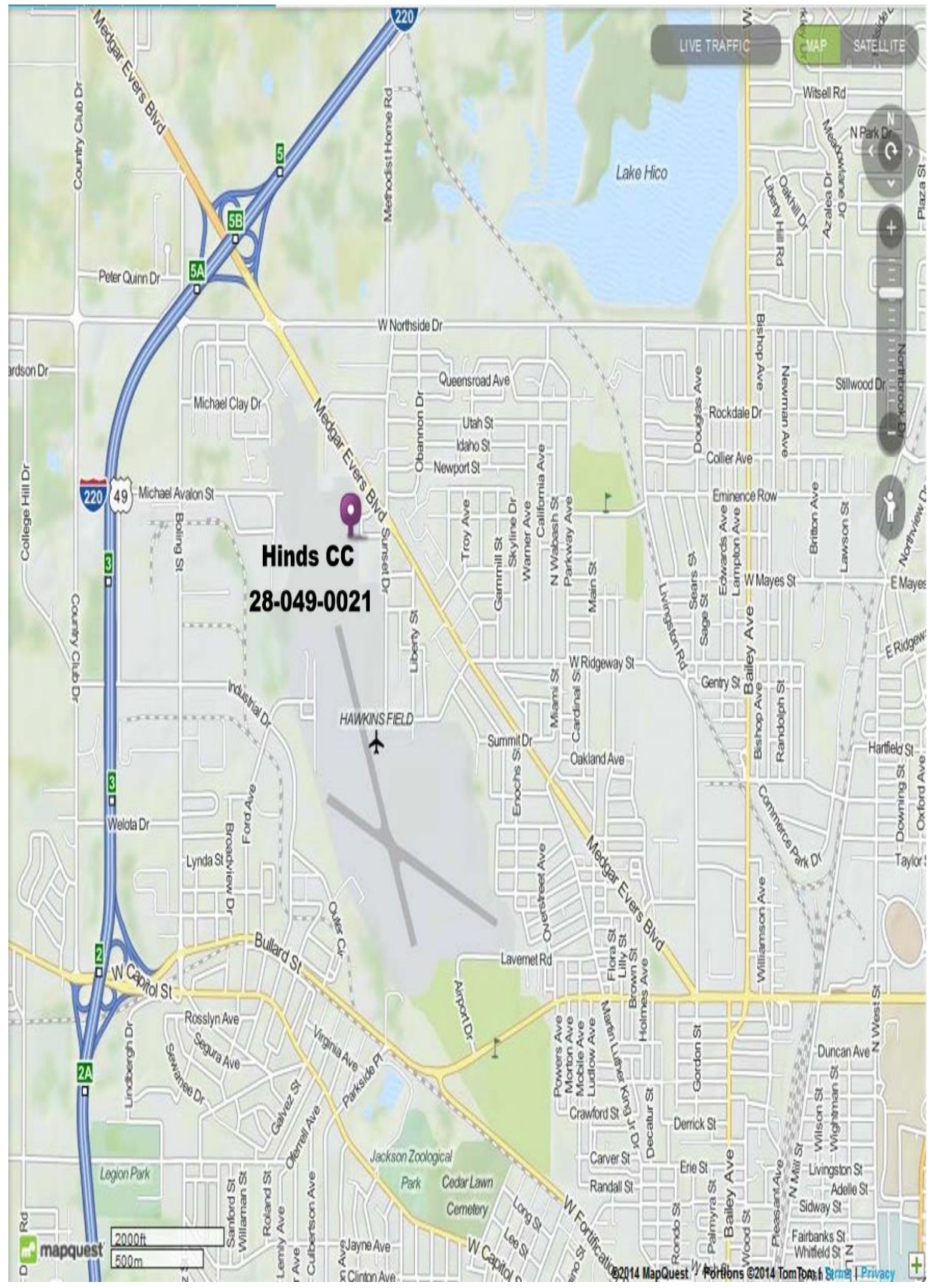
Hinds CC - N

Hinds CC - E

Hinds CC - S

Hinds CC - W

Hinds CC 28-049-0021


Hinds CC
28-049-0021
Medgar Evers Blvd
Country Club Dr
Methodist Home Rd
Lake Hico
Peter Quinn Dr
W Northside Dr
Michael Clay Dr
Queensroad Ave
Utah St
Idaho St
Newport St
Michael Avalon St
Sunset Dr
Troy Ave
Gannmill St
Skyline Dr
Warner Ave
California Ave
N Wabash St
Parkway Ave
Main St
Rockdale Dr
Collier Ave
Eminence Row
W Mayes St
E Mayes
W Ridgeway St
Gentry St
Bailey Ave
Sears St
Sage St
Edwards Ave
Lampton Ave
Briton Ave
Lawson St
Bishop Ave
Newman Ave
Stillwood Dr
Northbrook Dr
Witsell Rd
N Park Dr
Meadowlane Dr
Azalea Dr
Oakhill Dr
Liberty Hill Rd
Plaza St
Northview Dr
Industrial Dr
HAWKINS FIELD
Summit Dr
Oakland Ave
Enochs St
Miami St
Cardinal St
Liberty St
Hartfield St
Downing St
Oxford Ave
Taylor St
Commerce Park Dr
Williamson Ave
Welota Dr
Lynda St
Broadview Dr
Ford Ave
Overstreet Ave
Medgar Evers Blvd
Bullard St
W Capitol St
Lavernet Rd
Airport Dr
Flora St
Lilly St
Brown St
Holmes Ave
Martin Luther King Jr Dr
Powers Ave
Morton Ave
Mobile Ave
Ludlow Ave
Crawford St
Gordon St
Duncan Ave
N West St
Derrick St
Carver St
Decatur St
Erie St
Randall St
Rondo St
Palmyra St
Wood St
Pleasant Ave
N Mill St
Livingston St
Adelle St
Sidway St
Fairbanks St
Whitfield St
Wilson St
Wigham St
Rosslyn Ave
Segura Ave
Sewaniee Dr
Virginia Ave
Parkside Pl
Galvez St
Glenrall Ave
Lindabergh Dr
College Hill Dr
Baird St
Ford Ave
Otter Cr
Overstreet Ave
Jackson Zoological Park
Cedar Lawn Cemetery
Long St
Lee St
W Fortification St
Legion Park
Sanford St
Williaman St
Roland St
Lemly Ave
Culbertson Ave
Jayne Ave
Clinton Ave
220
49
3
5
5B
5A
2
2A
2000ft
500m
mapquest
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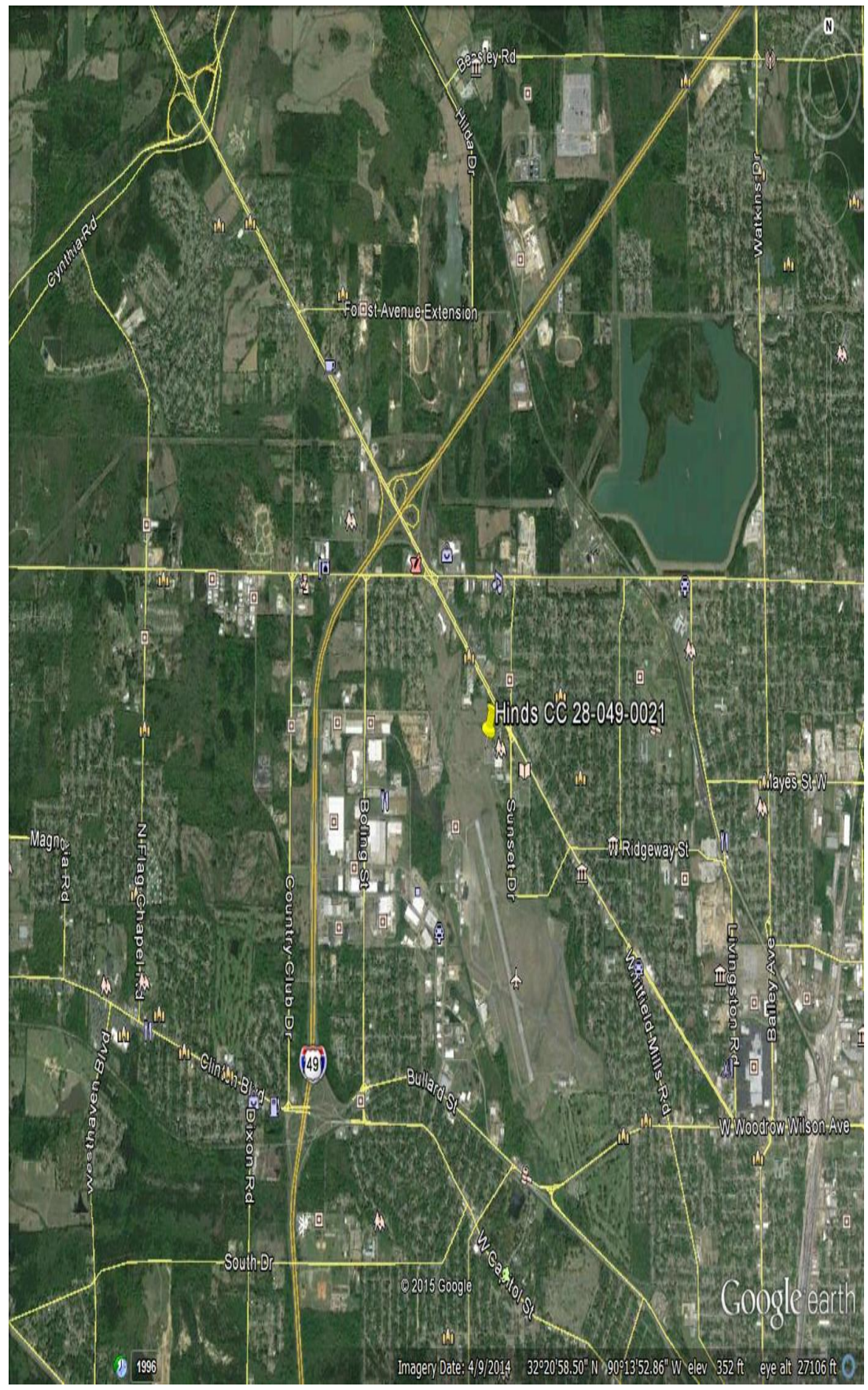

Beasley Rd
Hilda Dr
Watkins Dr
Cynthia Rd
Forest Avenue Extension
Hinds CC 28-049-0021
Hayes St W
W Ridgeway St
Sunset Dr
Bolling St
Country Club Dr
Magnolia Rd
N Flag Chapel Rd
Westhaven Blvd
Clinton Blvd
Dixon Rd
49
Bullard St
Whitfield Mills Rd
Livingston Rd
Bailey Ave
W Woodrow Wilson Ave
South Dr
W Capitol St
© 2015 Google
Google earth
1996
Imagery Date: 4/9/2014 32°20'58.50" N 90°13'52.86" W elev 352 ft eye alt 27106 ft

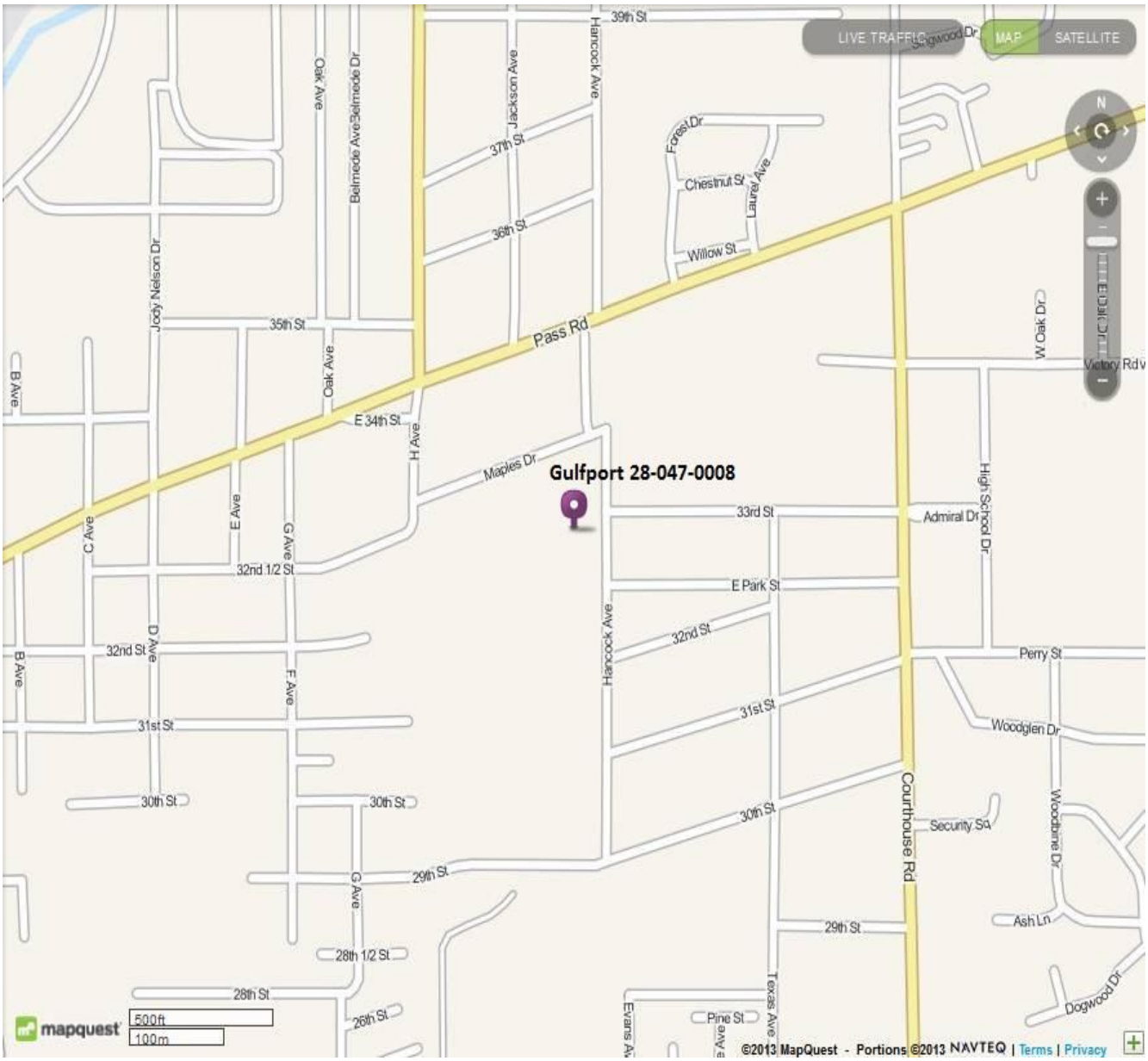
Gulfport - N

Gulfport - E

Gulfport - S

Gulfport - W

Gulfport 28-047-0008


Gulfport 28-047-0008
LIVE TRAFFIC
MAP
SATELLITE
Pass Rd
39th St
37th St
36th St
35th St
E 34th St
33rd St
32nd 1/2 St
32nd St
31st St
30th St
29th St
28th 1/2 St
28th St
26th St
Maples Dr
E Park St
Perry St
Woodglen Dr
Security Sq
Courthouse Rd
High School Dr
Admiral Dr
W Oak Dr
Victory Rd
Chestnut St
Willow St
Forest Dr
Laurel Ave
Oak Ave
Belmede Ave
Jackson Ave
Hancock Ave
Jody Nelson Dr
B Ave
C Ave
D Ave
E Ave
F Ave
G Ave
H Ave
Ash Ln
Woodbine Dr
Dogwood Dr
Texas Ave
Pine St
Evans Ave
500ft
100m
mapquest
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37th St
36th St
Chestnut St
Laurel Ave
Forest Dr
Jackson Ave
Washington Ave
Bismarck Dr
Oak Ave
Jody N Sisson Dr
Pass Rd
E 34th St
H Ave
Maples Cir
Gulfport 28-047-0008
33rd St
Courthouse Rd
W Oak Dr
High School Dr
Admiral Dr
E Ave
32nd 1/2 St
El Park St
32nd St
31st St
Hancock Ave
30th 1/2 St
F Ave
30th St
29th St
© 2013 Google
Security Square
Google earth
Imagery Date: 11/10/2011 30°23'25.13" N 89°02'58.19" W elev 31 ft eye alt 4238 ft

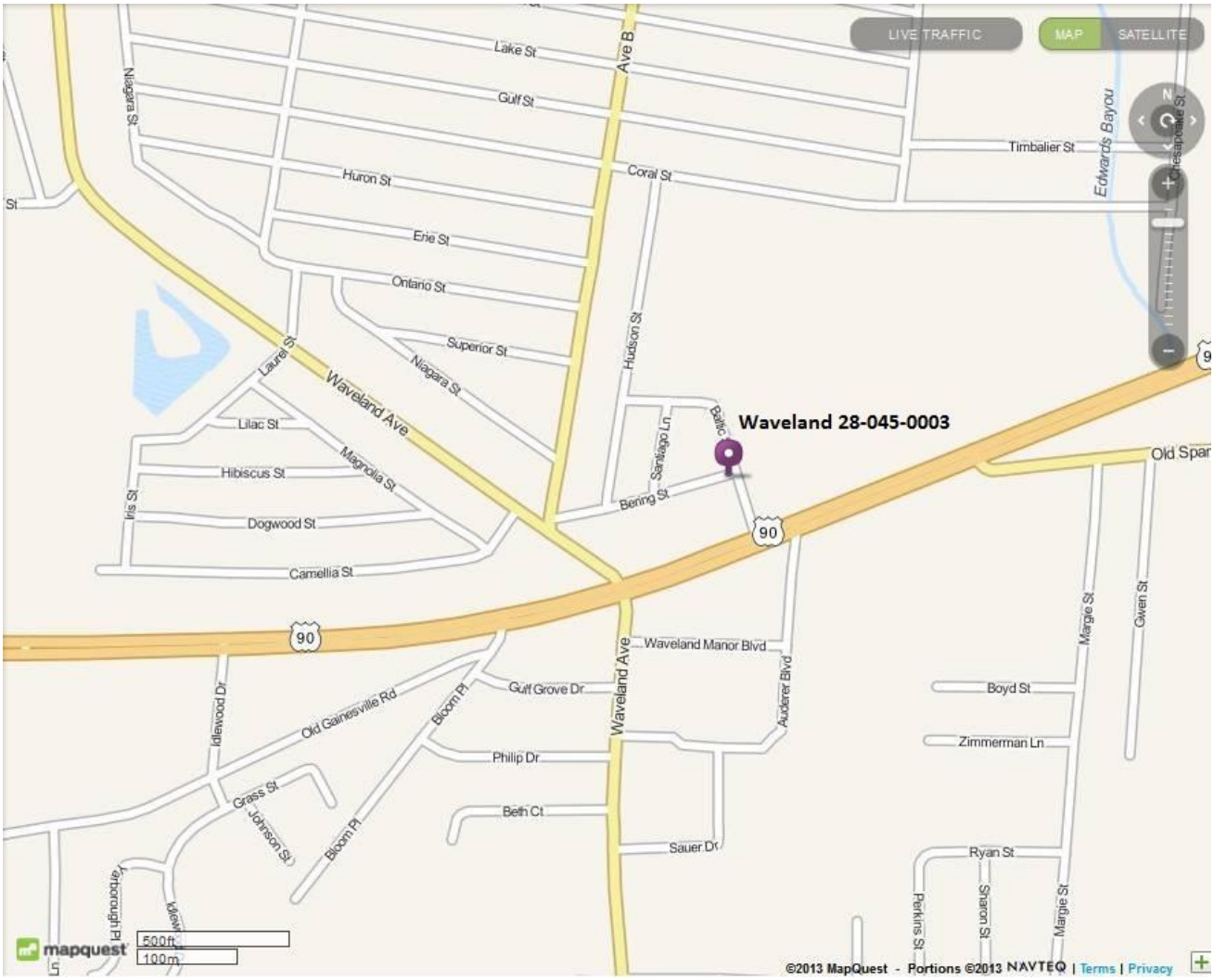
Waveland - N

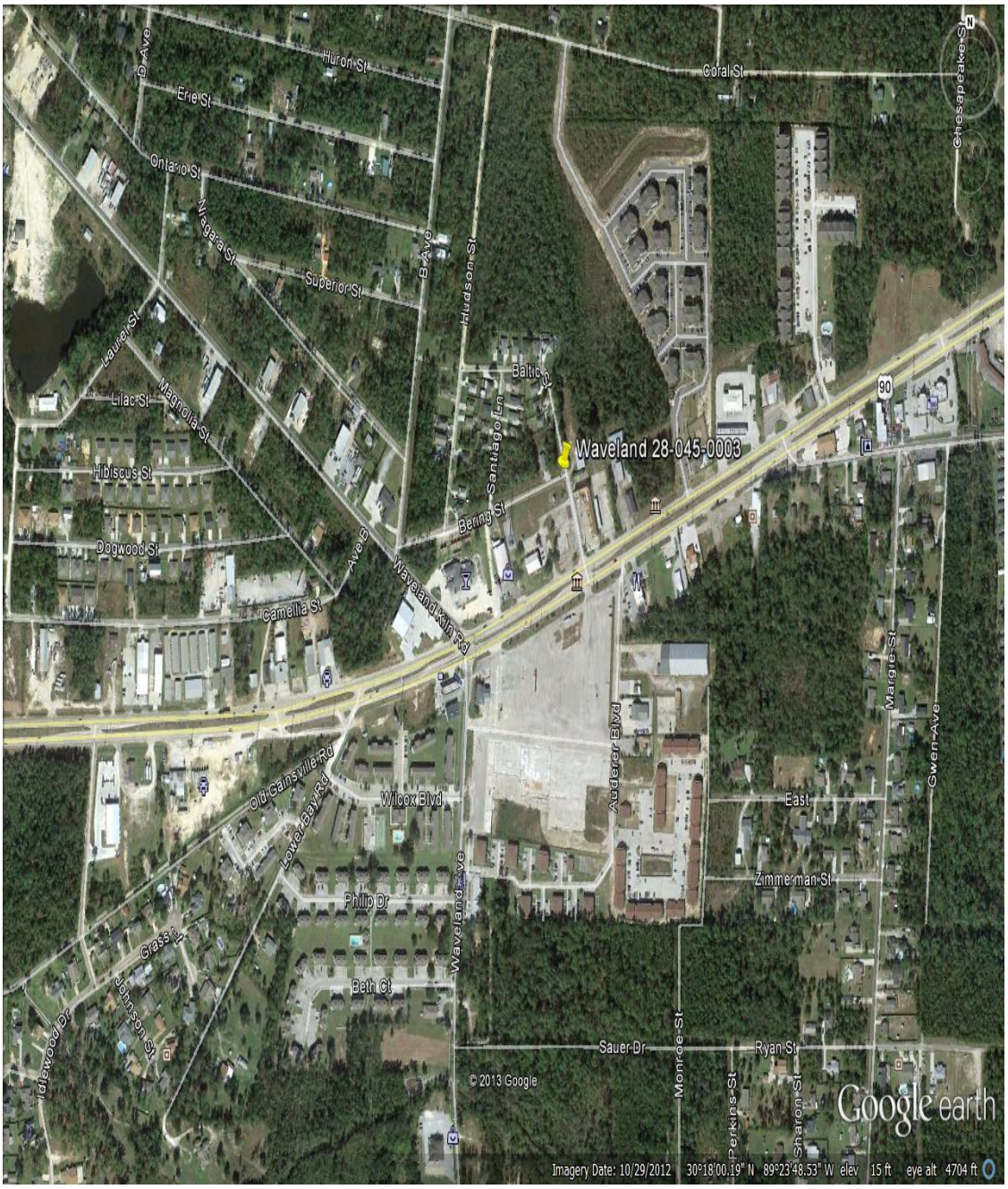
Waveland - E

Waveland - S

Waveland - W

Waveland 28-045-0003


LIVE TRAFFIC
MAP
SATELLITE
Lake St
Gulf St
Huron St
Erie St
Ontario St
Superior St
Niagara St
Timbalier St
Coral St
Edwards Bayou
Hudson St
Waveland 28-045-0003
Baltic
Santiago Ln
Bering St
Waveland Ave
Lilac St
Hibiscus St
Magnolia St
Dogwood St
Camellia St
Iris St
Laurel St
90
Old Spar
Waveland Manor Blvd
Gulf Grove Dr
Auderer Blvd
Boyd St
Zimmerman Ln
Margie St
Gwen St
Old Gainesville Rd
Bloom Pl
Philip Dr
Beth Ct
Sauer Dr
Ryan St
Sharon St
Perkins St
Grass St
Johnson St
Idlewood Dr
Yarborough Pl
Klein
500 ft
100 m
mapquest
©2013 MapQuest - Portions ©2013 NAVTEQ | Terms | Privacy


Waveland 28-045-0003
Huron St
Coral St
Erie St
Ontario St
Niagara St
Superior St
Laurel St
Lilac St
Magnolia St
Hibiscus St
Dogwood St
Camellia St
Hudson St
Santiago Ln
Baltic St
Bering St
Waveland Kiln Rd
Ave G
Ave B
D Ave
Chesapeake St
90
Adderer Blvd
Margie St
Gwen Ave
East
Zimmerman St
Wilcox Blvd
Old Gainsville Rd
Lower Bay Rd
Philip Dr
Waveland Ave
Grass Ln
Johnson St
Idlewood Dr
Beth Ct
Sauer Dr
Ryan St
Monroe St
Perkins St
Sharon St
© 2013 Google
Google earth
Imagery Date: 10/29/2012 30°18'00.19" N 89°23'48.53" W elev 15 ft eye alt 4704 ft

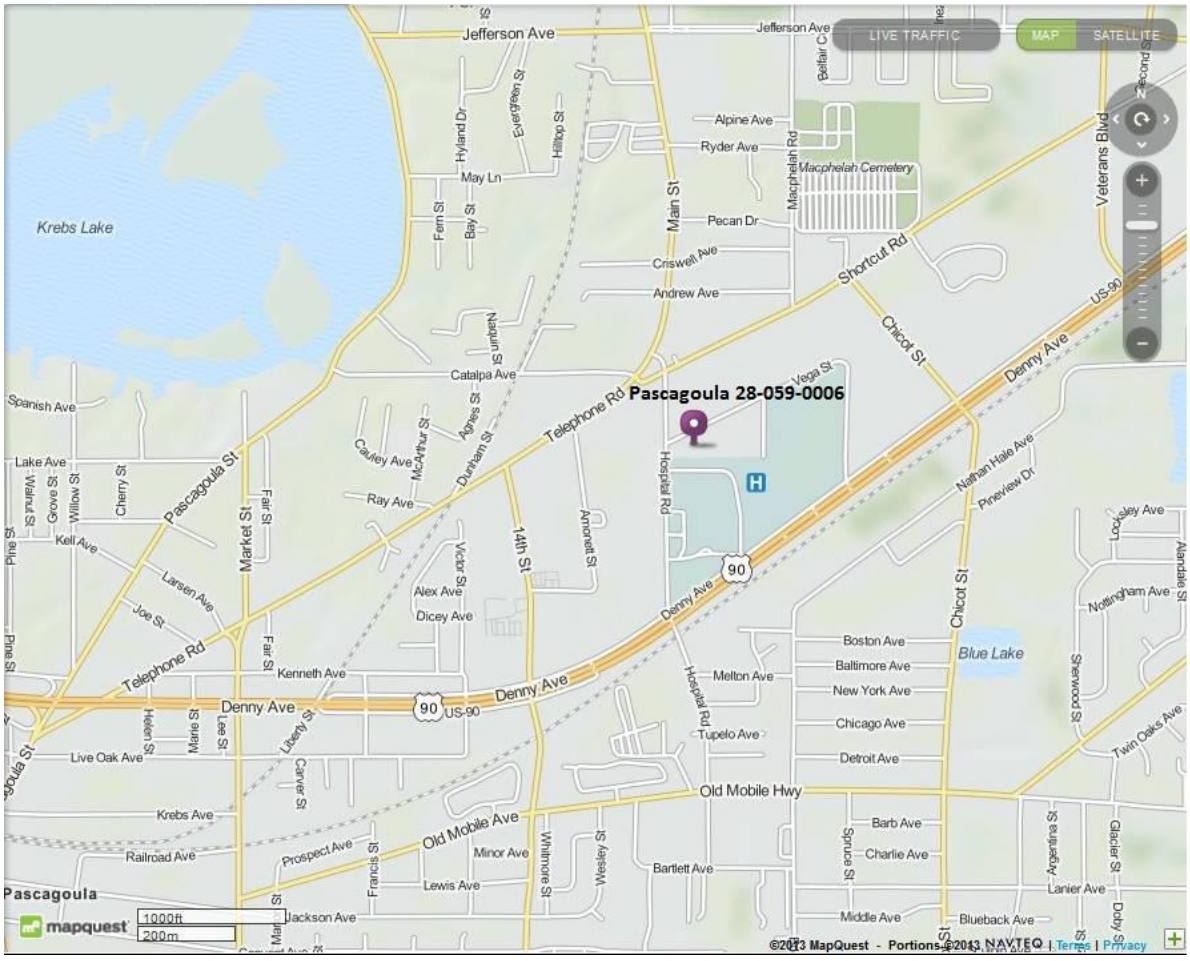
Pascagoula - N

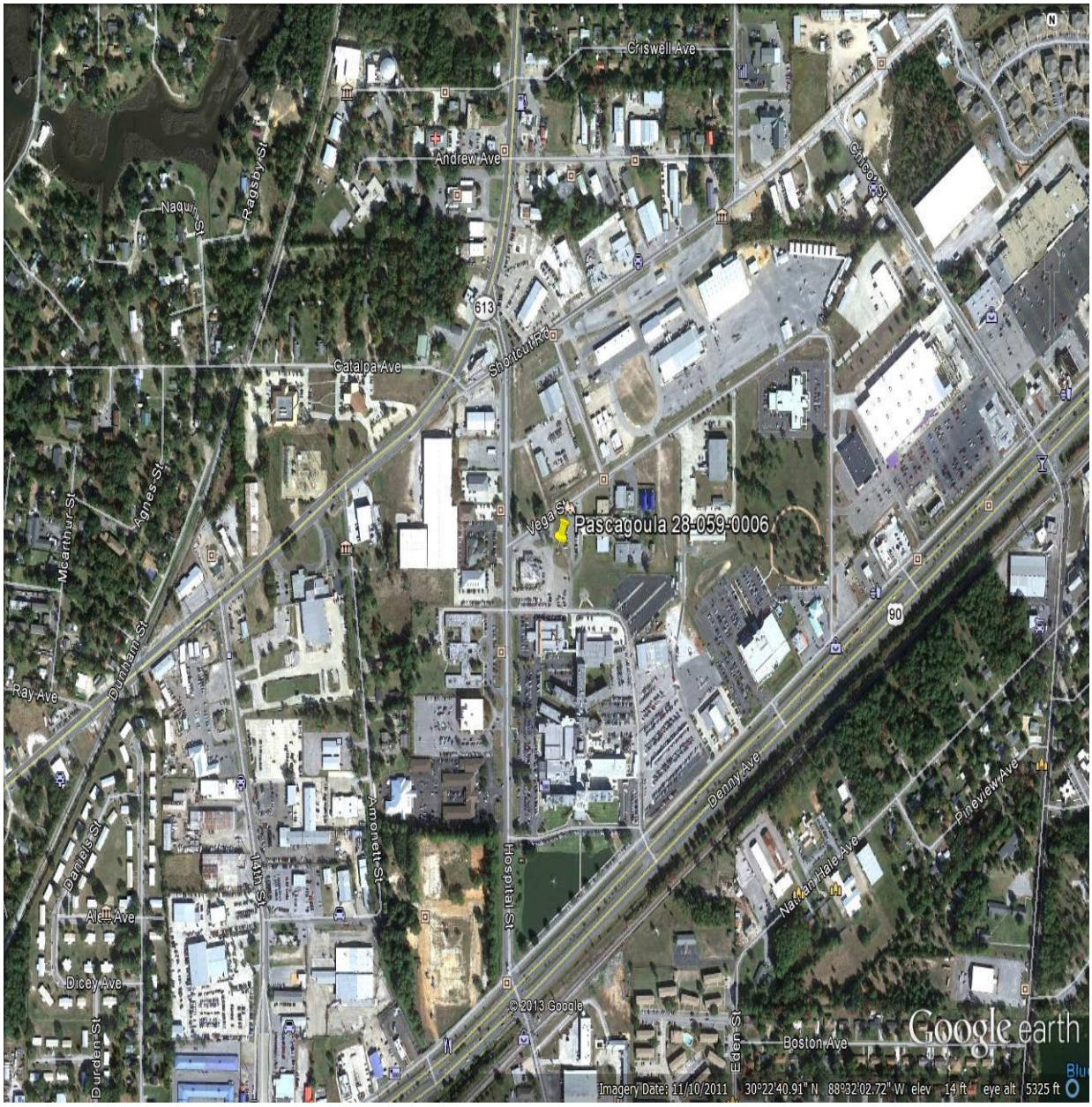
Pascagoula - E

Pascagoula -S

Pascagoula - W

Pascagoula 28-059-0006


Pascagoula 28-059-0006
Jefferson Ave
LIVE TRAFFIC
MAP
SATELLITE
Krebs Lake
Alpine Ave
Ryder Ave
Macphelah Cemetery
Macphelah Rd
Veterans Blvd
Hyland Dr
Evergreen St
Hilltop St
May Ln
Fern St
Bay St
Main St
Pecan Dr
Criswell Ave
Andrew Ave
Shortcut Rd
Chicot St
Denny Ave
US-90
Catalpa Ave
Vega St
Spanish Ave
Telephone Rd
Agnes St
Durham St
McArthur St
Cauley Ave
Lake Ave
Cherry St
Pascagoula St
Market St
Fair St
Ray Ave
Hospital Rd
Nathan Hale Ave
Pineview Dr
Kell Ave
Larsen Ave
Joe St
Alex Ave
Dicey Ave
14th St
Amonett St
Vickie St
Kenneth Ave
Melton Ave
Boston Ave
Baltimore Ave
New York Ave
Chicago Ave
Detroit Ave
Tupelo Ave
Blue Lake
Nottingham Ave
Twin Oaks Ave
Live Oak Ave
Helen St
Marie St
Lee St
Liberty St
Carver St
Old Mobile Hwy
Krebs Ave
Railroad Ave
Prospect Ave
Old Mobile Ave
Minor Ave
Whitmore St
Wesley St
Bartlett Ave
Barb Ave
Charlie Ave
Spruce St
Lanier Ave
Middle Ave
Blueback Ave
Pascagoula
Lewis Ave
Francis St
Jackson Ave
1000ft
200m
mapquest
©2013 MapQuest - Portions ©2013 NAVTEQ | Terms | Privacy


Criswell Ave
Andrew Ave
Naquin St
Ragsby St
Chicot St
613
Shortcut Rd
Catalpa Ave
Vega St
Pascagoula 28-059-0006
Agnes St
Mcarthur St
Dunham St
90
Ray Ave
Denny Ave
Pineview Ave
Nathan Hale Ave
Hospital St
Ammonett St
14th St
Daniels St
Al III Ave
Dicey Ave
Durden St
Eden St
Boston Ave
© 2013 Google
Google earth
Imagery Date: 11/10/2011 30°22'40.91" N 88°32'02.72" W elev 14 ft eye alt 5325 ft

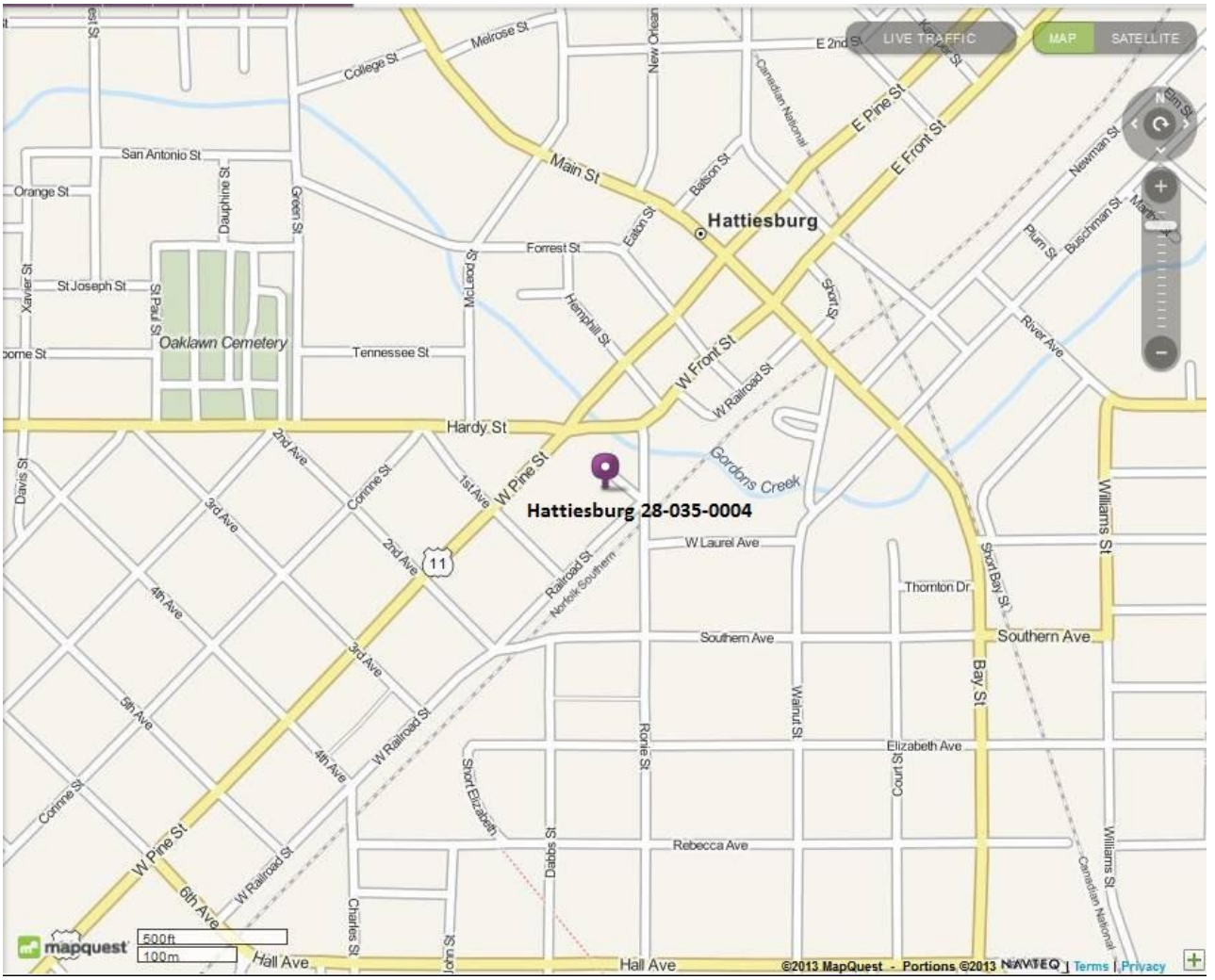
Hattiesburg - N

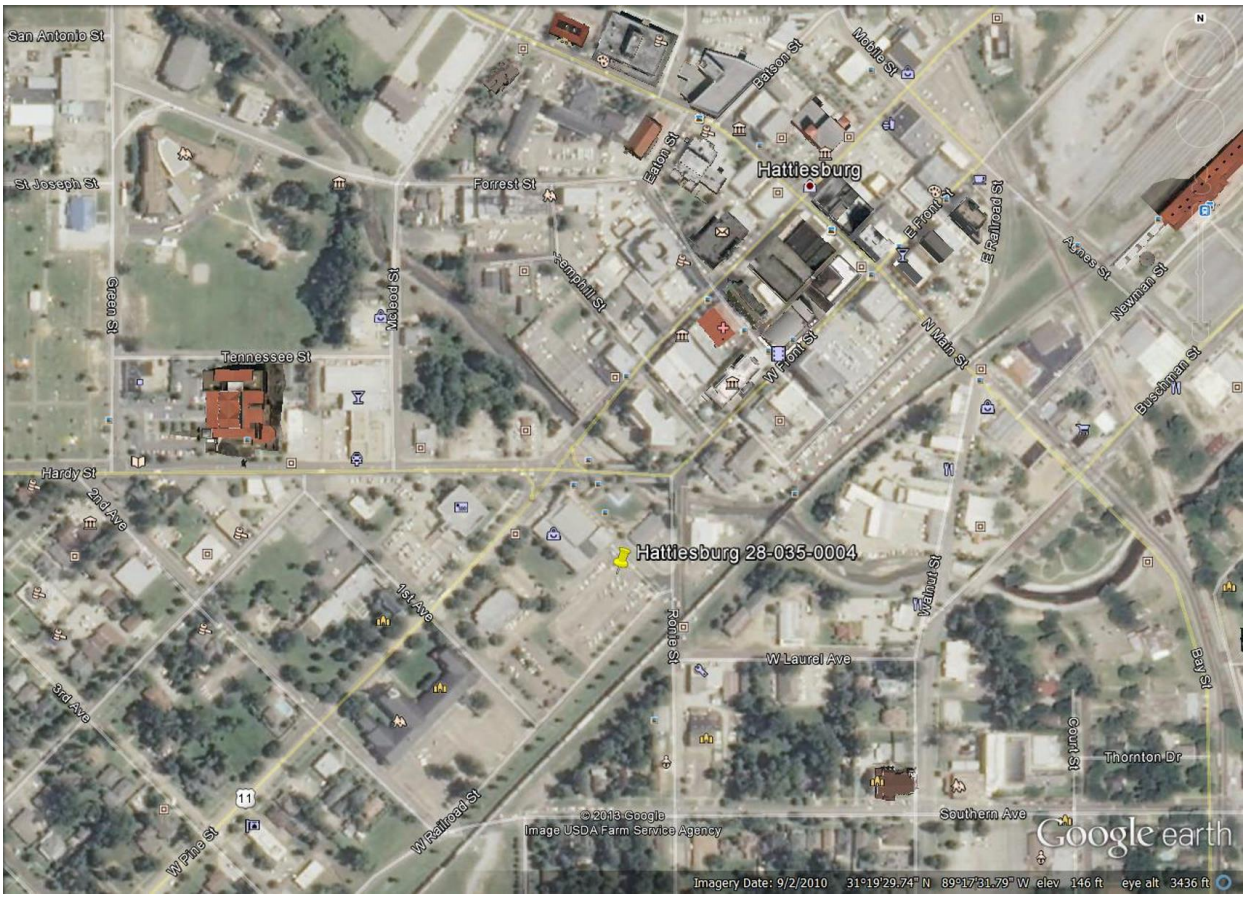
Hattiesburg - E

Hattiesburg - S

Hattiesburg - W

Hattiesburg 28-035-0004


LIVE TRAFFIC
MAP
SATELLITE
Hattiesburg
Hattiesburg 28-035-0004
Main St
E Pine St
E Front St
W Front St
W Railroad St
Hardy St
W Pine St
Forrest St
Tennessee St
Oaklawn Cemetery
W Laurel Ave
Southern Ave
Thornton Dr
Rebecca Ave
Elizabeth Ave
Hall Ave
College St
Melrose St
San Antonio St
Orange St
St Joseph St
Gordons Creek
Bay St
Short Bay St
Williams St
Newman St
Buschman St
River Ave
Railroad St
Norfolk Southern
Canadian National
New Orleans
Dabbs St
Ronie St
Walnut St
Court St
Short Elizabeth
Charles St
Conme St
Davis St
Xavier St
St Paul St
Dauphine St
Green St
McLeod St
Eaton St
Hemphill St
Short St
Plum St
Elm St
Martin St
1st Ave
2nd Ave
3rd Ave
4th Ave
5th Ave
6th Ave
11
mapquest
500ft
100m
©2013 MapQuest - Portions ©2013 NAVTEQ | Terms | Privacy


San Antonio St
St Joseph St
Forrest St
Eaton St
Hattiesburg
Mobile St
Edison St
E Front St
E Railroad St
Ames St
Newman St
Bushman St
N Main St
W Front St
Tennessee St
Hardy St
2nd Ave
1st Ave
3rd Ave
Hattiesburg 28-035-0004
Walnut St
Rouse St
W Laurel Ave
Bay St
Court St
Thornton Dr
Southern Ave
W Railroad St
W Pine St
11
© 2013 Google
Image USDA Farm Service Agency
Google earth
Imagery Date: 9/2/2010 31°19'29.74" N 89°17'31.79" W elev 146 ft eye alt 3436 ft

Appendix III

Regional Monitoring Agreement

Regional Monitoring Agreement

SHELBY COUNTY HEALTH DEPARTMENT

MARK H. LUTTRELL, JR.
MAYOR

ALISA R. HAUSHALTER, DNP, RN, PHNA-BC
DIRECTOR

HELEN MORROW, MD, MPA
HEALTH OFFICER

Public Health
Prevent. Promote. Protect.

April 3rd, 2018

Mr. Robert Brawner, Environmental Fellow
Tennessee Department of Environment and Conservation
Air Pollution Control Division
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Ave., 15th Floor
Nashville, TN 37243-1531

Mr. Jason Stephens, Environmental Manager
Tennessee Department of Environment and Conservation
Air Pollution Control Division
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Ave., 15th Floor
Nashville, TN 37243-1531

Mr. Chad LaFontaine, Air Director
Mississippi Department of Environmental Quality
Office of Pollution Control, Air Division
P.O. Box 2261
Jackson, MS 39201

Mr. Stuart Spencer, Chief of the Air Division
Arkansas Department of Environmental Quality
5301 Northshore Dr.
North Little Rock, AR 72118-5317

Dear All,

In accordance with the provisions of the Memorandum of Agreement (MOA) signed in May and June of 2008 between the Shelby County Health Department (SCHD), Mississippi Department of Environmental Quality (MDEQ) and the Arkansas Department of Environmental Quality (ADEQ), this letter serves as a notification that no changes have been made in our current network. A copy of this agreement will be included in Shelby County's current year's annual network plan.

If your agencies do not have current changes to the Network or may be contemplating changes in the near future, please notify the respective agencies of your intentions.

If you have any questions, please call me at (901) 222-9599.

Sincerely,

Robert Rogers

Robert Rogers, P.E. / Technical Manager
Pollution Control
Shelby County Health Department

MEMORANDUM OF AGREEMENT ON AIR QUALITY MONITORING FOR CRITERIA POLLUTANTS FOR THE MEMPHIS, TN- MS- AR METROPOLITAN STATISTICAL AREA (MSA)

Participating Agencies:

Shelby County Health Department (SCHD)
Air Pollution Control Program

Mississippi Department of Environmental Quality (MDEQ)
Office of Pollution Control, Air Division

Arkansas Department of Environmental Quality (ADEQ)

PURPOSE / OBJECTIVE / GOALS

The purpose of this Memorandum of Agreement (MOA) is to inform the entities of the Memphis, Tennessee-Mississippi-Arkansas Metropolitan Statistical Area of monitoring network changes. The MOA between SCHD, MDEQ, and ADEQ is to collectively meet United States Environmental Protection Agency (EPA) minimum monitoring requirements for particles of an aerodynamic diameter of 10 micrometers and less (PM_{10}), particles of an aerodynamic diameter of 2.5 micrometers and less ($PM_{2.5}$), and ozone; as well as other criteria pollutants air quality monitoring deemed necessary to meet the needs of the MSA as determined reasonable by all parties. This MOA will formalize and reaffirm the collective agreement in order to provide adequate criteria pollutant monitoring for the Memphis, TN-MS-AR MSA as required by 40 CFR 58 Appendix D, Section 2, (e).

PM 2.5 MSA monitoring network include:

County	Federal Referenced Method $PM_{2.5}$	Continuous $PM_{2.5}$	Speciation $PM_{2.5}$	Co located $PM_{2.5}$
Shelby County, TN **SCHD**	3 (includes 1 at the Near Road Station)	1	1	1
Crittenden County , AR **ADEQ**	1	1		
DeSoto County, MS **MDEQ**	1	1		1

Criteria Air Pollutant MSA monitoring network include:

County	PM_{10}	O_3	$NO_x/NO/NO_2$	CO	SO_2
Shelby County, TN **SCHD**	2 (includes low volume PM_{10} at NCore)	3	1 (includes 1 at the Near Road Station)	2 (includes 1 trace at NCore and 1 trace at the Near Road Station)	1 (trace at NCore)
Crittenden County , AR **ADEQ**		1	1		
DeSoto County, MS **MDEQ**		1			

RESPONSIBILITIES / ACTIONS

Each of the parties to this Agreement is responsible for ensuring that its obligations under the MOA are met. As conditions warrant, the affected agencies may conduct telephone conference calls, meetings, or other communications to discuss monitoring activities for the MSA. Each affected agency shall inform the other affected agencies via telephone or email of any monitoring changes occurring within its jurisdiction of the MSA at its earliest convenience, after learning of the need for the change or making the changes. Such unforeseen changes may include evictions from monitoring sites,

destruction of monitoring sites due to natural disasters, or any occurrences that result in an extended (greater than one quarter) or permanent change in the monitoring network.

LIMITATIONS

- All commitments made in this MOA are subject to the availability of appropriated funds and each agency's budget priorities. Nothing in this MOA obligates SCHD, MDEQ, or ADEQ to expend appropriations or to enter into any contract, assistance agreement, interagency agreement or other financial obligation.
- This MOA is neither a fiscal nor a funds obligation document. Any endeavor involving reimbursement or contribution of funds between parties to this agreement will be handled in accordance with applicable laws, regulations, and procedures, and will be subject to separate agreements that will be affected in writing by representatives of the parties.
- This MOA does not create any right or benefit enforceable by law or equity against SCHD, MDEQ, or ADEQ, their officers or employees, or any other person. This MOA does not apply to any entity outside SCHD, MDEQ, or ADEQ.
- No proprietary information or intellectual property is anticipated to arise out of this MOA.

TERMINATION

This Memorandum of Agreement may be revised upon the mutual consent of SCHD, MDEQ and ADEQ. Each party reserves the right to terminate this MOA. A thirty (30) day written notice must be given prior to the date of termination.

Appendix IV

Equipment List

MDEQ 2018 EQUIPMENT LIST

Inventory Number	Item	Manufacturer	Type	Serial Number	Condition	Purchase Date
		OZONE				
89588	OZONE	API	400E	160	Poor	06/01/03
89589	OZONE	API	400E	159	Poor	06/01/03
90740	OZONE	API	400E	1098	Fair	09/01/06
90741	OZONE	API	400E	1099	Fair	09/01/06
90742	OZONE	API	400E	1100	Fair	09/01/06
90743	OZONE	API	400E	1101	Fair	09/01/06
91211	OZONE	API	400E	1563	Fair	12/31/07
91212	OZONE	API	400E	1098	Fair	09/01/06
92174	OZONE	API	T400	131	Good	06/14/11
92175	OZONE	API	T400	132	Good	06/14/11
93180	OZONE	API	T400	1858	Good	06/17/15
93181	OZONE	API	T400	1857	Good	06/17/15
93182	OZONE	API	T400	1856	Good	06/17/15
93493	OZONE	API	T400	3304	Good	06/16/17
93494	OZONE	API	T400	3305	Good	06/16/17
93495	OZONE	API	T400	3306	Good	06/16/17
		SO2				
90923	SO2	API	100E	68	Poor	06/01/07
92019	SO2	API	100EU	128	Good	06/15/10
93620	SO2	API	T100U	279	Good	07/12/17
93621	SO2	API	T100U	280	Good	07/12/17
		NOy/NO2/NOx/NO				
-	NOx	API	200E	093	Poor	-
90598	NOx	API	200E	52	Poor	02/01/06
92020	NOx	API	200E	3523	Poor	06/15/10
92990	NOx	API	T200	1655	Fair	10/31/14
93194	NOy	API	T200U	235	Good	10/21/15
		CO				
93615	CO ANALYZER	API	T300U	379	Good	06/22/17

MDEQ 2018 EQUIPMENT LIST

Inventory Number	Item	Manufacturer	Type	Serial Number	Condition	Purchase Date
PARTICULATE SAMPLERS						
91053	SEQUENTIAL AIR	Thermo	2025	2025B220010708	Fair	09/14/07
91054	SEQUENTIAL AIR	Thermo	2025	2025B220020708	Fair	09/14/07
91055	SEQUENTIAL AIR	Thermo	2025	2025B220030708	Fair	09/14/07
91056	SEQUENTIAL AIR	Thermo	2025	2025B220040708	Fair	09/14/07
91057	SEQUENTIAL AIR	Thermo	2025	2025B220050708	Fair	09/14/07
91142	SEQUENTIAL AIR	Thermo	2025	2025B22026	Fair	11/14/07
91143	SEQUENTIAL AIR	Thermo	2025	2025B2202679	Fair	11/14/07
91144	SEQUENTIAL AIR	Thermo	2025	2025B220270709	Fair	11/14/07
91624	PORTABLE BETA	EBAM	-	H10709	Good	12/12/08
91625	PORTABLE BETA	EBAM	-	H10710	Good	12/12/08
91700	PORTABLE	BGI	-	292	Good	02/13/09
91701	PORTABLE	BGI	-	293	Good	02/13/09
91702	PORTABLE	BGI	-	290	Good	02/13/09
91703	PORTABLE	BGI	-	291	Good	02/13/09
91794	SEQUENTIAL AIR	Thermo	2025	2025B225390905	Good	06/12/09
92085	PARTICULATE	Thermo	TEOM	1405A211301010	Good	12/14/10
92143	SEQUENTIAL AIR	Thermo	2025	2025B227831104	Good	04/15/11
92144	SEQUENTIAL AIR	R&P	2025	2025B227481104	Good	04/15/11
93390	CONTINUOUS	API	T640	105	Good	01/20/17
93391	CONTINUOUS	API	T640	111	Good	01/20/17
93392	CONTINUOUS	API	T640	107	Good	01/20/17
93393	CONTINUOUS	API	T640	108	Good	01/20/17
93394	CONTINUOUS	API	T640	110	Good	01/20/17
93395	CONTINUOUS	API	T640	109	Good	01/20/17
93396	CONTINUOUS	API	T640	106	Good	01/20/17
93397	CONTINUOUS	API	T640	104	Good	01/20/17
93676	CONTINUOUS PARTICULATE	API	T640X	286	Good	12/11/17

MDEQ 2018 EQUIPMENT LIST

Inventory Number	Item	Manufacturer	Type	Serial Number	Condition	Purchase Date
			FLOW DEVICES			
86620	FLOW METER	BIOS	DC-Lite	1018	Poor	12/01/98
86647	FLOW METER	FTS Dwyer	475 Mark II	981017	Poor	01/01/99
86833	FLOW METER	FTS Dwyer	475 Mark II	990203	Poor	04/01/99
89815	FLOW METER	BIOS	DCL-MH	101481	Poor	12/01/03
91596	FLOW METER	BIOS	220-H	114705	Good	08/14/08
91790	FLOW METER	BGI	Deltacal	781	Good	06/12/09
92105	FLOW METER	BIOS	220-L	120907	Good	03/15/11
92220	FLOW METER	BGI	Deltacal	1052	Good	09/15/11
93370	FLOW METER	BIOS	220-H	151292	Good	09/27/16
93371	FLOW METER	BIOS	220-L	146603	Good	09/27/16
93652	FLOW METER	BGI	Tetracal	156675	Good	10/24/17
93674	FLOW METER	BGI	Deltacal	158052	Good	01/09/18
-	FLOW METER	BGI	Tetracal	600	Good	10/31/09
-	FLOW METER	BGI	Tetracal	603	Good	10/31/09
	DATA LOGGERS					
91050	DATA LOGGER	ESC	8832	A2059	Good	09/14/07
91051	DATA LOGGER	ESC	8832	A2058	Good	09/14/07
91134	DATA LOGGER	ESC	8832	A2020	Good	11/14/07
91135	DATA LOGGER	ESC	8832	A2021	Good	11/14/07
91136	DATA LOGGER	ESC	8832	A2040	Good	11/14/07
91137	DATA LOGGER	ESC	8832	A2041	Good	11/14/07
91788	DATA LOGGER	ESC	8832	A3222K	Good	06/12/09
91789	DATA LOGGER	ESC	8832	A3223K	Good	-
92942	DATA LOGGER	ESC	8832	A4838K	Good	-
92943	DATA LOGGER	ESC	8832	A4837K	Good	-
92944	DATA LOGGER	ESC	8832	A4836K	Good	-
92945	DATA LOGGER	ESC	8832	A4839K	Good	-
92949	DATA LOGGER	ESC	8832	4838	Good	-

MDEQ 2018 EQUIPMENT LIST

Inventory Number	Item	Manufacturer	Type	Serial Number	Condition	Purchase Date
			CALIBRATORS			
88441	CALIBRATOR	API	700	740	Fair	07/01/01
90599	CALIBRATOR	API	700	1278	Fair	02/01/06
92084	CALIBRATOR	API	T700U	55	Good	-
92234	CALIBRATOR	Environics	6103	5115	Fair	10/21/11
92430	CALIBRATOR	Environics	6103	5418	Fair	08/17/12
92431	CALIBRATOR	Environics	6103	5416	Fair	08/17/12
92432	CALIBRATOR	Environics	6103	5420	Fair	08/17/12
92433	CALIBRATOR	Environics	6103	5417	Fair	08/17/12
92434	CALIBRATOR	Environics	6103	5419	Fair	08/17/12
92849	CALIBRATOR	API	T700U	167	Good	-
92850	CALIBRATOR	API	T700	814	Good	-
93385	CALIBRATOR	API	T703U	122	Good	12/27/17
93386	CALIBRATOR	API	T703U	123	Good	12/27/17
93387	CALIBRATOR	API	T703U	3010	Good	12/30/16
93490	CALIBRATOR	API	T703U	180	Good	06/17/17
93491	CALIBRATOR	API	T703U	181	Good	06/17/17
93492	CALIBRATOR	API	T703U	182	Good	06/17/17
93656	CALIBRATOR	API	T703U	190	Good	11/17/17
93675	CALIBRATOR	API	T703U	194	Good	12/05/17
93677	CALIBRATOR	API	T700	3732	Good	01/08/18
		ZERO AIR UNITS				
No Inv #	ZERO AIR UNIT	API	701	1365	Fair	-
No Inv #	ZERO AIR UNIT	API	702	1875	Fair	-
83371	ZERO AIR UNIT	Sabio	2020	5930537	Fair	05/01/93
84933	ZERO AIR UNIT	API	701	82	Fair	08/01/95
89694	ZERO AIR UNIT	Sabio	2020	2440703	Fair	08/01/03
91623	ZERO AIR UNIT	API	701-H	2839	Good	12/12/08
92435	ZERO AIR UNIT	Sabio	2020	-	Good	08/17/12
92436	ZERO AIR UNIT	Sabio	2020	-	Good	08/17/12
92437	ZERO AIR UNIT	Sabio	2020	-	Good	08/17/12
92486	ZERO AIR UNIT	Sabio	2020	-	Good	08/17/12
92487	ZERO AIR UNIT	Sabio	2020	-	Good	08/17/12
93388	ZERO AIR UNIT	API	701H	1653	Good	01/20/17
93389	ZERO AIR UNIT	API	701H	1654	Good	01/20/17

93496	ZERO AIR UNIT	API	701H	1684	Good	06/16/17

MDEQ 2016 EQUIPMENT LIST

Inventory Number	Item	Manufacturer	Type	Serial Number	Condition	Purchase Date
	MISCELLANEOUS					
83364	STRIP CHART	Cole Palmer	0555-000	10933	Fair	05/01/93
83370	STRIP CHART	Cole Palmer	0585-0000	10909	Fair	05/01/93
89684	WEATHER	-	-	C1735	Fair	05/01/03
91632	WEATHER	Auto Met	-	H10447	Good	01/15/09
91633	WEATHER	Metone	-	H10709	Good	01/15/09
91634	WEATHER STATION	Metone	466A	H10448	Good	01/15/09

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

OCT 1 1 2018

Mr. Chad Lafontaine
Air Director and Chief
Office of Pollution Control
Air Division, Mississippi Department
of Environmental Quality
PO Box 2261
Jackson, Mississippi 39225-2261

Dear Mr. Lafontaine:

Thank you for submitting the state of Mississippi's 2019 Annual Ambient Air Monitoring Network Plan (Network Plan) dated July 1, 2018. The Network Plan, which is required by 40 Code of Federal Regulations (CFR) §58.10, describes the ambient air monitoring network operated throughout the state by the Mississippi Department of Environmental Quality (MDEQ).

The Network Plan is required to be made available to the public for a 30-day review period. The MDEQ made this Network Plan available on its website from May 30 to June 30, 2018 and no comments were received.

The U.S. Environmental Protection Agency approves the MDEQ's 2019 Network Plan. Enclosed are comments on the Network Plan, some of which provide guidance to the MDEQ on development of next year's plan. The EPA Region 4 staff are available to discuss the comments and provide any additional feedback.

Thank you for working with the EPA Region 4 to monitor air pollution and promote healthy air quality in the state of Mississippi. If you have any questions or concerns, please contact Gregg Worley at (404)-562-9141 or Darren Palmer at (404) 562-9052 or email palmer.darren@epa.gov.

Sincerely,

Beverly H. Banister

Beverly H. Banister
Director
Air, Pesticides and Toxics Management Division

Enclosure

cc: Mr. Michael Jordan
Chief, Air Monitoring Section, MDEQ

CY 2018-19 State of Mississippi Ambient Air Monitoring Network Plan
U.S. EPA Comments and Recommendations

This document contains the U.S. Environmental Protection Agency comments and recommendations on the Mississippi Department of Environmental Quality (MDEQ) 2019 Annual Ambient Air Monitoring Network Plan (Network Plan). Ambient air monitoring rules, which include regulatory requirements that address network plans, data certification, minimum monitoring requirements, among other requirements, are found in 40 CFR Part 58. Minimum monitoring requirements for criteria pollutants are listed in 40 CFR Part 58, Appendix D, including those for ozone (O_3), particulate matter less than 2.5 microns ($PM_{2.5}$), particulate matter less than 10 microns (PM_{10}), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), carbon monoxide (CO), and lead (Pb).

The minimum monitoring requirements are based on core based statistical area (CBSA) boundaries as defined by the U.S. Office of Management and Budget (OMB), July 1, 2017 population estimates from the U.S. Census Bureau, and historical ambient air monitoring data. The minimum monitoring requirements for O_3, $PM_{2.5}$, and PM_{10} only apply to metropolitan statistical areas (MSAs), which are a subset of CBSAs. The OMB currently defines four MSAs in the state of Mississippi. These MSAs and their respective July 1, 2017 population estimates from the U.S. Census Bureau are shown in Table 1.

Table 1: Core Based Statistical Areas and July 1, 2017 Population Estimates

CBSA Name	CBSA Type	Population
Memphis, TN-MS-AR	Metropolitan Statistical Area	1,348,260
Jackson, MS	Metropolitan Statistical Area	578,715
Gulfport-Biloxi-Pascagoula, MS	Metropolitan Statistical Area	394,232
Hattiesburg, MS	Metropolitan Statistical Area	148,877

The comments and recommendations provided below are based on the EPA's review of the MDEQ Network Plan and a comparison to the minimum monitoring requirements outlined in 40 CFR Part 58.

Monitoring Network Changes Proposed by the MDEQ

The EPA's rationale for approval or disapproval of specific network changes can be found below in the pollutant-specific sections of this document. Monitors proposed for relocation and the EPA's determination are summarized in Table 2.

Table 2: Proposed Changes in Monitoring Network

AQS ID	SITE NAME	POLLUTANT	MONITOR TYPE	COMMENTS
28-043-0001	Grenada	$PM_{2.5}$	SLAMS	Site to be shutdown and relocated to the Cleveland-Delta State site. Cleveland site will serve as new background site for $PM_{2.5}$. Approved.
28-011-0002	Cleveland-Delta State	$PM_{2.5}$, O_3	SLAMS	New site approved in 2017 for O_3. $PM_{2.5}$ monitor from the Grenada site will be relocated here and will serve as new background site for

				$PM_{2.5}$. Grenada will be shut down. Approved.
All	All sites	$PM_{2.5}$	SLAMS	All sites will have a continuous $PM_{2.5}$ Federal Equivalent Method (FEM) installed as the primary monitor. 40 CFR Part 58 collocation requirements will be met by collocating a $PM_{2.5}$ FRM at both the NCore site in Jackson and the Hattiesburg site. Approved.

The EPA approves all the requested changes. Please be sure to update all $PM_{2.5}$ method codes and end dates in AQS for monitors and sites as appropriate.

Air Quality Index (AQI) Reporting
40 CFR Part 58.50

AQI reporting is required for MSAs with populations over 350,000. Three MSAs, wholly or partially in the state of Mississippi meet this criterion: Gulfport-Biloxi-Pascagoula, MS; Jackson, MS; and Memphis, TN-MS-AR. The Network Plan indicates that an AQI is being reported for each of these MSAs and includes a link on Page 2 in the Overview section to the AQI information. The AQI reporting requirements are met.

National Core (NCore) Monitoring Network
40 CFR Part 58 Appendix D, Section 3.0

The MDEQ has designated one NCore site in the Network Plan. The site is the Jackson NCore site (AQS# 28-049-0020) located in Jackson, MS. This site has operated since July 1, 2013. Monitored parameters include O_3, SO_2, CO, nitrogen oxides (NO_y), $PM_{2.5}$, $PM_{10-2.5}$, speciated $PM_{2.5}$ and meteorology. This site meets the minimum NCore monitoring requirement.

O_3 Monitoring Requirements
40 CFR Part 58 Appendix D, Section 4.1 and Table D-2

The MDEQ is required to operate two O_3 monitors in each of the Jackson, Gulfport-Biloxi-Pascagoula and Memphis MSAs. The Gulfport-Biloxi-Pascagoula and Jackson MSAs meet this requirement. The Shelby County Health Department in Memphis, TN (SCHD), the Arkansas Department of Environmental Quality (ADEQ) and the MDEQ have a memorandum of agreement (MOA) addressing O_3 monitoring in the Memphis, TN-MS-AR CBSA. The minimum monitoring requirements are met with three O_3 monitors operated by the SCHD, one monitor operated by the ADEQ and one monitor operated by the MDEQ in DeSoto County. The O_3 network described in the Network Plan meets the minimum monitoring requirements.

CO Monitoring Requirements
40 CFR Part 58 Appendix D, Section 4.2

CBSAs with populations over 1 million but less than 2.5 million were required to operate one CO monitor collocated with a near-road NO_2 monitor by January 1, 2017, as indicated in 40 CFR §58.13(e)(2). The Memphis, TN-MS-AR CBSA is the only area in Mississippi required to operate a near-road site and the SCHD meets the requirement by operating the Southwest TN Community College site (AQS# 47-157-0100). The MDEQ operates one CO monitor at the Jackson NCore site (AQS# 28-049-0020) as required. The CO network described in the Network Plan meets the minimum monitoring requirements.

NO_2 Monitoring Requirements
40 CFR Part 58 Appendix D, Section 4.3

The ambient air monitoring network design criteria for NO_2 are found in 40 CFR Part 58, Appendix D, Section 4.3. There are three types of required monitoring: near-road, area-wide, and Regional Administrator. The monitoring types are described in Sections 4.3.2, 4.3.3, and 4.3.4, respectively.

The Memphis, TN-MS-AR CBSA is required to have near-road and area-wide NO_2 monitoring sites because its population is greater than 1,000,000. The near-road requirement is met by a site operated by the SCHD (AQS# 47-157-0100). The Marion site (AQS# 05-035-0005) in Arkansas fulfills the area-wide NO_2 monitoring requirement. No other CBSAs in the state are required to have area-wide NO_2 sites.

Ambient air monitoring network design criteria for the Regional Administrator required NO_2 monitoring, often referred to as RA-40 monitoring, are found in 40 CFR Part 58, Appendix D, Section 4.3.4. Under these provisions, Regional Administrators must require a minimum of 40 additional NO_2 monitoring stations nationwide, with a primary focus on siting the monitors in locations to protect susceptible and vulnerable populations. The EPA designated the NO_2 monitor at the Pascagoula site (AQS# 28-059-0006) to serve as a Regional Administrator required NO_2 monitor. The full list of NO_2 monitors identified by the Regional Administrators can be found on the EPA's website at http://www.epa.gov/ttnamti1/svpop.html. In summary, the NO_2 network described in the Network Plan meets the minimum monitoring requirements.

SO_2 Monitoring Requirements
40 CFR Part 58, Appendix D, Section 4.4

Ambient air monitoring network design criteria for SO_2 are found in Section 4.4 of 40 CFR Part 58, Appendix D. This section requires that "[t]he population weighted emission index (PWEI) shall be calculated by states for each core based statistical area (CBSA)..." SO_2 monitors should be sited within CBSA boundaries and be of the following site type(s): population exposure, maximum concentration, source-oriented, general background, or regional transport. One SO_2 monitor is needed to fulfill the PWEI requirement for the Memphis TN-MS-AR CBSA. This monitor is located at the Shelby Farms NCore site (AQS# 47-157-0075) and is operated by the SCHD. The MDEQ also operates SO_2 monitors at the Jackson NCore (AQS# 28-049-0020) and Pascagoula (AQS# 28-059-0006) sites. Section 4.4.5 requires SO_2 monitoring to be conducted at all NCore sites; the monitoring at the Jackson NCore site meets this requirement. The SO_2 network described in the Network Plan meets the minimum monitoring requirements.

Pb Monitoring Requirements
40 CFR Part 58 Appendix D, Section 4.5

Ambient air monitoring network design criteria for Pb are found in 40 CFR Part 48, Appendix D, Section 4.5. This section states that "[a]t a minimum, there must be one SLAMS [State and Local Air Monitoring Station] site located to measure the maximum Pb concentration in ambient air resulting from each non-airport Pb source which emits 0.50 or more tons per year and from each airport which emits 1.0 or more tons per year…" No Pb monitoring is currently required in any of Mississippi's MSAs and the MDEQ does not operate any Pb monitoring sites. Therefore, the Network Plan meets the minimum monitoring requirements.

PM_{10} Monitoring Requirements
40 CFR Part 58 Appendix A, Section 3.3
40 CFR Part 58 Appendix D, Section 4.6 and Table D-4

Ambient air monitoring network design criteria for PM_{10} are found in 40 CFR Part 58, Appendix D, Section 4.6, Table D-4 for all MSAs. Fifteen percent of each network of manual PM_{10} methods (at least one site) must be collocated. The MDEQ has installed a Teledyne T640x continuous FEM $PM_{2.5}$ and PM_{10} sampler at its Jackson NCore site (AQS# 28-049-0020) and removed the manual PM_{10} samplers. There are no collocation requirements for continuous PM_{10} samplers per 40 CFR Part 58, Appendix A, Section 3.3.4. While the MDEQ is not required to report PM_{10} data from its Jackson NCore site, the Jackson MSA is required to have one to two PM_{10} monitors. The monitor at the Jackson NCore site meets the regulatory requirement. In addition, the MDEQ must continue reporting the data at standard temperature and pressure (STP) to parameter code 81102.

The Memphis, TN-MS-AR MSA is technically not meeting the PM_{10} monitoring requirement because one site is not reporting data to regulatory PM_{10} parameter code 81102. We are working with the SCHD to correct this deficiency.

$PM_{2.5}$ Monitoring Requirements
40 CFR Part 58 Appendix A, Section 3.2.3
40 CFR Part 58 Appendix D, Section 4.7 and Table D-5

Ambient air monitoring collocation requirements for manual and continuous $PM_{2.5}$ samplers are found in 40 CFR Part 58, Appendix A, Section 3.2.3. These include the requirement that fifteen percent of each network of manual reference and equivalent methods (at least one site) be collocated. These collocation requirements are assessed at the primary quality assurance organization level. The first collocated monitor must be a designated federal reference method (FRM) monitor. By January 1, 2019, the following network outlined in Table 3 below will be active and meeting all the $PM_{2.5}$ minimum monitoring and collocation requirements.

Table 3. $PM_{2.5}$ Monitoring Network as of January 1, 2019

AQS ID	SITE NAME	CBSA	PRIMARY METHOD	COLLOCATED METHOD	COMMENTS
28-011-0002	Cleveland-Delta State	Cleveland, MS	Teledyne T640		Existing O_3 site. New $PM_{2.5}$ background site. Approved.
28-033-0002	Hernando	Memphis, TN-MS-AR	Teledyne T640		Transport site.
28-035-0004	Hattiesburg	Hattiesburg, MS	Teledyne T640	Thermo 2025i	

28-043-0001	Grenada	Grenada, MS	Thermo 2025i		Shutdown. Site relocated to Cleveland. Approved. Monitor allocated as a spare.
28-045-0003	Waveland	Gulfport-Biloxi-Pascagoula, MS	Teledyne T640		
28-047-0008	Gulfport	Gulfport-Biloxi-Pascagoula, MS	Teledyne T640		
28-049-0020	Jackson NCore	Jackson, MS	Teledyne T640x	Thermo 2025i	
28-049-0021	Hinds	Jackson, MS	Teledyne T640		
28-059-0006	Pascagoula	Gulfport-Biloxi-Pascagoula, MS	Teledyne T640		

The Memphis, TN-MS-AR MSA is required to have two $PM_{2.5}$ monitors. The MDEQ's MOA with the ADEQ and the SCHD allows Mississippi to meet the $PM_{2.5}$ requirements for the Memphis, TN-MS-AR MSA. In total, four $PM_{2.5}$ sites are operated in the Memphis CBSA by the three agencies: one in DeSoto County, MS (AQS# 28-033-0002), two in Shelby County, TN (AQS# 47-157-0047 and AQS# 47-157-0075) and one in Crittenden County, AR (AQS# 05-035-0005).

The MDEQ made a considerable investment in its $PM_{2.5}$ monitoring network by purchasing the Teledyne T640 and T640x continuous $PM_{2.5}$ samplers and installing them as primary samplers across its network. The MDEQ is required to have two sites in the state with a collocated monitor. By January 1, 2019, the MDEQ will operate and maintain two collocated sites as shown above: Jackson NCore (AQS# 28-049-0020) and Hattiesburg (AQS# 28-035-0004). The MDEQ's $PM_{2.5}$ monitoring network as described in the Network Plan meets all minimum requirements found in 40 CFR Part 58, Appendix D, Table D-5 in all MSAs.

$PM_{2.5}$ Near-road Monitoring Requirement
40 CFR Part 58, Appendix D, Section 4.7.1(b)(2)

Regulatory requirements in 40 CFR Part 58, Appendix D, Section 4.7.1(b)(2) require that in "CBSAs with a population of one million or more persons, at least one $PM_{2.5}$ monitor is to be collocated at a near-road NO_2 station." $PM_{2.5}$ near-road monitoring was required in the Memphis, TN-MS-AR CBSA by January 1, 2017. The SCHD added a $PM_{2.5}$ monitor to its near-road site (AQS# 47-157-0100) on January 1, 2017. This $PM_{2.5}$ near-road monitor meets all minimum requirements for the CBSA.

$PM_{2.5}$ Continuous Monitoring Requirement
40 CFR Part 58, Appendix D, Section 4.7.2

Regulatory requirements for continuous $PM_{2.5}$ monitoring require that "[t]he State, or where appropriate, local agencies must operate continuous $PM_{2.5}$ analyzers equal to at least one-half (round up) the minimum required sites listed in Table D-5 of this appendix. At least one required continuous analyzer in each MSA must be collocated with one of the required FRM/FEM/ARM (Approved Regional Method) monitors, unless at least one of the required FRM/FEM/ARM monitors is itself a continuous FRM or ARM monitor in which case no collocation requirements applies." The state is required by Table D-5 to operate four $PM_{2.5}$ monitors (two monitors in Memphis and two monitors in Jackson) and at least two of those monitors must be continuous monitors. As indicated in the Network Plan, the MDEQ installed eight new $PM_{2.5}$ continuous FEM monitors. These new monitors will become the primary NAAQS comparable monitors at all sites. The state may, at its discretion, shut down any collocated non-regulatory continuous $PM_{2.5}$ monitors at these sites since this requirement will be met

with the new monitors. As a result, the MDEQ meets the minimum requirement for continuous $PM_{2.5}$ monitoring requirement for all MSAs in the state.

$PM_{2.5}$ Background and Transport Sites
40 CFR Part 58, Appendix D, Section 4.7.3

Forty (40) CFR Part 58, Appendix D, Section 4.7.3 requires that "[e]ach State shall install and operate at least one $PM_{2.5}$ site to monitor for regional background and at least one $PM_{2.5}$ site to monitor for regional transport." The MDEQ is proposing to shut down its Grenada site (AQS# 28-043-0001) due to issues meeting siting criteria objectives as identified in the EPA's 2015 technical systems audit. This site meets the criteria for discontinuation found in 40 CFR §58.14 although it serves as the background monitor for the state. The state has proposed to place a new Teledyne T640 $PM_{2.5}$ FEM at the Cleveland-Delta State site (AQS# 28-011-0002) and it will serve as the state's new background $PM_{2.5}$ monitor. The Hernando $PM_{2.5}$ monitor (AQS# 28-033-0002) is identified as the regional transport monitor. The EPA approves the state's request to shut down the Grenada site and make the Cleveland-Delta State site the new $PM_{2.5}$ background site. The MDEQ has satisfied the requirements for the background and transport sites.

Chemical Speciation Network
40 CFR Part 58, Appendix D, Section 4.7.4

The MDEQ will continue to operate a $PM_{2.5}$ speciation monitor at the Jackson NCore site (AQS# 28-049-0020) in 2019. The MDEQ has satisfied the requirements for the Chemical Speciation Network.

Photochemical Assessment Monitoring Stations (PAMS)
40 CFR Part 58, Appendix D, Section 5.0

Forty (40) CFR Part 58, Appendix D, Section 5.0(a) states that "[s]tate and local monitoring agencies are required to collect and report PAMS measurements at each NCore site required under paragraph 3(a) of this appendix located in a CBSA with a population of 1,000,000 or more, based on the latest available census figures." The only CBSA in which a PAMS will be required is the Memphis, TN-MS-AR CBSA. The SCHD is required to implement this program by June 1, 2019 at the Shelby Farms NCore site (AQS# 47-157-0075). No additional PAMS monitoring is required in Mississippi.

Memoranda of Agreement (MOA) with Neighboring States

The MDEQ has a MOA with the ADEQ and the SCHD to share responsibility for meeting the minimum monitoring requirements in the Memphis CBSA and MSA. The EPA's review of the Network Plan found that the monitoring in the CBSA and MSA meets the minimum requirements found in 40 CFR Part 58, Appendix D, Section 2(e) and meets the requirements of the MOA.

Additional Comments/Recommendations

The Network Plan indicates that the MDEQ used 2010 Census data to evaluate whether its criteria pollutant monitoring networks meet the monitoring requirements outlined in 40 CFR Part 58. Ambient air monitoring requirements are determined based on the latest available census figures in all cases except for the determination of when an area is required to report an air quality index. The EPA used the 2017 Census population estimates in Table 1 (above) for reviewing these requirements. Comparing the 2010 and 2017 Census estimates, the 2017 estimates are slightly higher in most areas. Even with slightly

higher estimates, they yield the same minimum monitoring requirements for each pollutant. The EPA recommends that the MDEQ use the most recently available population estimates provided by the U.S. Census Bureau when it submits its 2019 network plan.

Monitoring Siting Criteria and Site Assessments
40 CFR Part 58, Appendix E

In reference to the Network Plan, 40 CFR Part 58.10(a)(1) states "[t]he plan shall include a statement of whether the operation of each monitor meets the requirements of appendices A, B, C, D, and E of this part, where applicable. The Regional Administrator may require additional information in support of this statement." The EPA interprets this reference to Appendix E, in conjunction with a December 17, 2015 Office of Inspector General report titled "EPA Can Strengthen Its Reviews of Small Particle Monitoring in Region 6 to Better Ensure Effectiveness of Air Monitoring Network" (hereafter referred to as "OIG Report"), to mean agencies should provide evidence in the annual network plan demonstrating that monitoring sites continue to meet siting requirements. The OIG Report determined that "[i]f the annual plan does not verify siting criteria, changed conditions at a site could go unnoticed until the next technical systems audit."

The Network Plan includes photos and aerial imagery, measurements of the horizontal distance from the site to the nearest road, whether there are any obstructions, and the height above the ground for all monitor inlets in the MDEQ network. Each monitoring site has pictures that include North, South, West, East, and frontal views. Region 4 would like to thank the MDEQ for providing this information for each operating monitor in the network. In addition to the information provided in the plan, the EPA requests that the MDEQ include the following information for each site in future network plans:

- The date of the most recent annual siting criteria evaluation, and any findings and corrective actions taken.