



GEORGIA

DEPARTMENT OF NATURAL RESOURCES

ENVIRONMENTAL PROTECTION DIVISION

ENVIRONMENTAL PROTECTION DIVISION

Air Protection Branch

Ambient Monitoring Program

Addendum to 2016 Ambient Air Monitoring Plan

Per the Environmental Protection Agency regulations, the Georgia Environmental Protection Division (GA EPD) produces an annual network monitoring plan to show how the ambient air monitoring requirements are met (40CFR58.10). If that plan is modified during the year after it is published, it is the state's responsibility to let the public know of those modifications. Since the publication of the 2016 Ambient Air Monitoring Plan in June 2016, the GA EPD is in the process of making the following changes to the ambient air monitoring network.

Yorkville:

The Yorkville ambient air monitoring site (13-223-0003) located within Paulding County in the Atlanta-Marietta-Roswell MSA will be dismantling. In accordance with 40 CFR 58.14 regarding SLAMS discontinuation requests, GA EPD provides the subsequent documentation in support of terminating the Yorkville ambient air monitoring site.

Due to the project ending for the concurrent users of the Yorkville site land, the holders of the lease on the property are leaving. GA EPD is forced to either take over the lease or move the monitoring equipment from the Yorkville site (see Attachment A). GA EPD has evaluated the ambient air monitoring network, and decided to move and shut down the equipment at the site as of January 31, 2017. It is not financially feasible for GA EPD to continue the lease at the site, and the EPA requirements can be met without continuing this site.

The following is a list of parameters that were measured at the Yorkville site and the details about those parameters. It should be noted that the Air Toxics monitors (Semi-VOCs, VOCs, Carbonyls, and Metals) at this site are non-regulatory. In addition, the Rossville site (13-295-0002) in the Chattanooga TN-GA MSA serves at the PM_{2.5} 'Regional Transport' site for Georgia's ambient air monitoring network.

Parameter	Monitoring Objective	Sampling Schedule	Probe Inlet Height	Spatial Scale	Begin Date
O ₃	Population Exposure/ Upwind Background	Continuous (Mar-Oct)	4 m	Regional	1/1/96
PM _{2.5}	Upwind Background	Continuous	4 m	Regional	3/1/03
PM _{2.5}	Upwind Background/ Regional Transport	Every 3 days	5 m	Regional	1/24/99
Semi-VOCs (Toxics)	Regional Transport	Every 12 days	2 m	Neighborhood	1/1/00
VOCs (Toxics)	Regional Transport	Every 12 days	2 m	Neighborhood	1/1/00
Carbonyls (Toxics)	Regional Transport	Every 12 days	2 m	Neighborhood	1/13/16
Metals (Toxics)	Regional Transport	Every 12 days	2 m	Neighborhood	1/1/00
Solar Radiation	General/Background	Continuous	1.50 m	Regional	1/1/96
Ultraviolet Radiation	General/Background	Continuous	1.50 m	Regional	1/1/97

Barometric Pressure	General/Background	Continuous	2 m	Regional	1/1/96
Rain/Melt Precipitation	General/Background	Continuous	3 m	Regional	1/1/97
Wind Direction	General/Background	Continuous	10 m	Regional	1/1/96
Wind Speed	General/Background	Continuous	10 m	Regional	1/1/96
Outdoor Temperature	Regional Transport	Continuous	2 m	Regional	1/1/96
Relative Humidity	General/Background	Continuous	2 m	Regional	1/1/96

According to 40CFR58, Appendix D, Table D-2 and Table D-5, the Atlanta-Marietta-Roswell MSA has more ozone and PM_{2.5} monitors in place than needed to meet the federal requirements. The 2014-2016 ozone design value for the Yorkville site is 0.063 ppm. The latest complete design value for PM_{2.5} uses 2013-2015 data, and those design values are 18 µg/m³ for the daily standard and 8.2 µg/m³ for the annual standard. The following graphs show the Yorkville site design values well below the standards.

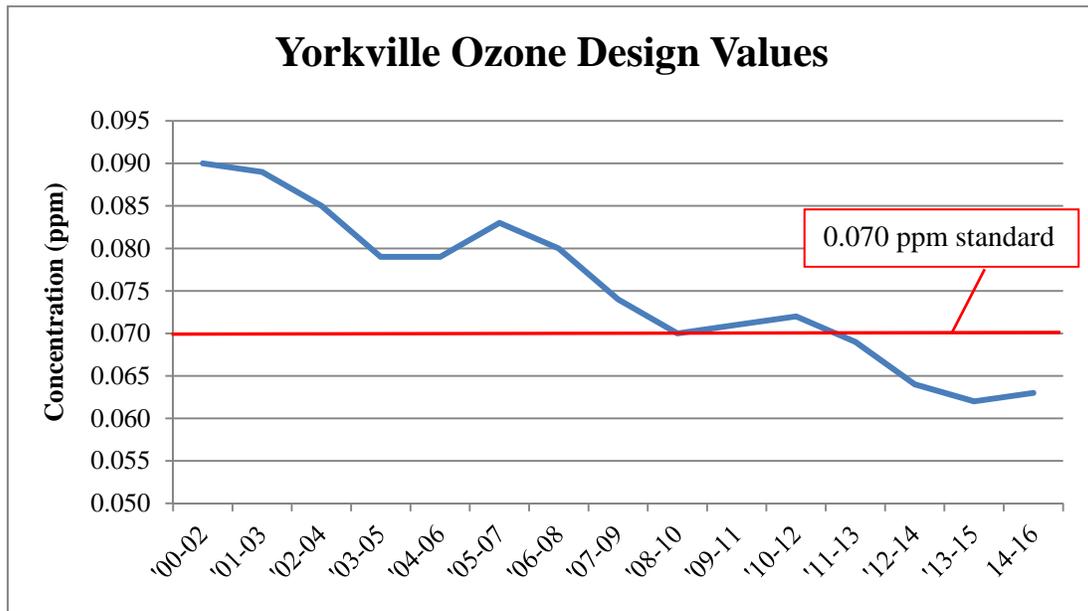


Figure 1: Yorkville Ozone Design Values, 2000-2016

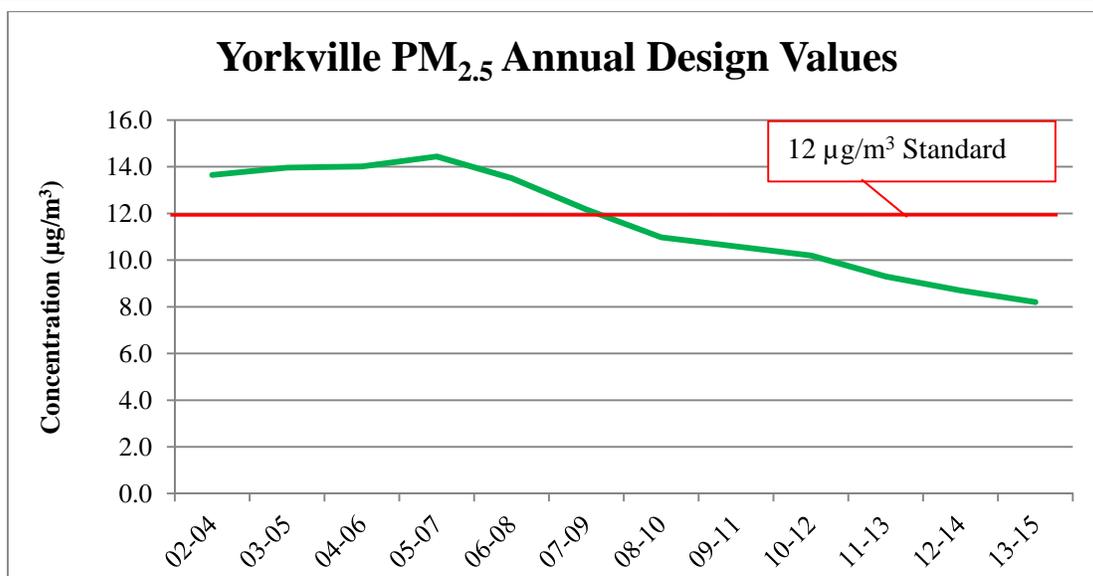


Figure 2: Yorkville PM_{2.5} Annual Design Values, 2002-2015

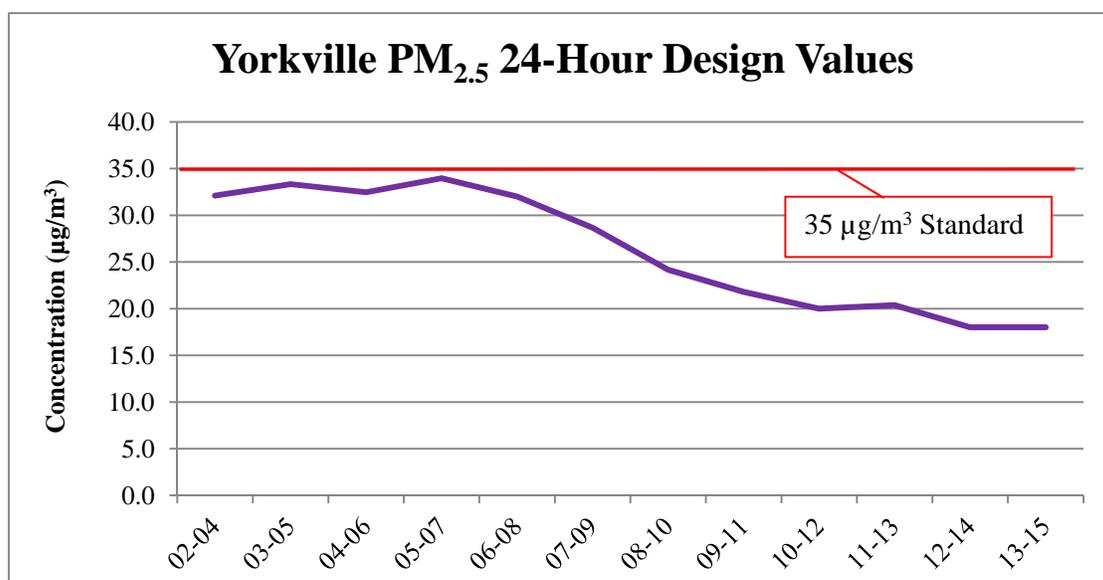


Figure 3: Yorkville PM_{2.5} 24-Hour Design Values, 2002-2015

To meet 40CFR58, Appendix D, 4.7.3, the PM_{2.5} monitor at the Yorkville site was designated the background PM_{2.5} monitor for Georgia. Therefore, GA EPD will move this monitor to the established General Coffee (13-069-0002) monitoring location to continue to meet this requirement. This site is located in Coffee County at the General Coffee State Park, in the Douglas Micropolitan Statistical Area, with a 2015 estimated population of 43,108 (<https://factfinder.census.gov>). The General Coffee site will meet siting criteria as outlined in 40CFR58, Appendix E (see Attachment B). The PM_{2.5} monitor will be an FRM and comparable to the NAAQS. It will take 24-hour averaged samples every three days. As the background PM_{2.5} monitor for Georgia, it will represent a regional scale.

Emission models were created to show 2018 estimated values of PM_{2.5}. The Douglas Micropolitan Statistical Area had annual PM_{2.5} values modeled at 3.01 to 7.00 µg/m³, and the 98th percentile 24-hour values modeled at 5.01 to 25.0 µg/m³. The two following figures show the emission models for both the annual and 98th percentile 24-hour output, respectively.

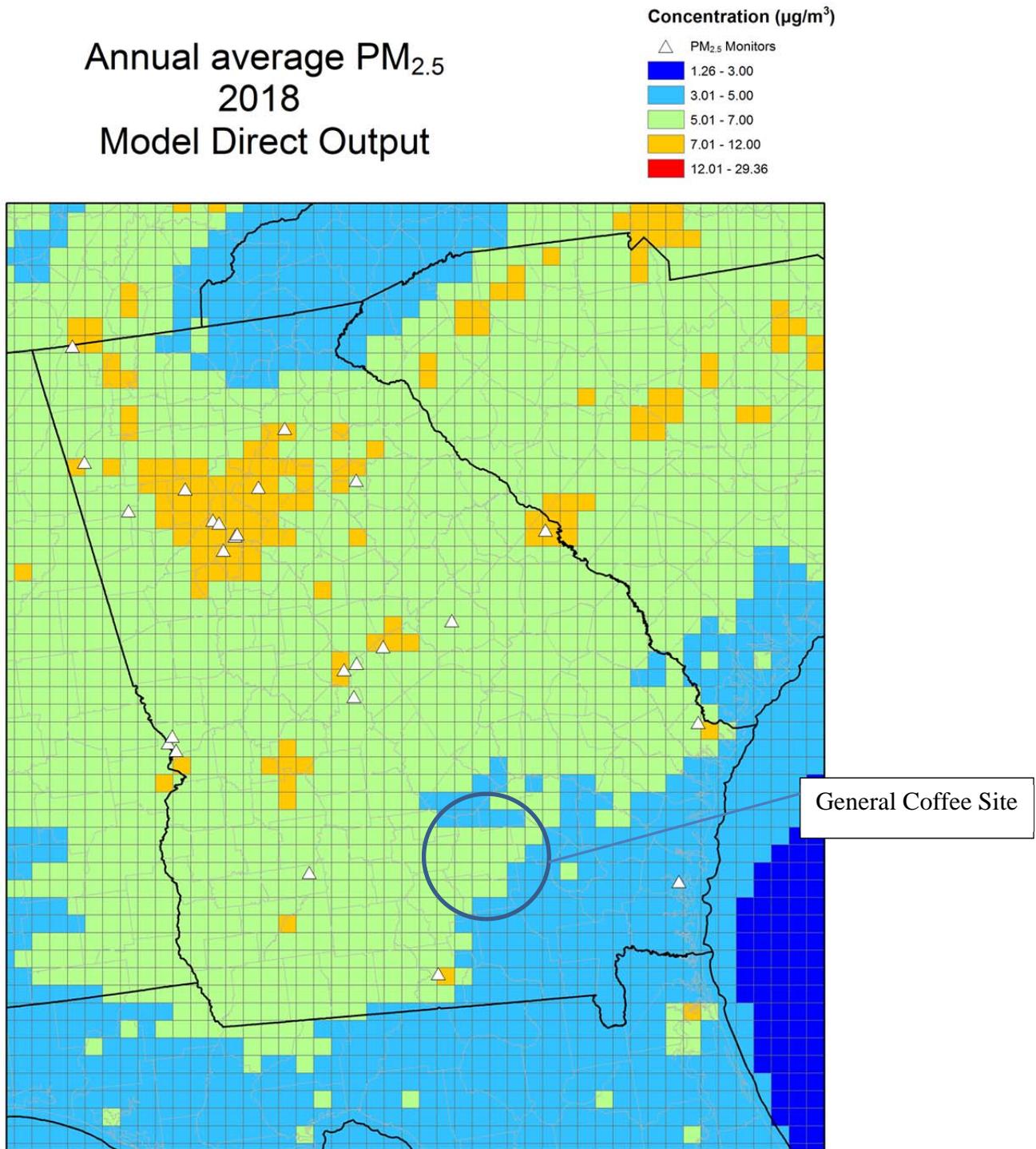


Figure 4: 2018 Modeled Annual Average PM_{2.5}

8th highest daily average PM_{2.5} 2018 Model Direct Output

Concentration (µg/m³)

- △ PM_{2.5} Monitors
- 3.6 - 5.0
- 5.1 - 15.0
- 15.1 - 25.0
- 25.1 - 34.9
- 35.0 - 57.2

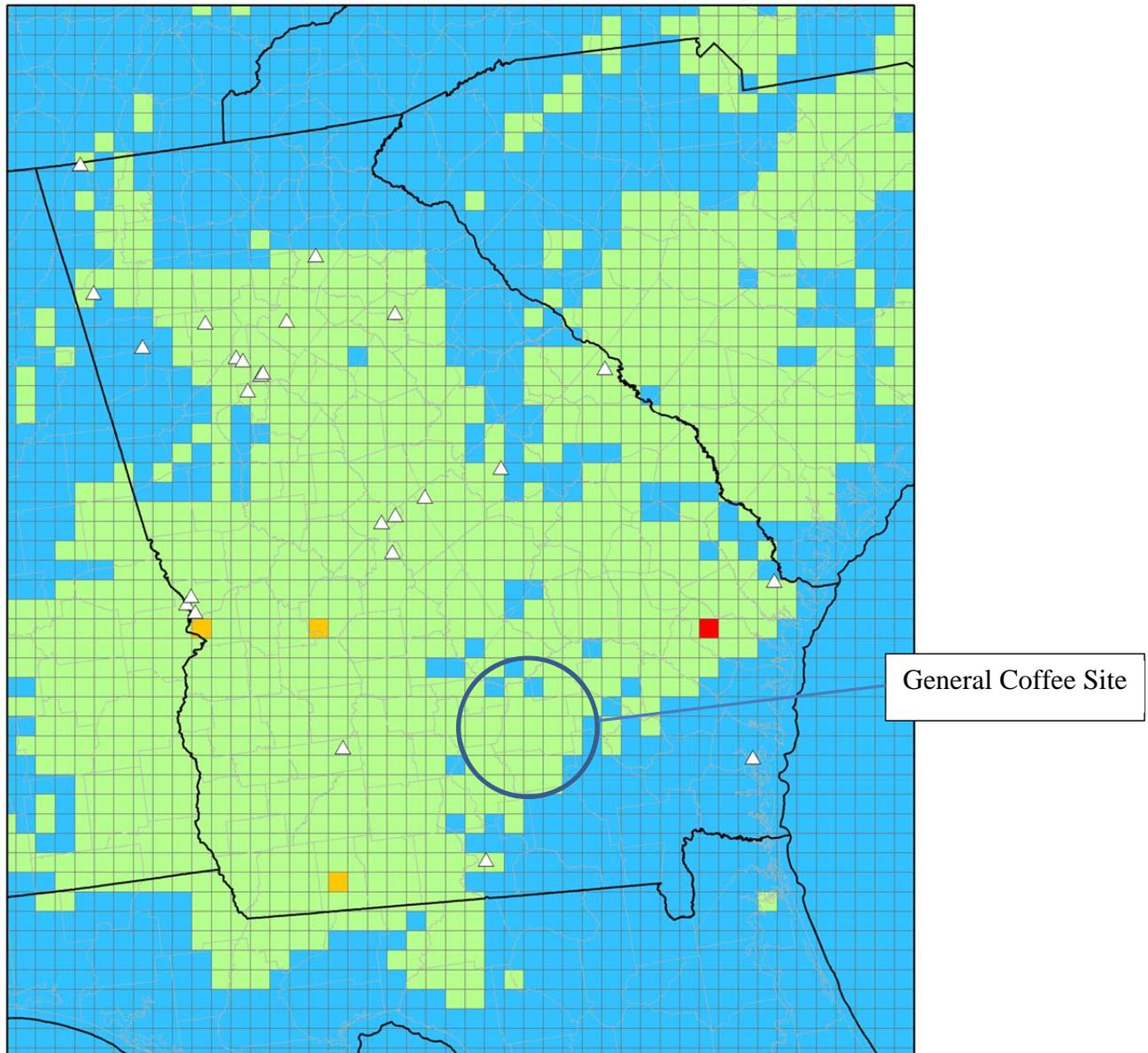
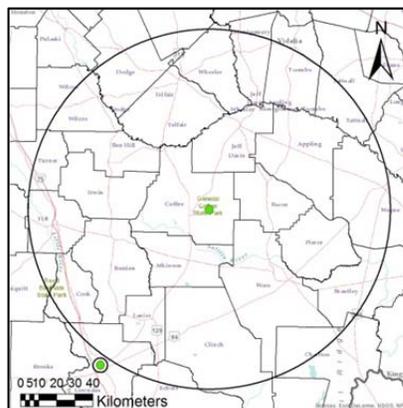


Figure 5: 2018 Modeled 98th Percentile Average PM_{2.5}

The following figures show site details for the General Coffee ambient monitoring site, current monitors at the site, and the addition of the PM_{2.5} FRM monitor. The PM_{2.5} FRM monitor will begin collecting samples on March 2, 2017. Air toxics have been monitored at this site since 1999, and PM_{2.5} speciation has been monitored since 2002.



AQS ID: 130690002

Address: General Coffee State Park, 6635 State Highway 32, Nicholls, Coffee County, Georgia 31554

Site Established: 1/1/99

Latitude/Longitude: N31.51309/W-82.75027

Elevation: 49 meters

Area Represented: Not in an MSA, Douglas Micropolitan Statistical Area

Site History: Established as Air Toxics site



Parameter	Monitoring Objective	Sampling Schedule	Probe Inlet Height	Spatial Scale	Begin Date
PM _{2.5} Speciation	General Background	Every 6 days	3 m	Regional	3/1/02
Toxics	General Background	Every 12 days	2 m	Regional	1/1/99
PM _{2.5}	General Background	Every 3 days	3 m	Regional	3/2/17

With the established General Coffee site in a rural area and sufficient space for a PM_{2.5} monitor at the site, it will provide an ideal location and coverage for the background PM_{2.5} values in Georgia. GA EPD terminated the other monitors at the Yorkville site as of January 31, 2017 and will not be moving them to any other location.

South DeKalb:

At the South DeKalb site (13-089-0002), GA EPD has conducted black carbon sampling with an aethalometer since June 2003. In September 2015, GA EPD began sampling black carbon at the near-road DMRC site (13-089-0003), which is approximately one mile from the South DeKalb site. When the aethalometer at the South DeKalb quit functioning properly, GA EPD considered the financial situation and the proximity of the two samplers and decided it is not necessary to continue sampling black carbon at both locations. GA EPD shut down the aethalometer at the South DeKalb site as of December 31, 2016, and will continue sampling black carbon at the DMRC site.

Appendix A: Comments

**Georgia Department of Natural Resources
Environmental Protection Division**

A typographical error was corrected with the vertical axis label in Figure 1 on page 2.

No public comments were received.



RICHARD E. DUNN, DIRECTOR

AIR PROTECTION BRANCH
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404-363-7000

March 29, 2017

Darren Palmer
USEPA - Region 4
APTMD/AASB
Air Data & Analysis Section

Mr. Palmer,

The Ambient Monitoring Program of the Georgia Environmental Protection Division (GA EPD) has operated the Yorkville monitoring station (AQS Site ID 13-223-0003) since 1996 for a multitude of pollutants. This monitoring included ozone, fine particulate matter, toxics, as well as serving as a photochemical assessment monitoring station (PAMS). The property for our monitoring station was leased by the Southern Company as part of their SEARCH network. The Southern Company has ceased operation of this network and as such, will no longer lease the property at King Farm, 160 Ralph King Path, Rockmart, Georgia 30153.

With the 2015 PAMS network revisions as part of the revised Ozone National Ambient Air Quality Standards (NAAQS), GA EPD ceased operations of the PAMS network at Yorkville January 1, 2016. Due to the change in the ownership of the lease, GA EPD has evaluated continuation of this site for ozone, fine particulate and toxics monitoring. Continuation of this site is not financially feasible for GA EPD as the requirements of 40 CFR Part 58 can be met without continuing this site. As such, GA EPD is discontinuing the Yorkville monitoring station as of January 31, 2107.

If you have any questions or concerns, please contact me at DeAnna.Oser@dnr.ga.gov or 404-363-7004.

Sincerely,

DeAnna G. Oser
Ambient Monitoring Program Manager
Georgia Environmental Protection Division

Attachment B: Site Survey
State of Georgia Ambient Air Monitoring Program
Quality Assurance Unit
Annual Monitoring Site Survey

Site: Douglas – Coffee State Park Date: 11-5-15

Site Code: 130690002 Surveyor Rob Brown

Longitude: W82.75014 Latitude: N31.51293

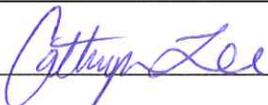
Analyzers, samplers, and sensors at this site:

Met One SASS	URG 3000N
Semi-VOCs	VOCs
Metals	

Comments

Site: Douglas – Coffee State Park
Location: Archery Range Road, Nicholls, GA 31554
Annual average daily traffic from GA DOT 2013 Traffic Count Data: 5410

Surveyor Signature:  Date: 12-17-15

Reviewer Signature:  Date: 12/23/15

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Shelter Exterior

Shelter present?	No
Towers, samplers, etc. anchored securely?	Yes
Are there extra outlets available for audit and calibration equipment?	Yes
Site shelter, deck or sampler damage?	No
Grass mowed?	Yes
Trees and shrubs trimmed back?	Yes
Trash?	No
Do samplers meet siting criteria?	Yes
Inlets at appropriate height?	Yes
Is area around inlets clear?	Yes
Any notable event such as construction, mowing, burning, plowing nearby?	No
Inlets intact with funnels?	NA

Exterior Instruments

PM_{2.5}

Present?	Yes
Manufacturer	Met One
Model	SASS
DNR number	135085
Serial number	J2022
Inlet number	N/A
Is vertical probe placement 2-7 m above ground for microscale or 2-15 m above ground for other scales?	Yes
If obstructions on roof, are all probes 2 m from walls, parapets, penthouses, etc?	Yes
What is probe spacing from trees? (Should be 20 m from drip line of trees. Must be 10 m from drip line)	>10m
If obstacles, distance 2 x height differential? (street canyon sites exempt)	Yes
Is there unrestricted airflow for at least 270° including the	Yes

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predominant wind direction?	
Are there furnace or incinerator flues in the vicinity?	No
Is distance between collocated monitors 1 to 4 m?	NA
Is spacing from station to road per Figure 2 of Appendix E?	Yes
Is area paved or does it have vegetative ground cover?	Vegetative
If neighborhood scale, is probe or at least 80 percent of the monitoring path located between 2 and 15 meters above ground level?	Yes
If on rooftop, are there at least 2 meters of separation from walls, parapets, and structures?	Not on roof
Does probe, inlet, or monitoring path have unrestricted airflow in an arc of at least 180 degrees, including the predominant wind direction for the season of greatest pollutant concentration potential?	Yes
If a microscale site, verify that there are no trees or shrubs located between the probe and the source under investigation.	NA

PM_{2.5}

Present?	Yes
Manufacturer	URG
Model	3000N
DNR number	NA
Serial number	3N-B0473
Inlet number	NA
Is vertical probe placement 2-7 m above ground for microscale or 2-15 m above ground for other scales?	Yes
If obstructions on roof, are all probes 2 m from walls, parapets, penthouses, etc?	Not on roof

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What is probe spacing from trees? (Should be 20 m from drip line of trees. Must be 10 m from drip line)	>10m
If obstacles, distance 2 x height differential? (street canyon sites exempt)	Yes
Is there unrestricted airflow for at least 270° including the predominant wind direction?	Yes
Are there furnace or incinerator flues in the vicinity?	No
Is distance between collocated monitors 1 to 4 m?	NA
Is spacing from station to road per Figure 2 of Appendix E?	Yes
Is area paved or does it have vegetative ground cover?	Vegetative
If neighborhood scale, is probe or at least 80 percent of the monitoring path located between 2 and 15 meters above ground level?	Yes
If on rooftop, are there at least 2 meters of separation from walls, parapets, and structures?	Not on roof
Does probe, inlet, or monitoring path have unrestricted airflow in an arc of at least 180 degrees, including the predominant wind direction for the season of greatest pollutant concentration potential?	Yes
If a microscale site, verify that there are no trees or shrubs located between the probe and the source under investigation.	NA

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Metals

Present?	Yes
Manufacturer	NA
Model	NA
DNR number	NP-8541
Serial number	NA
Motor number	NP-26309
Vertical Probe Placement 2-7 m above ground for micro-scale 2-15 m above ground for other scales	Yes
Obstructions On Roof 2 m from walls, parapets, penthouses, etc.	Not on roof
Spacing From Trees Should be 20 m from dripline of trees Must be 10 m from dripline	>10m
Obstacle Distance 2 x height differential	Yes
Unrestricted Airflow At least 270° including the predominant wind direction for season of greatest pollutant concentration potential	Yes
Furnace or Incinerator Flues Recommended that none are in the vicinity	No
Distance between Collocated Monitors 1 to 4 m	NA
Spacing from Station to Road - mobile source monitoring stations See Figure E-1 of Appendix E	Yes

PUF

Present?	Yes
Manufacturer	Graseby
Model	NA
DNR number	114399
Serial number	NA
Motor number	NP-26309
Vertical Probe Placement 2-7 m above ground for micro-scale 2-15 m above ground for other scales	Yes

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Obstructions On Roof 2 m from walls, parapets, penthouses, etc.	Not on roof
Spacing From Trees Should be 20 m from dripline of trees Must be 10 m from dripline	>10m
Obstacle Distance 2 x height differential	Yes
Unrestricted Airflow At least 270° including the predominant wind direction for season of greatest pollutant concentration potential	Yes
Furnace or Incinerator Flues Recommended that none are in the vicinity	No
Distance between Collocated Monitors 1 to 4 m	NA
Spacing from Station to Road - mobile source monitoring stations See Figure E-1 of Appendix E	Yes

VOCs

Present?	Yes
Manufacturer	Thermo Andersen
Model	AVOCS
DNR number	127628
Serial number	0600-587
Motor number	NA
Vertical Probe Placement 2-7 m above ground for micro-scale 2-15 m above ground for other scales	Yes
Obstructions On Roof 2 m from walls, parapets, penthouses, etc.	Not on roof
Spacing From Trees Should be 20 m from dripline of trees Must be 10 m from dripline	>10m
Obstacle Distance 2 x height differential	Yes
Unrestricted Airflow At least 270° including the predominant wind direction for season of greatest pollutant concentration potential	Yes

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Furnace or Incinerator Flues Recommended that none are in the vicinity	No
Distance between Collocated Monitors 1 to 4 m	NA
Spacing from Station to Road - mobile source monitoring stations See Figure E-1 of Appendix E	Yes

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Table E-1 to Appendix E of Part 58—Minimum Separation Distance Between Roadways and Probes or Monitoring Paths for Monitoring Neighborhood and Urban Scale Ozone (O₃) and Oxides of Nitrogen (NO, NO₂, NO_x, NO_y)

Roadway average daily traffic, vehicles per day	Minimum distance ¹ (meters)	Minimum distance ^{1,2} (meters)
≤1,000	10	10
10,000	10	20
15,000	20	30
20,000	30	40
40,000	50	60
70,000	100	100
≥10,000	250	250

¹Distance from the edge of the nearest traffic lane. The distance for intermediate traffic counts **should** be interpolated from the table values based on the actual traffic count.

²Applicable for ozone monitors whose placement has not already been approved as of December 18, 2006.

Table E-2 to Appendix E of Part 58—Minimum Separation Distance Between Roadways and Probes or Monitoring Paths for Monitoring Neighborhood Scale Carbon Monoxide

Roadway average daily traffic, vehicles per day	Minimum distance ¹ (meters)
≤10,000	10
15,000	25
20,000	45
30,000	80
40,000	115
50,000	135
≥60,000	150

¹Distance from the edge of the nearest traffic lane. The distance for intermediate traffic counts **should** be interpolated from the table values based on the actual traffic count.

**State of Georgia Ambient Air Monitoring Program
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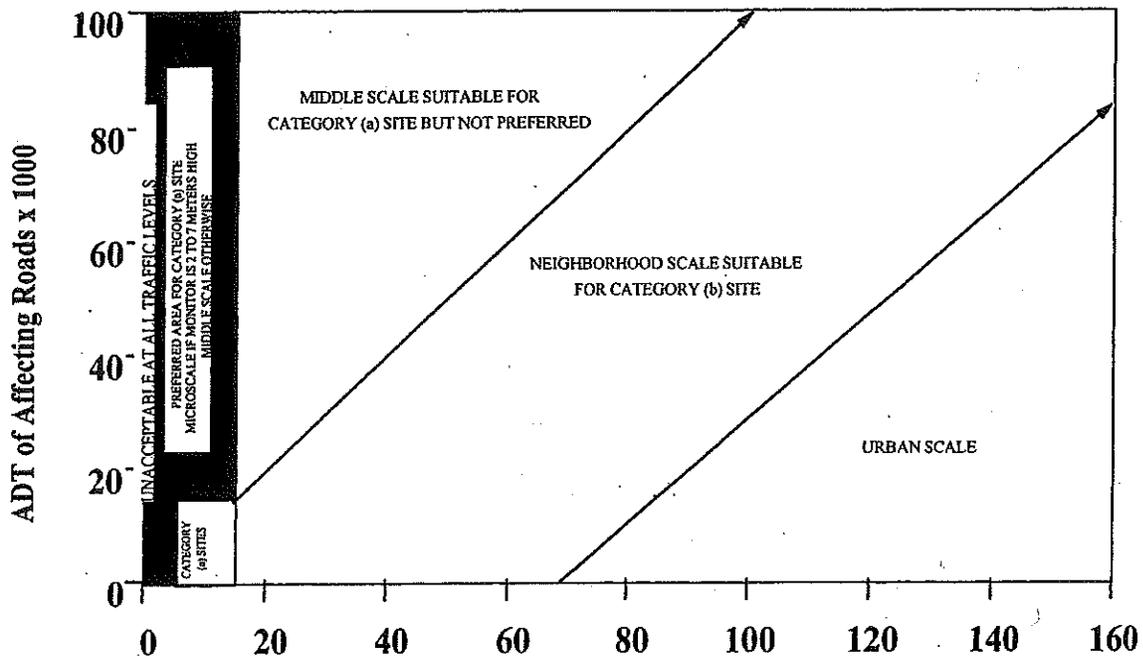


Figure E-1. Distance of PM samplers to nearest traffic lane (meters)

Notes:

An NO₂ sampling site having a point analyzer probe located closer to a roadway than allowed by the Table E-1 requirements should be classified as middle scale rather than neighborhood or urban scale, since the measurements from such a site would more closely represent the middle scale.

An ozone sampling site having a point analyzer probe located closer to a roadway than allowed by the Table E-1 requirements should be classified as middle scale rather than neighborhood or urban scale, since the measurements from such a site would more closely represent the middle scale.