

2012 ANNUAL MONITORING NETWORK PLAN FOR THE NORTH CAROLINA DIVISION OF AIR QUALITY

VOLUME 2

SITE DESCRIPTIONS BY AIR QUALITY CONTROL REGION AND METROPOLITAN STATISTICAL AREA

F. THE WASHINGTON MONITORING REGION



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The Washington Monitoring Region

The Washington Monitoring Region, shown in Figure F1, consists of four sections: (1) the Greenville Metropolitan Statistical Area (MSA) (Greene and Pitt Counties), (2) the Goldsboro MSA (Wayne County), (3) the Non-MSA Portion of the Washington Monitoring Region (Beaufort, Bertie, Camden, Chowan, Craven, Dare, Gates, Hertford, Hyde, Jones, Lenoir, Martin, Pamlico, Pasquotank, Perquimans, Tyrrell and Washington Counties) and (4) the Virginia Beach-Norfolk-New Port News MSA (Currituck County).



Figure F1. The Washington Monitoring Region
The red dots show the approximate locations of most of the monitoring sites in this region.

(1) The Greenville MSA

The Greenville MSA consists of two counties: Greene and Pitt. The principal city is Greenville. The NC-DAQ currently operates one monitoring site in the Greenville MSA – a collocated ozone and fine particle monitoring site at the Pitt County Agricultural Center in Greenville. Monitoring information for the site is summarized in Table F1. Figure F2 shows the site location. Both the ozone and fine particle monitors began operating on April 1, 2008. Views of the site as well as views looking north, east, south, and west from the site are provided in Figure F3 through Figure F12.



Figure F2. Locations of Monitors in the Greenville MSA
A is the Pitt County Agriculture Center ozone and fine particle monitoring site. The circle represents the neighborhood scale of 4 Km.



Figure F3. Aerial view of the Pitt Co Ag Center Site



Figure F4. The Pitt Co Ag Center Ozone and Fine Particle Monitoring Site

Table F1. Site Table for Pitt County Agriculture Center

Site Name:		Pitt County Agriculture Center		
AQS Site Identification Number		37-147-0006		
Location:		403 Government Circle Greenville, North Carolina		
MSA:	Greenville,NC	MSA #:		
Latitude	35.638610	Datum:	WGS84	
Longitude	-77.358050			
Elevation	7 meters			
Parameter Name	Method	Method Reference ID	Sample Duration	Sampling Schedule
Ozone	Instrumental With Ultra Violet Photometry (047)	EQOA-0880-047	1-Hour	April 1 to October 31
PM 2.5 Local Conditions	R & P Model 2025 PM2.5 Sequential w/WINS – Gravimetric Analysis (118)	RFPS-0498-118	24-Hour	Every Third Day, Year Round
Date Monitor Established:	Ozone			April 1, 2008
Date Monitor Established:	PM 2.5 Local Conditions			April 1, 2008
Nearest Road:	State Route 1529			
Traffic Count:	3400	Year of Count:	2010	
Parameter Name	Distance to Road	Direction to Road	Monitor Type	Statement of Purpose
Ozone	72 meters	South	SLAMS	Real-time AQI reporting. Compliance w/NAAQS.
PM 2.5 Local Conditions	68 meters	South	SLAMS	Compliance w/NAAQS.
Parameter Name	Monitoring Objective	Scale	Suitable for Comparison to NAAQS	Proposal to Move or Change
Ozone	Population Exposure	Neighborhood	Yes	None
PM 2.5 Local Conditions	Population Exposure	Neighborhood	Yes	None
Parameter Name	Meets Part 58 Appendix A Requirements	Meets Part 58 Appendix C Requirements	Meets Part 58 Appendix D Requirements	Meets Part 58 Appendix E Requirements
Ozone	Yes	Yes	Yes	Yes
PM 2.5 Local Conditions	Yes	Yes	No requirements	Yes
Parameter Name	Probe Height (m)	Distance to Support	Distance to Trees	Obstacles
Ozone	2.616	1.2192 meter	>20 meters	None
PM 2.5 Local Conditions	2.286	> 2 meters	>20 meters	None



Figure F5. Pitt Co Ag Center Looking North



Figure F6. Pitt Co Ag Center Site Looking Northeast



Figure F7. Pitt Co Ag Center Looking Northwest



Figure F10. Pitt Co Ag Center Site Looking East



Figure F8. Pitt Co Ag Center Looking West



Figure F11. Pitt Co Ag Center Looking Southeast



Figure F9. Pitt Co Ag Center Looking Southwest



Figure F12. Pitt Co Ag Center Looking South

The changes to the **lead monitoring network requirements** in 2010 did not result in additional monitors in the Greenville MSA. The Greenville MSA does not have an NCore monitoring site and does not have any permitted facilities located within its bounds that emit 0.5 ton or more per year of lead.¹ Any changes to the **ozone monitoring requirements** are not expected to result in more monitoring in the Greenville MSA. The MSA currently already has the minimum number of monitors required by 40 CFR 58 Appendix D for population exposure monitoring in urban areas does not have a Class 1 area. The 2010 **nitrogen dioxide monitoring requirements** will not add nitrogen dioxide monitors in the Greenville MSA because the population is less than 500,000. The 2010 **sulfur dioxide monitoring requirements** also will not result in more monitoring in this area because there are no large sources of sulfur dioxide in

¹ Data obtained from the NC-DAQ emission inventory database.

the MSA. The **changes to the carbon dioxide monitoring requirements** will not result in additional monitoring in this MSA because the population is too small.

(2) The Goldsboro MSA

The Goldsboro MSA consists of Wayne County. The major metropolitan area is the City of Goldsboro. The North Carolina Division of Air Quality (NC-DAQ) currently operates one monitoring site in the Goldsboro MSA. This monitoring site is a fine-particle monitoring site located at Dillard Middle School. A picture of the site as well as views looking north, northeast, east, southeast, south, southwest, west, and northwest are provided in Figure F13 through Figure F21. The site has a fine particle Federal Reference Monitor (FRM) that monitors on a 1-in-6 day schedule as well as a fine particle continuous monitor that provides hourly data for real time air quality index (AQI) reporting and for fine particle AQI forecasting.



Figure F13. Dillard Fine Particle Monitoring Site in Goldsboro, NC



Figure F14. Looking North from the Dillard Site



Figure F15. Looking Northeast from the Dillard Site



Figure F16. Looking Northwest from the Dillard Site



Figure F19. Looking East from the Dillard Site



Figure F17. Looking West from the Dillard Site



Figure F20. Looking Southeast from the Dillard Site



Figure F18. Looking Southwest from the Dillard Site



Figure F21. Looking South from the Dillard Site

Currently, the NC-DAQ does not monitor for ozone in Goldsboro because there are ozone monitors in the neighboring counties of Johnston and Lenoir. Figure F22 shows the locations of these monitors as well as the Leggett and Pitt County monitors in relation to the Goldsboro MSA. If sometime in the future ozone monitoring becomes required in the Goldsboro MSA and the EPA does not provide money to pay for the additional monitoring, the NC-DAQ may need to relocate a monitor from another part of the state to the Goldsboro MSA.



The Goldsboro MSA is outlined in heavy black line. A is the West Johnston ozone monitor; B is the Leggett ozone monitor; C is the Pitt Co Ag Center ozone monitor; D is the Lenoir Community College ozone monitor. Circles around the monitors approximate the scale of representation (West Johnston is urban - 4 to 50 Km; Leggett and Pitt County are regional - 50 Km plus; Lenoir Community College is neighborhood - 0.5 to 4 Km).

Figure F22. Ozone Monitors Surrounding the Goldsboro MSA

Changes to the **lead monitoring network** requirements in 2010 did not add any lead monitors in the Goldsboro MSA. The Goldsboro MSA does not have an NCore monitoring site and does not have any permitted facilities located within its bounds that emit 0.5 tons or more per year of lead.

The 2010 **nitrogen dioxide monitoring requirements** also did not increase the number of monitors in the Goldsboro MSA because its population is less than 500,000. The 2010 **sulfur dioxide monitoring requirements** did not result in additional sulfur dioxide monitors because there are not enough emissions or people in the MSA to require PWEI monitoring. The 2011 **changes to the carbon dioxide monitoring requirements** also did not result in the addition of any carbon monoxide monitors because the population is too small.

(3) The Non-MSA Portion of the Washington Monitoring Region

The Non-MSA Portion of the Washington Monitoring Region consists of 17 counties: Beaufort, Bertie, Camden, Chowan, Craven, Dare, Gates, Hertford, Hyde, Jones, Lenoir, Martin, Pamlico, Pasquotank, Perquimans, Tyrrell and Washington. No Metropolitan Statistical Areas are located here. The Kill Devil Hills Micropolitan Statistical Area is in Dare County and the Washington Micropolitan Statistical Area is in Beaufort County. Camden, Pasquotank, and Perquimans Counties are included in the Elizabeth City Micropolitan Statistical Area. The New Bern Micropolitan Statistical Area includes Craven, Jones and Pamlico Counties and the Kinston Micropolitan Statistical Areas is located in Lenoir County. The NC-DAQ operates three monitoring sites in this area. These sites are located in Jamesville (Martin County), at Lenoir Community College (Lenoir County) and at the Bayview Ferry (Beaufort County). Figure F23 shows the location of the Jamesville monitoring site.



Figure F23. Location of the Jamesville Monitoring Site

A is the Jamesville site. The circles approximate the scale of representation for the monitors (the ozone monitor is urban – 4 to 50 Km - inner circle; the fine particle monitors are regional - 50 Km plus - outer circle).



Figure F24. Jamesville Ozone, Particle, and Sulfur Dioxide Monitoring Site

At the **Jamesville** (37-117-0001) site the NC-DAQ operates a seasonal ozone monitor, a one-in-three day fine particle FRM monitor, a continuous fine particle monitor, and a special purpose sulfur dioxide monitor that operates for 12 months every three years. Figure F24 through Figure F32 provide a view of the Jamesville site as well as views looking north, northeast, east, southeast, south, southwest, west, and northwest from the site.



Figure F25. Looking North from the Jamesville Site



Figure F26. Looking Northeast from the Jamesville Site



Figure F27. Looking Northwest from the Jamesville Site



Figure F30. Looking East from the Jamesville Site



Figure F28. Looking West from the Jamesville Site



Figure F31. Looking Southeast from the Jamesville Site



Figure F29. Looking Southwest from the Jamesville Site



Figure F32. Looking South from the Jamesville Site

This fine-particle monitoring site is a regional transport site for the coastal plain. Long term plans for this site are to discontinue the manual fine particle monitor and only maintain a continuous fine particle monitor at the site.

At the **Bayview** Ferry (Beaufort County) site the NC-DAQ operates a sulfur dioxide monitor. This site began operating in January 2011 to replace the Aurora sulfur dioxide monitoring site. Figure F33 shows the relative locations of the two sites. In 2010 the PCS Phosphate manufacturing facility started logging near the Aurora source-oriented sulfur dioxide monitoring site, located on the fence-line of their manufacturing facility. Although PCS rerouted the logging trucks so they no longer went by the monitoring station and indicated the area near the monitoring site was not scheduled to be mined until

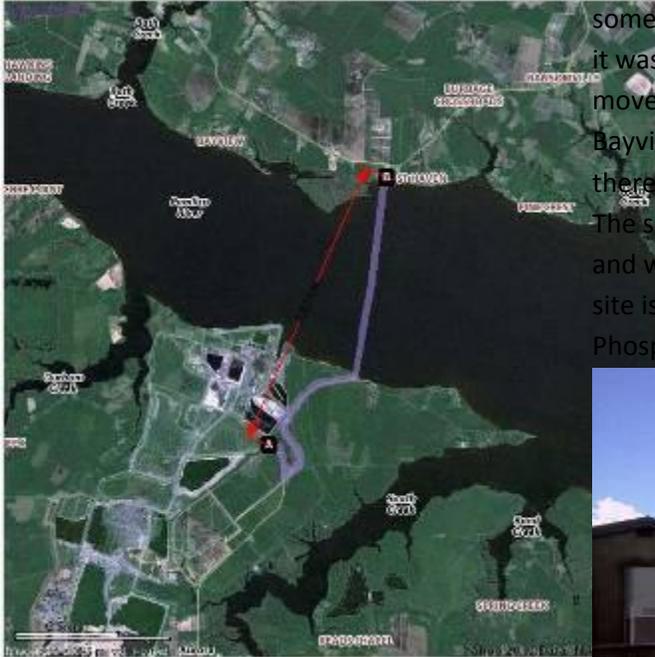


Figure F33. Location of New Bayview Ferry Site (B) Relative to Old Aurora Site (A)

sometime around 2015, the NC-DAQ determined that it was necessary to relocate the monitor. The NC-DAQ moved the monitor across the Pamlico River to the Bayview Ferry station because more people live over there and the new site is downwind of the PCS facility. The site as well as views looking north, east, south, and west is shown in Figure F34 to Figure F38. This site is source-oriented, located downwind of the PCS Phosphate facility in Beaufort County.



Figure F34. Bayview Ferry Sulfur Dioxide Monitoring Site



Figure F35. Looking North from the Bayview Ferry Site



Figure F36. Looking East from the Bayview Ferry Site



Figure F37. Looking West from the Bayview Ferry Site



Figure F38. Looking South from the Bayview Ferry Site

At the **Lenoir Community College** (37-107-0004) site the NC-DAQ operates a seasonal ozone monitor and a one-in-three day fine particle FRM monitor. In 2009 a screen was installed between the monitoring site and nearby baseball field to block glare from an observatory from interfering with the people playing baseball. In 2010 a large scoreboard was also installed. As a result in 2011, the NC-DAQ moved the site to another location on the campus. Figure F39 shows the locations of the old monitoring site and the new monitoring site to the west. The monitoring site and views looking north, east, south, and west are provided in Figure F40 through Figure F44. The site is collocated with a meteorological tower measuring wind speed, wind direction, two-meter and 10-meter ambient temperature, relative humidity, solar radiation, and rain fall. This fine particle monitor is not a required monitor and measured ambient fine particle concentrations at the site are less than 80 % of the standard.



Figure F39. New and Old LCC Monitoring Site Locations



Figure F40. Lenoir Community College Ozone and Fine Particle Monitoring Site



Figure F41. Looking North from the new LCC Site location



Figure F43. Looking East from the new LCC Site location



Figure F42. Looking West from the new LCC Site location



Figure F44. Looking South from the new LCC Site location

In 2008 EPA expanded the **lead monitoring network** to support the lower lead NAAQS of 0.15 micrograms per cubic meter promulgated in 2008. In 2010 the EPA focused monitoring efforts on fence line monitoring located at facilities that emit 0.5 tons or more of lead per year and at NCore monitoring sites. The December 2010 changes to the lead monitoring network requirements did not require lead monitoring in this area of the Washington Monitoring Region. The Non-MSA Portion of the Washington Monitoring Region does not have any NCore monitoring sites and does not have any permitted facilities located within its bounds that emit 0.5 tons or more of lead per year.²

Future **ozone monitoring requirements** could impact this portion of the Washington Monitoring Region. Although it lacks urban areas with population levels above the threshold for requiring population exposure monitoring, it does have a Class I Area, the Swan Quarter Wilderness Area, located in Hyde County. If the EPA ever requires ozone monitoring in a Class 1 Area, the NC-DAQ will probably use one of the existing ozone monitors currently in one of the Class 1 Areas in the western part of the state to meet that requirement.

The 2010 **nitrogen dioxide monitoring** requirements will not result in additional monitoring in this area because there is not an MSA with a population of 500,000 or more and there are not any roadways that exceed the traffic threshold. The 2010 **sulfur dioxide monitoring** requirements will also not increase the

² Ibid.

number of monitors in this area. The 2011 **changes to the carbon dioxide monitoring requirements** will not add additional monitors to the area because the population is too small.

(4) The Virginia Beach-Norfolk-New Port News MSA

The North Carolina portion of the Virginia Beach-Norfolk-New Port News MSA is made up of one county - Currituck County. The NC-DAQ currently does not operate any monitoring sites in Currituck County. The NC-DAQ has an agreement with Virginia that Virginia will fulfill all of North Carolina's monitoring requirements for the Currituck County portion of the Virginia Beach-Norfolk-New Port News MSA.

The NC-DAQ does not expect changes to the **lead monitoring** network requirements to impact Currituck County. It does not have any NCore monitoring sites and it does not have any permitted facilities located within its bounds that emit 0.5 tons or more of lead per year.³

Any new **ozone monitoring requirements** should also not impact Currituck County. It is part of an MSA that already meets the population exposure monitoring requirements for urban areas. Rural ozone monitoring requirements should also not impact this area because there are no Class I areas.

This area is not impacted by the 2010 **nitrogen dioxide monitoring** requirements because it does not have any roadways that exceed the traffic threshold. It also is not impacted by the 2010 **sulfur dioxide monitoring requirements** because there are no facilities in the county emitting large enough quantities of sulfur dioxide to trigger source-oriented monitoring. This county will also not be impacted by the **proposed changes to the carbon dioxide monitoring requirements** because the population is too small.

³ Data obtained from the NC-DAQ emission inventory database.

Appendix F.1 Annual Network Site Review Forms for 2011

Pitt County Agricultural Center in Greenville

Dillard School in Goldsboro

Jamesville

Bayview Ferry

Lenoir Community College in Kinston

Site Review Form Calendar Year 2011

Site Information

Region <u>WARO</u>	Site Name <u>Pitt Ag</u>	AQS Site # <u>37-147-0006</u>
Street Address <u>300-500 Government Circle</u>		City <u>Greenville</u>
Urban Area <u>GREENVILLE</u>	Core-based Statistical Area <u>Greenville, NC</u>	
Enter Exact		
Longitude <u>-77.357994</u>	Latitude <u>35.638662</u>	Method of Measuring
In Decimal Degrees	In Decimal Degrees	GPS Explanation: <u>Google Earth</u>
Elevation Above/below Mean Sea Level (in meters)		<u>7</u>
Name of nearest road to inlet probe <u>SR 1529 ADT 3400</u> Year <u>2010</u>		
Comments: _____		
Distance of site to nearest major road (m) <u>643.47</u> Direction from site to nearest major road <u>SSW</u>		
Name of nearest major road <u>Hwy 33 ADT 8800</u> Year <u>2010</u>		
Comments: _____		
Site located near electrical substation/high voltage power lines?		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Distance of site to nearest railroad track	(m) <u>256</u> Direction to RR <u>NE</u>	<input type="checkbox"/> NA
Distance of site to nearest power pole w/transformer	(m) <u>124</u> Direction <u>SE</u>	
Distance between site and drip line of water tower (m)	Direction from site to water tower _____	<input checked="" type="checkbox"/> NA
Explain any sources of potential bias; include cultivated fields, loose bulk storage, stacks, vents, railroad tracks, construction activities, fast food restaurants, and swimming pools.		
<u>N/A</u>		

ANSWER ALL APPLICABLE QUESTIONS:

Parameters	Monitoring Objective	Scale	Site Type
<input type="checkbox"/> NA <input type="checkbox"/> SO ₂ (NAAQS) <input type="checkbox"/> SO ₂ (trace-level) <input type="checkbox"/> NO _x (NAAQS) <input type="checkbox"/> HSNO _y <input checked="" type="checkbox"/> O ₃ <input type="checkbox"/> NH ₃ <input type="checkbox"/> Hydrocarbon <input type="checkbox"/> Air Toxics <input type="checkbox"/> HSCO (Not Micro) <input type="checkbox"/> CO (trace-level)	<input type="checkbox"/> General/Background _____ <input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Max O ₃ Concentration _____ <input checked="" type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Upwind Background _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____ <input type="checkbox"/> Middle _____ <input checked="" type="checkbox"/> Neighborhood _____ <input type="checkbox"/> Urban _____ <input type="checkbox"/> Regional _____	<input checked="" type="checkbox"/> SLAMS _____ <input type="checkbox"/> NCORE _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> SPM/OPN _____ <input type="checkbox"/> NONREGULATORY _____
Probe inlet height (from ground) 2-15 m? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Give actual measured height from ground (meters) <u>2.616</u>			
Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			
Actual measured distance from probe to supporting structure (meters) <u>1.2192</u>			
Distance of probe inlet from other monitoring probe inlets > 1 m? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input checked="" type="checkbox"/> *No <input type="checkbox"/> (answer *d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/>			
*Distance from probe to tree (m) _____ Direction from probe to tree _____			
*Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *d questions) No <input checked="" type="checkbox"/>			
*Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____			
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance of probe to nearest traffic lane (m) <u>72</u> Direction from probe to nearest traffic lane <u>S</u>			

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA <input type="checkbox"/> CO (Micro Only)	<input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> SPM/OPN _____ <input type="checkbox"/> NONREGULATORY
Probe inlet height (from ground) 2.5 - 3.5 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe inlet to ground (meters) _____			
Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) _____			
Distance of probe inlet to nearest intersection > 10 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Distance of probe inlet to nearest traffic lane 2 - 10 m? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *'d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/> *Distance from probe to tree (m) _____ Direction from probe to tree ____ *Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *'d questions) No <input type="checkbox"/>			
*Identify obstacle ____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle ____ *Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ____			

Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA <input type="checkbox"/> NO _y (trace-level)	<input type="checkbox"/> General/Background _____ <input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Max O ₃ Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Upwind Background _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____ <input type="checkbox"/> Middle _____ <input type="checkbox"/> Neighborhood _____ <input type="checkbox"/> Urban _____ <input type="checkbox"/> Regional _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> NCORE _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> SPM/OPN _____ <input type="checkbox"/> NONREGULATORY
Probe inlet height (from ground) 10-15 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe inlet to ground (meters) _____			
Distance of probe inlet from horizontal and/or vertical supporting structure > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) _____			
Distance of probe inlet from other monitoring probe inlets > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *'d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/> *Distance from probe to tree (m) _____ Direction from probe to tree ____ *Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *'d questions) No <input type="checkbox"/>			
*Identify obstacle ____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle ____ *Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ____			

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA <input type="checkbox"/> NO ₂ (Near Road only) <input type="checkbox"/> CO (Near Road only)	<input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> NONREGULATORY _____
Probe inlet height (from ground) 2-15 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual measured height from ground (meters) _____ Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) _____ Distance of probe inlet from other monitoring probe inlets > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *'d questions) *Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/> *Distance from probe to tree (m) _____ Direction from probe to tree _____ *Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *'d questions) No <input type="checkbox"/> *Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____ *Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/> Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane _____			

Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA Air flow > 200 L/min <input type="checkbox"/> PM10 <input type="checkbox"/> TSP <input type="checkbox"/> Pb	<input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Background _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____ <input type="checkbox"/> Middle _____ <input type="checkbox"/> Neighborhood _____ <input type="checkbox"/> Urban _____ <input type="checkbox"/> Regional _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> NCORE _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> NONREGULATORY _____
Probe inlet height (from ground) <input type="checkbox"/> < 2 m _____ <input type="checkbox"/> 2-7m _____ <input type="checkbox"/> 7-15 m _____ <input type="checkbox"/> > 15 m _____ Actual measured distance from probe inlet to ground (meters) _____			
Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) _____			
Distance between collocated PM-10, TSP or Pb sampler inlets - 2 to 4 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> Actual measured distance between collocated probes (meters) _____			
Distance between any high volume inlet and any other high or low volume inlet ≥ 2 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *'d questions) *Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/> *Distance from probe to tree (m) _____ Direction from probe to tree _____ *Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *'d questions) No <input type="checkbox"/> *Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____ *Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/> Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane _____			

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
<input type="checkbox"/> NA Air flow < 200 L/min <input checked="" type="checkbox"/> PM2.5 <input type="checkbox"/> PM10 <input type="checkbox"/> PM10-2.5 <input type="checkbox"/> PM10 Lead (PB) <input type="checkbox"/> PM2.5 Cont. (TEOM) <input type="checkbox"/> PM2.5 Cont. (BAM) <input type="checkbox"/> PM2.5 Spec. (SASS) <input type="checkbox"/> PM2.5 Spec. (URG) <input type="checkbox"/> PM2.5 Cont. Spec.	<input type="checkbox"/> General/Background _____ <input type="checkbox"/> Highest Concentration _____ <input checked="" type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Upwind Background _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____ <input type="checkbox"/> Middle _____ <input checked="" type="checkbox"/> Neighborhood _____ <input type="checkbox"/> Urban _____ <input type="checkbox"/> Regional _____	<input checked="" type="checkbox"/> SLAMS _____ <input type="checkbox"/> NCORE _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> NONREGULATORY _____
Probe inlet height (from ground) <input type="checkbox"/> < 2 m _____ <input checked="" type="checkbox"/> 2-7m _____ <input type="checkbox"/> 7-15 m _____ <input type="checkbox"/> > 15 m _____ Actual measured distance from probe inlet to ground (meters) <u>2.286</u>			
Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			
Distance between inlets of any low volume monitor and any other low volume monitor at the site = 1 m or greater?			Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input checked="" type="checkbox"/>
Distance between all low volume monitor inlets and any Hi-Volume PM-10 or TSP inlet = 2 m or greater?			Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input checked="" type="checkbox"/>
Are collocated PM2.5 Monitors (Two FRMs, FRM & BAM, FRM & TEOM, BAM & TEOM) Located at Site?		*Yes <input type="checkbox"/> (answer *'d questions) No <input checked="" type="checkbox"/> NA <input type="checkbox"/>	
*Distance between collocated PM 2.5 sampler inlets = 1 to 4 m?		Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual (meters) _____	
*Are collocated PM2.5 sampler inlets within 1 m vertically of each other?		Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual (meters) _____	
Is an URG 3000 monitor collocated with a SASS monitor at the site?		*Yes <input type="checkbox"/> (answer *'d questions) No <input checked="" type="checkbox"/> NA <input type="checkbox"/>	
*Distance between collocated speciation sampler inlets = 1 to 4 m?		Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual (meters) _____	
*Are collocated speciation sampler inlets within 1 m vertically of each other?		Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual (meters) _____	
Is a low-volume PM10 monitor collocated with a PM2.5 monitor at the site to measure PM10-2.5?		*Yes <input type="checkbox"/> (answer *'d questions) No <input checked="" type="checkbox"/> NA <input type="checkbox"/>	
*Distance between collocated PM10 and PM2.5 inlets for PM10-2.5 samplers = 1 to 4 m?		Yes <input type="checkbox"/> No <input type="checkbox"/>	
*Are collocated PM10 and PM2.5 sampler inlets within 1 m vertically of each other?		Yes <input type="checkbox"/> No <input type="checkbox"/>	
Is probe > 20 m from the nearest tree drip line? Yes <input checked="" type="checkbox"/> *No <input type="checkbox"/> (answer *'d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/>			
*Distance from probe to tree (m) _____ Direction from probe to tree _____			
*Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *'d questions) No <input checked="" type="checkbox"/>			
*Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____			
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance of probe to nearest traffic lane (m) <u>68</u> Direction from probe to nearest traffic lane <u>S</u>			

RECOMMENDATIONS:

- 1) Maintain current site status? Yes *No (answer *'d questions)
- *2) Change monitoring objective? Yes (enter new objective _____) No
- *3) Change scale of representativeness? Yes (enter new scale _____) No
- *4) Relocate site? Yes No

Comments:

Reviewer Alicia Mangum Date January 6, 2012

Ambient Monitoring Coordinator Steven Daniels Date January 13, 2012

Revised 2012-01-19

Site Review Form Calendar Year 2011

Site Information

Region <u>WARO</u>	Site Name <u>Dillard</u>	AQS Site # <u>37-191-0005</u>	
Street Address <u>1101 Deveraux St.</u>		City <u>Goldsboro</u>	
Urban Area <u>GOLDSBORO</u>		Core-based Statistical Area <u>Goldsboro, NC</u>	
Enter Exact			
Longitude <u>-77.993910</u>		Latitude <u>35.369223</u>	
In Decimal Degrees		In Decimal Degrees	
		Method of Measuring	Other (explain) <u>GoogleEarth</u>
Elevation Above/below Mean Sea Level (in meters)		<u>33</u>	
Name of nearest road to inlet probe <u>Deveraux St.</u> ADT _____ Year _____			
Comments: <u>No traffic count</u>			
Distance of site to nearest major road (m) <u>250.00</u> Direction from site to nearest major road <u>E</u>			
Name of nearest major road <u>S. Slocumb St.</u> ADT <u>5200</u> Year <u>2008</u>			
Comments: _____			
Site located near electrical substation/high voltage power lines?			Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Distance of site to nearest railroad track		(m) _____	Direction to RR <u>NA</u> <input checked="" type="checkbox"/>
Distance of site to nearest power pole w/transformer		(m) <u>3</u>	Direction <u>SSW</u>
Distance between site and drip line of water tower (m) _____		Direction from site to water tower <u>NA</u> <input checked="" type="checkbox"/>	
Explain any sources of potential bias; include cultivated fields, loose bulk storage, stacks, vents, railroad tracks, construction activities, fast food restaurants, and swimming pools. _____			

ANSWER ALL APPLICABLE QUESTIONS.

Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA <input type="checkbox"/> SO ₂ (NAAQS) <input type="checkbox"/> SO ₂ (trace-level) <input type="checkbox"/> NO _x (NAAQS) <input type="checkbox"/> H ₂ NO _x <input type="checkbox"/> O ₃ <input type="checkbox"/> NH ₃ <input type="checkbox"/> Hydrocarbon <input type="checkbox"/> Air Toxics <input type="checkbox"/> HSCO (Not Micro) <input type="checkbox"/> CO (trace-level)	<input type="checkbox"/> General/Background _____ <input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Max O ₃ Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Upwind Background _____ <input type="checkbox"/> Welfare Related Impacts _____ _____	<input type="checkbox"/> Micro _____ <input type="checkbox"/> Middle _____ <input type="checkbox"/> Neighborhood _____ <input type="checkbox"/> Urban _____ <input type="checkbox"/> Regional _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> NCORE _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> SPM/OPN _____ <input type="checkbox"/> NONREGULATORY _____
Probe inlet height (from ground) 2-15 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual measured height from ground (meters) _____			
Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Actual measured distance from probe to supporting structure (meters) _____			
Distance of probe inlet from other monitoring probe inlets > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *'d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/>			
*Distance from probe to tree (m) _____ Direction from probe to tree _____			
*Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *'d questions) No <input type="checkbox"/>			
*Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____			
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane _____			

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Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA <input type="checkbox"/> CO (Micro Only)	<input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> SPM/OPN _____ <input type="checkbox"/> NONREGULATORY
Probe inlet height (from ground) 2.5 - 3.5 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe inlet to ground (meters) _____			
Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) _____			
Distance of probe inlet to nearest intersection > 10 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Distance of probe inlet to nearest traffic lane 2 - 10 m? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *'d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/>			
*Distance from probe to tree (m) _____ Direction from probe to tree _____			
*Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *'d questions) No <input type="checkbox"/>			
*Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____			
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane _____			

Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA <input type="checkbox"/> NO _y (trace-level)	<input type="checkbox"/> General/Background _____ <input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Max O ₃ Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Upwind Background _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____ <input type="checkbox"/> Middle _____ <input type="checkbox"/> Neighborhood _____ <input type="checkbox"/> Urban _____ <input type="checkbox"/> Regional _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> N CORE _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> SPM/OPN _____ <input type="checkbox"/> NONREGULATORY
Probe inlet height (from ground) 10-15 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe inlet to ground (meters) _____			
Distance of probe inlet from horizontal and/or vertical supporting structure > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) _____			
Distance of probe inlet from other monitoring probe inlets > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *'d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/>			
*Distance from probe to tree (m) _____ Direction from probe to tree _____			
*Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *'d questions) No <input type="checkbox"/>			
*Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____			
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane _____			

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA <input type="checkbox"/> NO ₂ (Near Road only) <input type="checkbox"/> CO (Near Road only)	<input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> NONREGULATORY _____
Probe inlet height (from ground) 2-15 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual measured height from ground (meters) _____ Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) _____ Distance of probe inlet from other monitoring probe inlets > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *d questions) *Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/> *Distance from probe to tree (m) _____ Direction from probe to tree _____ *Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *d questions) No <input type="checkbox"/> *Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____ *Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/> Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane _____			

Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA Air flow > 200 L/min <input type="checkbox"/> PM10 <input type="checkbox"/> TSP <input type="checkbox"/> Pb	<input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Background _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____ <input type="checkbox"/> Middle _____ <input type="checkbox"/> Neighborhood _____ <input type="checkbox"/> Urban _____ <input type="checkbox"/> Regional _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> NCORE _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> NONREGULATORY _____
Probe inlet height (from ground) <input type="checkbox"/> < 2 m _____ <input type="checkbox"/> 2-7m _____ <input type="checkbox"/> 7-15 m _____ <input type="checkbox"/> > 15 m _____ Actual measured distance from probe inlet to ground (meters) _____			
Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) _____			
Distance between collocated PM-10, TSP or Pb sampler inlets = 2 to 4 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> Actual measured distance between collocated probes (meters) _____			
Distance between any high volume inlet and any other high or low volume inlet \geq 2 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *d questions) *Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/> *Distance from probe to tree (m) _____ Direction from probe to tree _____ *Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *d questions) No <input type="checkbox"/> *Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____ *Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/> Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane _____			

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
<input type="checkbox"/> NA Air flow < 200 L/min <input checked="" type="checkbox"/> PM2.5 <input type="checkbox"/> PM10 <input type="checkbox"/> PM10-2.5 <input type="checkbox"/> PM10 Lead (PB) <input checked="" type="checkbox"/> PM2.5 Cont. (TEOM) <input type="checkbox"/> PM2.5 Cont. (BAM) <input type="checkbox"/> PM2.5 Spec. (SASS) <input type="checkbox"/> PM2.5 Spec. (URG) <input type="checkbox"/> PM2.5 Cont. Spec.	<input type="checkbox"/> General/Background _____ <input type="checkbox"/> Highest Concentration _____ <input checked="" type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Upwind Background _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____ <input type="checkbox"/> Middle _____ <input checked="" type="checkbox"/> Neighborhood _____ <input type="checkbox"/> Urban _____ <input type="checkbox"/> Regional _____	<input checked="" type="checkbox"/> SLAMS _____ <input type="checkbox"/> NCORE _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> NONREGULATORY _____
Probe inlet height (from ground) <input type="checkbox"/> < 2 m _____ <input checked="" type="checkbox"/> 2-7m _____ <input type="checkbox"/> 7-15 m _____ <input type="checkbox"/> > 15 m _____ Actual measured distance from probe inlet to ground (meters) <u>FRM 2.34 / TEOM 2.30</u>			
Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			
Distance between inlets of any low volume monitor and any other low volume monitor at the site = 1 m or greater?			Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>
Distance between all low volume monitor inlets and any Hi-Volume PM-10 or TSP inlet = 2 m or greater?			Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input checked="" type="checkbox"/>
Are collocated PM2.5 Monitors (Two FRMs, FRM & BAM, FRM & TEOM, BAM & TEOM) Located at Site?		*Yes <input checked="" type="checkbox"/> (answer *'d questions) No <input type="checkbox"/> NA <input type="checkbox"/>	
*Distance between collocated PM 2.5 sampler inlets = 1 to 4 m?		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Give actual (meters) <u>2.35</u>	
*Are collocated PM2.5 sampler inlets within 1 m vertically of each other?		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Give actual (meters) <u>0.04</u>	
Is an URG 3000 monitor collocated with a SASS monitor at the site?		*Yes <input type="checkbox"/> (answer *'d questions) No <input type="checkbox"/> NA <input checked="" type="checkbox"/>	
*Distance between collocated speciation sampler inlets = 1 to 4 m?		Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual (meters) _____	
*Are collocated speciation sampler inlets within 1 m vertically of each other?		Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual (meters) _____	
Is a low-volume PM10 monitor collocated with a PM2.5 monitor at the site to measure PM10-2.5?		*Yes <input type="checkbox"/> (answer *'d questions) No <input checked="" type="checkbox"/> NA <input type="checkbox"/>	
*Distance between collocated PM10 and PM2.5 inlets for PM10-2.5 samplers = 1 to 4 m?		Yes <input type="checkbox"/> No <input type="checkbox"/>	
*Are collocated PM10 and PM2.5 sampler inlets within 1 m vertically of each other?		Yes <input type="checkbox"/> No <input type="checkbox"/>	
Is probe > 20 m from the nearest tree drip line? Yes <input checked="" type="checkbox"/> *No <input type="checkbox"/> (answer *'d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/>			
*Distance from probe to tree (m) _____ Direction from probe to tree _____			
*Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input checked="" type="checkbox"/> (answer *'d questions) No <input type="checkbox"/>			
*Identify obstacle <u>building</u> Distance from probe inlet (m) <u>16</u> Direction from probe inlet to obstacle <u>W</u>			
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			
Distance of probe to nearest traffic lane (m) <u>138</u> Direction from probe to nearest traffic lane <u>E</u>			

RECOMMENDATIONS:

- 1) Maintain current site status? Yes *No (answer *'d questions)
- *2) Change monitoring objective? Yes (enter new objective _____) No
- *3) Change scale of representativeness? Yes (enter new scale _____) No
- *4) Relocate site? Yes No

Comments: _____

Reviewer Peter Susi

Date 1-24-2012

Ambient Monitoring Coordinator Steven Daniels

Date January 24, 2012

Revised 2012-05-10

Site Review Form Calendar Year 2011

Site Information

Region <u>WARO</u>	Site Name <u>Jamesville</u>	AQS Site # <u>37-117-0001</u>
Street Address <u>1210 Hayes Street</u>		City <u>Jamesville</u>
Urban Area <u>Not in an Urban Area</u>	Core-based Statistical Area <u>None</u>	
Enter Exact		
Longitude <u>-76.906249</u>	Latitude <u>35.810661</u>	Method of Measuring
In Decimal Degrees	In Decimal Degrees	GPS <input type="checkbox"/> Explanation: <u>Google Earth</u>
Elevation Above/below Mean Sea Level (in meters)		<u>14</u>
Name of nearest road to inlet probe <u>Hayes Street</u> ADT <u>N/A</u> Year <u> </u>		
Comments: <u>Dead end upaved road (ADT not available)</u>		
Distance of site to nearest major road (m) <u>119.00</u> Direction from site to nearest major road <u>S</u>		
Name of nearest major road <u>US 64 Bypass</u> ADT <u>7600</u> Year <u>2010</u>		
Comments: <u> </u>		
Site located near electrical substation/high voltage power lines?		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Distance of site to nearest railroad track	(m) <u>175</u> Direction to RR <u>S</u>	<input type="checkbox"/> NA
Distance of site to nearest power pole w/transformer	(m) <u>50</u> Direction <u>NNE</u>	
Distance between site and drip line of water tower (m) <u> </u>	Direction from site to water tower <u> </u>	<input checked="" type="checkbox"/> NA
Explain any sources of potential bias; include cultivated fields, loose bulk storage, stacks, vents, railroad tracks, construction activities, fast food restaurants, and swimming pools.		
<u>Cultivated fields and wood chipping in vicinity</u>		

ANSWER ALL APPLICABLE QUESTIONS:

Parameters	Monitoring Objective	Scale	Site Type
<input type="checkbox"/> NA <input type="checkbox"/> SO ₂ (NAAQS) <input type="checkbox"/> SO ₂ (trace-level) <input type="checkbox"/> NO _x (NAAQS) <input type="checkbox"/> HSN _o y <input checked="" type="checkbox"/> O ₃ <input type="checkbox"/> NH ₃ <input type="checkbox"/> Hydrocarbon <input type="checkbox"/> Air Toxics <input type="checkbox"/> HSCO (Not Micro) <input type="checkbox"/> CO (trace-level)	<input checked="" type="checkbox"/> General/Background <input type="checkbox"/> Highest Concentration <input type="checkbox"/> Max O ₃ Concentration <input type="checkbox"/> Population Exposure <input type="checkbox"/> Source Oriented <input type="checkbox"/> Transport <input type="checkbox"/> Upwind Background <input type="checkbox"/> Welfare Related Impacts	<input type="checkbox"/> Micro <input type="checkbox"/> Middle <input type="checkbox"/> Neighborhood <input type="checkbox"/> Urban <input checked="" type="checkbox"/> Regional	<input checked="" type="checkbox"/> SLAMS <input type="checkbox"/> NCORE <input type="checkbox"/> SPM <input type="checkbox"/> SPM/OPN <input type="checkbox"/> NONREGULATORY
Probe inlet height (from ground) 2-15 m? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Give actual measured height from ground (meters) <u>4.7</u>			
Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			
Actual measured distance from probe to supporting structure (meters) <u>2.9</u>			
Distance of probe inlet from other monitoring probe inlets > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input checked="" type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input checked="" type="checkbox"/> *No <input type="checkbox"/> (answer *d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/>			
*Distance from probe to tree (m) <u> </u> Direction from probe to tree <u> </u>			
*Height of tree (m) <u> </u>			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *d questions) No <input checked="" type="checkbox"/>			
*Identify obstacle <u> </u> Distance from probe inlet (m) <u> </u> Direction from probe inlet to obstacle <u> </u>			
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance of probe to nearest traffic lane (m) <u>130</u> Direction from probe to nearest traffic lane <u>SSW</u>			

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA <input type="checkbox"/> CO (Micro Only)	<input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> SPM/OPN _____ <input type="checkbox"/> NONREGULATORY
Probe inlet height (from ground) 2.5 - 3.5 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe inlet to ground (meters) _____			
Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) _____			
Distance of probe inlet to nearest intersection > 10 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Distance of probe inlet to nearest traffic lane 2 - 10 m? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/>			
*Distance from probe to tree (m) _____ Direction from probe to tree ____			
*Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *d questions) No <input type="checkbox"/>			
*Identify obstacle ____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle ____			
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ____			

Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA <input type="checkbox"/> NO _x (trace-level)	<input type="checkbox"/> General/Background _____ <input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Max O ₃ Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Upwind Background _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____ <input type="checkbox"/> Middle _____ <input type="checkbox"/> Neighborhood _____ <input type="checkbox"/> Urban _____ <input type="checkbox"/> Regional _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> NCORE _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> SPM/OPN _____ <input type="checkbox"/> NONREGULATORY
Probe inlet height (from ground) 10-15 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe inlet to ground (meters) _____			
Distance of probe inlet from horizontal and/or vertical supporting structure > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) _____			
Distance of probe inlet from other monitoring probe inlets > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/>			
*Distance from probe to tree (m) _____ Direction from probe to tree ____			
*Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *d questions) No <input type="checkbox"/>			
*Identify obstacle ____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle ____			
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ____			

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Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA <input type="checkbox"/> NO ₂ (Near Road only) <input type="checkbox"/> CO (Near Road only)	<input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> NONREGULATORY _____
Probe inlet height (from ground) 2-15 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual measured height from ground (meters) _____ Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) _____ Distance of probe inlet from other monitoring probe inlets > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *d questions) *Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/> *Distance from probe to tree (m) _____ Direction from probe to tree _____ *Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *d questions) No <input type="checkbox"/> *Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____ *Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/> Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane _____			

Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA Air flow > 200 L/min <input type="checkbox"/> PM10 <input type="checkbox"/> TSP <input type="checkbox"/> Pb	<input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Background _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____ <input type="checkbox"/> Middle _____ <input type="checkbox"/> Neighborhood _____ <input type="checkbox"/> Urban _____ <input type="checkbox"/> Regional _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> NCORE _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> NONREGULATORY _____
Probe inlet height (from ground) <input type="checkbox"/> < 2 m _____ <input type="checkbox"/> 2-7m _____ <input type="checkbox"/> 7-15 m _____ <input type="checkbox"/> > 15 m _____ Actual measured distance from probe inlet to ground (meters) _____ ----- Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) _____ ----- Distance between collocated PM-10, TSP or Pb sampler inlets = 2 to 4 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> Actual measured distance between collocated probes (meters) _____ Distance between any high volume inlet and any other high or low volume inlet ≥ 2 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *d questions) *Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/> *Distance from probe to tree (m) _____ Direction from probe to tree _____ *Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *d questions) No <input type="checkbox"/> *Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____ *Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/> Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane _____			

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Parameters	Monitoring Objective	Scale	Site Type
<input type="checkbox"/> NA Air flow < 200 L/min <input checked="" type="checkbox"/> PM2.5 <input type="checkbox"/> PM10 <input type="checkbox"/> PM10-2.5 <input type="checkbox"/> PM10 Lead (PB) <input checked="" type="checkbox"/> PM2.5 Cont. (TEOM) <input type="checkbox"/> PM2.5 Cont. (BAM) <input type="checkbox"/> PM2.5 Spec. (SASS) <input type="checkbox"/> PM2.5 Spec. (URG) <input type="checkbox"/> PM2.5 Cont. Spec.	<input checked="" type="checkbox"/> General/Background _____ <input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Upwind Background _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____ <input type="checkbox"/> Middle _____ <input type="checkbox"/> Neighborhood _____ <input type="checkbox"/> Urban _____ <input checked="" type="checkbox"/> Regional _____	<input checked="" type="checkbox"/> SLAMS _____ <input type="checkbox"/> NCORE _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> NONREGULATORY _____
Probe inlet height (from ground) <input type="checkbox"/> < 2 m _____ <input checked="" type="checkbox"/> 2-7m _____ <input type="checkbox"/> 7-15 m _____ <input type="checkbox"/> > 15 m _____ Actual measured distance from probe inlet to ground (meters) <u>2.4</u>			
Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			
Distance between inlets of any low volume monitor and any other low volume monitor at the site = 1 m or greater?			Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>
Distance between all low volume monitor inlets and any Hi-Volume PM-10 or TSP inlet = 2 m or greater?			Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input checked="" type="checkbox"/>
Are collocated PM2.5 Monitors (Two FRMs, FRM & BAM, FRM & TEOM, BAM & TEOM) Located at Site?		*Yes <input checked="" type="checkbox"/> (answer *'d questions) No <input type="checkbox"/> NA <input type="checkbox"/>	
*Distance between collocated PM 2.5 sampler inlets = 1 to 4 m?		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Give actual (meters) <u>3.6</u>	
*Are collocated PM2.5 sampler inlets within 1 m vertically of each other?		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Give actual (meters) <u>0.1</u>	
Is an URG 3000 monitor collocated with a SASS monitor at the site?		*Yes <input type="checkbox"/> (answer *'d questions) No <input checked="" type="checkbox"/> NA <input type="checkbox"/>	
*Distance between collocated speciation sampler inlets = 1 to 4 m?		Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual (meters) _____	
*Are collocated speciation sampler inlets within 1 m vertically of each other?		Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual (meters) _____	
Is a low-volume PM10 monitor collocated with a PM2.5 monitor at the site to measure PM10-2.5?		*Yes <input type="checkbox"/> (answer *'d questions) No <input checked="" type="checkbox"/> NA <input type="checkbox"/>	
*Distance between collocated PM10 and PM2.5 inlets for PM10-2.5 samplers = 1 to 4 m?		Yes <input type="checkbox"/> No <input type="checkbox"/>	
*Are collocated PM10 and PM2.5 sampler inlets within 1 m vertically of each other?		Yes <input type="checkbox"/> No <input type="checkbox"/>	
Is probe > 20 m from the nearest tree drip line? Yes <input checked="" type="checkbox"/> *No <input type="checkbox"/> (answer *'d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/>			
*Distance from probe to tree (m) _____ Direction from probe to tree _____			
*Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *'d questions) No <input checked="" type="checkbox"/>			
*Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____			
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance of probe to nearest traffic lane (m) <u>124</u> Direction from probe to nearest traffic lane <u>SSW</u>			

RECOMMENDATIONS:

- 1) Maintain current site status? Yes *No (answer *'d questions)
- *2) Change monitoring objective? Yes (enter new objective _____) No
- *3) Change scale of representativeness? Yes (enter new scale _____) No
- *4) Relocate site? Yes No

Comments:

Reviewer Alicia Mangum Date 1/12/2011

Ambient Monitoring Coordinator Steven Daniels Date January 13, 2012

Revised 2012-01-19

Site Review Form Calendar Year 2011

Site Information

Region <u>WARO</u>	Site Name <u>Bayview</u>	AQS Site # <u>37-013-0151</u>
Street Address <u>229 Hwy 306 N</u>		City <u>Bath</u>
Urban Area <u>Not in an Urban Area</u>	Core-based Statistical Area <u>None</u>	
Enter Exact		
Longitude <u>-76.76244</u>	Latitude <u>35.40217</u>	Method of Measuring
<small>In Decimal Degrees</small>	<small>In Decimal Degrees</small>	
Elevation Above/below Mean Sea Level (in meters)		Other (explain) <u>GoogleEarth</u>
Elevation <u>7</u>		
Name of nearest road to inlet probe <u>Hwy 306</u> ADT <u>0</u> Year <u> </u>		
Comments: <u> </u>		
Distance of site to nearest major road (m) <u>370.00</u> Direction from site to nearest major road <u>N</u>		
Name of nearest major road <u>Hwy 92</u> ADT <u>1700</u> Year <u>2010</u>		
Comments: <u> </u>		
Site located near electrical substation/high voltage power lines?		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Distance of site to nearest railroad track	(m) <u> </u> Direction to RR <u> </u>	<input checked="" type="checkbox"/> NA
Distance of site to nearest power pole w/transformer	(m) <u>50</u> Direction <u>NE</u>	
Distance between site and drip line of water tower (m)	Direction from site to water tower <u> </u>	<input checked="" type="checkbox"/> NA
Explain any sources of potential bias; include cultivated fields, loose bulk storage, stacks, vents, railroad tracks, construction activities, fast food restaurants, and swimming pools.		
<u>Bayview ferry terminal is 65 meters east. Diesel powered ferries are source of SO2.</u>		

ANSWER ALL APPLICABLE QUESTIONS.

Parameters	Monitoring Objective	Scale	Site Type
<input type="checkbox"/> NA <input checked="" type="checkbox"/> SO ₂ (NAAQS) <input type="checkbox"/> SO ₂ (trace-level) <input type="checkbox"/> NO _x (NAAQS) <input type="checkbox"/> H ₂ NO _x <input type="checkbox"/> O ₃ <input type="checkbox"/> NH ₃ <input type="checkbox"/> Hydrocarbon <input type="checkbox"/> Air Toxics <input type="checkbox"/> HSCO (Not Micro) <input type="checkbox"/> CO (trace-level)	<input type="checkbox"/> General/Background <input type="checkbox"/> Highest Concentration <input type="checkbox"/> Max O ₃ Concentration <input type="checkbox"/> Population Exposure <input checked="" type="checkbox"/> Source Oriented <input type="checkbox"/> Transport <input type="checkbox"/> Upwind Background <input type="checkbox"/> Welfare Related Impacts	<input type="checkbox"/> Micro <input type="checkbox"/> Middle <input type="checkbox"/> Neighborhood <input checked="" type="checkbox"/> Urban <input type="checkbox"/> Regional	<input checked="" type="checkbox"/> SLAMS <input type="checkbox"/> NCORE <input type="checkbox"/> SPM <input type="checkbox"/> SPM/OPN <input type="checkbox"/> NONREGULATORY
Probe inlet height (from ground) 2-15 m? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Give actual measured height from ground (meters) <u>5.5</u>			
Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			
Actual measured distance from probe to supporting structure (meters) <u>1.35</u> (see comments *)			
Distance of probe inlet from other monitoring probe inlets > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input checked="" type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input checked="" type="checkbox"/> (answer *'d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input checked="" type="checkbox"/> *No <input type="checkbox"/>			
*Distance from probe to tree (m) <u>12</u> Direction from probe to tree <u>W</u>			
*Height of tree (m) <u>14</u>			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *'d questions) No <input checked="" type="checkbox"/>			
*Identify obstacle <u> </u> Distance from probe inlet (m) <u> </u> Direction from probe inlet to obstacle <u> </u>			
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance of probe to nearest traffic lane (m) <u>70</u> Direction from probe to nearest traffic lane <u>E</u>			

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Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA <input type="checkbox"/> CO (Micro Only)	<input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> SPM/OPN _____ <input type="checkbox"/> NONREGULATORY
Probe inlet height (from ground) 2.5 - 3.5 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe inlet to ground (meters) _____			
Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) _____			
Distance of probe inlet to nearest intersection > 10 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Distance of probe inlet to nearest traffic lane 2 - 10 m? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/>			
*Distance from probe to tree (m) _____ Direction from probe to tree _____			
*Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *d questions) No <input type="checkbox"/>			
*Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____			
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane _____			

Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA <input type="checkbox"/> NO _y (trace-level)	<input type="checkbox"/> General/Background _____ <input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Max O ₃ Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Upwind Background _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____ <input type="checkbox"/> Middle _____ <input type="checkbox"/> Neighborhood _____ <input type="checkbox"/> Urban _____ <input type="checkbox"/> Regional _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> NCORE _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> SPM/OPN _____ <input type="checkbox"/> NONREGULATORY
Probe inlet height (from ground) 10-15 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe inlet to ground (meters) _____			
Distance of probe inlet from horizontal and/or vertical supporting structure > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) _____			
Distance of probe inlet from other monitoring probe inlets > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/>			
*Distance from probe to tree (m) _____ Direction from probe to tree _____			
*Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *d questions) No <input type="checkbox"/>			
*Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____			
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane _____			

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Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA <input type="checkbox"/> NO ₂ (Near Road only) <input type="checkbox"/> CO (Near Road only)	<input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> NONREGULATORY _____
Probe inlet height (from ground) 2-15 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual measured height from ground (meters) _____ Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) _____ Distance of probe inlet from other monitoring probe inlets > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *d questions) *Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/> *Distance from probe to tree (m) _____ Direction from probe to tree _____ *Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *d questions) No <input type="checkbox"/> *Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____ *Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/> Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane _____			

Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA Air flow > 200 L/min <input type="checkbox"/> PM10 <input type="checkbox"/> TSP <input type="checkbox"/> Pb	<input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Background _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____ <input type="checkbox"/> Middle _____ <input type="checkbox"/> Neighborhood _____ <input type="checkbox"/> Urban _____ <input type="checkbox"/> Regional _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> NCORE _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> NONREGULATORY _____
Probe inlet height (from ground) <input type="checkbox"/> < 2 m _____ <input type="checkbox"/> 2-7m _____ <input type="checkbox"/> 7-15 m _____ <input type="checkbox"/> > 15 m _____ Actual measured distance from probe inlet to ground (meters) _____			
Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) _____			
Distance between collocated PM-10, TSP or Pb sampler inlets = 2 to 4 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> Actual measured distance between collocated probes (meters) _____			
Distance between any high volume inlet and any other high or low volume inlet \geq 2 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *d questions) *Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/> *Distance from probe to tree (m) _____ Direction from probe to tree _____ *Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *d questions) No <input type="checkbox"/> *Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____ *Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/> Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane _____			

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Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA Air flow < 200 L/min <input type="checkbox"/> PM2.5 <input type="checkbox"/> PM10 <input type="checkbox"/> PM10-2.5 <input type="checkbox"/> PM10 Lead (PB) <input type="checkbox"/> PM2.5 Cont. (TEOM) <input type="checkbox"/> PM2.5 Cont. (BAM) <input type="checkbox"/> PM2.5 Spec. (SASS) <input type="checkbox"/> PM2.5 Spec. (URG) <input type="checkbox"/> PM2.5 Cont. Spec.	<input type="checkbox"/> General/Background _____ <input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Upwind Background _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____ <input type="checkbox"/> Middle _____ <input type="checkbox"/> Neighborhood _____ <input type="checkbox"/> Urban _____ <input type="checkbox"/> Regional _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> NCORE _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> NONREGULATORY _____
Probe inlet height (from ground) <input type="checkbox"/> < 2 m _____ <input type="checkbox"/> 2-7m _____ <input type="checkbox"/> 7-15 m _____ <input type="checkbox"/> > 15 m _____ Actual measured distance from probe inlet to ground (meters) _____ Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance between inlets of any low volume monitor and any other low volume monitor at the site = 1 m or greater?			Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>
Distance between all low volume monitor inlets and any Hi-Volume PM-10 or TSP inlet = 2 m or greater?			Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>
Are collocated PM2.5 Monitors (Two FRMs, FRM & BAM, FRM & TEOM, BAM & TEOM) Located at Site?		*Yes <input type="checkbox"/> (answer *d questions) No <input type="checkbox"/> NA <input type="checkbox"/>	
*Distance between collocated PM 2.5 sampler inlets = 1 to 4 m?		Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual (meters) _____	
*Are collocated PM2.5 sampler inlets within 1 m vertically of each other?		Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual (meters) _____	
Is an URG 3000 monitor collocated with a SASS monitor at the site?		*Yes <input type="checkbox"/> (answer *d questions) No <input type="checkbox"/> NA <input type="checkbox"/>	
*Distance between collocated speciation sampler inlets = 1 to 4 m?		Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual (meters) _____	
*Are collocated speciation sampler inlets within 1 m vertically of each other?		Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual (meters) _____	
Is a low-volume PM10 monitor collocated with a PM2.5 monitor at the site to measure PM10-2.5?		*Yes <input type="checkbox"/> (answer *d questions) No <input type="checkbox"/> NA <input type="checkbox"/>	
*Distance between collocated PM10 and PM2.5 inlets for PM10-2.5 samplers = 1 to 4 m?		Yes <input type="checkbox"/> No <input type="checkbox"/>	
*Are collocated PM10 and PM2.5 sampler inlets within 1 m vertically of each other?		Yes <input type="checkbox"/> No <input type="checkbox"/>	
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/>			
*Distance from probe to tree (m) _____ Direction from probe to tree _____			
*Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *d questions) No <input type="checkbox"/>			
*Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____			
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane _____			

RECOMMENDATIONS:

- 1) Maintain current site status? Yes *No (answer *d questions)
- *2) Change monitoring objective? Yes (enter new objective _____) No
- *3) Change scale of representativeness? Yes (enter new scale _____) No
- *4) Relocate site? Yes No

Comments: *Roof of supporting structure is A-frame and verticle distance of probe is above the crown of roof. _____

Reviewer Peter Susi Date 1-25-12

Ambient Monitoring Coordinator S. Saniels Date January 25, 2012

Revised 2012-05-10

Site Review Form Calendar Year 2011

Site Information

Region <u>WARO</u>	Site Name <u>LCC</u>	AQS Site # <u>37-107-0004</u>
Street Address <u>231 Hwy 58 South</u>		City <u>Kinston</u>
Urban Area <u>KINSTON</u>	Core-based Statistical Area <u>Kinston, NC</u>	
Enter Exact		
Longitude <u>-77.56675</u>	Latitude = <u>35.23167</u>	Method of Measuring GPS Explanation: <u>handheld</u>
In Decimal Degrees	In Decimal Degrees	
Elevation Above/below Mean Sea Level (in meters)		<u>15</u>
Name of nearest road to inlet probe <u>College Drive ADT 0</u> Year <u>0</u>		
Comments: <u>On Campus</u>		
Distance of site to nearest major road (m) <u>386.00</u> Direction from site to nearest major road <u>N</u>		
Name of nearest major road <u>Hwy 70</u> ADT <u>17000</u> Year <u>2009</u>		
Comments: _____		
Site located near electrical substation/high voltage power lines?		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Distance of site to nearest railroad track	(m) _____ Direction to RR <u>NA</u>	<input checked="" type="checkbox"/> NA
Distance of site to nearest power pole w/transformer	(m) <u>0</u> Direction _____	
Distance between site and drip line of water tower (m) _____	Direction from site to water tower _____	<input checked="" type="checkbox"/> NA
Explain any sources of potential bias; include cultivated fields, loose bulk storage, stacks, vents, railroad tracks, construction activities, fast food restaurants, and swimming pools.		
<u>Cultivated field</u>		

ANSWER ALL APPLICABLE QUESTIONS.

Parameters	Monitoring Objective	Scale	Site Type
<input type="checkbox"/> NA <input type="checkbox"/> SO ₂ (NAAQS) <input type="checkbox"/> SO ₂ (trace-level) <input type="checkbox"/> NO _x (NAAQS) <input type="checkbox"/> H ₂ NO _x <input checked="" type="checkbox"/> O ₃ <input type="checkbox"/> NH ₃ <input type="checkbox"/> Hydrocarbon <input type="checkbox"/> Air Toxics <input type="checkbox"/> HSCO (Not Micro) <input type="checkbox"/> CO (trace-level)	<input checked="" type="checkbox"/> General/Background _____ <input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Max O ₃ Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Upwind Background _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____ <input type="checkbox"/> Middle _____ <input checked="" type="checkbox"/> Neighborhood _____ <input type="checkbox"/> Urban _____ <input type="checkbox"/> Regional _____	<input checked="" type="checkbox"/> SLAMS _____ <input type="checkbox"/> NCORE _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> SPM/OPN _____ <input type="checkbox"/> NONREGULATORY _____
Probe inlet height (from ground) 2-15 m? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Give actual measured height from ground (meters) <u>3.78</u>			
Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) <u>1.02</u>			
Distance of probe inlet from other monitoring probe inlets > 1 m? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input checked="" type="checkbox"/> *No <input type="checkbox"/> (answer *'d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/>			
*Distance from probe to tree (m) _____ Direction from probe to tree _____			
*Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *'d questions) No <input checked="" type="checkbox"/>			
*Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____			
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance of probe to nearest traffic lane (m) <u>188</u> Direction from probe to nearest traffic lane <u>NW</u>			

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Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA <input type="checkbox"/> CO (Micro Only)	<input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> SPM/OPN _____ <input type="checkbox"/> NONREGULATORY
Probe inlet height (from ground) 2.5 - 3.5 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe inlet to ground (meters) _____			
Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) _____			
Distance of probe inlet to nearest intersection > 10 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Distance of probe inlet to nearest traffic lane 2 - 10 m? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *'d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/>			
*Distance from probe to tree (m) _____ Direction from probe to tree _____			
*Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *'d questions) No <input type="checkbox"/>			
*Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____			
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane _____			

Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA <input type="checkbox"/> NO _y (trace-level)	<input type="checkbox"/> General/Background _____ <input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Max O ₃ Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Upwind Background _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____ <input type="checkbox"/> Middle _____ <input type="checkbox"/> Neighborhood _____ <input type="checkbox"/> Urban _____ <input type="checkbox"/> Regional _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> NCORE _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> SPM/OPN _____ <input type="checkbox"/> NONREGULATORY
Probe inlet height (from ground) 10-15 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe inlet to ground (meters) _____			
Distance of probe inlet from horizontal and/or vertical supporting structure > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) _____			
Distance of probe inlet from other monitoring probe inlets > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *'d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/>			
*Distance from probe to tree (m) _____ Direction from probe to tree _____			
*Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *'d questions) No <input type="checkbox"/>			
*Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____			
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane _____			

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Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA <input type="checkbox"/> NO ₂ (Near Road only) <input type="checkbox"/> CO (Near Road only)	<input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> NONREGULATORY _____
Probe inlet height (from ground) 2-15 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual measured height from ground (meters) _____ Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) _____ Distance of probe inlet from other monitoring probe inlets > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *d questions) *Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/> *Distance from probe to tree (m) _____ Direction from probe to tree _____ *Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *d questions) No <input type="checkbox"/> *Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____ *Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/> Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane _____			

Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA Air flow > 200 L/min <input type="checkbox"/> PM10 <input type="checkbox"/> TSP <input type="checkbox"/> Pb	<input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Background _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____ <input type="checkbox"/> Middle _____ <input type="checkbox"/> Neighborhood _____ <input type="checkbox"/> Urban _____ <input type="checkbox"/> Regional _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> NCORE _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> NONREGULATORY _____
Probe inlet height (from ground) <input type="checkbox"/> < 2 m _____ <input type="checkbox"/> 2-7m _____ <input type="checkbox"/> 7-15 m _____ <input type="checkbox"/> > 15 m _____ Actual measured distance from probe inlet to ground (meters) _____			
Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) _____			
Distance between collocated PM-10, TSP or Pb sampler inlets = 2 to 4 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> Actual measured distance between collocated probes (meters) _____			
Distance between any high volume inlet and any other high or low volume inlet ≥ 2 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *d questions) *Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/> *Distance from probe to tree (m) _____ Direction from probe to tree _____ *Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *d questions) No <input type="checkbox"/> *Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____ *Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/> Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane _____			

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
<input type="checkbox"/> NA Air flow < 200 L/min <input checked="" type="checkbox"/> PM2.5 <input type="checkbox"/> PM10 <input type="checkbox"/> PM10-2.5 <input type="checkbox"/> PM10 Lead (PB) <input type="checkbox"/> PM2.5 Cont. (TEOM) <input type="checkbox"/> PM2.5 Cont. (BAM) <input type="checkbox"/> PM2.5 Spec. (SASS) <input type="checkbox"/> PM2.5 Spec. (URG) <input type="checkbox"/> PM2.5 Cont. Spec.	<input type="checkbox"/> General/Background _____ <input type="checkbox"/> Highest Concentration _____ <input checked="" type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Upwind Background _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____ <input type="checkbox"/> Middle _____ <input checked="" type="checkbox"/> Neighborhood _____ <input type="checkbox"/> Urban _____ <input type="checkbox"/> Regional _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> NCORE _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> NONREGULATORY _____
Probe inlet height (from ground) <input type="checkbox"/> < 2 m _____ <input checked="" type="checkbox"/> 2-7m _____ <input type="checkbox"/> 7-15 m _____ <input type="checkbox"/> > 15 m _____ Actual measured distance from probe inlet to ground (meters) <u>2.37</u>			
Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			
Distance between inlets of any low volume monitor and any other low volume monitor at the site = 1 m or greater?			Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>
Distance between all low volume monitor inlets and any Hi-Volume PM-10 or TSP inlet = 2 m or greater?			Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input checked="" type="checkbox"/>
Are collocated PM2.5 Monitors (Two FRMs, FRM & BAM, FRM & TEOM, BAM & TEOM) Located at Site?		*Yes <input type="checkbox"/> (answer *d questions) No <input checked="" type="checkbox"/> NA <input type="checkbox"/>	
*Distance between collocated PM 2.5 sampler inlets = 1 to 4 m?		Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual (meters) _____	
*Are collocated PM2.5 sampler inlets within 1 m vertically of each other?		Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual (meters) _____	
Is an URG 3000 monitor collocated with a SASS monitor at the site?		*Yes <input type="checkbox"/> (answer *d questions) No <input checked="" type="checkbox"/> NA <input type="checkbox"/>	
*Distance between collocated speciation sampler inlets = 1 to 4 m?		Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual (meters) _____	
*Are collocated speciation sampler inlets within 1 m vertically of each other?		Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual (meters) _____	
Is a low-volume PM10 monitor collocated with a PM2.5 monitor at the site to measure PM10-2.5?		*Yes <input type="checkbox"/> (answer *d questions) No <input checked="" type="checkbox"/> NA <input type="checkbox"/>	
*Distance between collocated PM10 and PM2.5 inlets for PM10-2.5 samplers = 1 to 4 m?		Yes <input type="checkbox"/> No <input type="checkbox"/>	
*Are collocated PM10 and PM2.5 sampler inlets within 1 m vertically of each other?		Yes <input type="checkbox"/> No <input type="checkbox"/>	
Is probe > 20 m from the nearest tree drip line? Yes <input checked="" type="checkbox"/> *No <input type="checkbox"/> (answer *d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/>			
*Distance from probe to tree (m) _____ Direction from probe to tree _____			
*Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *d questions) No <input checked="" type="checkbox"/>			
*Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____			
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance of probe to nearest traffic lane (m) <u>188</u> Direction from probe to nearest traffic lane <u>NW</u>			

RECOMMENDATIONS:

- 1) Maintain current site status? Yes *No (answer *d questions)
- *2) Change monitoring objective? Yes (enter new objective _____) No
- *3) Change scale of representativeness? Yes (enter new scale _____) No
- *4) Relocate site? Yes No

Comments: _____

Reviewer Peter Susi Date January 24, 2012

Ambient Monitoring Coordinator Steven Daniels Date January 24, 2012

Revised 2012-05-10

Appendix F-2. Scale of Representativeness

Each station in the monitoring network must be described in terms of the physical dimensions of the air parcel nearest the monitoring station throughout which actual pollutant concentrations are reasonably similar. Area dimensions or scales of representativeness used in the network description are:

- a) Microscale - defines the concentration in air volumes associated with area dimensions ranging from several meters up to about 100 meters.
- b) Middle scale - defines the concentration typical of areas up to several city blocks in size with dimensions ranging from about 100 meters to 0.5 kilometers.
- c) Neighborhood scale – defines concentrations within an extended area of a city that has relatively uniform land use with dimensions ranging from about 0.5 to 4.0 kilometers.
- d) Urban scale - defines an overall citywide condition with dimensions on the order of 4 to 50 kilometers.
- e) Regional Scale - defines air quality levels over areas having dimensions of 50 to hundreds of kilometers.

Closely associated with the area around the monitoring station where pollutant concentrations are reasonably similar are the basic monitoring exposures of the station.

There are six basic exposures:

- a) Sites located to determine the highest concentrations expected to occur in the area covered by the network.
- b) Sites located to determine representative concentrations in areas of high population density.
- c) Sites located to determine the impact on ambient pollution levels of significant sources or source categories.
- d) Sites located to determine general background concentration levels.
- e) Sites located to determine the extent of regional pollutant transport among populated areas.
- f) Sites located to measure air pollution impacts on visibility, vegetation damage, or other welfare-based impacts and in support of secondary standards.

The design intent in siting stations is to correctly match the area dimensions represented by the sample of monitored air with the area dimensions most appropriate for the monitoring objective of the station. The following relationship of the six basic objectives and the scales of representativeness are appropriate when siting monitoring stations:

Table F2. Site Type Appropriate Siting Scales

1. Highest concentration	Micro, middle, neighborhood (sometimes urban or regional for secondarily formed pollutants)
2. Population oriented	Neighborhood, urban
3. Source impact	Micro, middle, neighborhood
4. General/background & regional transport	Urban, regional
5. Welfare-related impacts	Urban, regional