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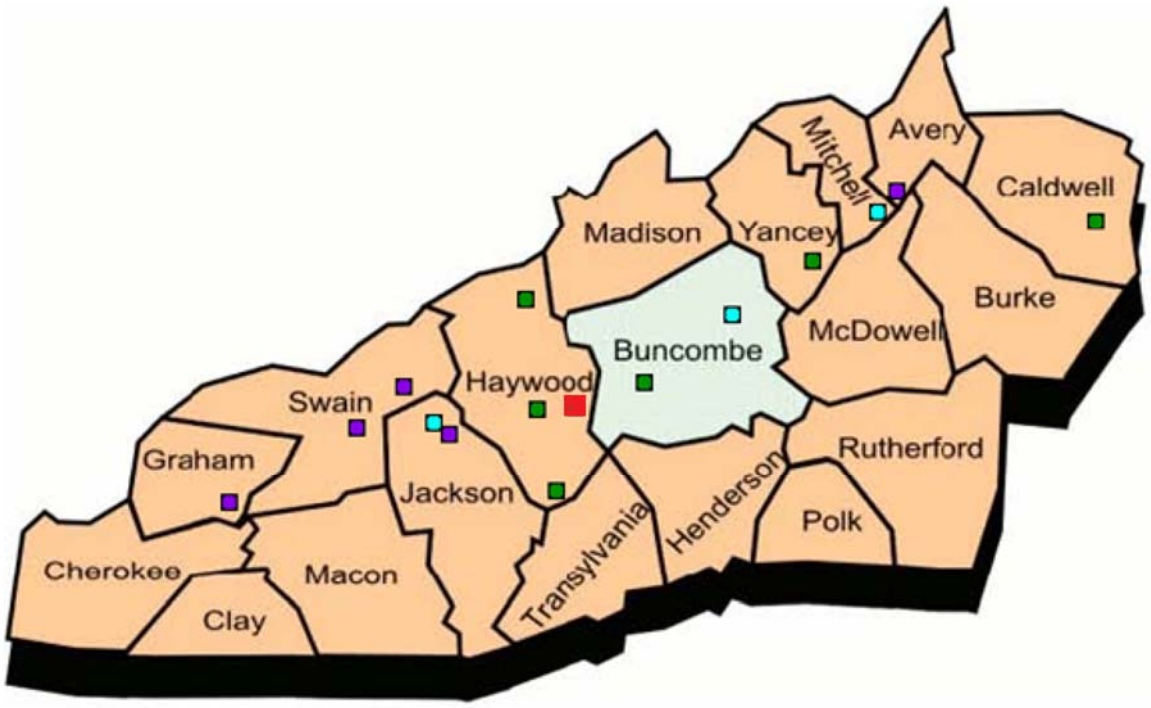
2016-2017 Annual Monitoring Network Plan for the North Carolina Division of Air Quality

Volume 2

Site Descriptions by Division of Air Quality Regional Office and Metropolitan Statistical Area

A. The Asheville Monitoring Region



July 1, 2016

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Table of Contents

List of Figures

List of Tables

A. The Asheville Monitoring Region

The Asheville monitoring region, shown in Figure A-1, consists of four sections: (1) the mountain-top areas (above 1.2 kilometers, Km, or 4,000 feet in elevation in Avery, Buncombe, Burke, Caldwell, Cherokee, Clay, Graham, Haywood, Henderson, Jackson, Madison, Macon, McDowell, Mitchell, Swain, Transylvania and Yancey counties), (2) the Asheville metropolitan statistical area, MSA, (valley sites below 1.2 Km in Buncombe, Haywood, Henderson and Madison counties), (3) the non-MSA valley areas (below 1.2 Km in elevation in Avery, Cherokee, Clay, Graham, Jackson, Macon, McDowell, Mitchell, Polk, Rutherford, Swain, Transylvania and Yancey counties) and (4) the western portion of the Hickory-Lenoir-Morganton MSA (valley sites in Burke and Caldwell counties). This section of the monitoring plan focuses on the first three sections. Monitoring in Burke and Caldwell is covered in Section C, the Mooresville Monitoring Region.

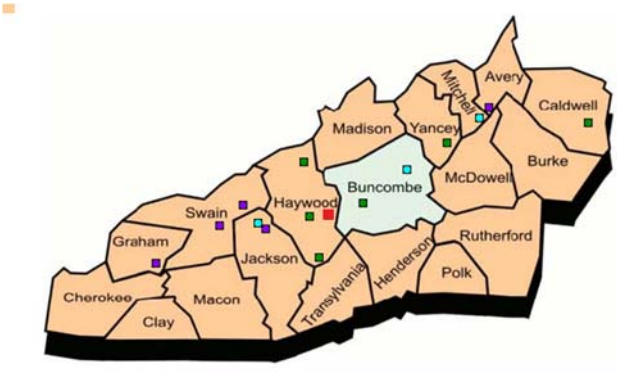

Figure A-1. The Asheville monitoring region
The squares show the approximate locations of the monitoring sites in this region.

(1) The Mountain Top Areas

The mountain top areas consist of elevations at or above 1.2 kilometers or 4,000 feet in 17 counties in western North Carolina: Avery, Buncombe, Burke, Caldwell, Cherokee, Clay, Graham, Haywood, Henderson, Jackson, Madison, Macon, McDowell, Mitchell, Swain, Transylvania and Yancey. There are not any metropolitan or micropolitan statistical areas at these elevations. The DAQ currently operates four monitoring sites and the Eastern Band of Cherokee Indians, EBCI, operates one monitoring site on mountain tops at elevations greater than 1.2 kilometers. The United States Environmental Protection Agency, EPA, also operates a Clean Air Status and Trends Network, CASTNET, site at an elevation of 1.2 kilometers. The Barnett Knob tribal monitor is discussed further in the EBCI network plan. The Cranberry CASTNET site is discussed further in the CASTNET network plan.[1] One of the DAQ sites is an ozone-monitoring site located on Joanna Bald Mountain in the Joyce Kilmer National Wilderness Area. In addition to this site, the DAQ operates two high-elevation sites in Haywood County located in or near class 1 areas: Frying Pan in the Shining Rock Wilderness Area and Purchase Knob in the Great Smoky Mountains National Park. Another DAQ site is located in Mount Mitchell State Park. The locations of the four DAQ and the tribal monitors are shown in Figure A-2.

[1] 2016 CASTNET Annual Network Plan, May 3, 2016, available on the worldwide web at https://www.epa.gov/sites/production/files/2016-05/documents/castnet_plan_2016_draft.pdf.

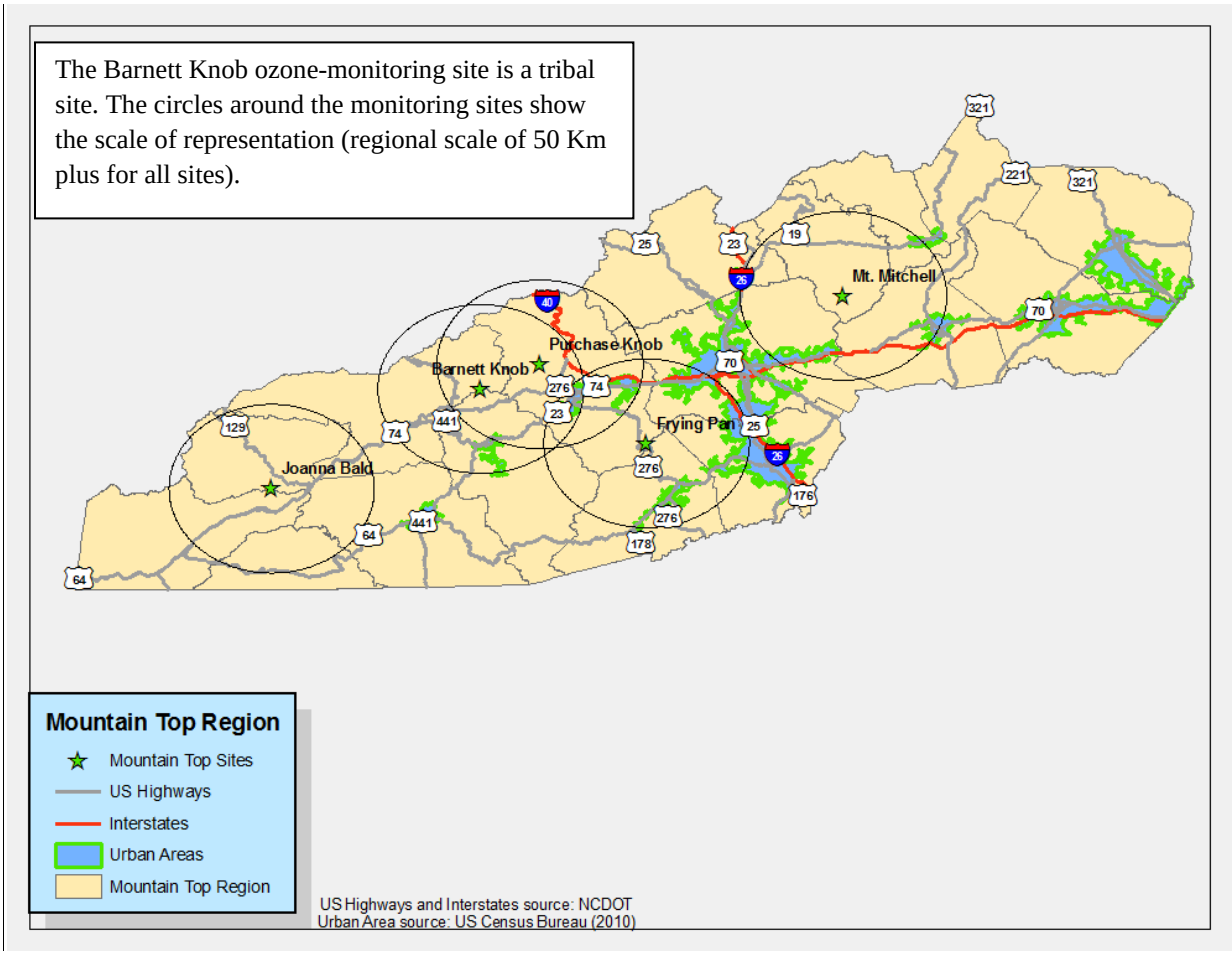

Figure A-2. Location of mountain top monitoring sites

At the **Joanna Bald** site in Graham County, the DAQ operates an ozone monitor that belongs to the United States Department of Agriculture Forest Service. The relative humidity and air temperature sensors that were installed in 2005 were shut down on Oct. 8, 2014. A picture of the site as well as views looking north, east, south and west are provided in Figure A-4 through Figure A-11. Table A1 summarizes monitoring information for the site. This monitoring site is located in the Joyce Kilmer-Slickrock Wilderness Area, a class I area. This monitor is a rural monitor. The location of the monitor with regards to the flood plain is shown in Figure A-12.

Figure A-3. Joanna Bald ozone monitoring site

Figure A-4. The Joanna Bald site looking north

Figure A-5. Looking northwest from the Joanna Bald site

Figure A-6. The Joanna Bald site looking west

Figure A-7. Looking southwest from the Joanna Bald site

Figure A-8. Looking northeast from the Joanna Bald site

Figure A-9. The Joanna Bald site looking east

Figure A-10. Looking southeast from the Joanna Bald site

Figure A-11. The Joanna Bald site looking south

Table A1. Site Information Table for Joanna Bald

Site Name:	Joanna Bald			**AQS Site Identification Number:**	37-075-0001
Location:	National Forest Road 423 Spur, Robbinsville, North Carolina				
CBSA:	None			**CBSA #:**	00000
Latitude	35.257930	**Longitude**	-83.795620	**Datum:**	WGS84
Elevation	1429 meters				

Parameter Name	**Method**	**Method Reference ID**	**Sample Duration**	**Sampling Schedule**
Ozone	Instrumental with ultra violet photometry (047)	EQOA-0880-047	1-Hour	Apr. 1 to Oct. 31

Date Monitor Established:	Ozone				Apr. 3, 2003
Nearest Road:	National Forest Road	**Traffic Count:**	< 10	**Year of Count:**	Estimate

Parameter Name	**Distance to Road**	**Direction to Road**	**Monitor Type**	**Statement of Purpose**
Ozone	14,323 meters	Northwest	Special purpose	Real-time AQI reporting and forecasting. Compliance w/NAAQS.

Parameter Name	**Monitoring Objective**	**Scale**	**Suitable for Comparison to NAAQS**	**Proposal to Move or Change**
Ozone	General background	Regional	Yes	None

	Meets Part 58 Requirements for:			
Parameter Name	**Appendix A**	**Appendix C**	**Appendix D**	**Appendix E**
Ozone	Yes	Yes	Yes	Yes

Parameter Name	**Probe Height (m)**	**Distance to Support**	**Distance to Trees**	**Obstacles**
Ozone	4.2 meters	1.68 meters	>20 meters	None

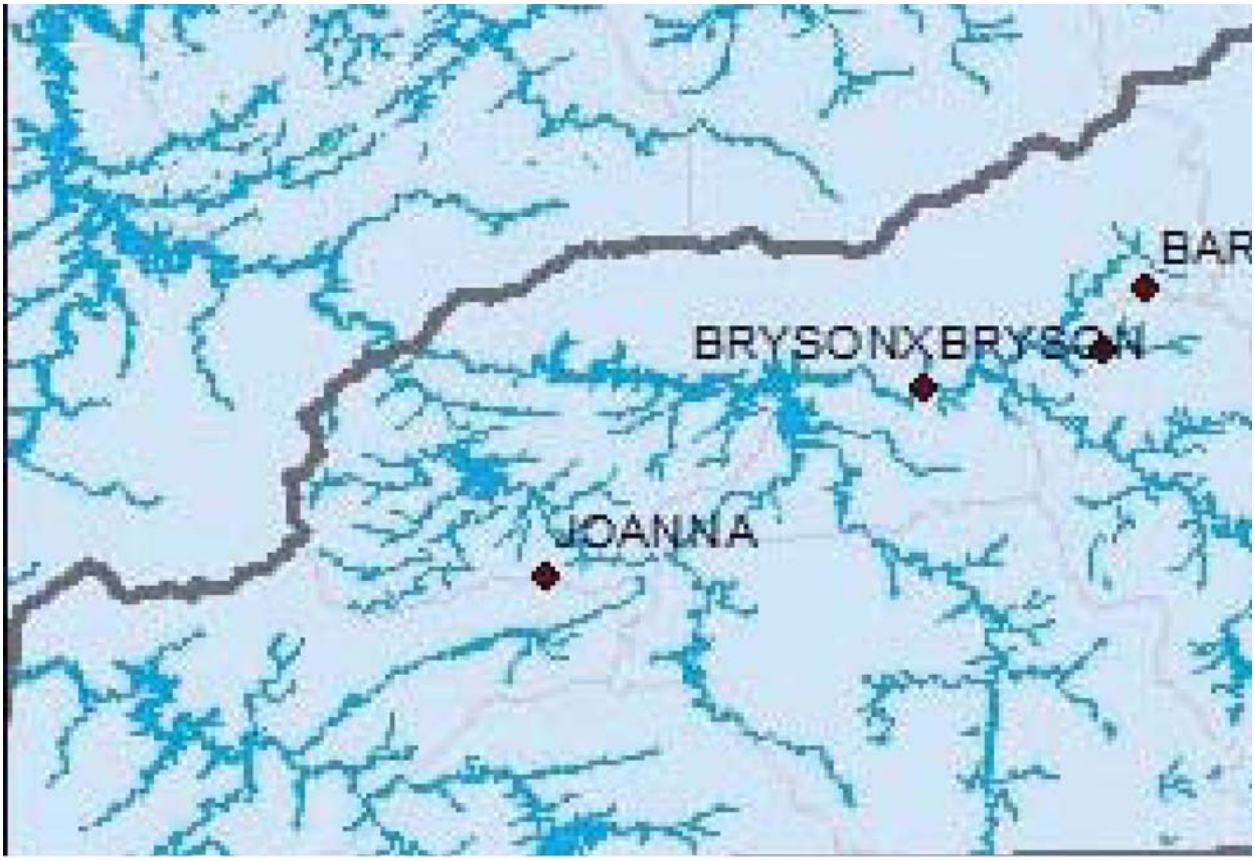

Figure A-12. Location of Joanna Bald relative to the flood plain

At the **Frying Pan Mountain** monitoring site, 37-087-0035, the DAQ operates a seasonal ozone monitor. At the end of the 2011 ozone season, a new monitoring shelter was constructed at the site. A picture of the site as well as views looking north, northeast, east, southeast, south, southwest, west and northwest are provided in Figure A-13 through Figure A-21. Table A2 provides information on the site. This site is located in a class 1 area (the Shining Rock Wilderness Area) and is collocated with an Interagency Monitoring of Protected Visual Environments (IMPROVE) monitor. This monitor is a rural monitor. The location of the monitor with regards to the flood plain is shown in Figure A-22.

Figure A-13. Frying Pan Mountain ozone and IMPROVE monitoring site, 37-087-0035

Figure A-14. Looking north from the Frying Pan site

Figure A-16. Looking northeast from the Frying Pan site

Figure A-15. Looking northwest from the Frying Pan site

Figure A-17. Looking east from the Frying Pan site

Figure A-18. Looking west from the Frying Pan site

Figure A-20. Looking southeast from the Frying Pan site

Figure A-19. Looking southwest from the Frying Pan site

Figure A-21. Looking south from the Frying Pan site

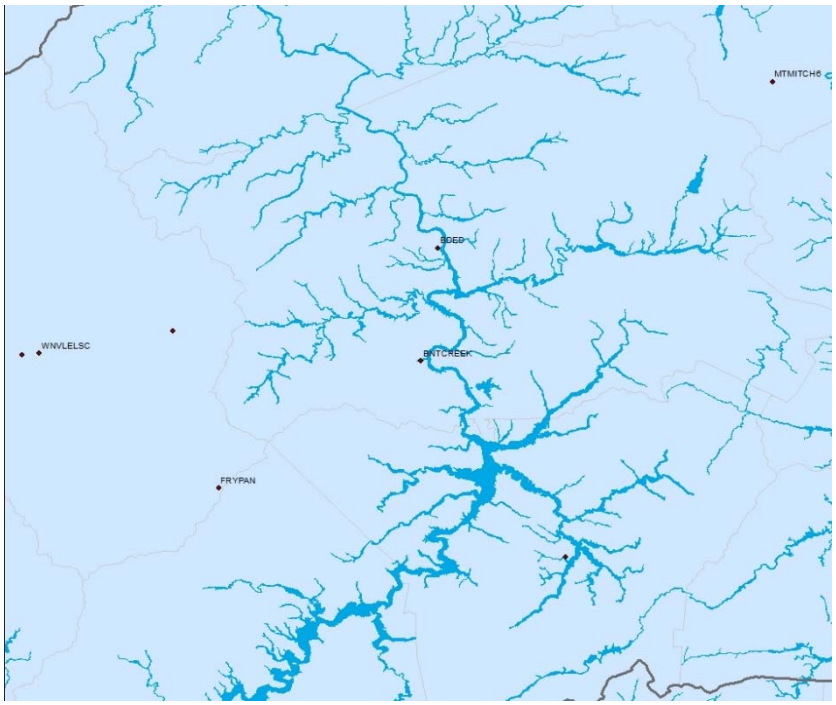

Figure A-22 Asheville area monitors in relation to the flood plain

Table A2. Site Information Table for Frying Pan Mountain

Site Name:	Frying Pan Mountain			**AQS Site Identification Number:**	37-087-0035
Location:	Tower Blue Ridge Pkwy Mile Marker 410, Canton, North Carolina				
CBSA:	None			**CBSA #:**	00000
Latitude	35.393719	**Longitude**	-82.774386	**Datum:**	WGS84
Elevation	1617.88 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 Oct. 31

Date Monitor Established:	Ozone				May 8, 1990
Nearest Road:	Blue Ridge Parkway	**Traffic Count:**	871	**Year of Count:**	2006

Parameter Name	**Distance to Road**	**Direction to Road**	**Monitor Type**	**Statement of Purpose**
Ozone	227 meters	Southeast	Special purpose	Compliance w/NAAQS. Real-time AQI reporting & forecasting.

Parameter Name	**Monitoring Objective**	**Scale**	**Suitable for Comparison to NAAQS**	**Proposal to Move or Change**
Ozone	General background	Regional	Yes	None

Parameter Name	**Meets 40 CFR Part 58 Requirements for:**			
	Appendix A	**Appendix C**	**Appendix D**	**Appendix E**
Ozone	Yes	Yes	Yes	Yes

Parameter Name	**Probe Height (m)**	**Distance to Support**	**Distance to Trees**	**Obstacles**
Ozone	4.6	1.02 meter	16.78 meters to east	None

At the **Purchase Knob** monitoring site, 37-087-0036, the DAQ operates a seasonal ozone monitor. Figure A-23 shows the site. The location of the monitor with regards to the flood plain is shown in Figure A-24. Views looking north, northeast, east, southeast, south, southwest, west and northwest are provided in Figure A-25 through Figure A-32. This site is located in a class 1 area (Great Smokey Mountains National Park). This monitor is a rural monitor.

Figure A-23. The Purchase Knob seasonal ozone monitoring site

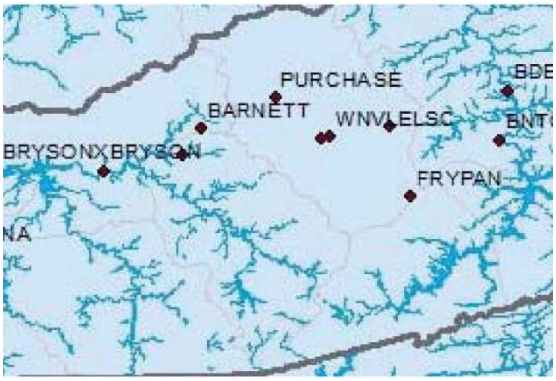

Figure A-24. Location of Purchase Knob relative to the flood plain

Figure A-25. Looking north from the Purchase Knob site

Figure A-28. Purchase Knob site looking northeast

Figure A-26. Purchase Knob site looking northwest

Figure A-29. Looking east from the Purchase Knob site

Figure A-27. Looking west from the Purchase Knob site

Figure A-30. Looking southeast from the Purchase Knob site

Figure A-31. Purchase Knob site looking southwest

Figure A-32. Looking south from the Purchase Knob site

At **Mount Mitchell,** the DAQ operates a seasonal ozone monitor. A picture of the site as well as views looking north, east, south and west are provided in Figure A-33 through Figure A-40. This site is located at the Mount Mitchell State Park visitor center. The location of the monitor with regards to the flood plain is shown in Figure A-41.

Figure A-33. The Mount Mitchell ozone monitoring site

Figure A-34. Looking north from the Mount Mitchell site

Figure A-35. Mount Mitchell site looking northwest

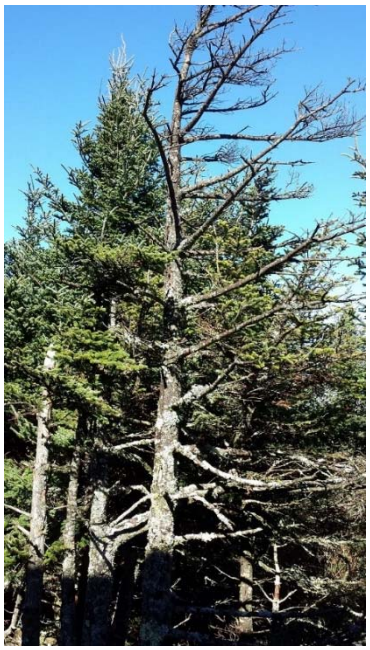

Figure A-36. Mount Mitchell looking northeast

Figure A-37. Looking west from the Mount Mitchell site

Figure A-38. Mount Mitchell looking southwest

Figure A-39. Looking east from the Mount Mitchell site

Figure A-40. Looking south from the Mount Mitchell site

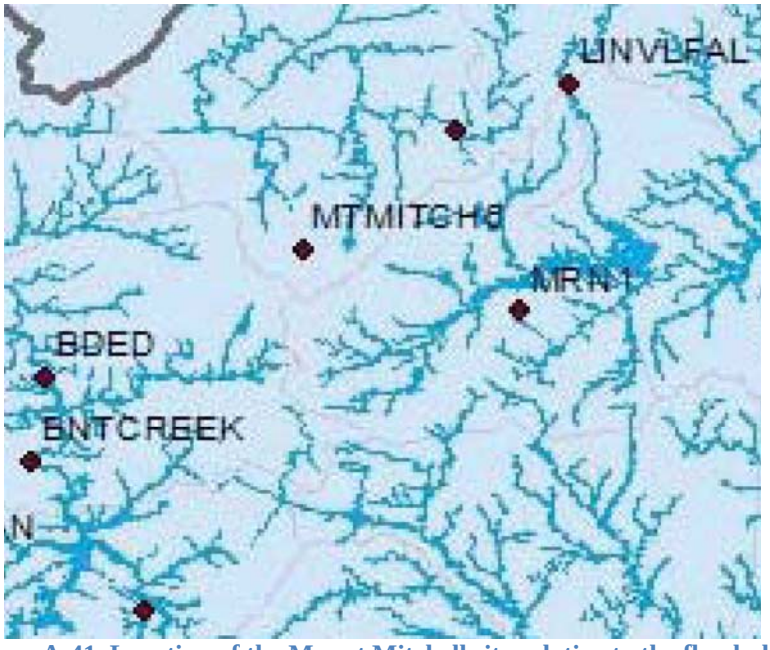

Figure A-41. Location of the Mount Mitchell site relative to the flood plain

There are no new monitoring rules that will require additional monitoring in these high-elevation areas. The mountain top seasonal ozone monitors will be required to start on Mar. 1, 2017, because the ozone monitoring season was extended to March in 2015. The DAQ is requesting a waiver for March ozone monitoring for the Joanna Bald, Frying Pan, Purchase Knob and Mount Mitchell sites because access to these sites is limited during the winter. Sometimes these sites remain inaccessible until early to mid-April. The waiver request is in Section 2 of Volume 1 of the network plan.

(2) The Asheville MSA

The Asheville MSA consists of the valley portions (areas under the elevation of 1.2 Km or 4,000 feet) of four counties: Buncombe, Haywood, Henderson and Madison. The major urban areas are Asheville, Waynesville and Hendersonville. The DAQ currently operates one monitoring site in the Asheville MSA, the Western North Carolina Regional Air Quality Agency, WNC, operates two and both agencies jointly operate an urban air toxics monitoring site. These sites are located at the Board of Education, Bent Creek and AB Tech in Buncombe County and the Waynesville Elementary School in Haywood County. In 2013 WNC relocated its ozone monitor at Bent Creek to another location within the park. On Dec. 31, 2015, the DAQ shut down the fine particle monitor at the Waynesville Recreation Center. On Jan. 1, 2017, a new source-oriented monitoring site will begin operation in this MSA. It will be operated by the DAQ in Canton near the Evergreen facility. The locations of these five monitoring sites are shown in Figure A-42.

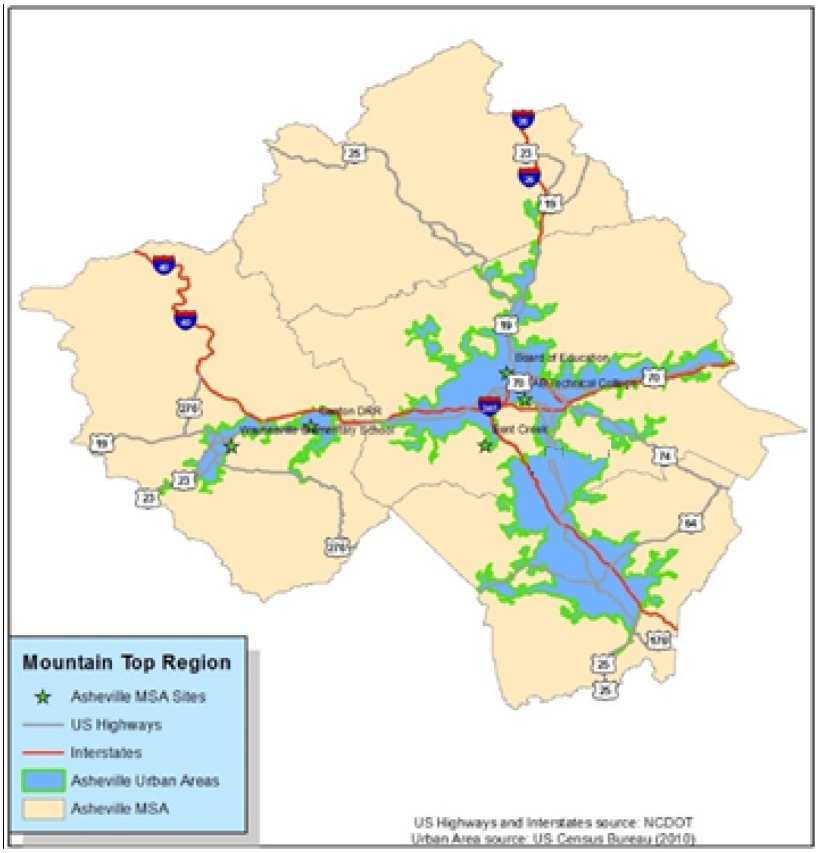

Figure A-42. Locations of Monitoring Sites in the Asheville MSA

At the **Board of Education** site, WNC operates a one-in-three-day fine particle federal reference method, FRM, monitor, a one-in-six day collocated precision fine particle FRM monitor and a continuous fine particle monitor. The one-in-six-day SASS and URG 3000 speciation fine particle monitors were shut down in January 2015 when the EPA stopped funding them. A picture of the site as well as views looking north, northeast, east, southeast, south, southwest, west and northwest are provided in Figure A-43 through Figure A-51. On Jan. 1, 2013, WNC changed from using the well impactor ninety-six, WINS, to very sharp cut cyclones, VSCC, on the FRMs. In 2016 WNC plans to change the method for continuously measuring fine particles.

Figure A-43. WNC Board of Education fine particle monitoring site, 37-021-0024

Figure A-44. Board of Education site looking north

Figure A-45. Board of Education site looking northwest

Figure A-46. Board of Education site looking northeast

Figure A-47. Board of Education site looking east

Figure A-48. Board of Education site looking west

Figure A-50. Board of Education site looking southeast

Figure A-49. Board of Education site looking southwest

Figure A-51. Board of Education site looking south

At the **Bent Creek** site, 37-021-0030, WNC operates a seasonal ozone monitor. A picture of the site as well as views looking north, northeast, east, southeast, south, southwest, west and northwest are provided in Figure A-52 through Figure A-60. This site is one of two urban ozone-monitoring sites in the MSA. 40 CFR 58 Appendix D requires the Asheville MSA to have two ozone monitoring sites. Because of the growth of the trees at the old Bent Creek location, WNC moved the site to a new Bent Creek location that is within a mile of the old Bent Creek location on June 6, 2013.

Figure A-52. The Bent Creek ozone monitoring site, 37-021-0030

Figure A-53. Looking north from the Bent Creek site

Figure A-54. Looking northwest from the Bent Creek site

Figure A-55. Looking west from the Bent Creek site

Figure A-56. Looking southwest from the Bent Creek site

Figure A-57. Looking northeast from the Bent Creek site

Figure A-58. Looking east from the Bent Creek site

Figure A-59. Looking southeast from the Bent Creek site

Figure A-60. Looking south from the Bent Creek site

At the **AB Tech** site, 37-021-0035, WNC operates a year round air toxics volatile organic compound sampler. Samples are collected in stainless steel canisters and sent to the Laboratory Analysis Branch, LAB, where they are analyzed for 68 compounds using the Compendium Method for Toxic Organics 15. A picture of the site as well as views looking north, northeast, east, southeast, south, southwest, west and northwest are provided in Figure A-61 through Figure A-69.

Figure A-61. AB Tech urban air toxics monitoring site

Figure A-62. Looking north from the AB Tech site

Figure A-64. Looking northeast from the AB Tech site

Figure A-63. Looking northwest from the AB Tech site

Figure A-65. Looking east from the AB Tech site

Figure A-66. Looking west from the AB Tech site

Figure A-68. Looking southeast from the AB Tech site

Figure A-67. Looking southwest from the AB Tech site

Figure A-69. Looking south from the AB Tech site

Figure AA-70. The Waynesville elementary school ozone monitoring site

At the **Waynesville Elementary School** site, 37-087-0008, the DAQ operates a seasonal ozone monitor, one of two urban ozone monitoring sites in the MSA. 40 CFR 58 Appendix D requires the Asheville MSA to have two ozone monitoring sites. The site is shown in Figure AA-70. Table A3 provides information on the site. This site started at the beginning of the 2011 ozone monitoring season and is across the street from the Haywood County Health Department where the previous site was located.

Table A3. Site Table for Waynesville Elementary School

Site Name:	Waynesville Elementary School	**AQS Site Identification Number:**	37-087-0008		
Location:	2236 Asheville Road, Waynesville, North Carolina	**CBSA:**	Asheville, NC	**MSA #:**	11700

Latitude	35.507160	Longitude	-82.963370	Datum:	WGS84	Elevation	791 meters

Parameter Name	Method	Method Reference ID	Sample Duration	Sampling Schedule
Ozone	Instrumental with ultra violet photometry (047)	EQOA-0880-047	1-Hour	Apr. 1 to Oct. 31

Date Monitor Established:	Ozone	Apr. 1, 2011

Nearest Road:	Unnamed road	Traffic Count:	None	Year of Count:	None

Parameter Name	Distance to Road	Direction to Road	Monitor Type	Statement of Purpose
Ozone	100 meters	East northeast	SLAMS	Compliance w/NAAQS. Real-time AQI reporting & forecasting.

Parameter Name	Monitoring Objective	Scale	Suitable for Comparison to NAAQS	Proposal to Move or Change
Ozone	Population exposure	Regional	Yes	None

Parameter Name	Meets Part 58 Requirements for:			
	Appendix A	Appendix C	Appendix D	Appendix E
Ozone	Yes	Yes	Yes	Yes

Parameter Name	Probe Height (m)	Distance to Support	Distance to Trees	Obstacles
Ozone	3.84	1.09 meters	>20 meters	None

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The site was relocated on Apr. 1, 2011, to Junaluska Elementary School at 2238 Asheville Road, Waynesville, NC 28786, approximately 200 meters east of the previous Waynesville health department site. An aerial view of the area is shown in Figure A-72. Figure A-71, Figure A-74, Figure A-75 and Figure A-73 provide views looking north, east, south and west from the new site.

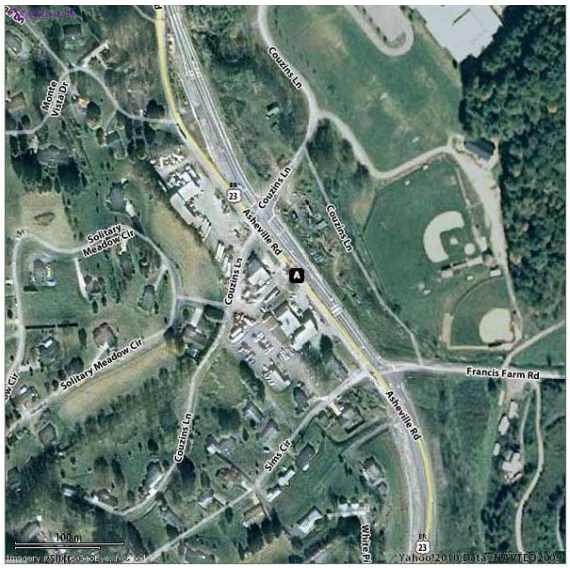

Figure A-72. Aerial view of the Waynesville ozone monitoring site (A is the old site location)

Figure A-71. Looking north from Waynesville ozone site

Figure A-73. Waynesville ozone site looking east

Figure A-74. Waynesville ozone site looking west

Figure A-75. Waynesville ozone site looking south

At the **Canton DRR** site, 37-087-0013, DAQ proposes to operate a source-oriented sulfur dioxide monitor to meet the requirements in the 2010 sulfur dioxide data requirements rule. The monitor will operate for a minimum of three years from 2017 to 2019 to ensure that ambient air in the proximity of the Evergreen/Blue Ridge Paper facility meets the national ambient air quality standards. DAQ will operate this monitor to ensure the air in the Asheville area complies with the national ambient air quality standards for sulfur dioxide. **Error! Reference source not found.** through **Error! Reference source not found.** show an aerial view of the proposed site in relationship to the Evergreen facility, the location of the proposed site and views from the proposed site looking north, east, south and west.

Figure 76. Aerial view showing the location of the proposed monitoring station

Figure 77. Proposed site location

Figure 78. Looking north from proposed location

Figure 79. Looking east from the proposed location

Figure 80. Looking west from the proposed location

Figure 81. Looking south from the proposed location

The December 2010 changes to the **lead monitoring** regulations impacted the Asheville MSA because Blue Ridge Paper Products, located in Haywood County, emitted over 0.5 tons of lead to the air in 2009 and 2010.[2] In 2011, the DAQ requested and received a waiver for lead monitoring at Blue Ridge Paper based on results of modeling. Model results indicate the maximum ambient lead concentration in the ambient air at and beyond the fence line is 0.006 micrograms per cubic meter, well below the 0.075 micrograms per cubic meter (50 percent of the NAAQS) threshold for monitoring. The DAQ did not renew the waiver in 2015 because the facility currently emits less than 0.5 tons of lead.

The 2015 sulfur dioxide monitoring requirements will require additional sulfur dioxide monitoring in this MSA. The sulfur dioxide monitor required by this rule is discussed in detail in Sections 2 and 4 of Volume 1 of this network plan and will begin operation by Jan. 1, 2017.

(3) The Non-MSA Valley Areas

The non-MSA valley areas consist of those areas below 1.2 Km (4,000 feet) in 13 counties: Avery, Cherokee, Clay, Graham, Jackson, Macon, McDowell, Mitchell, Polk, Rutherford, Swain, Transylvania and Yancey. There are no major metropolitan areas. The Brevard micropolitan statistical area is located in Transylvania County and the Forest City micropolitan statistical area is located in Rutherford County. The DAQ currently operates three monitoring sites in this area and the EBCI operates two monitoring sites. The EBCI operates a fine-particle monitoring site in Cherokee, North Carolina, and an ozone-monitoring site in Swain County at the old high school. Both sites are tribal monitors and not part of the DAQ monitoring network. This section focuses on the three monitoring sites operated by DAQ. These sites are located at Bryson City in Swain County, Linville Falls in Avery County and Spruce Pine in Mitchell County. The locations of these five monitoring sites are shown in Figure A-82. The Marion particle monitoring station in McDowell County was shut down on Dec. 31, 2015.

[2] Data obtained from the DAQ emission inventory database available through the World Wide Web at http://xapps.enr.state.nc.us/.

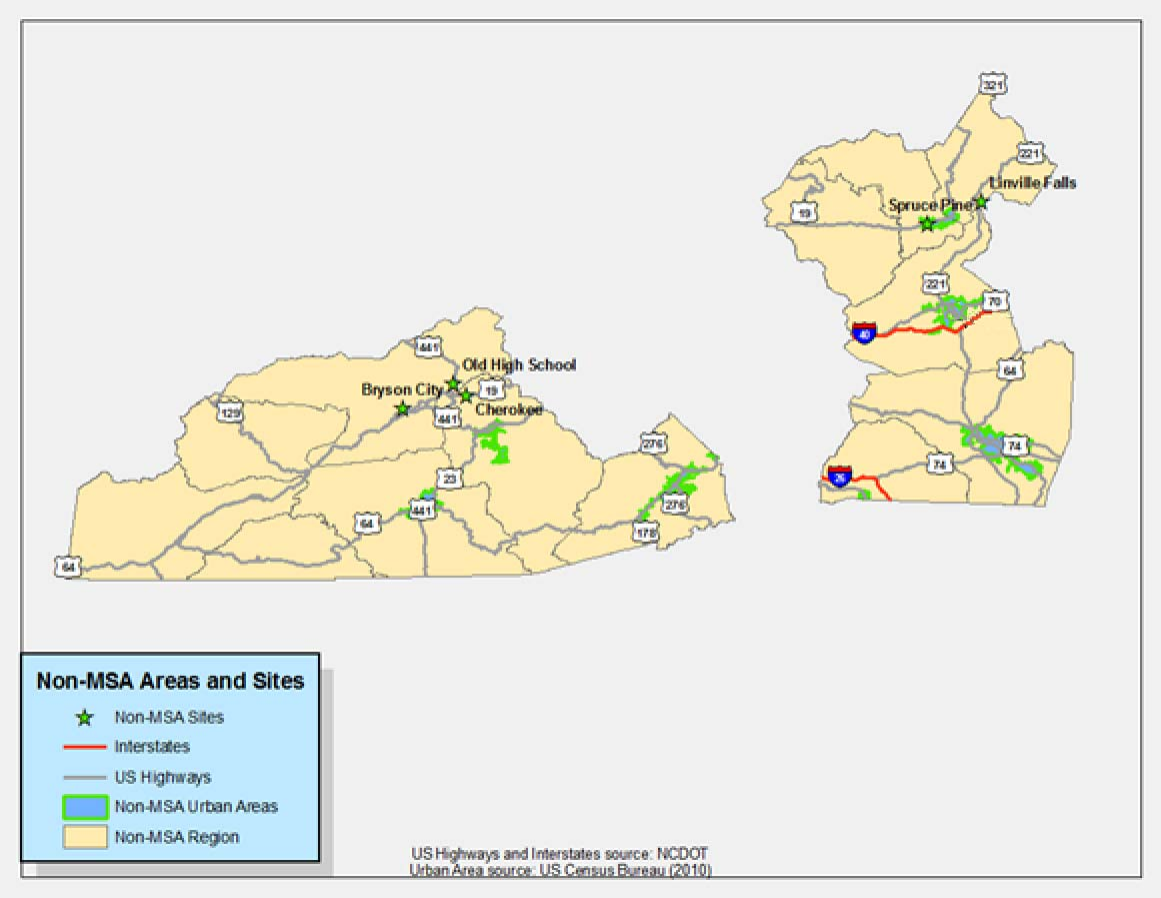

Figure A-82. Monitoring sites in the non-MSA valley areas of the Asheville monitoring region

At **Bryson City** in Swain County, 37-173-0002, DAQ operates a seasonal ozone monitor and a federal equivalent method, FEM, beta attenuation, BAM, continuous fine particle monitor. In April 2014, the Tennessee Valley Authority added a hydrologic gauging station. A 12-month special purpose sulfur dioxide monitor collected background data for modeling attainment demonstrations for the Asheville power plant from August 2014 to August 2015. Figure A-83 through Figure A-91 shows the site and views looking north, northeast, east, southeast, south, southwest, west and northwest. The site is collocated with a meteorological tower measuring wind speed, wind direction, two-meter and 10-meter ambient temperature, relative humidity, ultraviolet radiation and rain fall.

Figure A-83. The Bryson City ozone, particle and meteorological monitoring station, 37-173-0002

Figure A-84. Looking north from the Bryson site

Figure A-88. The Bryson site looking northeast

Figure A-85. The Bryson site looking northwest

Figure A-89. Looking east from the Bryson site

Figure A-86. Looking west from the Bryson site

Figure A-90. The Bryson site looking southeast

Figure A-87. The Bryson site looking southwest

Figure A-91. Looking south from the Bryson site

Table A4 summarizes monitoring information for the Bryson City site.

Table A4. Site Information Table for Bryson City

Site Name:	Bryson City			**AQS Site Identification Number**	37-173-0002
Location:	30 Recreation Park Drive, Bryson City, North Carolina				
CBSA:	Not in a CBSA			**CBSA #:**	00000
Latitude	35.434767	**Longitude**	-83.442133	**Datum:**	WGS84
Elevation	560 meters				

Parameter Name	**Method**	**Method Reference ID**	**Sample Duration**	**Sampling Schedule**
Ozone	Instrumental with ultra violet photometry (047)	EQOA-0880-047	1-Hour	Apr. 1 to Oct. 31
Sulfur dioxide	Instrumental with pulsed fluorescence (060)	EQSA-0486-060	1-Hour	Aug. 2014 to Aug. 2015
PM 2.5 local conditions	Met One BAM-1020 Mass Monitor w/VSCC - beta attenuation	EQPM-0308-170	1-Hour	Year round
Outdoor temperature & temperature difference	Instrumental - electronic or machine avg. (041)	Not a reference method	1-Hour	Year round
Rain/melt precipitation	Bucket - continuous or incremental	Not a reference method	1-Hour	Year round
Relative humidity	Instrumental - hygrothermograph elec or mach avg (011)	Not a reference method	1-Hour	Year round
Solar radiation	Instrumental – pyranometer (011)	Not a reference method	1-Hour	Year round
Wind direction/speed	Instrumental - electronic or machine avg. (050)	Not a reference method	1-Hour	Year round

Date Monitor Established:	Ozone	Apr. 1, 1995
	Sulfur dioxide	Apr. 1, 1995
	PM 2.5 local conditions	June 17, 2009
	Outdoor temperature & temperature difference	Apr. 25, 2001
	Rain/melt precipitation	Apr. 25, 2001
	Relative humidity	Apr. 25, 2001
	Solar radiation	Apr. 25, 2001
	Wind direction/speed	Apr. 25, 2001

Nearest Road:	West Deep Creek Road	**Traffic Count:**	2200	**Year of Count:**	2010

Parameter Name	**Distance to Road**	**Direction to Road**	**Monitor Type**	**Statement of Purpose**
Ozone	416 meters	North	SLAMS	Compliance w/NAAQS. Real-time AQI reporting & forecasting.
Sulfur dioxide	416 meters	North	Special purpose	Background for PSD modeling
PM 2.5 local conditions	416 meters	North	SLAMS	Compliance w/NAAQS. Real-time AQI reporting & forecasting.
Outdoor temperature & temperature difference	416 meters	North	Non-regulatory	Real-time information & modeling
Rain/melt precipitation	210 meters	North	Non-regulatory	Real-time information & modeling
Relative humidity	210 meters	North	Non-regulatory	Real-time information & modeling
Solar radiation	210 meters	North	Non-regulatory	Real-time information & modeling
Wind direction/speed	210 meters	North	Non-regulatory	Real-time information & modeling

Parameter Name	**Monitoring Objective**	**Scale**	**Suitable for NAAQS Comparison**	**Proposal to Move or Change**
Ozone	General background	Neighborhood	Yes	None
Sulfur dioxide	General background	Neighborhood	Yes	Will run 12 months
PM 2.5 local conditions	Regional transport	Regional	Yes	None
Outdoor temperature & temperature difference	Not applicable	Not applicable	Not applicable	None

Table A4. Site Information Table for Bryson City

Rain/melt precipitation	Not applicable	Not applicable	Not applicable	None
Relative humidity	Not applicable	Not applicable	Not applicable	None
Solar radiation	Not applicable	Not applicable	Not applicable	None
Wind direction/speed	Not applicable	Not applicable	Not applicable	None

	Meets Part 58 Requirements for:			
Parameter Name	**Appendix A**	**Appendix C**	**Appendix D**	**Appendix E**
Ozone	Yes	Yes	Yes	Yes
Sulfur dioxide	Yes	Yes	Yes	Yes
PM 2.5 local conditions	Yes	Yes	Yes	Yes
Outdoor temperature & temperature difference	Not applicable	Not applicable	Not applicable	Not applicable
Rain/melt precipitation	Not applicable	Not applicable	Not applicable	Not applicable
Relative humidity	Not applicable	Not applicable	Not applicable	Not applicable
Solar radiation	Not applicable	Not applicable	Not applicable	Not applicable
Wind direction/speed	Not applicable	Not applicable	Not applicable	Not applicable

Parameter Name	**Probe Height (m)**	**Distance to Support**	**Distance to Trees**	**Obstacles**
Ozone	4.57	1.8 meters	>20 meters	None
Sulfur dioxide	> 2 meters	>1 meters	>20 meters	None
PM 2.5 local conditions	2.38	2.06 meters	>20 meters	None
Outdoor temperature & temperature difference	2 & 10	> 1 meters	>20 meters	None
Rain/melt precipitation	Ground level	Not applicable	>20 meters	None
Relative humidity	2	> 1 meters	>20 meters	None
Solar radiation	2	> 1 meters	>20 meters	None
Wind direction/speed	10	> 1 meters	>20 meters	None

At the **Linville Falls** site, the DAQ operates a seasonal ozone monitor. A picture of the site as well as views looking north, northeast, east, southeast, south, southwest, west and northwest are provided in Figure A-92 through Figure A-100. This monitoring site is located in the Linville Gorge Wilderness Area class 1 area and is collocated with an IMPROVE monitor. This monitor is a rural monitor. The collocated relative humidity and ambient temperature sensor was shut down on Oct. 30, 2014.

Figure A-92. Linville Falls ozone and IMPROVE monitoring site

Figure A-93. Looking north from the Linville site

Figure A-94. The Linville site looking northwest

Figure A-95. Looking west from the Linville site

Figure A-96. The Linville site looking southwest

Figure A-97. The Linville site looking northeast

Figure A-98. Looking east from the Linville site

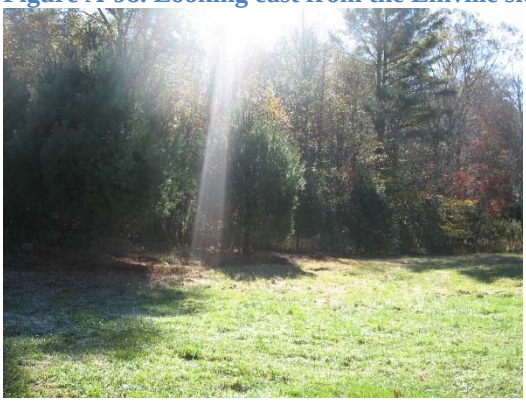

Figure A-99. The Linville site looking southeast

Figure A-100. Looking south from the Linville site

Table A5. Site Information Table for Linville Falls

Site Name:	Linville Falls			**AQS Site Identification Number:**	37-011-0002
Location:	100 Linville Falls Road, Linville Falls				
CBSA:	None			**CBSA #:**	00000
Latitude	35.972347	**Longitude**	-81.933072	**Datum:**	WGS84
Elevation	987 meters				

Parameter Name	**Method**	**Method Reference ID**	**Sample Duration**	**Sampling Schedule**
Ozone	Instrumental with ultra violet photometry (047)	EQOA-0880-047	1-Hour	Apr. 1 to Oct. 31

Date Monitor Established:	Ozone				Aug. 1, 1999
Nearest Road:	Linville Falls Road	**Traffic Count:**	< 10	**Year of Count:**	Estimate

Parameter Name	**Distance to Road**	**Direction to Road**	**Monitor Type**	**Statement of Purpose**
Ozone	86 meters	East	SLAMS	Compliance w/NAAQS. Real-time AQI reporting and forecasting.

Parameter Name	**Monitoring Objective**	**Scale**	**Suitable for Comparison to NAAQS**	**Proposal to Move or Change**
Ozone	General background	Urban	Yes	None

	Meets Part 58 Requirements for:			
Parameter Name	**Appendix A**	**Appendix C**	**Appendix D**	**Appendix E**
Ozone	Yes	Yes	Yes	Yes

Parameter Name	**Probe Height (m)**	**Distance to Support**	**Distance to Trees**	**Obstacles**
Ozone	3.75 meters	1.2 meters	12.85 meters	None

In the fall of 2013, DAQ was evicted from the monitoring site located in Spruce Pine on the top of town hall, 37-121-0001. Figure A-101 provides the eviction notice from the Town of Spruce Pine. The Town of Spruce Pine purchased a building and relocated their offices at the end of 2013. As a result, DAQ shut down the Spruce Pine site at the end of 2013 and established a new site at the Blue Ridge Regional Hospital, 37-121-0004. Because of the timing of the notice, DAQ was unable to include this network modification in the July 2013 network monitoring plan. Thus, the DAQ requested emergency approval from the EPA Region IV for shutting down the old site and establishing the new site. Details on the new site are provided below.

Town of Spruce Pine, North Carolina

Paul ___
Steve ___
FYI

RECEIVED
SEP 23 2013
DIVISION OF AIR QUALITY
ASHEVILLE REGIONAL OFFICE

September 19, 2013

Mr. Steve D. Ensley
Division of Air Quality, NCDENR
2090 US Highway 70
Swannanoa, NC 28778

Dear Mr. Ensley:

Air Quality Equipment Atop the Spruce Pine Town Hall

As you may be aware, the Town of Spruce Pine has purchased a building and plans to relocate our town hall. If all goes as anticipated, the closing on the property will be on September 27, 2013. We hope to have our offices moved by the end of the current calendar year.

No decision has been made as to the use or disposition of the existing building. I wanted to give you ample time to make your decisions regarding the location of the air quality equipment currently located on top of our building. Please feel free to contact me with questions or comments.

Sincerely,

Richard Canipe

Richard Canipe
Manager, Town of Spruce Pine

cc: Terri Davis, NCDENR Division of Air Quality

Post Office Box 189, Spruce Pine, North Carolina 28777-0189
Telephone: (828) 765-3000 Fax: (828) 765-3014 Website: www.sprucepine-nc.gov

Figure A-101. Eviction notice from the Town of Spruce Pine

Spruce Pine is in the mountains where there are very few flat open spaces to locate a monitor. The DAQ prefers to keep the monitors on the ground for safety reasons and for ease of access. After searching around Spruce Pine within a mile of the city hall location, a new location at Blue Ridge Regional Hospital, 272 Hospital Dr., Spruce Pine, NC, was identified. As shown in Figure A-102, the hospital location is approximately 1 kilometer east southeast of the city hall site. It is approximately 75 meters southeast of Highway U.S. 19 East, which had an average annual daily traffic count of 9,500 in 2012. According to Figure E-1 in 40 CFR 58 Appendix E, the monitor is on the edge of the neighborhood-urban scale boundary. The site is located at latitude 35.912487 and longitude -82.062082. A picture of the site and pictures taken from the site looking in 8 compass directions are provided in Figure A-103 through Figure A-111.

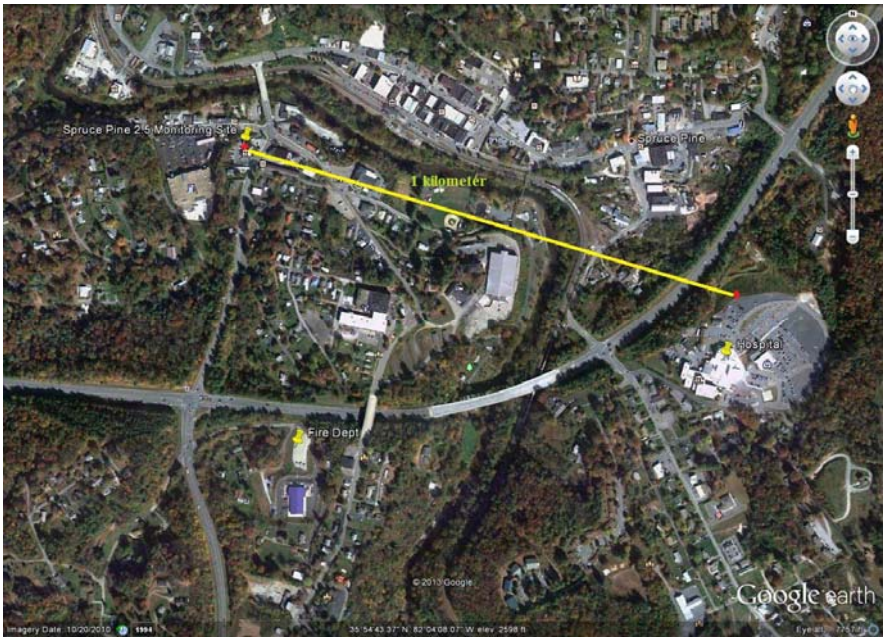

Figure A-102. Arial view of city hall and hospital monitoring sites

Figure A-103. Spruce Pine hospital, 37-121-0004, fine particle monitoring site

Figure A-104. Spruce Pine hospital site looking north

Figure A-105. Spruce Pine hospital site looking northwest

Figure A-106. Spruce Pine hospital site looking west

Figure A-107. Spruce Pine hospital site looking northeast

Figure A-108. Spruce Pine hospital site looking east

Figure A-109. Spruce Pine hospital site looking southeast

Figure A-110. Spruce Pine hospital site looking southwest

Figure A-111. Spruce Pine hospital site looking south

The hospital has a boiler house and emergency generators but the monitor is at least 200 meters northeast from them. The trees to the northeast are about 32 meters high and 80 meters from the site. The trees to the east are about 33 meters high and 86 meters away. The trees to the southeast are 60 meters tall and 140 meters away. The building to the southwest is about 11 meters high and 130 meters from the site. The trees to the west are about 38 meters tall and 90 meters away. All of the trees and buildings are far enough away as to not be obstacles to the flow of the air. In 2015 the hospital expanded the parking lot. The monitor was moved 9 meters to the north on Mar. 31, 2015.

There are no new monitoring rules that will require additional monitoring in these non-MSA valley areas.

Appendix A.1 Annual Network Site Review Forms for 2015

Joanna Bald in Joyce Kilmer-Slickrock Wilderness Area

Frying Pan in the Shining Rock Wilderness Area

Purchase Knob in the Great Smoky Mountains National Park

Mount Mitchell in the Mount Mitchell State Park

Bent Creek in Asheville (operated by the WNCRAQA)

Board of Education in Asheville (operated by the WNCRAQA)

AB Tech Air Toxics Site (operated by WNCRAQA & the Laboratory Analysis Branch)

Waynesville Health Center

Waynesville Recreation Center (shut down 12/31/2015)

Bryson City

Linville Falls in the Linville Gorge Wilderness Area

Marion (shut down 12/31/2015)

Spruce Pine

Site Review Form Calendar Year 2015

Site Information

Region ARO	**Site Name** JoAnna Bald	**AQS Site # 37-75-0001**
Street Address-National Forest Road 423 Spur		**City Robbinsville**
Urban Area Choose an item.	**Core-based Statistical Area** Choose an item.	
Enter Exact		
Longitude -83.7955	**Latitude** 35.257898	**Method of Measuring**
In Decimal Degrees	In Decimal Degrees	___ **Explanation: Google Earth**
Elevation Above/below Mean Sea Level (in meters)		1436.00

Name of nearest road to inlet probe National Forest Road ADT _____ Year latest available ____

Distance of ozone probe to nearest traffic lane (m) _____ Direction from ozone probe to nearest traffic lane ___

Comments: No count available. Estimate less than 10 cars per day

Name of nearest major road Snow Bird Road (#1115) ADT 930 Year latest available 2013

Distance of site to nearest major road (m) 6200.00 Direction from site to nearest major road NW

Comments: used google earth for distance

Site located near electrical substation/high voltage power lines?	Yes ☐ No ☒
Distance of site to nearest railroad track	(m) _____ Direction to RR ___ ☒NA
Distance of site to nearest power pole w/transformer	(m) _____ Direction ___
Distance between site and drip line of water tower (m) _____	Direction from site to water tower _____ ☒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.

0

ANSWER ALL APPLICABLE QUESTIONS:

Parameters	Monitoring Objective	Scale	Site Type
☒ O_3	☒General/Background ☐Highest Concentration ☐Max O3 Concentration ☐Population Exposure ☐Source Oriented ☐Transport ☐Upwind Background ☐Welfare Related Impacts	☐Micro ☐Middle ☐Neighborhood ☐Urban ☒Regional	☐SLAMS ☒SPM

Probe inlet height (from ground) 2-15 m? Yes ☒ No ☐

Give actual measured height from ground (meters) 4.27

Distance of outer edge of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☒ No ☐

Actual measured distance from outer edge of probe to supporting structure (meters) 1.75

Is probe > 20 m from the nearest tree drip line? Yes ☒ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line? Yes ☐ *No ☐

*Distance from probe to tree (m) _____ Direction from probe to tree ___ *Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☒

*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 ☐ No ☐

Site Review Form Calendar Year 2015

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: _____

Date of Last Site Pictures: November 12, 2015 New Pictures Submitted? Yes ☐ No ☒

Reviewer Terri Davis Date: December 8, 2015

Ambient Monitoring Coordinator Steve Ensley Date: 12/17/15

Instructions:

If the annual network review has indicated that the monitoring objectives and scale of representativeness for the site have not changed and the siting criteria still meets those monitoring objectives and that scale of representativeness and there are no other reasons to modify the site in any way, check "Yes" to the question "Maintain current site status?" and skip the rest of the recommendations section.

If the annual network review has indicated that the monitoring objectives, scale of representativeness, or siting criteria have changed for some reason or there is another reason to modify the site in some way, check "No" to the question "Maintain current site status?" and complete the rest of the recommendations section. If the monitoring objective or scale of representativeness needs to be changed, check the "Yes" box and write in the new monitoring objective or scale of representativeness on the line. Otherwise check the "No" box. If the site needs to be relocated, check the "Yes" box. If the site needs to be shut down, write "Shut down" in the comments line. Also use the comments line to explain any change requested.

Check the site picture archive to find out when the last set of site pictures were taken and write the date down on the line. If the pictures are more than five years old or if something at the site has changed in the past year, take new site pictures. Changes that require new site pictures include additions, removals, or movement of monitors at the site, growth or removal of trees and other shrubs at the site, and construction of roads or buildings at or in the vicinity of the site.

Pictures of the site should at a minimum include at least one picture showing the site itself and pictures standing at the probe or inlet or as close as possible to the probe or inlet looking in the four compass directions (north, east, south, and west). If meteorological data are collected at the site, pictures standing at the meteorological tower looking southwest and northeast should also be included. Sometimes pictures looking at the site from the four compass directions are also helpful.

Be sure to correctly identify the pictures as to which compass direction they show. This documentation may be achieved by using good notes when taking the pictures, holding a compass in front of the camera, or placing a sign with the appropriate direction indicated somewhere in the picture. Label the pictures with the name of the site using the two digit logger ID (HC, JW, *etc.*), the direction (N, NE, E, SE, S, SW, W, NW), and the date taken (YYYYMMDD) and transfer the pictures to the group drive in the appropriate Incoming/Regional Office directory.

Site Review Form Calendar Year 2015

Site Information

Region ARO	Site Name Frypan	AQS Site # 37-087-0035
Street Address-750 Frying Pan Road		City Canton
Urban Area Not in an Urban Area	Core-based Statistical Area None	

Enter Exact		
Longitude -82.7742	Latitude 35.3937	Method of Measuring
In Decimal Degrees	In Decimal Degrees	___ Explanation: Google earth
Elevation Above/below Mean Sea Level (in meters)		1617.88

Name of nearest road to inlet probe Blue Ridge Parkway ADT 6171 Year latest available 2014

Distance of ozone probe to nearest traffic lane (m) 315 Direction from ozone probe to nearest traffic lane SE

Comments: _____

Name of nearest major road Blue Ridge Parkway ADT 6171 Year latest available 2014

Distance of site to nearest major road (m) 315.00 Direction from site to nearest major road SE

Comments: year average ADT from nps.gov web site

Site located near electrical substation/high voltage power lines?	Yes ☐ No ☒
Distance of site to nearest railroad track	(m) _____ Direction to RR ___ ☒NA
Distance of site to nearest power pole w/transformer	(m) 16 Direction SSW
Distance between site and drip line of water tower (m) _____	Direction from site to water tower _____ ☒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.

_____

ANSWER ALL APPLICABLE QUESTIONS:

Parameters	Monitoring Objective	Scale	Site Type
☒ O_3	☒General/Background ☐Highest Concentration ☐Max O3 Concentration ☐Population Exposure ☐Source Oriented ☐Transport ☐Upwind Background ☐Welfare Related Impacts	☐Micro ☐Middle ☐Neighborhood ☐Urban ☒Regional	☐SLAMS ☒SPM

Probe inlet height (from ground) 2-15 m? Yes ☒ No ☐

Give actual measured height from ground (meters) 4.50

Distance of outer edge of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☒ No ☐

Actual measured distance from outer edge of probe to supporting structure (meters) 1.09

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☒ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line? Yes ☐ *No ☐

*Distance from probe to tree (m) _____ Direction from probe to tree ___ *Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☒

*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 ☐ No ☐

Site Review Form Calendar Year 2015

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: _____

Date of Last Site Pictures: 3/13/15 New Pictures Submitted? Yes ☐ No ☒

Reviewer Terri Davis Date: December 8, 2015

Ambient Monitoring Coordinator Steve Ensley Date: December 17, 2015

Instructions:

If the annual network review has indicated that the monitoring objectives and scale of representativeness for the site have not changed and the siting criteria still meets those monitoring objectives and that scale of representativeness and there are no other reasons to modify the site in any way, check "Yes" to the question "Maintain current site status?" and skip the rest of the recommendations section.

If the annual network review has indicated that the monitoring objectives, scale of representativeness, or siting criteria have changed for some reason or there is another reason to modify the site in some way, check "No" to the question "Maintain current site status?" and complete the rest of the recommendations section. If the monitoring objective or scale of representativeness needs to be changed, check the "Yes" box and write in the new monitoring objective or scale of representativeness on the line. Otherwise check the "No" box. If the site needs to be relocated, check the "Yes" box. If the site needs to be shut down, write "Shut down" in the comments line. Also use the comments line to explain any change requested.

Check the site picture archive to find out when the last set of site pictures were taken and write the date down on the line. If the pictures are more than five years old or if something at the site has changed in the past year, take new site pictures. Changes that require new site pictures include additions, removals, or movement of monitors at the site, growth or removal of trees and other shrubs at the site, and construction of roads or buildings at or in the vicinity of the site.

Pictures of the site should at a minimum include at least one picture showing the site itself and pictures standing at the probe or inlet or as close as possible to the probe or inlet looking in the four compass directions (north, east, south, and west). If meteorological data are collected at the site, pictures standing at the meteorological tower looking southwest and northeast should also be included. Sometimes pictures looking at the site from the four compass directions are also helpful.

Be sure to correctly identify the pictures as to which compass direction they show. This documentation may be achieved by using good notes when taking the pictures, holding a compass in front of the camera, or placing a sign with the appropriate direction indicated somewhere in the picture. Label the pictures with the name of the site using the two digit logger ID (HC, JW, *etc.*), the direction (N, NE, E, SE, S, SW, W, NW), and the date taken (YYYYMMDD) and transfer the pictures to the group drive in the appropriate Incoming/Regional Office directory.

Site Review Form Calendar Year 2015

Site Information

Region ARO	**Site Name** Purchase Knob	**AQS Site # 37-087-0036**
Street Address-6905 Purchase Road		**City** Waynesville
Urban Area Not in an Urban Area	**Core-based Statistical Area** None	

Enter Exact		
Longitude -83.0741	**Latitude** 35.5871	**Method of Measuring**
In Decimal Degrees	In Decimal Degrees	**Other (explain)** / **Explanation: Google Earth**
Elevation Above/below Mean Sea Level (in meters)		1504.798

Name of nearest road to inlet probe Purchase Road ADT 20 Year latest available Est.

Distance of ozone probe to nearest traffic lane (m) 103 Direction from ozone probe to nearest traffic lane SE

Comments: _____

Name of nearest major road US-276 (Jonathan Creek Road) ADT 5700 Year latest available 2014

Distance of site to nearest major road (m) 5425.31 Direction from site to nearest major road SE

Comments: _____

Site located near electrical substation/high voltage power lines? Yes ☐ No ☒

Distance of site to nearest railroad track (m) _____ Direction to RR ___ ☒NA

Distance of site to nearest power pole w/transformer (m) _____ Direction ___

Distance between site and drip line of water tower (m) _____ Direction from site to water tower _____ ☒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.

_____

ANSWER ALL APPLICABLE QUESTIONS:

Parameters	Monitoring Objective	Scale	Site Type
☒ O_3	☒General/Background ☐Highest Concentration ☐Max O3 Concentration ☐Population Exposure ☐Source Oriented ☐Transport ☐Upwind Background ☐Welfare Related Impacts	☐Micro ☐Middle ☐Neighborhood ☐Urban ☒Regional	☒SLAMS ☐SPM

Probe inlet height (from ground) 2-15 m? Yes ☒ No ☐

Give actual measured height from ground (meters) 4.62

Distance of outer edge of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☒ No ☐

Actual measured distance from outer edge of probe to supporting structure (meters) 1.78

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☒ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line? Yes ☐ *No ☒

*Distance from probe to tree (m) 5.20 Direction from probe to tree SW *Height of tree (m) 4.90

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☒

*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 ☐ No ☐

Site Review Form Calendar Year 2015

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: Hemlock tree that is within 10m of probe is going to be cut down by the USPS.

Date of Last Site Pictures: February 1, 2015 New Pictures Submitted? Yes ☐ No ☒

Reviewer Steve Ensley Date: May 12, 2016

Ambient Monitoring Coordinator Steve Ensley Date: May 12, 2016

Instructions:

If the annual network review has indicated that the monitoring objectives and scale of representativeness for the site have not changed and the siting criteria still meets those monitoring objectives and that scale of representativeness and there are no other reasons to modify the site in any way, check "Yes" to the question "Maintain current site status?" and skip the rest of the recommendations section.

If the annual network review has indicated that the monitoring objectives, scale of representativeness, or siting criteria have changed for some reason or there is another reason to modify the site in some way, check "No" to the question "Maintain current site status?" and complete the rest of the recommendations section. If the monitoring objective or scale of representativeness needs to be changed, check the "Yes" box and write in the new monitoring objective or scale of representativeness on the line. Otherwise check the "No" box. If the site needs to be relocated, check the "Yes" box. If the site needs to be shut down, write "Shut down" in the comments line. Also use the comments line to explain any change requested.

Check the site picture archive to find out when the last set of site pictures were taken and write the date down on the line. If the pictures are more than five years old or if something at the site has changed in the past year, take new site pictures. Changes that require new site pictures include additions, removals, or movement of monitors at the site, growth or removal of trees and other shrubs at the site, and construction of roads or buildings at or in the vicinity of the site.

Pictures of the site should at a minimum include at least one picture showing the site itself and pictures standing at the probe or inlet or as close as possible to the probe or inlet looking in the four compass directions (north, east, south, and west). If meteorological data are collected at the site, pictures standing at the meteorological tower looking southwest and northeast should also be included. Sometimes pictures looking at the site from the four compass directions are also helpful.

Be sure to correctly identify the pictures as to which compass direction they show. This documentation may be achieved by using good notes when taking the pictures, holding a compass in front of the camera, or placing a sign with the appropriate direction indicated somewhere in the picture. Label the pictures with the name of the site using the two digit logger ID (HC, JW, *etc.*), the direction (N, NE, E, SE, S, SW, W, NW), and the date taken (YYYYMMDD) and transfer the pictures to the group drive in the appropriate Incoming/Regional Office directory.

Site Review Form Calendar Year 2015

Site Information

Region ARO	**Site Name** Mt. Mitchell	**AQS Site # 37-199-0004**
Street Address 2388 State Hwy 128		**City** Burnsville
Urban Area Not in an Urban Area	**Core-based Statistical Area** None	
Enter Exact		
Longitude -82.264953	**Latitude** 35.765453	**Method of Measuring**
In Decimal Degrees	In Decimal Degrees	**Other (explain)** / **Explanation:** Google Earth
Elevation Above/below Mean Sea Level (in meters)		2022

Name of nearest road to inlet probe State Hwy 128 ADT 350 Year latest available 2012

Comments: _____

Distance of site to nearest major road (m) 151.18 Direction from site to nearest major road W

Name of nearest major road State Hwy 128 ADT 350 Year latest available 2012

Comments: _____

Site located near electrical substation/high voltage power lines?		Yes ☐ No
Distance of site to nearest railroad track	(m) _____ Direction to RR ___	☒NA
Distance of site to nearest power pole w/transformer	(m) _____ Direction ___	
Distance between site and drip line of water tower (m) _____ Direction from site to water tower _____		☒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.

_____

ANSWER ALL APPLICABLE QUESTIONS:

Parameters	Monitoring Objective	Scale	Monitor Type
☒ Ozone (O_3)	☒ General/Background ☐ Highest Concentration ☐ Max O3 Concentration ☐ Population Exposure ☐ Source Oriented ☒ Transport ☐ Upwind Background ☐ Welfare Related Impacts	☐ Micro ☐ Middle ☐ Neighborhood ☐ Urban ☒ Regional	☐ SLAMS ☒ SPM

Probe inlet height (from ground) 2-15 m? Yes ☐ No ☐ Give actual measured height from ground (meters) Too high to measure (see Comments below)

Distance of outer edge of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☐ No ☐
Actual measured distance from outer edge of probe to supporting structure (meters) Too high to measure. (see Comments below)

Distance of outer edge of probe inlet from other gas monitoring probe inlets > 0.25 m? Yes ☐ No ☐ NA ☒

Is probe > 20 m from the nearest tree drip line? Yes ☒ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line? Yes ☐ *No ☐

*Distance from probe to tree (m) _____ Direction from probe to tree ___ *Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☒

*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 ☐ No ☐

Distance of probe to nearest traffic lane (m) 151 Direction from probe to nearest traffic lane W

Site Review Form Calendar Year 2015

OZONE MONITOR RECOMMENDATIONS:

1) Maintain current monitor 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 monitor? Yes ☐ No ☐

Comments: Unable to measure probe distances due to height from ground. Probe is estimated to be >1m from support structure.

ANSWER ALL APPLICABLE QUESTIONS:

Parameters	Monitoring Objective	Scale	Monitor Type
☐ SO_2 (NAAQS) ☐ SO_2 (trace-level)	☐ General/Background ☐ Highest Concentration ☐ Population Exposure ☐ Source Oriented ☐ Transport ☐ Upwind Background ☐ Welfare Related Impacts	☐ Micro ☐ Middle ☐ Neighborhood ☐ Urban ☐ Regional	☐ SLAMS ☐ SPM

Probe inlet height (from ground) 2-15 m? Yes ☐ No ☐ Give actual measured height from ground (meters) _____

Distance of outer edge of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☐ No ☐

Actual measured distance from outer edge of probe to supporting structure (meters) _____

Distance of outer edge of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line? Yes ☐ *No ☐

*Distance from probe to tree (m) _____ Direction from probe to tree ___ *Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*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 ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

SULFUR DIOXIDE MONITOR RECOMMENDATIONS:

1) Maintain current monitor 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 monitor? Yes ☐ No ☐

Comments: _____

Date of Last Site Pictures 11/6/2014 New Pictures Submitted? Yes ☐ No ☒

Reviewer Sarah Albert Date December 16, 2015

Ambient Monitoring Coordinator Steve Ensley Date 12/17/15

Revised 2015-12-17

Site Review Form Calendar Year 2015

Site Information

Region WNC	**Site Name** Bent Creek	**AQS Site # 37-021-0030**
Street Address-125 Idlewood Drive		**City Asheville, NC**
Urban Area ASHEVILLE	**Core-based Statistical Area** Asheville, NC	

Enter Exact		
Longitude -82.6133	**Latitude** 35.5083	**Method of Measuring**
In Decimal Degrees	In Decimal Degrees	___ **Explanation: Google Earth**
Elevation Above/below Mean Sea Level (in meters)		669.03

Name of nearest road to inlet probe Bentcreekranchrd. ADT 880 Year latest available 2012

Distance of ozone probe to nearest traffic lane (m) 337 Direction from ozone probe to nearest traffic lane NE

Comments: _____

Name of nearest major road Brevard Road (Hwy. 191) ADT 12000 Year latest available 2012

Distance of site to nearest major road (m) 1157.64 Direction from site to nearest major road NE

Comments: _____

Site located near electrical substation/high voltage power lines?	Yes ☐ No ☒
Distance of site to nearest railroad track	(m) 5371 Direction to RR NE ☐NA
Distance of site to nearest power pole w/transformer	(m) 70 Direction NE
Distance between site and drip line of water tower (m) _____	Direction from site to water tower _____ ☐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.

None

ANSWER ALL APPLICABLE QUESTIONS:

Parameters	Monitoring Objective	Scale	Site Type
☒ O_3	☐General/Background ☒Highest Concentration ☐Max O3 Concentration ☐Population Exposure ☐Source Oriented ☐Transport ☐Upwind Background ☐Welfare Related Impacts	☐Micro ☐Middle ☐Neighborhood ☒Urban ☐Regional	☒SLAMS ☐SPM

Probe inlet height (from ground) 2-15 m? Yes ☒ No ☐

Give actual measured height from ground (meters) 5.00

Distance of outer edge of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☒ No ☐

Actual measured distance from outer edge of probe to supporting structure (meters) 2.00

Is probe > 20 m from the nearest tree drip line? Yes ☒ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line? Yes ☐ *No ☐

*Distance from probe to tree (m) _____ Direction from probe to tree ___ *Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☒

*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 ☐ No ☐

Site Review Form Calendar Year 2015

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: _____

Date of Last Site Pictures: _____ New Pictures Submitted? Yes ☒ No ☐

Reviewer _____ Date: _____

Ambient Monitoring Coordinator Kevin Lance Date: 12/15/15

Instructions:

If the annual network review has indicated that the monitoring objectives and scale of representativeness for the site have not changed and the siting criteria still meets those monitoring objectives and that scale of representativeness and there are no other reasons to modify the site in any way, check "Yes" to the question "Maintain current site status?" and skip the rest of the recommendations section.

If the annual network review has indicated that the monitoring objectives, scale of representativeness, or siting criteria have changed for some reason or there is another reason to modify the site in some way, check "No" to the question "Maintain current site status?" and complete the rest of the recommendations section. If the monitoring objective or scale of representativeness needs to be changed, check the "Yes" box and write in the new monitoring objective or scale of representativeness on the line. Otherwise check the "No" box. If the site needs to be relocated, check the "Yes" box. If the site needs to be shut down, write "Shut down" in the comments line. Also use the comments line to explain any change requested.

Check the site picture archive to find out when the last set of site pictures were taken and write the date down on the line. If the pictures are more than five years old or if something at the site has changed in the past year, take new site pictures. Changes that require new site pictures include additions, removals, or movement of monitors at the site, growth or removal of trees and other shrubs at the site, and construction of roads or buildings at or in the vicinity of the site.

Pictures of the site should at a minimum include at least one picture showing the site itself and pictures standing at the probe or inlet or as close as possible to the probe or inlet looking in the four compass directions (north, east, south, and west). If meteorological data are collected at the site, pictures standing at the meteorological tower looking southwest and northeast should also be included. Sometimes pictures looking at the site from the four compass directions are also helpful.

Be sure to correctly identify the pictures as to which compass direction they show. This documentation may be achieved by using good notes when taking the pictures, holding a compass in front of the camera, or placing a sign with the appropriate direction indicated somewhere in the picture. Label the pictures with the name of the site using the two digit logger ID (HC, JW, *etc.*), the direction (N, NE, E, SE, S, SW, W, NW), and the date taken (YYYYMMDD) and transfer the pictures to the group drive in the appropriate Incoming/Regional Office directory.

Site Review Form Calendar Year 2015

Site Information

Region WNC	**Site Name** Board of Education	**AQS Site # 37-021-0034**
Street Address-175 Bingham Road		**City Asheville**
Urban Area ASHEVILLE	**Core-based Statistical Area** Asheville, NC	
Enter Exact		
Longitude -82.5844	**Latitude** 35.6062	**Method of Measuring**
In Decimal Degrees	In Decimal Degrees	___ **Explanation: Google Earth**
Elevation Above/below Mean Sea Level (in meters)		**662.94**

Name of nearest road to inlet probe Bingham Road ADT Choose an Item2200 Year 2012

Distance of ozone probe to nearest traffic lane (m) _____ Direction from inlet to nearest traffic lane ___

Comments: _____

Name of nearest major road Bingham Road ADT 2200 Year latest available 2012

Distance of site to nearest major road (m) 130.56 Direction from site to nearest major road W

Comments: _____

Site located near electrical substation/high voltage power lines?		Yes ☐ No ☐
Distance of site to nearest railroad track	(m) 208 Direction to RR E	☐NA
Distance of site to nearest power pole w/transformer	(m) 138 Direction W	
Distance between site and drip line of water tower (m) _____	Direction from site to water tower _____	☐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.

_____

Instructions:

Address: Sometimes local addresses change. Confirm the local address of the site using a 911 locator or the address used by the local utility company, community or county to identify the site location.

Urban Area: If the monitor is located within the bounds of an urban area (an incorporated area with a population of 10,000 or more people), select the appropriate urban area from the list. Otherwise select "Not in an Urban Area".

Core-Based Statistical Area (CBSA): If the monitor is located within a county that is part of a metropolitan statistical area (MSA) or a micropolitan statistical area (MiSA), then it is located within a core-based statistical area. If the monitoring station is located in a county included in a MSA or MiSA, select the appropriate CBSA from the list. Otherwise select "None".

Longitude and Latitude: The longitude and latitude should be entered in decimal degrees. Use a conversion program, such as http://transition.fcc.gov/mb/audio/bickel/DDDMMSS-decimal.html, to convert to decimal degrees.

Road Information: For the nearest road to the inlet probe, list whatever roadway that carries vehicles that is closest to the probe, whether or not it is a named or public road and even if the road has very little traffic. Use the comments space if necessary to describe the road or the source of the annual average daily traffic (AADT) counts. If the monitor is located near an unnamed, little used, private road, use the nearest major road space to list the closest named public road to the site. Include the distance and direction of the nearest major road from the site as well as the AADT if it is available. If the closest road is a small public road but there is a large major roadway such as an interstate highway, divided highway, major thoroughfare, etc., near the monitoring station use the nearest major road space to list the information about this major roadway. Include the distance and direction of the major road from the site as well as the AADT. The AADT for state roads can be obtained from the North Carolina Division of Transportation at http://www.ncdot.gov/travel/statemapping/trafficvolumemaps/default.html. For AADT values for local roadways contact the appropriate local governments.

Any Sources of Potential Bias: Use this space to record any information about the site that is not requested elsewhere. Especially note any changes to the site that occurred near the site in the past year, such as road construction, building construction, new businesses, businesses closing, or changes in traffic patterns, crops or other agricultural activities.

Site Review Form Calendar Year 2015

Parameters	Monitoring Objective	Scale	Monitor Type
Air flow < 200 L/min ☒ PM2.5 FRM ☐ PM10 FRM ☐ PM10 Cont. (BAM) ☐ PM10-2.5 FRM ☐ PM10-2.5 BAM ☐ PM10 Lead (PB) ☒ PM2.5 Cont. (TEOM) ☐ PM2.5 Cont. (BAM) ☒ PM2.5 Spec. (SASS) ☒ PM2.5 Spec. (URG) ☐ PM2.5 Cont. Spec.	☐ General/Background_____ ☐ Highest Concentration_____ ☒ Population ExposureAll ☐ Source Oriented_____ ☐ Transport_____ ☐ Welfare Related Impacts _____	☐ Micro_____ ☐ Middle_____ ☒ Neighborhood_____ ☐ Urban_____ ☐ Regional_____	☒ SLAMS _____ ☐ SPM_____ ☐ Nonregulatory_____ ☐ Supplemental Speciation _____

Probe inlet height (from ground) ☐ < 2 m _____ ☐ 2-7m _____ ☒ 7-15 m _____ ☐ > 15 m_____
Actual measured distance from probe inlet to ground (meters) 8

Distance of outer edge of probe inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes ☒ No ☐
Actual measured distance from outer edge of probe inlet to supporting structure (meters) 5

Distance (Y) between outer edge of probe inlets of any low volume monitor and any other low volume monitor at the site = 1 m or greater? Yes ☒ No ☐ NA ☐

Distance (Y) between outer edge of all low volume monitor inlets and any Hi-Volume PM-10 or TSP inlet = 2 m or greater? Yes ☐ No ☐ NA ☒

Are collocated PM2.5 Monitors (Two FRMs, FRM & BAM, FRM & TEOM, BAM & TEOM) Located at Site? *Yes ☒ (answer *'d questions) No ☐ NA ☐

* Entire inlet opening of collocated PM 2.5 samplers (X) within 2 to 4 m of each other? Yes ☒ No ☐ Give actual (meters): _____

*Are collocated PM2.5 sampler inlets within 1 m vertically of each other? Yes ☒ No ☐ Give actual (meters): _____

Is an URG 3000 monitor collocated with a SASS monitor at the site? *Yes ☒ (answer *'d questions) No ☐ NA ☐

* Entire inlet opening of collocated speciation samplers inlets (X) within 2 to 4 m of each other? Yes ☒ No ☐
Give actual (meters) 3

* Are collocated speciation sampler inlets within 1 m vertically of each other? Yes ☒ No ☐
Give actual (meters) 0.00

Is a low-volume PM10 monitor collocated with a PM2.5 monitor at the site to measure PM10-2.5? *Yes ☐ (answer *'d questions) No ☒ NA ☐

* Entire inlet opening of collocated PM10 and PM2.5samplers for PM10-2.5 (X) within 2 to 4 m of each other? Yes ☐ No ☐

*Are collocated PM10 and PM2.5 sampler inlets within 1 m vertically of each other? Yes ☐ No ☐

Is probe > 20 m from the nearest tree drip line? Yes ☒ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line? Yes ☐ *No ☐

*Distance from probe to tree (m) _____ Direction from probe to tree ___ *Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☒

*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 ☐ No ☐

Site Review Form Calendar Year 2015

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: _____

Date of Last Site Pictures: _____ New Pictures Submitted? Yes ☒ No ☐

Reviewer _____ Date: _____

Ambient Monitoring Coordinator Kevin Lance Date: December 17, 2015

Instructions (continued):

Trees: The probe or inlet must be at least 10 meters or further from the drip line of trees. A distance of at least 20 meters between the probe and any tree or trees is preferred.

Obstacles: An obstacle is anything that restricts air flow. A tree can be an obstacle because it has branches and leaves that restrict the flow of air but a pole is not considered to be an obstacle. To avoid interference from obstacles, the probe or inlet must have unrestricted airflow and be located away from obstacles. The distance from the obstacle to the probe or inlet must be at least twice the height that the obstacle protrudes above the probe, inlet, or monitoring path.

If the annual network review has indicated that the monitoring objectives and scale of representativeness for the site have not changed and the siting criteria still meets those monitoring objectives and that scale of representativeness and there are no other reasons to modify the site in any way, check "Yes" to the question "Maintain current site status?" and skip the rest of the recommendations section.

If the annual network review has indicated that the monitoring objectives, scale of representativeness, or siting criteria have changed for some reason or there is another reason to modify the site in some way, check "No" to the question "Maintain current site status?" and complete the rest of the recommendations section. If the monitoring objective or scale of representativeness needs to be changed, check the "Yes" box and write in the new monitoring objective or scale of representativeness on the line. Otherwise check the "No" box. If the site needs to be relocated, check the "Yes" box. If the site needs to be shut down, write "Shut down" in the comments line. Also use the comments line to explain any change requested.

Check the site picture archive to find out when the last set of site pictures were taken and write the date down on the line. If the pictures are more than five years old or if something at the site has changed in the past year, take new site pictures. Changes that require new site pictures include additions, removals, or movement of monitors at the site, growth or removal of trees and other shrubs at the site, and construction of roads or buildings at or in the vicinity of the site.

Pictures of the site should at a minimum include at least one picture showing the site itself and pictures standing at the probe or inlet or as close as possible to the probe or inlet looking in the four compass directions (north, east, south, and west). If meteorological data are collected at the site, pictures standing at the meteorological tower looking southwest and northeast should also be included. Sometimes pictures looking at the site from the four compass directions are also helpful.

Be sure to correctly identify the pictures as to which compass direction they show. This documentation may be achieved by using good notes when taking the pictures, holding a compass in front of the camera, or placing a sign with the appropriate direction indicated somewhere in the picture. Label the pictures with the name of the site using the two digit logger ID (HC, JW, *etc.*), the direction (N, NE, E, SE, S, SW, W, NW), and the date taken (YYYYMMDD) and transfer the pictures to the group drive in the appropriate Incoming/Regional Office directory.

Site Review Form Calendar Year 2015

Site Information

Region WNC	**Site Name** AB Tech	**AQS Site # 37-021-0035**
Street Address-AB Technical Community College		**City** Asheville, NC
Urban Area Not in an Urban Area	**Core-based Statistical Area** Asheville, NC	

Enter Exact		
Longitude 35.572222	**Latitude** -82.558611	**Method of Measuring**
In Decimal Degrees	In Decimal Degrees	___ **Explanation: Google Earth**

Elevation Above/below Mean Sea Level (in meters) ____

Name of nearest road to inlet probe Victoria Road ADT 2200 Year latest available 2010

Comments: Cul-de-sac 73m. from probe, measured by Google Earth

Distance of site to nearest major road (m) 359 Direction from site to nearest major road E

Name of nearest major road Victoria Road ADT 2200 Year 2010

Comments: _____

Site located near electrical substation/high voltage power lines? Yes ☐ No ☒

Distance of site to nearest railroad track	(m) 341 Direction to RR WSW ☐NA
Distance of site to nearest power pole w/transformer	(m) 190 Direction N

Distance between site and drip line of water tower (m) _____ Direction from site to water tower _____ ☒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.

____

ANSWER ALL APPLICABLE QUESTIONS:

Parameters	Monitoring Objective	Scale	Monitor Type
☐ NA ☐ SO_2 (NAAQS) ☐ SO_2 (trace-level) ☐ NO_x (NAAQS) ☐ $HSNO_y$ ☐ O_3 ☐ NH_3 ☐ Hydrocarbon ☒ Air Toxics ☐ HSCO (Not Micro) ☐ CO (trace-level)	☒ General/Background_____ ☐ Highest Concentration_____ ☐ Max O3 Concentration_____ ☒ Population Exposure_____ ☐ Source Oriented_____ ☐ Transport_____ ☐ Upwind Background_____ ☐ Welfare Related Impacts _____	☐ Micro_____ ☐ Middle_____ ☐ Neighborhood_____ ☒ Urban_____ ☐ Regional_____	☐ SLAMS _____ ☒ SPM_____ **Monitor Network Affiliation** ☐ NCORE_____ ☐ Unofficial PAMS_____

Probe inlet height (from ground) 2-15 m? Yes ☒ No ☐ Give actual measured height from ground (meters) 3.75

Distance of outer edge of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☒ No ☐

Actual measured distance from outer edge of probe to supporting structure (meters) 1.00

Distance of outer edge of probe inlet from other monitoring probe inlets > 1 m? Yes ☒ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line? Yes ☐ *No ☐

*Distance from probe to tree (m) _____ Direction from probe to tree ___ *Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☒ (answer *'d questions) No ☐

*Identify obstacle tree Distance from probe inlet (m) 30 Direction from probe inlet to obstacle ENE

*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☒ No ☐

Distance of probe to nearest traffic lane (m) 359 Direction from probe to nearest traffic lane E

Site Review Form Calendar Year 2015

Parameters	Monitoring Objective	Scale	Monitor Type
☒ NA ☐ NO_y (trace-level)	☐ General/Background_____ ☐ Highest Concentration_____ ☐ Max O3 Concentration_____ ☐ Population Exposure_____ ☐ Source Oriented_____ ☐ Transport_____ ☐ Upwind Background_____ ☐ Welfare Related Impacts _____	☐ Micro_____ ☐ Middle_____ ☐ Neighborhood_____ ☐ Urban_____ ☐ Regional_____	☐ SLAMS _____ ☐ SPM_____ **Monitor Network Affiliation** ☐ NCORE_____

Probe inlet height (from ground) 10-15 m? Yes ☐ No ☐
Actual measured distance from probe inlet to ground (meters) _____

Distance of outer edge of probe inlet from horizontal and/or vertical supporting structure > 1 m? Yes ☐ No ☐
Actual measured distance from outer edge of probe inlet to supporting structure (meters) _____

Distance of outer edge of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___ *Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*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 ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

Parameters	Monitoring Objective	Scale	Monitor Type
☒ NA Air flow > 200 L/min ☐ PM10 ☐ TSP ☐ TSP Pb	☐ Highest Concentration_____ ☐ Population Exposure_____ ☐ Source Oriented_____ ☐ Background_____ ☐ Transport_____ ☐ Welfare Related Impacts _____	☐ Micro_____ ☐ Middle_____ ☐ Neighborhood_____ ☐ Urban_____ ☐ Regional_____	☐ SLAMS _____ ☐ SPM_____ **Monitor Network Affiliation** ☐ NCORE_____

Probe inlet height (from ground) ☐ < 2 m _____ ☐ 2-7m _____ ☐ 7-15 m _____ ☐ > 15 m_____
Actual measured distance from probe inlet to ground (meters) _____

Distance of outer edge of probe inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m?
Actual measured distance from probe to supporting structure (meters) _____ Yes ☐ No ☐

Entire inlet opening of collocated PM-10, TSP or TSP Pb Samplers (X) within 2 to 4 m of each other? Yes ☐ No ☐ NA ☐
Actual measured distance (X) including entire inlet openings of both (all) collocated probe inlets (meters) _____
Distance (Y) between outer edge of any high volume inlet and any other high or low volume inlet ≥ 2 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___ *Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*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 ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

Site Review Form Calendar Year 2015

Parameters	Monitoring Objective	Scale	Site Type
☒ NA Air flow < 200 L/min ☐ PM2.5 FRM ☐ PM10 FRM ☐ PM10 Cont. (BAM) ☐ PM10-2.5 FRM ☐ PM10-2.5 BAM ☐ PM10 Lead (PB) ☐ PM2.5 Cont. (TEOM) ☐ PM2.5 Cont. (BAM) ☐ PM2.5 Spec. (SASS) ☐ PM2.5 Spec. (URG) ☐ PM2.5 Cont. Spec.	☐ General/Background _____ ☐ Highest Concentration _____ ☐ Population Exposure _____ ☐ Source Oriented _____ ☐ Transport _____ ☐ Welfare Related Impacts _____	☐ Micro _____ ☐ Middle _____ ☐ Neighborhood _____ ☐ Urban _____ ☐ Regional _____	☐ SLAMS _____ ☐ SPM_____ **Monitor Network Affiliation** ☐ NCORE _____ ☐ SUPPLEMENTAL SPECIATION _____ **Monitor NAAQS Exclusion** ☐ NONREGULATORY_____

Probe inlet height (from ground) ☐ < 2 m _____ ☐ 2-7m _____ ☐ 7-15 m _____ ☐ > 15 m _____
Actual measured distance from probe inlet to ground (meters) _____

Distance of outer edge of probe inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m?
Actual measured distance from outer edge of probe inlet to supporting structure (meters) _____ Yes ☐ No ☐

Distance (Y) between outer edge of probe inlets of any low volume monitor and any other low volume monitor at the site = 1 m or greater?	Yes ☐ No ☐ NA ☐
Distance (Y) between outer edge of all low volume monitor inlets and any Hi-Volume PM-10 or TSP inlet = 2 m or greater?	Yes ☐ No ☐ NA ☐

Are collocated PM2.5 Monitors (Two FRMs, FRM & BAM, FRM & TEOM, BAM & TEOM) Located at Site? *Yes ☐ (answer *'d questions) No ☐ NA ☐

* Entire inlet opening of collocated PM 2.5 samplers (X) within 2 to 4 m of each other?	Yes ☐ No ☐ Give actual (meters) _____
*Are collocated PM2.5 sampler inlets within 1 m vertically of each other?	Yes ☐ No ☐ Give actual (meters) _____

Is an URG 3000 monitor collocated with a SASS monitor at the site? *Yes ☐ (answer *'d questions) No ☐ NA ☐
* Entire inlet opening of collocated speciation samplers inlets (X) within 2 to 4 m of each other? Yes ☐ No ☐
Give actual (meters) _____
* Are collocated speciation sampler inlets within 1 m vertically of each other? Yes ☐ No ☐ Give actual (meters) _____

Is a low-volume PM10 monitor collocated with a PM2.5 monitor at the site to measure PM10-2.5? *Yes ☐ (answer *'d questions) No ☐ NA ☐

* Entire inlet opening of collocated PM10 and PM2.5samplers for PM10-2.5 (X) within 2 to 4 m of each other?	Yes ☐ No ☐
*Are collocated PM10 and PM2.5 sampler inlets within 1 m vertically of each other?	Yes ☐ No ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___ *Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*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 ☐ No ☐

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:

Date of Last Site Pictures _____ New Pictures Submitted? Yes ☐ No ☐

Reviewer _____Date _____

Ambient Monitoring Coordinator Kevin Lance _____DateDecember 21, 2015_____

Site Review Form Calendar Year 2015

Site Information

Region ARO	**Site Name** Waynesville School	**AQS Site # 37-087-0008**
Street Address-2236 Asheville Road		**City Waynesville**
Urban Area Not in an Urban Area	**Core-based Statistical Area** Asheville, NC	
Enter Exact		
Longitude -82.9636	**Latitude** 35.507233	**Method of Measuring**
In Decimal Degrees	In Decimal Degrees	**Other (explain)** **Explanation: Google Earth**
Elevation Above/below Mean Sea Level (in meters)		793.00

Name of nearest road to inlet probe Asheville Road ADT 9300 Year latest available 2012

Distance of ozone probe to nearest traffic lane (m) 154 Direction from ozone probe to nearest traffic lane SW

Comments: _____

Name of nearest major road Hwy 74 (Great Smoky Mountains Expressway) ADT 32000 Year latest available 2012

Distance of site to nearest major road (m) 1056.35 Direction from site to nearest major road NW

Comments: _____

Site located near electrical substation/high voltage power lines?	Yes ☐ No ☒
Distance of site to nearest railroad track	(m) 771 Direction to RR NW ☐NA
Distance of site to nearest power pole w/transformer	(m) _____ Direction ___
Distance between site and drip line of water tower (m) _____ Direction from site to water tower _____	☒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.

_____

ANSWER ALL APPLICABLE QUESTIONS:

Parameters	Monitoring Objective	Scale	Site Type
☒ O_3	☐General/Background ☐Highest Concentration ☐Max O3 Concentration ☒Population Exposure ☐Source Oriented ☐Transport ☐Upwind Background ☐Welfare Related Impacts	☐Micro ☐Middle ☒Neighborhood ☐Urban ☐Regional	☒SLAMS ☐SPM

Probe inlet height (from ground) 2-15 m? Yes ☒ No ☐

Give actual measured height from ground (meters) 3.80

Distance of outer edge of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☒ No ☐

Actual measured distance from outer edge of probe to supporting structure (meters) 1.02

Is probe > 20 m from the nearest tree drip line? Yes ☒ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line? Yes ☐ *No ☐

*Distance from probe to tree (m) _____ Direction from probe to tree ___ *Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☒

*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 ☐ No ☐

Site Review Form Calendar Year 2015

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: _____

Date of Last Site Pictures: April 7, 2011 New Pictures Submitted? Yes ☐ No ☒

Reviewer Steve Ensley Date: December 4, 2015

Ambient Monitoring Coordinator Steve Ensley Date: December 4, 2015

Instructions:

If the annual network review has indicated that the monitoring objectives and scale of representativeness for the site have not changed and the siting criteria still meets those monitoring objectives and that scale of representativeness and there are no other reasons to modify the site in any way, check "Yes" to the question "Maintain current site status?" and skip the rest of the recommendations section.

If the annual network review has indicated that the monitoring objectives, scale of representativeness, or siting criteria have changed for some reason or there is another reason to modify the site in some way, check "No" to the question "Maintain current site status?" and complete the rest of the recommendations section. If the monitoring objective or scale of representativeness needs to be changed, check the "Yes" box and write in the new monitoring objective or scale of representativeness on the line. Otherwise check the "No" box. If the site needs to be relocated, check the "Yes" box. If the site needs to be shut down, write "Shut down" in the comments line. Also use the comments line to explain any change requested.

Check the site picture archive to find out when the last set of site pictures were taken and write the date down on the line. If the pictures are more than five years old or if something at the site has changed in the past year, take new site pictures. Changes that require new site pictures include additions, removals, or movement of monitors at the site, growth or removal of trees and other shrubs at the site, and construction of roads or buildings at or in the vicinity of the site.

Pictures of the site should at a minimum include at least one picture showing the site itself and pictures standing at the probe or inlet or as close as possible to the probe or inlet looking in the four compass directions (north, east, south, and west). If meteorological data are collected at the site, pictures standing at the meteorological tower looking southwest and northeast should also be included. Sometimes pictures looking at the site from the four compass directions are also helpful.

Be sure to correctly identify the pictures as to which compass direction they show. This documentation may be achieved by using good notes when taking the pictures, holding a compass in front of the camera, or placing a sign with the appropriate direction indicated somewhere in the picture. Label the pictures with the name of the site using the two digit logger ID (HC, JW, *etc.*), the direction (N, NE, E, SE, S, SW, W, NW), and the date taken (YYYYMMDD) and transfer the pictures to the group drive in the appropriate Incoming/Regional Office directory.

Site Review Form Calendar Year 2015

Site Information

Region ARO	**Site Name** Waynesville Rec Center		**AQS Site # 37-087-0012**
Street Address-550 Vance Street			**City Waynesville**
Urban Area Not in an Urban Area		**Core-based Statistical Area**	Asheville, NC
Enter Exact			
Longitude -82.9782	**Latitude** 35.505688		**Method of Measuring**
In Decimal Degrees	In Decimal Degrees	**Other (explain)**	**Explanation: Google Earth**
Elevation Above/below Mean Sea Level (in meters)			799.00

Name of nearest road to inlet probe Howell Mill Road ADT 4100 Year latest available 2012

Distance of ozone probe to nearest traffic lane (m) 88 Direction from ozone probe to nearest traffic lane NNE

Comments: Howell Mill Road is still under construction.

Name of nearest major road Hwy 74 (Great Smoky Mountains Expressway) ADT 32000 Year latest available 2012

Distance of site to nearest major road (m) 716.24 Direction from site to nearest major road NNW

Comments: _____

Site located near electrical substation/high voltage power lines?	Yes ☐ No ☒
Distance of site to nearest railroad track	(m) 286 Direction to RR SSE ☐NA
Distance of site to nearest power pole w/transformer	(m) _____ Direction ___
Distance between site and drip line of water tower (m) _____	Direction from site to water tower _____ ☒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.

_____

Instructions:

Address: Sometimes local addresses change. Confirm the local address of the site using a 911 locator or the address used by the local utility company, community or county to identify the site location.

Urban Area: If the monitor is located within the bounds of an urban area (an incorporated area with a population of 10,000 or more people), select the appropriate urban area from the list. Otherwise select "Not in an Urban Area".

Core-Based Statistical Area (CBSA): If the monitor is located within a county that is part of a metropolitan statistical area (MSA) or a micropolitan statistical area (MiSA), then it is located within a core-based statistical area. If the monitoring station is located in a county included in a MSA or MiSA, select the appropriate CBSA from the list. Otherwise select "None".

Longitude and Latitude: The longitude and latitude should be entered in decimal degrees. Use a conversion program, such as http://transition.fcc.gov/mb/audio/bickel/DDDMMSS-decimal.html, to convert to decimal degrees.

Road Information: For the nearest road to the inlet probe, list whatever roadway that carries vehicles that is closest to the probe, whether or not it is a named or public road and even if the road has very little traffic. Use the comments space if necessary to describe the road or the source of the annual average daily traffic (AADT) counts. If the monitor is located near an unnamed, little used, private road, use the nearest major road space to list the closest named public road to the site. Include the distance and direction of the nearest major road from the site as well as the AADT if it is available. If the closest road is a small public road but there is a large major roadway such as an interstate highway, divided highway, major thoroughfare, etc., near the monitoring station use the nearest major road space to list the information about this major roadway. Include the distance and direction of the major road from the site as well as the AADT. The AADT for state roads can be obtained from the North Carolina Division of Transportation at http://www.ncdot.gov/travel/statemapping/trafficvolumemaps/default.html. For AADT values for local roadways contact the appropriate local governments.

Any Sources of Potential Bias: Use this space to record any information about the site that is not requested elsewhere. Especially note any changes to the site that occurred near the site in the past year, such as road construction, building construction, new businesses, businesses closing, or changes in traffic patterns, crops or other agricultural activities.

Site Review Form Calendar Year 2015

Parameters	Monitoring Objective	Scale	Monitor Type
Air flow < 200 L/min ☒ PM2.5 FRM ☐ PM10 FRM ☐ PM10 Cont. (BAM) ☐ PM10-2.5 FRM ☐ PM10-2.5 BAM ☐ PM10 Lead (PB) ☐ PM2.5 Cont. (TEOM) ☐ PM2.5 Cont. (BAM) ☐ PM2.5 Spec. (SASS) ☐ PM2.5 Spec. (URG) ☐ PM2.5 Cont. Spec.	☐ General/Background_____ ☐ Highest Concentration_____ ☒ Population Exposure_____ ☐ Source Oriented_____ ☐ Transport_____ ☐ Welfare Related Impacts _____	☐ Micro_____ ☐ Middle_____ ☒ Neighborhood_____ ☐ Urban_____ ☐ Regional_____	☒ SLAMS _____ ☐ SPM_____ ☐ Nonregulatory_____ ☐ Supplemental Speciation _____

Probe inlet height (from ground) ☐ < 2 m _____ ☐ 2-7m _____ ☒ 7-15 m _____ ☐ > 15 m_____
Actual measured distance from probe inlet to ground (meters) 10.9
Distance of outer edge of probe inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes ☒ No ☐
Actual measured distance from outer edge of probe inlet to supporting structure (meters) 2.13

Distance (Y) between outer edge of probe inlets of any low volume monitor and any other low volume monitor at the site = 1 m or greater?	Yes ☐ No ☐ NA ☒
Distance (Y) between outer edge of all low volume monitor inlets and any Hi-Volume PM-10 or TSP inlet = 2 m or greater?	Yes ☐ No ☐ NA ☒

Are collocated PM2.5 Monitors (Two FRMs, FRM & BAM, FRM & TEOM, BAM & TEOM) Located at Site? *Yes ☐ (answer *'d questions) No ☒ NA ☐

* Entire inlet opening of collocated PM 2.5 samplers (X) within 2 to 4 m of each other?	Yes ☐ No ☐ Give actual (meters): _____
*Are collocated PM2.5 sampler inlets within 1 m vertically of each other?	Yes ☐ No ☐ Give actual (meters): _____

Is an URG 3000 monitor collocated with a SASS monitor at the site? *Yes ☐ (answer *'d questions) No ☒ NA ☐
* Entire inlet opening of collocated speciation samplers inlets (X) within 2 to 4 m of each other? Yes ☐ No ☐
Give actual (meters) _____
* Are collocated speciation sampler inlets within 1 m vertically of each other? Yes ☐ No ☐
Give actual (meters) _____

Is a low-volume PM10 monitor collocated with a PM2.5 monitor at the site to measure PM10-2.5?	*Yes ☐ (answer *'d questions) No ☒ NA ☐
* Entire inlet opening of collocated PM10 and PM2.5samplers for PM10-2.5 (X) within 2 to 4 m of each other?	Yes ☐ No ☐
*Are collocated PM10 and PM2.5 sampler inlets within 1 m vertically of each other?	Yes ☐ No ☐

Is probe > 20 m from the nearest tree drip line? Yes ☒ *No ☐ (answer *'d questions)
*Is probe > 10 m from the nearest tree drip line? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___ *Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☒
*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 ☐ No ☐

Site Review Form Calendar Year 2015

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: _____

Date of Last Site Pictures: 12/4/15 New Pictures Submitted? Yes ☒ No ☐

Reviewer Steve Ensley Date: December 4, 2015

Ambient Monitoring Coordinator Steve Ensley Date: 12/4/15

Instructions (continued):

Trees: The probe or inlet must be at least 10 meters or further from the drip line of trees. A distance of at least 20 meters between the probe and any tree or trees is preferred.

Obstacles: An obstacle is anything that restricts air flow. A tree can be an obstacle because it has branches and leaves that restrict the flow of air but a pole is not considered to be an obstacle. To avoid interference from obstacles, the probe or inlet must have unrestricted airflow and be located away from obstacles. The distance from the obstacle to the probe or inlet must be at least twice the height that the obstacle protrudes above the probe, inlet, or monitoring path.

If the annual network review has indicated that the monitoring objectives and scale of representativeness for the site have not changed and the siting criteria still meets those monitoring objectives and that scale of representativeness and there are no other reasons to modify the site in any way, check "Yes" to the question "Maintain current site status?" and skip the rest of the recommendations section.

If the annual network review has indicated that the monitoring objectives, scale of representativeness, or siting criteria have changed for some reason or there is another reason to modify the site in some way, check "No" to the question "Maintain current site status?" and complete the rest of the recommendations section. If the monitoring objective or scale of representativeness needs to be changed, check the "Yes" box and write in the new monitoring objective or scale of representativeness on the line. Otherwise check the "No" box. If the site needs to be relocated, check the "Yes" box. If the site needs to be shut down, write "Shut down" in the comments line. Also use the comments line to explain any change requested.

Check the site picture archive to find out when the last set of site pictures were taken and write the date down on the line. If the pictures are more than five years old or if something at the site has changed in the past year, take new site pictures. Changes that require new site pictures include additions, removals, or movement of monitors at the site, growth or removal of trees and other shrubs at the site, and construction of roads or buildings at or in the vicinity of the site.

Pictures of the site should at a minimum include at least one picture showing the site itself and pictures standing at the probe or inlet or as close as possible to the probe or inlet looking in the four compass directions (north, east, south, and west). If meteorological data are collected at the site, pictures standing at the meteorological tower looking southwest and northeast should also be included. Sometimes pictures looking at the site from the four compass directions are also helpful.

Be sure to correctly identify the pictures as to which compass direction they show. This documentation may be achieved by using good notes when taking the pictures, holding a compass in front of the camera, or placing a sign with the appropriate direction indicated somewhere in the picture. Label the pictures with the name of the site using the two digit logger ID (HC, JW, *etc.*), the direction (N, NE, E, SE, S, SW, W, NW), and the date taken (YYYYMMDD) and transfer the pictures to the group drive in the appropriate Incoming/Regional Office directory.

Site Review Form Calendar Year 2015

Site Information

Region ARO	**Site Name** Bryson City	**AQS Site # 37-173-0002**
Street Address 30 Recreation Park Drive		**City** Bryson City
Urban Area Not in an Urban Area	**Core-based Statistical Area** None	

Enter Exact		
Longitude -83.442133	**Latitude** 35.434767	**Method of Measuring**
In Decimal Degrees	In Decimal Degrees	**Other (explain)** **Explanation: Google Earth**

Elevation Above/below Mean Sea Level (in meters) **559**

Name of nearest road to inlet probe Recreation Park Drive ADT 100 Year latest available 2010

Comments: _____

Distance of site to nearest major road (m) 416.00 Direction from site to nearest major road SSE

Name of nearest major road US 19 ADT 7900 Year 2012

Comments: _____

Site located near electrical substation/high voltage power lines? Yes ☐ No ☒

Distance of site to nearest railroad track	(m) 240 Direction to RR SSW ☐NA
Distance of site to nearest power pole w/transformer	(m) _____ Direction N

Distance between site and drip line of water tower (m) _____ Direction from site to water tower _____ ☒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.

_____

ANSWER ALL APPLICABLE QUESTIONS:

Parameters	Monitoring Objective	Scale	Monitor Type
☐ NA ☒ SO_2 (NAAQS) ☐ SO_2 (trace-level) ☐ NO_x (NAAQS) ☐ $HSNO_y$ ☒ O_3 ☐ NH_3 ☐ Hydrocarbon ☐ Air Toxics ☐ HSCO (Not Micro) ☐ CO (trace-level)	☒ General/Background ☐ Highest Concentration ☐ Max O3 Concentration ☐ Population Exposure ☐ Source Oriented ☒ Transport ☐ Upwind Background ☐ Welfare Related Impacts	☐ Micro ☐ Middle ☒ Neighborhood ☐ Urban ☐ Regional	☒ SLAMS ☐ SPM **Monitor Network Affiliation** ☐ NCORE ☐ Unofficial PAMS

Probe inlet height (from ground) 2-15 m? Yes ☒ No ☐ Give actual measured height from ground (meters) 4.572

Distance of outer edge of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☒ No ☐

Actual measured distance from outer edge of probe to supporting structure (meters) 1.82

Distance of outer edge of probe inlet from other monitoring probe inlets > 1 m? Yes ☒ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☒ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line? Yes ☒ *No ☐

*Distance from probe to tree (m) 15.54 Direction from probe to tree SW *Height of tree (m) 3.15

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☒

*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 ☐ No ☐

Distance of probe to nearest traffic lane (m) 20 Direction from probe to nearest traffic lane NW

Site Review Form Calendar Year 2015

Parameters	Monitoring Objective	Scale	Monitor Type
☒ NA ☐ NO_y (trace-level)	☐ General/Background_____ ☐ Highest Concentration_____ ☐ Max O3 Concentration_____ ☐ Population Exposure_____ ☐ Source Oriented_____ ☐ Transport_____ ☐ Upwind Background_____ ☐ Welfare Related Impacts _____	☐ Micro_____ ☐ Middle_____ ☐ Neighborhood_____ ☐ Urban_____ ☐ Regional_____	☐ SLAMS _____ ☐ SPM_____ **Monitor Network Affiliation** ☐ NCORE_____

Probe inlet height (from ground) 10-15 m? Yes ☐ No ☐
Actual measured distance from probe inlet to ground (meters) _____

Distance of outer edge of probe inlet from horizontal and/or vertical supporting structure > 1 m? Yes ☐ No ☐
Actual measured distance from outer edge of probe inlet to supporting structure (meters) _____

Distance of outer edge of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___ *Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*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 ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

Parameters	Monitoring Objective	Scale	Monitor Type
☒ NA Air flow > 200 L/min ☐ PM10 ☐ TSP ☐ TSP Pb	☐ Highest Concentration_____ ☐ Population Exposure_____ ☐ Source Oriented_____ ☐ Background_____ ☐ Transport_____ ☐ Welfare Related Impacts _____	☐ Micro_____ ☐ Middle_____ ☐ Neighborhood_____ ☐ Urban_____ ☐ Regional_____	☐ SLAMS _____ ☐ SPM_____ **Monitor Network Affiliation** ☐ NCORE_____

Probe inlet height (from ground) ☐ < 2 m _____ ☐ 2-7m _____ ☐ 7-15 m _____ ☐ > 15 m_____
Actual measured distance from probe inlet to ground (meters) _____

Distance of outer edge of probe inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m?
Actual measured distance from probe to supporting structure (meters) _____ Yes ☐ No ☐

Entire inlet opening of collocated PM-10, TSP or TSP Pb Samplers (X) within 2 to 4 m of each other? Yes ☐ No ☐ NA ☐

Actual measured distance (X) including entire inlet openings of both (all) collocated probe inlets (meters) _____

Distance (Y) between outer edge of any high volume inlet and any other high or low volume inlet ≥ 2 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___ *Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*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 ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

Site Review Form Calendar Year 2015

Parameters	Monitoring Objective	Scale	Site Type
☐ NA Air flow < 200 L/min ☐ PM2.5 FRM ☐ PM10 FRM ☐ PM10 Cont. (BAM) ☐ PM10-2.5 FRM ☐ PM10-2.5 BAM ☐ PM10 Lead (PB) ☐ PM2.5 Cont. (TEOM) ☒ PM2.5 Cont. (BAM) ☐ PM2.5 Spec. (SASS) ☐ PM2.5 Spec. (URG) ☐ PM2.5 Cont. Spec.	☐ General/Background _____ ☐ Highest Concentration _____ ☐ Population Exposure _____ ☐ Source Oriented _____ ☒ Transport _____ ☐ Welfare Related Impacts _____	☐ Micro _____ ☐ Middle _____ ☒ Neighborhood _____ ☐ Urban _____ ☐ Regional _____	☒ SLAMS _____ ☐ SPM_____ **Monitor Network Affiliation** ☐ NCORE _____ ☐ SUPPLEMENTAL SPECIATION _____ **Monitor NAAQS Exclusion** ☐ NONREGULATORY_____

Probe inlet height (from ground) ☐ < 2 m _____ ☒ 2-7m _____ ☐ 7-15 m _____ ☐ > 15 m _____
Actual measured distance from probe inlet to ground (meters) 2.286

Distance of outer edge of probe inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m?
Actual measured distance from outer edge of probe inlet to supporting structure (meters) 2.0574 Yes ☒ No ☐

Distance (Y) between outer edge of probe inlets of any low volume monitor and any other low volume monitor at the site = 1 m or greater? Yes ☐ No ☐ NA ☒

Distance (Y) between outer edge of all low volume monitor inlets and any Hi-Volume PM-10 or TSP inlet = 2 m or greater? Yes ☐ No ☐ NA ☒

Are collocated PM2.5 Monitors (Two FRMs, FRM & BAM, FRM & TEOM, BAM & TEOM) Located at Site? *Yes ☐ (answer *'d questions) No ☒ NA ☐

* Entire inlet opening of collocated PM 2.5 samplers (X) within 2 to 4 m of each other? Yes ☐ No ☐ Give actual (meters) _____

*Are collocated PM2.5 sampler inlets within 1 m vertically of each other? Yes ☐ No ☐ Give actual (meters) _____

Is an URG 3000 monitor collocated with a SASS monitor at the site? *Yes ☐ (answer *'d questions) No ☒ NA ☐

* Entire inlet opening of collocated speciation samplers inlets (X) within 2 to 4 m of each other? Yes ☐ No ☐
Give actual (meters) _____

* Are collocated speciation sampler inlets within 1 m vertically of each other? Yes ☐ No ☐ Give actual (meters) _____

Is a low-volume PM10 monitor collocated with a PM2.5 monitor at the site to measure PM10-2.5? *Yes ☐ (answer *'d questions) No ☒ NA ☐

* Entire inlet opening of collocated PM10 and PM2.5samplers for PM10-2.5 (X) within 2 to 4 m of each other? Yes ☐ No ☐

*Are collocated PM10 and PM2.5 sampler inlets within 1 m vertically of each other? Yes ☐ No ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☒ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line? Yes ☒ *No ☐
*Distance from probe to tree (m) 10.97 Direction from probe to tree SW *Height of tree (m) 3.15

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☒

*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 ☐ No ☐

Distance of probe to nearest traffic lane (m) 25 Direction from probe to nearest traffic lane NE

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:

Date of Last Site Pictures 12/3/15 New Pictures Submitted? Yes ☒ No ☐

Reviewer Steve Ensley Date December 4, 2015

Ambient Monitoring Coordinator Steve Ensley Date_____

Site Review Form Calendar Year 2015

Site Information

Region ARO	Site Name Linville Falls	AQS Site # 37-011-0002
Street Address-Linville Falls Road		City Linville Falls
Urban Area Not in an Urban Area	Core-based Statistical Area None	
Enter Exact		
Longitude 81.9330	Latitude 35.972347	Method of Measuring
In Decimal Degrees	In Decimal Degrees	___ Explanation: Google Earth
Elevation Above/below Mean Sea Level (in meters)		988.00

Name of nearest road to inlet probe Blue Ridge Parkway ADT 0 Year latest available 0

Distance of ozone probe to nearest traffic lane (m) 270 Direction from ozone probe to nearest traffic lane NNW

Comments: _____

Name of nearest major road Hwy 221 ADT 410 Year latest available 2014

Distance of site to nearest major road (m) 1600.00 Direction from site to nearest major road SW

Comments: _____

Site located near electrical substation/high voltage power lines?	Yes ☐ No ☒
Distance of site to nearest railroad track	(m) _____ Direction to RR ___ ☒NA
Distance of site to nearest power pole w/transformer	(m) 50 Direction N
Distance between site and drip line of water tower (m) _____ Direction from site to water tower _____	☒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.

N/A

ANSWER ALL APPLICABLE QUESTIONS:

Parameters	Monitoring Objective	Scale	Site Type
☒ O_3	☒General/Background ☐Highest Concentration ☐Max O3 Concentration ☐Population Exposure ☐Source Oriented ☐Transport ☐Upwind Background ☐Welfare Related Impacts	☐Micro ☐Middle ☐Neighborhood ☐Urban ☒Regional	☐SLAMS ☒SPM

Probe inlet height (from ground) 2-15 m? Yes ☒ No ☐

Give actual measured height from ground (meters) 3.66

Distance of outer edge of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☐ No ☒

Actual measured distance from outer edge of probe to supporting structure (meters) 1.09

Is probe > 20 m from the nearest tree drip line? Yes ☒ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line? Yes ☐ *No ☐

*Distance from probe to tree (m) _____ Direction from probe to tree ___ *Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☒

*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 ☐ No ☐

Site Review Form Calendar Year 2015

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: _____

Date of Last Site Pictures: October 19, 2015 New Pictures Submitted? Yes ☒ No ☐

Reviewer Terri Davis Date: 10/28/15

Ambient Monitoring Coordinator Steve Ensley Date: 12/17/15

Instructions:

If the annual network review has indicated that the monitoring objectives and scale of representativeness for the site have not changed and the siting criteria still meets those monitoring objectives and that scale of representativeness and there are no other reasons to modify the site in any way, check "Yes" to the question "Maintain current site status?" and skip the rest of the recommendations section.

If the annual network review has indicated that the monitoring objectives, scale of representativeness, or siting criteria have changed for some reason or there is another reason to modify the site in some way, check "No" to the question "Maintain current site status?" and complete the rest of the recommendations section. If the monitoring objective or scale of representativeness needs to be changed, check the "Yes" box and write in the new monitoring objective or scale of representativeness on the line. Otherwise check the "No" box. If the site needs to be relocated, check the "Yes" box. If the site needs to be shut down, write "Shut down" in the comments line. Also use the comments line to explain any change requested.

Check the site picture archive to find out when the last set of site pictures were taken and write the date down on the line. If the pictures are more than five years old or if something at the site has changed in the past year, take new site pictures. Changes that require new site pictures include additions, removals, or movement of monitors at the site, growth or removal of trees and other shrubs at the site, and construction of roads or buildings at or in the vicinity of the site.

Pictures of the site should at a minimum include at least one picture showing the site itself and pictures standing at the probe or inlet or as close as possible to the probe or inlet looking in the four compass directions (north, east, south, and west). If meteorological data are collected at the site, pictures standing at the meteorological tower looking southwest and northeast should also be included. Sometimes pictures looking at the site from the four compass directions are also helpful.

Be sure to correctly identify the pictures as to which compass direction they show. This documentation may be achieved by using good notes when taking the pictures, holding a compass in front of the camera, or placing a sign with the appropriate direction indicated somewhere in the picture. Label the pictures with the name of the site using the two digit logger ID (HC, JW, *etc.*), the direction (N, NE, E, SE, S, SW, W, NW), and the date taken (YYYYMMDD) and transfer the pictures to the group drive in the appropriate Incoming/Regional Office directory.

Site Review Form Calendar Year 2015

Site Information

Region ARO	**Site Name** Marion		**AQS Site # 37-111-0004**
Street Address-676 State Street			**City Marion**
Urban Area MARION		**Core-based Statistical Area** None	
Enter Exact			
Longitude -81.9938	**Latitude** 35.6874	**Method of Measuring**	
In Decimal Degrees	In Decimal Degrees	**Other (explain)**	**Explanation: Google Earth**
Elevation Above/below Mean Sea Level (in meters)		445.00	

Name of nearest road to inlet probe Baldwin Avenue ADT Latest available 4900 Year 2013

Distance of ozone probe to nearest traffic lane (m) 89 Direction from inlet to nearest traffic lane E

Comments: _____

Name of nearest major road Hwy 70 ADT 13000 Year latest available 2013

Distance of site to nearest major road (m) 435.13 Direction from site to nearest major road NNW

Comments: _____

Site located near electrical substation/high voltage power lines?	Yes ☐	No ☒
Distance of site to nearest railroad track	(m) 355 Direction to RR N	☐ NA
Distance of site to nearest power pole w/transformer	(m) 0 Direction ___	
Distance between site and drip line of water tower (m) _____ Direction from site to water tower _____		☒ 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.

_____

Instructions:

Address: Sometimes local addresses change. Confirm the local address of the site using a 911 locator or the address used by the local utility company, community or county to identify the site location.

Urban Area: If the monitor is located within the bounds of an urban area (an incorporated area with a population of 10,000 or more people), select the appropriate urban area from the list. Otherwise select "Not in an Urban Area".

Core-Based Statistical Area (CBSA): If the monitor is located within a county that is part of a metropolitan statistical area (MSA) or a micropolitan statistical area (MiSA), then it is located within a core-based statistical area. If the monitoring station is located in a county included in a MSA or MiSA, select the appropriate CBSA from the list. Otherwise select "None".

Longitude and Latitude: The longitude and latitude should be entered in decimal degrees. Use a conversion program, such as http://transition.fcc.gov/mb/audio/bickel/DDDMMSS-decimal.html, to convert to decimal degrees.

Road Information: For the nearest road to the inlet probe, list whatever roadway that carries vehicles that is closest to the probe, whether or not it is a named or public road and even if the road has very little traffic. Use the comments space if necessary to describe the road or the source of the annual average daily traffic (AADT) counts. If the monitor is located near an unnamed, little used, private road, use the nearest major road space to list the closest named public road to the site. Include the distance and direction of the nearest major road from the site as well as the AADT if it is available. If the closest road is a small public road but there is a large major roadway such as an interstate highway, divided highway, major thoroughfare, etc., near the monitoring station use the nearest major road space to list the information about this major roadway. Include the distance and direction of the major road from the site as well as the AADT. The AADT for state roads can be obtained from the North Carolina Division of Transportation at http://www.ncdot.gov/travel/statemapping/trafficvolumemaps/default.html. For AADT values for local roadways contact the appropriate local governments.

Any Sources of Potential Bias: Use this space to record any information about the site that is not requested elsewhere. Especially note any changes to the site that occurred near the site in the past year, such as road construction, building construction, new businesses, businesses closing, or changes in traffic patterns, crops or other agricultural activities.

Site Review Form Calendar Year 2015

Parameters	Monitoring Objective	Scale	Monitor Type
Air flow < 200 L/min ☒ PM2.5 FRM ☐ PM10 FRM ☐ PM10 Cont. (BAM) ☐ PM10-2.5 FRM ☐ PM10-2.5 BAM ☐ PM10 Lead (PB) ☒ PM2.5 Cont. (TEOM) ☐ PM2.5 Cont. (BAM) ☐ PM2.5 Spec. (SASS) ☐ PM2.5 Spec. (URG) ☐ PM2.5 Cont. Spec.	☐ General/Background_____ ☐ Highest Concentration_____ ☒ Population Exposure_____ ☐ Source Oriented_____ ☐ Transport_____ ☐ Welfare Related Impacts _____	☐ Micro_____ ☐ Middle_____ ☐ Neighborhood_____ ☒ Urban_____ ☐ Regional_____	☒ SLAMS _____ ☐ SPM_____ ☐ Nonregulatory_____ ☐ Supplemental Speciation _____

Probe inlet height (from ground) ☐ < 2 m _____ ☒ 2-7m _____ ☐ 7-15 m _____ ☐ > 15 m_____
Actual measured distance from probe inlet to ground (meters) MJ (2.31m); MJA (2.31m); TEOM (2.34m)

Distance of outer edge of probe inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes ☒ No ☐
Actual measured distance from outer edge of probe inlet to supporting structure (meters) MJ (2.11m); MJA (2.08m); TEOM (2.06m)

Distance (Y) between outer edge of probe inlets of any low volume monitor and any other low volume monitor at the site = 1 m or greater?	Yes ☒ No ☐ NA ☐
Distance (Y) between outer edge of all low volume monitor inlets and any Hi-Volume PM-10 or TSP inlet = 2 m or greater?	Yes ☐ No ☐ NA ☒
Are collocated PM2.5 Monitors (Two FRMs, FRM & BAM, FRM & TEOM, BAM & TEOM) Located at Site?	*Yes ☒ (answer *'d questions) No ☐ NA ☐
* Entire inlet opening of collocated PM 2.5 samplers (X) within 2 to 4 m of each other?	Yes ☒ No ☐ Give actual (meters): 2.01
*Are collocated PM2.5 sampler inlets within 1 m vertically of each other?	Yes ☒ No ☐ Give actual (meters): 0.03
Is an URG 3000 monitor collocated with a SASS monitor at the site?	*Yes ☐ (answer *'d questions) No ☐ NA ☒
* Entire inlet opening of collocated speciation samplers inlets (X) within 2 to 4 m of each other?	Yes ☐ No ☐ Give actual (meters) _____
* Are collocated speciation sampler inlets within 1 m vertically of each other?	Yes ☐ No ☐ Give actual (meters) _____
Is a low-volume PM10 monitor collocated with a PM2.5 monitor at the site to measure PM10-2.5?	*Yes ☐ (answer *'d questions) No ☐ NA ☒
* Entire inlet opening of collocated PM10 and PM2.5samplers for PM10-2.5 (X) within 2 to 4 m of each other?	Yes ☐ No ☐
*Are collocated PM10 and PM2.5 sampler inlets within 1 m vertically of each other?	Yes ☐ No ☐
Is probe > 20 m from the nearest tree drip line?	Yes ☒ *No ☐ (answer *'d questions)
*Is probe > 10 m from the nearest tree drip line?	Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___ *Height of tree (m) _____	
Are there any obstacles to air flow?	*Yes ☐ (answer *'d questions) No ☒
*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 ☐ No ☐

Site Review Form Calendar Year 2015

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: _____

Date of Last Site Pictures: November 1, 2014 New Pictures Submitted? Yes ☐ No ☒

Reviewer Sarah Albert Date: December 16, 2015

Ambient Monitoring Coordinator Steve Ensley Date: December 17, 2015

Instructions (continued):

Trees: The probe or inlet must be at least 10 meters or further from the drip line of trees. A distance of at least 20 meters between the probe and any tree or trees is preferred.

Obstacles: An obstacle is anything that restricts air flow. A tree can be an obstacle because it has branches and leaves that restrict the flow of air but a pole is not considered to be an obstacle. To avoid interference from obstacles, the probe or inlet must have unrestricted airflow and be located away from obstacles. The distance from the obstacle to the probe or inlet must be at least twice the height that the obstacle protrudes above the probe, inlet, or monitoring path.

If the annual network review has indicated that the monitoring objectives and scale of representativeness for the site have not changed and the siting criteria still meets those monitoring objectives and that scale of representativeness and there are no other reasons to modify the site in any way, check "Yes" to the question "Maintain current site status?" and skip the rest of the recommendations section.

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Site Review Form Calendar Year 2015

Site Information

Region ARO	Site Name Spruce Pine Hospital		AQS Site # 37-121-0004
Street Address-272 Hospital Drive			City Spruce Pine
Urban Area SPRUCE PINE		Core-based Statistical Area None	
Enter Exact			
Longitude -82.0621	Latitude 35.9124		Method of Measuring
In Decimal Degrees	In Decimal Degrees	___	Explanation: Google Earth
Elevation Above/below Mean Sea Level (in meters)			787

Name of nearest road to inlet probe Hospital Drive ADT N/A Year latest available 0

Distance of ozone probe to nearest traffic lane (m) 36 Direction from ozone probe to nearest traffic lane SE

Comments: _____

Name of nearest major road US 19 ADT 10000 Year latest available 2014

Distance of site to nearest major road (m) 90.00 Direction from site to nearest major road NW

Comments: _____

Site located near electrical substation/high voltage power lines?	Yes ☐ No ☒
Distance of site to nearest railroad track	(m) 327 Direction to RR W ☐NA
Distance of site to nearest power pole w/transformer	(m) _____ Direction ___
Distance between site and drip line of water tower (m) _____	Direction from site to water tower _____ ☒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.

_____

Instructions:

Address: Sometimes local addresses change. Confirm the local address of the site using a 911 locator or the address used by the local utility company, community or county to identify the site location.

Urban Area: If the monitor is located within the bounds of an urban area (an incorporated area with a population of 10,000 or more people), select the appropriate urban area from the list. Otherwise select "Not in an Urban Area".

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Longitude and Latitude: The longitude and latitude should be entered in decimal degrees. Use a conversion program, such as http://transition.fcc.gov/mb/audio/bickel/DDDMMSS-decimal.html, to convert to decimal degrees.

Road Information: For the nearest road to the inlet probe, list whatever roadway that carries vehicles that is closest to the probe, whether or not it is a named or public road and even if the road has very little traffic. Use the comments space if necessary to describe the road or the source of the annual average daily traffic (AADT) counts. If the monitor is located near an unnamed, little used, private road, use the nearest major road space to list the closest named public road to the site. Include the distance and direction of the nearest major road from the site as well as the AADT if it is available. If the closest road is a small public road but there is a large major roadway such as an interstate highway, divided highway, major thoroughfare, etc., near the monitoring station use the nearest major road space to list the information about this major roadway. Include the distance and direction of the major road from the site as well as the AADT. The AADT for state roads can be obtained from the North Carolina Division of Transportation at http://www.ncdot.gov/travel/statemapping/trafficvolumemaps/default.html. For AADT values for local roadways contact the appropriate local governments.

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Site Review Form Calendar Year 2015

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Probe inlet height (from ground) ☐ < 2 m _____ ☒ 2-7m _____ ☐ 7-15 m _____ ☐ > 15 m_____
Actual measured distance from probe inlet to ground (meters) 2.34
Distance of outer edge of probe inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes ☒ No ☐
Actual measured distance from outer edge of probe inlet to supporting structure (meters) 2.1

Distance (Y) between outer edge of probe inlets of any low volume monitor and any other low volume monitor at the site = 1 m or greater? Yes ☐ No ☐ NA ☒
Distance (Y) between outer edge of all low volume monitor inlets and any Hi-Volume PM-10 or TSP inlet = 2 m or greater? Yes ☐ No ☐ NA ☒

Are collocated PM2.5 Monitors (Two FRMs, FRM & BAM, FRM & TEOM, BAM & TEOM) Located at Site? *Yes ☐ (answer *'d questions) No ☐ NA ☒
* Entire inlet opening of collocated PM 2.5 samplers (X) within 2 to 4 m of each other? Yes ☐ No ☐ Give actual (meters): _____
*Are collocated PM2.5 sampler inlets within 1 m vertically of each other? Yes ☐ No ☐ Give actual (meters): _____

Is an URG 3000 monitor collocated with a SASS monitor at the site? *Yes ☐ (answer *'d questions) No ☐ NA ☒
* Entire inlet opening of collocated speciation samplers inlets (X) within 2 to 4 m of each other? Yes ☐ No ☐ Give actual (meters) _____
* Are collocated speciation sampler inlets within 1 m vertically of each other? Yes ☐ No ☐ Give actual (meters) _____

Is a low-volume PM10 monitor collocated with a PM2.5 monitor at the site to measure PM10-2.5? *Yes ☐ (answer *'d questions) No ☐ NA ☒
* Entire inlet opening of collocated PM10 and PM2.5samplers for PM10-2.5 (X) within 2 to 4 m of each other? Yes ☐ No ☐
*Are collocated PM10 and PM2.5 sampler inlets within 1 m vertically of each other? Yes ☐ No ☐

Is probe > 20 m from the nearest tree drip line? Yes ☒ *No ☐ (answer *'d questions)
*Is probe > 10 m from the nearest tree drip line? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___ *Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☒
*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 ☐ No ☐

Site Review Form Calendar Year 2015

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: _____

Date of Last Site Pictures: October 19, 2015 New Pictures Submitted? Yes ☒ No ☐

Reviewer Terri Davis Date: October 28, 2015

Ambient Monitoring Coordinator Steve Ensley Date: December 17, 2015

Instructions (continued):

Trees: The probe or inlet must be at least 10 meters or further from the drip line of trees. A distance of at least 20 meters between the probe and any tree or trees is preferred.

Obstacles: An obstacle is anything that restricts air flow. A tree can be an obstacle because it has branches and leaves that restrict the flow of air but a pole is not considered to be an obstacle. To avoid interference from obstacles, the probe or inlet must have unrestricted airflow and be located away from obstacles. The distance from the obstacle to the probe or inlet must be at least twice the height that the obstacle protrudes above the probe, inlet, or monitoring path.

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If the annual network review has indicated that the monitoring objectives, scale of representativeness, or siting criteria have changed for some reason or there is another reason to modify the site in some way, check "No" to the question "Maintain current site status?" and complete the rest of the recommendations section. If the monitoring objective or scale of representativeness needs to be changed, check the "Yes" box and write in the new monitoring objective or scale of representativeness on the line. Otherwise check the "No" box. If the site needs to be relocated, check the "Yes" box. If the site needs to be shut down, write "Shut down" in the comments line. Also use the comments line to explain any change requested.

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Appendix A-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 A6. 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