

# **Idaho Department of Environmental Quality Annual Ambient Air Quality Monitoring Network Plan**

**July 1, 2014**

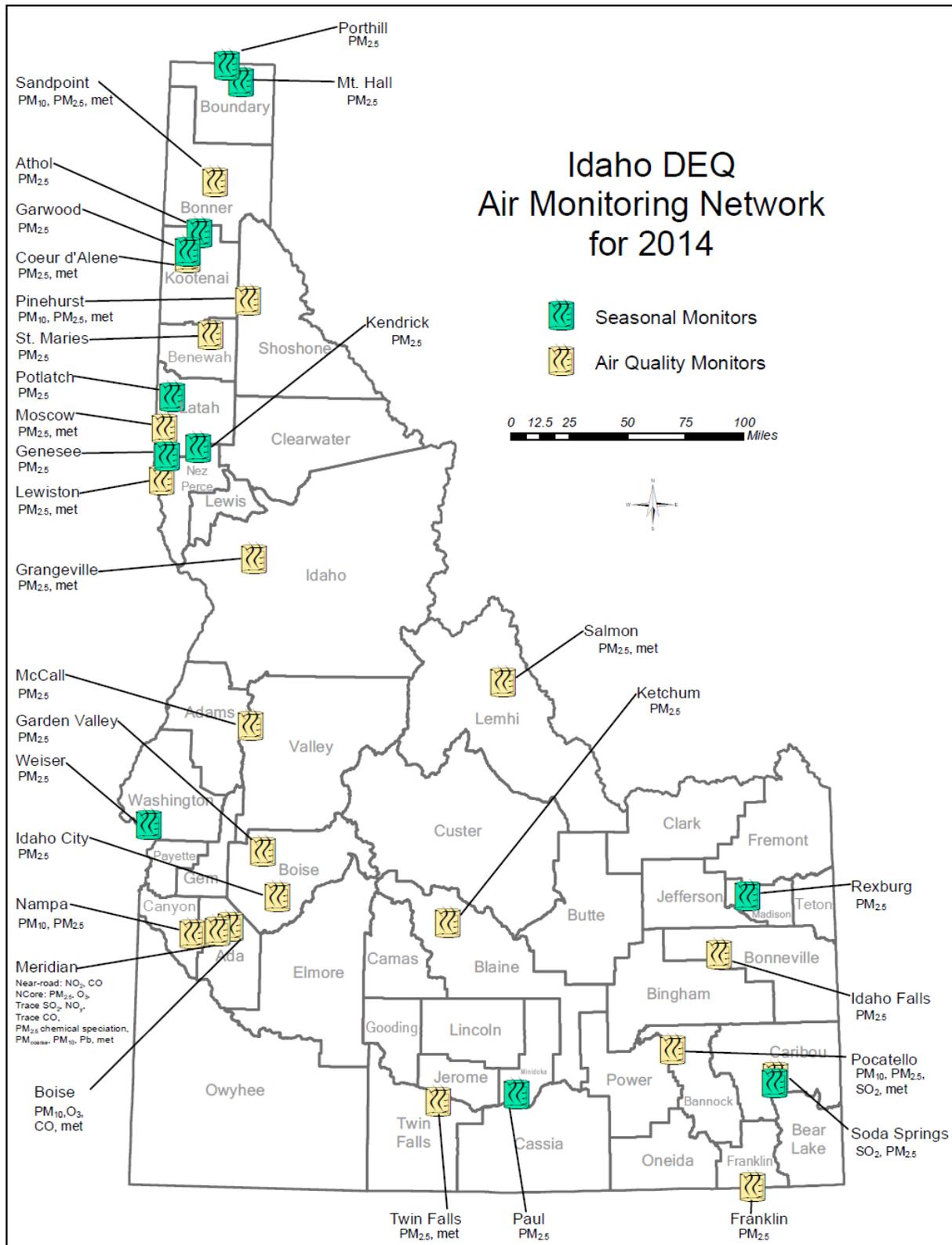
**Idaho Department of Environmental Quality  
Air Quality Division  
1410 North Hilton  
Boise, Idaho 83706**





This page left blank for double-sided printing

DRAFT





## **Executive Summary of Proposed Network Modifications**

The main objective of the Idaho Department of Environmental Quality's (DEQ) 2014 Annual Ambient Air Monitoring Network Plan is to determine whether the State's ambient air monitoring network is achieving its monitoring objectives and to identify any needed modifications.

Idaho's monitoring network has four principal objectives: 1) to assess compliance with National Ambient Air Quality Standards (NAAQS), 2) to support smoke management programs, including agricultural and prescribed burning practices, 3) to identify emergency episodes caused by wind-blown dust or wildfire, and 4) to support the evaluation of State Implementation and Maintenance Plans (SIPs). In addition DEQ operates a network of continuous PM<sub>2.5</sub> monitors and surface meteorology stations to support air quality forecasting, the AQI program, and modeling projects.

DEQ is proposing the following network modifications in this plan:

- EPA approval to designate two (2) continuous FEM PM<sub>2.5</sub> monitors as "non-NAAQS":
  - St. Maries BAM 1020 (for evaluation to FRM and AQI only)
    - *Monitor start date = 1/1/2014*
  - Franklin TEOM 1405-F (FDMS) (for evaluation to FRM and AQI only)
    - *Monitor start date = 1/1/2013*

\*If the above monitors meet the Class III FEM/FRM comparative criteria, and upon EPA approval, these monitors will be designated as the primary NAAQS monitors. If the above criteria are not satisfied, they may continue to run as non-NAAQS monitors for AQI reporting purposes only.

- EPA approval to designate the Pinehurst BAM 1020 as the primary monitor for NAAQS (*see Appendix C for the request for approval letter sent to the EPA*)
- Pending final EPA ruling, SASS PM<sub>2.5</sub> mass measurements to be discontinued tentatively as of July 1, 2014

## Contents

DEQ Air Monitoring Network Map.....	iii
Executive Summary of Proposed Network Modifications.....	iv
<b>1. Introduction.....</b>	<b>1</b>
<b>2. Air Quality Surveillance Systems and Monitoring Objectives.....</b>	<b>2</b>
<b>3. Idaho DEQ’s Ambient Air Monitoring Network.....</b>	<b>5</b>
3.1. Monitoring Sites .....	5
3.2. DEQ Monitoring Network – Monitoring Objectives, Scales of Representativeness, and Area(s) Represented.....	7
3.3. Monitoring Methods, Monitor Designation, and Sampling Frequency.....	11
<b>4. DEQ Network Modifications Subsequent to the EPA-Approved 2013 Ambient Monitoring Network Plan .....</b>	<b>19</b>
<b>5. Network Modifications Proposed in This 2014 Ambient Monitoring Network Plan .....</b>	<b>20</b>
5.1. PM <sub>10</sub> Monitoring Network .....	20
5.2. PM <sub>2.5</sub> Core NAAQS Compliance Monitoring Network .....	21
5.3. PM <sub>2.5</sub> Continuous Monitoring Network.....	22
5.4. Ozone Monitoring Network.....	23
5.5. Carbon Monoxide (CO) Monitoring Network.....	24
5.6. Sulfur Dioxide (SO <sub>2</sub> ) Monitoring Network .....	24
5.7. Nitrogen Dioxide (NO <sub>2</sub> ) Monitoring Network .....	25
5.8. Lead (Pb) Monitoring Network .....	25
5.9. PM <sub>10-2.5</sub> (PMcoarse) .....	26
5.10. Summary of Proposed Network Modifications for DEQ’s 2014 Air Monitoring Network Plan .....	26
<b>6. Future Ambient Air Monitoring Requirements and Associated Costs .....</b>	<b>27</b>
Appendix A.....	DEQ Ambient Monitoring Network Design Values
Appendix B.....	Craters of the Moon and Hells Canyon Monitoring Stations
Appendix C.....	EPA-DEQ Correspondence
Appendix D.....	40 CFR Part 58 - Appendix D and E Checklists



## List of Tables

Table 3-1. DEQ Monitoring Stations, Locations, and AQS Identification Codes.....	5
Table 3-2. CRB Station Locations.....	6
Table 3-3. Relationships Between Site Types and Scales of Representativeness .....	9
Table 3-4. Monitoring Objectives, Areas Represented, and Scales of Representation .....	9
Table 3-5. Air Monitoring Method Codes .....	12
Table 3-6. Pollutants/Monitor Designation/Sampling Frequency/Method Codes.....	15
Table 3-7. DEQ Meteorological Monitoring Stations and Parameters.....	18

## List of Figures

Figure 3-1. Minimum Monitoring Frequency Based on Ratio of Local Concentration to Standard.....	14
---	----

DRAFT



## 1. Introduction

Title 40 of the Code of Federal Regulations §58.10 requires that beginning July 1, 2007, the state agency shall adopt and submit to the U.S. Environmental Protection Agency (EPA) Regional Administrator an annual monitoring network plan which shall provide for the establishment and maintenance of an air quality surveillance system that consists of a network made up of the following types of monitoring stations:

- state and local air monitoring stations (SLAMS) including monitors that use:
  - federal reference method (FRM),
  - federal equivalent method (FEM), or
  - approved regional method (ARM)
- NCore stations (included in the national network of multi-pollutant monitoring stations)
- PM<sub>2.5</sub> chemical speciation stations (STN), and
- special purpose monitoring (SPM stations).

This plan now also lists seasonal PM<sub>2.5</sub> monitors (nephelometers) utilized for smoke and agricultural burning management (see Table 3-2).

The plan shall include a statement of purposes for each monitor and evidence that siting and operation of each monitor meets the requirements of appendices A, C, D, and E of 40 CFR 58 where applicable.

The annual monitoring network plan must be made available for public inspection for at least 30 days prior to submission to EPA. Any annual monitoring network plan that proposes SLAMS network modifications including new monitoring sites is subject to the approval of the EPA Regional Administrator, who shall provide opportunity for public comment and shall approve or disapprove the plan and schedule within 120 days. If the State or local agency has already provided a public comment opportunity on its plan and has made no changes subsequent to that comment opportunity, and has submitted the received comments together with the plan, the Regional Administrator is not required to provide a separate opportunity for comment.

The 2014 plan shall include all required stations to be operational by January 1, 2015. Specific locations for the required monitors shall be included in the annual network plan submitted to the EPA Regional Administrator on July 1, 2014.

The annual monitoring network plan must contain the following information for existing and proposed site(s) where appropriate:

1. The AQS (air quality system, EPA's database) site identification number.
2. The location, including street address and geographical coordinates.



3. The sampling and analysis method(s) for each measured parameter.
4. The operating schedules for each monitor.
5. Any proposals to remove or move a monitoring station within a period of 18 months following plan submittal.
6. The monitoring objective and spatial scale of representativeness for each monitor as defined in appendix D to 40 CFR 58.
7. The identification of any sites that are suitable and any sites that are not suitable for comparison against the annual PM<sub>2.5</sub> (particulate matter with diameter  $\leq 2.5$  microns [ $\mu$ ]) national ambient air quality standard (NAAQS) as described in § 58.30.
8. The metropolitan statistical area (MSA), core based statistical area (CBSA), combined statistical area (CSA) or other area represented by the monitor.
9. The designation of any Pb monitors as either source-oriented or non source-oriented (i.e. NCore) according to Appendix D to 40 CFR Part 58.
10. Any source-oriented monitors for which a waiver has been requested or granted by the EPA Regional Administrator as allowed for under paragraph 4.5(a)(ii) of Appendix D to 40 CFR Part 58.
11. Any source-oriented or non source-oriented site for which a waiver has been requested or granted by the EPA Regional Administrator for the use of Pb-PM<sub>10</sub> monitoring in lieu of Pb-TSP monitoring as allowed for under paragraph 2.10 of Appendix C to 40 CFR Part 58.

The annual monitoring network plan must document how States and local agencies provide for the review of changes to a PM<sub>2.5</sub> monitoring network that impact the location of a violating PM<sub>2.5</sub> monitor. The affected State or local agency must document the process for obtaining public comment and include any comments received through the public notification process within their submitted plan.

This document, in accordance with the above, is the Idaho Department of Environmental Quality's (DEQ) 2014 Annual Ambient Air Monitoring Network Plan. The primary goal of the annual network plan is to determine whether the state monitoring network is achieving its monitoring objectives and to identify any needed modifications.

## **2. Air Quality Surveillance Systems and Monitoring Objectives**

Ambient air monitoring objectives have shifted over time; a situation that requires air quality agencies to re-evaluate and reconfigure monitoring networks. A variety of factors contribute to these shifting monitoring objectives:

- Air quality has changed since the adoption of the federal Clean Air Act and National Ambient Air Quality Standards (NAAQS). For example, the problems of high ambient concentrations of lead and carbon monoxide have largely been solved.



- Populations and behaviors have changed. For example, the U.S. population has (on average) grown, aged, and shifted toward urban and suburban areas over the past four decades. In addition, rates of vehicle ownership and annual miles driven have increased.
- New air quality objectives have been established, including rules to reduce air toxics, fine particulate matter (PM<sub>2.5</sub>), and regional haze.
- The understanding of air quality issues and the capability to monitor air quality have both improved. Together, the enhanced understanding and capabilities can be used to design more effective air monitoring networks.

Ambient air monitoring networks must be designed to meet three basic monitoring objectives. These basic objectives are listed below. The appearance of any one objective in the order of this list is not based upon a prioritized scheme. Each objective is important and must be considered individually.

- (a) **Provide air pollution data to the general public in a timely manner.** Data can be presented to the public in a number of attractive ways including air quality maps, newspaper articles or advertisements, Internet sites, and as part of weather forecasts and public advisories.
- (b) **Provide support for determining compliance with ambient air quality standards and developing emissions control strategies.** Data from qualified monitors for NAAQS pollutants will be used for comparing an area's air pollution levels against the NAAQS. Data from monitors of various types can be used in the development of attainment and maintenance plans. SLAMS, and especially NCore station data, will be used to evaluate the regional air quality models used in developing emission strategies, and to track trends in air pollution abatement control measures' impact on improving air quality. In monitoring locations near major air pollution sources, source-oriented monitoring data can provide insight into how well industrial sources are controlling their pollutant emissions.
- (c) **Provide support for air pollution research studies.** Air pollution data from the NCore multi-pollutant monitoring network can be used to supplement data collected by researchers working on health effects assessments and atmospheric processes, or for monitoring methods development work.

In order to support the air quality management work indicated in the three basic air monitoring objectives, a network must be designed with a variety of monitoring site types. Monitoring sites must be capable of informing managers about many things including the peak air pollution levels, typical levels in populated areas, air pollution transported into and outside of a city or region, and air pollution levels near specific emissions sources. These types of sites are summarized in the following list of six general site types according to the type of information they are designed to provide:

- (a) Sites located to determine the maximum concentrations of air pollutants expected to occur in the area covered by the network.



- (b) Sites located to measure typical pollutant concentrations in areas of high population density.
- (c) Sites located to determine the impact of significant sources or source categories on air quality.
- (d) Sites located to determine general background concentration levels of air pollutants.
- (e) Sites located to determine the extent of regional pollutant transport among populated areas, and to assess compliance with secondary air quality standards.
- (f) Sites located to measure air pollution impacts on visibility, vegetation damage, or other welfare-based impacts.

The adequacy of an ambient air monitoring network may be determined by using a variety of tools including the following:

- federal monitoring requirements and network minimums,
- analyses of historical monitoring data,
- maps of pollutant emissions densities,
- dispersion modeling,
- special studies/saturation sampling,
- SIP requirements,
- revised monitoring strategies (e.g., new regulations, reengineering of the air monitoring network),
- network maps and network descriptions with site objectives defined, and
- best professional judgment.

The appropriate location of a monitor can only be determined on the basis of stated objectives. The following tools can help determine whether monitor locations are meeting their stated objectives:

- Maps, graphical overlays, and information based on geographical information systems (GIS), which are extremely helpful for visualizing the adequacy of monitor locations.
- Plots (graphs) of potential emissions levels and/or historical monitored levels of pollutants versus monitor locations.
- Modeling or special studies (including saturation monitoring studies) may be appropriate for determining the adequacy of a particular monitor location.



### 3. Idaho DEQ's Ambient Air Monitoring Network

#### 3.1. Monitoring Sites

DEQ is responsible for operating and maintaining the ambient air monitoring network for the State of Idaho. Some air monitors in Idaho are managed by tribal monitoring organizations on tribal lands. This document is limited to the monitors in the air monitoring network that are managed by DEQ. On January 1, 2014 DEQ's SLAMS air monitoring network consisted of 28 distinct monitoring sites measuring criteria pollutants and surface meteorology. DEQ's ambient air monitoring network is operated and maintained by DEQ's six (6) Regional Office's monitoring staff. Table 3-1 is a list of DEQ's air monitoring sites, including addresses, global positioning system (GPS) coordinates and AQS identifiers.

**Table 3-1. DEQ Monitoring Stations, Locations, and AQS Identification Codes**

Site	Address	Latitude/ Longitude	AQS Identification
Sandpoint – University of Idaho	U of I Research Center, 2105 N. Boyer Ave. Sandpoint, ID 83864	+48.291820/ - 116.556560	160170003
Coeur d'Alene – Lancaster Rd.	Lancaster Road, Hayden, ID 83835	+47.788908/ -116.804539	160550003
Coeur d' Alene LMP	Camp Cross, McDonald Point, Lake Coeur d'Alene, ID	+47.555253/ -116.817331	160550004
St. Maries	Forest Service Bldg St. Maries, ID 83666	+47.316667/ -116.570280	160090010
Pinehurst	106 Church St. Pinehurst, ID 83850	+47.536389/ -116.236667	160790017
Moscow	1025 Plant Sciences Rd Moscow, ID 83843	+46.728000/ -116.955667	160570005
Lewiston	1200 29 <sup>th</sup> St Lewiston, ID 83501	+46.404722/ -116.968889	160690012
Grangeville	USFS Compound Grangeville, ID 83530	+45.9274167/ -116.105944	160490002
McCall	500 N. Mission St, McCall ID 83638	+44.542486/ -116.062358	160850002
Garden Valley	946 Banks Lowman Rd Garden Valley, ID 83622	+44.104675/ -115.973084	160150002
Nampa	923 1st St S, Nampa, ID 83651	+43.580310/ -116.562676	160270002
Meridian St. Luke's	Eagle Rd & I-84 Meridian, ID 83642	+43.600699/ -116.347853	160010010
Meridian Near-road	1311 East Central Dr, Meridian, ID 83642	+43.593929/ -116.38125	160010023
Boise- Eastman Garage	166 N. 9 <sup>th</sup> , Boise, ID 83702	+43.616379/ -116.203817	160010014
Boise- Fire Station #5	16 <sup>th</sup> & Front, Boise, ID 83702	+43.618889/ -116.213611	160010009



Site	Address	Latitude/ Longitude	AQS Identification
Boise- White Pine Elementary	401 East Linden St. Boise, ID 83706	+43.577603/ -116.178156	160010017
Garden City	Ada County Fairgrounds, Garden City, ID 83714	+43.647819 -116.269514	160010020
Idaho City	3851 Hwy 21 Idaho City, ID 83631	+43.823017/ -115.838557	160150001
Ketchum	111 West 8th St, Ketchum, ID 83340	+43.682558/ -114.371094	160130004
Twin Falls	650 W. Addison, Twin Falls, ID 83301	+42.56505/ -114.494767	160830007
Kimberly	50 Highway 50, Kimberly, 83341	+42.553325/ -114.354853	160830009
Pocatello	Corner Garrett & Gould, Pocatello, ID 83204	+42.876725/ -112.460347	160050015
Pocatello- Sewage Treatment Plant	Batiste Chubbuck Rd, Pocatello, ID 83204	+42.916389/ -112.515833	160050004
Franklin	East 4800 South Road, 83237	+42.013333/ -111.809167	160410001
Soda Springs	5-Mile Rd., Soda Springs, ID 83276	+42.695278/ -111.593889	160290031
Idaho Falls	Hickory and Sycamore St., Idaho Falls, ID 83402	+43.464700/ -112.046450	160190011
Salmon – Charles St.	N Charles St. Salmon, ID 83467	+45.181893/ -113.890285	160590004
Salmon – Hwy 93	0.8 Miles South of Hwy 93/48 Intersection, Salmon ID 83468	+45.161682/ -113.892212	160590005

DEQ also uses seasonal monitors at eleven (11) locations for the state’s Crop Residue Burn (CRB) program. The seasonal duration these monitors run varies widely, as they are operated on a case-by-case basis. The monitors are found at the locations found in Table 3-2.

**Table 3-2. CRB Station Locations**

Site	Address	Latitude/ Longitude
Porthill	Tavern Farm Rd., Porthill ID 83853	+48.995911 -116.509953
Mt. Hall	1275 Idaho 1, Bonners Ferry ID 83805	+48.894014 -116.359381
Athol	NE corner of Pastime St./Grove Ave., Athol ID 83801	+47.948925 -116.710978
Garwood	17506 N. Ramsey Rd., Rathdrum ID 83858	+47.830706 -116.806794
Cottonwood	BLM Field Office, 1 Butte Dr., Cottonwood ID 83522	+46.06319 -116.34824



Site	Address	Latitude/ Longitude
Potlatch	510 Elm St., Potlatch ID 83855	+46.92106 -116.89627
Kendrick	Kendrick Pump Station, Kendrick ID 83537	+46.61291 -116.659278
Weiser	690 W. Indianhead Rd., Weiser ID 83672	+44.261694 -116.979172
Paul	201 N. 1 <sup>st</sup> Street West, Paul ID 83347	+42.6078167 -113.7868167
Soda Springs	Caribou Hospital, 300 South 3 <sup>rd</sup> Street West, Soda Springs ID 83276	+42.651670 -111.614720
Rexburg	Madison Middle School, 575 W. 7 <sup>th</sup> Street, Rexburg ID 83440	+43.809486 -111.800475

### ***3.2. DEQ Monitoring Network – Monitoring Objectives, Scales of Representativeness, and Area(s) Represented***

The ambient air quality and meteorological data collected from DEQ’s air monitoring network is used for a variety of purposes, including:

- determining compliance with the national ambient air quality standards (NAAQS),
- determining the locations of maximum pollutant concentrations,
- forecasting air quality to determine the Air Quality Index (AQI),
- providing for early detection of smoke impacts (smoke management),
- determining the effectiveness of air pollution control programs,
- evaluating the effects of air pollution levels on public health,
- tracking the progress of air quality-related state implementation plans (SIPs),
- supporting pollutant dispersion models,
- developing responsible, cost-effective air pollution control strategies, and
- analyzing air quality trends.

To clarify the nature of the link between general monitoring objectives, site types, and the physical location of a particular monitor, the concept of spatial scale of representativeness is defined. The goal in locating monitors is to correctly match the spatial scale represented by the sample of monitored air with the spatial scale most appropriate for the monitoring site type, the air pollutant to be measured, and the monitoring objective. Thus, spatial scale of representativeness is described in terms of the physical dimensions of the air parcel nearest to a monitoring site throughout which actual pollutant concentrations are reasonably similar. The scales of representativeness of most interest for the monitoring site types described above are as follows:



- (a) **Microscale** - Defines the concentrations in air volumes associated with area dimensions ranging from several meters up to about 100 meters.
- (b) **Middle scale** - Defines the concentrations typical of areas up to several city blocks in size with dimensions ranging from about 100 meters to 0.5 kilometer.
- (c) **Neighborhood scale** - Defines concentrations within some extended area of the city that has relatively uniform land use with dimensions in the range of 0.5 to 4.0 kilometers.
- (d) **Urban scale** - Defines concentrations within an area of city-like dimensions, on the order of 4 to 50 kilometers. Within a city, the geographic placement of emissions sources may result in there being no single site that can be said to represent air quality on an urban scale. The neighborhood and urban scales listed below have the potential to overlap in applications that concern secondarily formed or homogeneously distributed air pollutants.
- (e) **Regional scale** - Defines an area that is usually rural, is of reasonably homogeneous geography without large emissions sources, and extends from tens to hundreds of kilometers.
- (f) **National and global scales** - These measurement scales represent concentrations characterizing a nation or the globe as a whole.

Proper siting of a monitor requires specification of the monitoring objective, the types of sites necessary to meet the objective, and then the desired spatial scale of representativeness. For example, consider a case where the objective is to determine NAAQS compliance by understanding the maximum ozone concentrations for an area. Candidate areas would most likely be located downwind of a metropolitan area, probably in suburban residential areas where children and other susceptible individuals are likely to be outdoors. Sites located in such areas are most likely to represent an urban scale of measurement. In this example, physical location was determined by considering ozone precursor emission patterns, public activity, and meteorological characteristics affecting ozone formation and dispersion. Thus, spatial scale of representativeness was not used in the selection process but was a result of site location.

In some cases, the physical location of a site is determined from joint consideration of both the basic monitoring objective and the type of monitoring site desired or required. For example, to determine typical PM<sub>2.5</sub> concentrations over a geographic area that has relatively high PM<sub>2.5</sub> concentrations, a neighborhood scale site is most appropriate. Such a site would likely be located in a residential or commercial area having a high overall PM<sub>2.5</sub> emission density but not in the immediate vicinity of any single dominant source. Note that in this example the desired scale of representativeness was an important factor in determining the physical location of the monitoring site. In either case, classification of the monitor by its type and spatial scale of representativeness is necessary and will aid in interpretation of the monitoring data for a particular monitoring objective (e.g., public reporting, NAAQS compliance determination, or research support).



Table 3-3 illustrates the relationship between the various site types that can be used to support the three basic monitoring objectives, and the scales of representativeness that are generally most appropriate for each site type.

**Table 3-3. Relationships Between Site Types and Scales of Representativeness**

Site Type	Appropriate Siting Scales
Maximum concentration ( <i>sometimes</i> urban or regional for secondarily-formed pollutants)	Micro, middle, neighborhood
Population oriented	Neighborhood, urban.
Source impact	Micro, middle, neighborhood
General/background	Urban, regional
Regional transport	Urban, regional
Welfare-related impacts	Urban, regional

Federal ambient air monitoring regulations use the statistical-based definitions for metropolitan areas provided by the Office of Management and Budget and the Census Bureau. These areas are referred to as metropolitan statistical areas (MSA), or micropolitan statistical areas, both of which are core-based statistical areas (CBSA), and combined statistical areas (CSA). A CBSA associated with at least one urbanized area of 50,000 population or greater is termed a Metropolitan Statistical Area (MSA). A CBSA associated with at least one urbanized cluster of at least 10,000 population or greater is termed a micropolitan statistical area. A CSA consists of two or more adjacent CBSAs. The term MSA is used to refer to a Metropolitan Statistical Area. By definition, both MSAs and CSAs have a high degree of integration; however, many such areas cross state or other political boundaries. An MSA or CSA may also cross more than one airshed. The EPA recognizes that state or local agencies must consider MSA/CSA boundaries and their own political boundaries and geographical characteristics in designing their air monitoring networks. The EPA recognizes that there may be situations where the EPA Regional Administrator and the affected state or local agencies may need to augment or to divide the overall MSA/CSA monitoring responsibilities and requirements among these various agencies to achieve an effective network design. Full monitoring requirements apply separately to each affected state or local agency in the absence of an agreement between the affected agencies and the EPA Regional Administrator.

Table 3-4 summarizes the monitoring objective(s), the area represented, and the monitoring scale of representativeness for DEQ’s monitoring sites.

**Table 3-4. Monitoring Objectives, Areas Represented, and Scales of Representation**

Site	Monitoring Objective	Area Represented	Monitoring Scale
Sandpoint – University of Idaho	AQI PM <sub>10</sub> SIP PM <sub>10</sub> NAAQS Modeling-meteorological	Bonner County	Urban



2014 Ambient Air Monitoring Network Plan

Site	Monitoring Objective	Area Represented	Monitoring Scale
Coeur d'Alene – Lancaster Rd.	AQI Smoke Management Modeling-meteorological	Coeur d' Alene, ID MSA	Urban
Coeur d' Alene – LMP	Modeling - meteorological	Coeur d' Alene, ID MSA	Neighborhood
St. Maries	PM <sub>2.5</sub> NAAQS AQI	Benewah County	Neighborhood
Pinehurst	PM <sub>10</sub> SIP PM <sub>10</sub> NAAQS PM <sub>2.5</sub> NAAQS AQI Modeling-meteorological	Shoshone County	Neighborhood
Porthill	Smoke Management	Boundary County	Urban
Mt. Hall	Smoke Management	Boundary County	Urban
Athol	Smoke Management	Kootenai County	Urban
Garwood	Smoke Management	Kootenai County	Urban
Moscow	AQI Smoke Management Modeling-meteorological	Latah County	Neighborhood
Lewiston	AQI Smoke Management Modeling-meteorological	Lewiston ID – WA MSA	Neighborhood
Grangeville	AQI Smoke Management Modeling-meteorological	Idaho County	Neighborhood
Cottonwood	Smoke Management	Idaho County	Neighborhood
Potlatch	Smoke Management	Latah County	Neighborhood
Kendrick	Smoke Management	Latah County	Neighborhood
McCall	AQI Smoke Management	Valley County	Neighborhood
Garden Valley	AQI Smoke Management	Boise County	Neighborhood
Nampa	PM <sub>10</sub> NAAQS PM <sub>2.5</sub> NAAQS AQI	Boise City-Nampa MSA	Neighborhood
Meridian – St. Luke's	NCore-trace gas NCore - PMcoarse PM <sub>2.5</sub> NAAQS PM <sub>2.5</sub> Chemical Speciation O <sub>3</sub> NAAQS Pb NAAQS AQI Modeling-meteorological	Boise City-Nampa MSA	Neighborhood
Meridian – Near-road	NO, NO <sub>2</sub> , NO <sub>x</sub> CO	Boise City-Nampa MSA	Micro
Boise – Eastman Garage	CO SIP CO NAAQS	Northern Ada County	Micro



2014 Ambient Air Monitoring Network Plan

Site	Monitoring Objective	Area Represented	Monitoring Scale
Boise – Fire Station #5	PM <sub>10</sub> SIP PM <sub>10</sub> NAAQS	Northern Ada County	Neighborhood
Boise – White Pine Elementary	O <sub>3</sub> NAAQS	Boise City-Nampa MSA	Neighborhood
Garden City	Modeling-meteorological	Boise City-Nampa MSA	Neighborhood
Idaho City	Smoke Management AQI	Boise County	Neighborhood
Weiser	Smoke Management	Washington County	Neighborhood
Ketchum	Smoke Management AQI	Blaine County	Urban
Twin Falls	Smoke Management AQI	Twin Falls, ID Micropolitan Statistical Area	Neighborhood
Kimberly	Modeling-meteorological	Twin Falls, ID Micropolitan Statistical Area	Urban
Paul	Smoke Management	Minidoka County	Neighborhood
Pocatello Garrett and Gould	PM <sub>10</sub> SIP PM <sub>10</sub> NAAQS AQI Modeling-meteorological	Pocatello, ID MSA	Neighborhood
Pocatello – Sewage Treatment Plant	SO <sub>2</sub> NAAQS	Pocatello, ID MSA	Middle
Franklin	PM <sub>2.5</sub> NAAQS AQI	Logan UT – ID MSA	Urban
Soda Springs	SO <sub>2</sub> NAAQS	Caribou County	Micro - Middle
Soda Springs (Caribou Hospital)	Smoke Management	Caribou County	Urban
Idaho Falls	AQI	Idaho Falls, ID MSA	Neighborhood
Salmon – Charles St.	PM <sub>2.5</sub> NAAQS AQI	Lemhi County	Neighborhood
Salmon – Hwy 93	Modeling-meteorological	Lemhi County	Urban
Rexburg	Smoke Management	Madison County	Urban

\* AQI – air quality index; SIP – state implementation plan; NAAQS – national ambient air quality standard; PM10 – particulate matter less than 10 microns in diameter; MSA – metropolitan statistical area; O<sub>3</sub> – ozone; PM<sub>2.5</sub> – particulate matter less than 2.5 microns in diameter; NO<sub>2</sub> – nitrogen dioxide; SO<sub>2</sub> – sulfur dioxide

\*\* Boise City-Nampa MSA, as defined by the US Census Bureau, includes Ada, Boise, Canyon, Gem, and Owyhee counties

### 3.3. Monitoring Methods, Monitor Designation, and Sampling Frequency

Monitoring methods used for making NAAQS compliance determinations at a SLAMS site must be designated federal reference (FRM) or federal equivalent (FEM) methods, in accordance with 40 CFR Part 53. A method for monitoring PM<sub>2.5</sub> concentrations that has not been designated as an FRM or FEM may be approved as an “approved regional method” (or ARM) by the EPA Regional Administrator. Special purpose monitors



(SPMs) do not meet any of the above criteria and are typically used for special studies or as surrogate measures or indicators of emergency episodes (e.g., TEOMs used for early detection of smoke).

Table 3-5 lists monitoring methods used by Idaho DEQ along with associated method codes required when submitting the monitoring data to EPA’s Air Quality System (AQS) database. Method codes for meteorological parameters are not included in the table.

**Table 3-5. Air Monitoring Method Codes**

Parameter/ Pollutant*	Method Designation	AQS Method Code	Instrument and Instrument Parameters
PM <sub>10</sub>	FEM	079	TEOM – gravimetric analysis, instrumental – R&P SA246B inlet
CO	FRM	593**	Teledyne API Model 300EU
CO	FEM	593	Teledyne API Model T300U
CO	FEM	093	Teledyne API Model T300
SO <sub>2</sub>	FEM	100	Teledyne API Model T100 – UV Fluorescent
SO <sub>2</sub>	FEM	060	Thermo Model 43C, pulsed fluorescence
SO <sub>2</sub>	FRM	600**	Teledyne API Model 100EU – UV Fluorescent
O <sub>3</sub>	FEM	087	Teledyne API, Model 400E
O <sub>3</sub>	FEM	087	Teledyne API Model T400
NO <sub>2</sub>	FRM	099	Teledyne API, Model 200E – Chemiluminescence
NO <sub>2</sub>	FEM	600	Teledyne API Model T200UP - Photolytic
NO <sub>2</sub>	FEM	599	Teledyne API, Model 200EU
NO <sub>y</sub>	FEM	599**	Teledyne API, Model 200EU
PM <sub>2.5</sub>	FRM	118	R&P Model 2025 Sequential w/WINS, Gravimetric
PM <sub>2.5</sub>	FRM	145	R&P Model 2025 Sequential w/ VSCC
PM <sub>2.5</sub>	SPM	701 or 703***	R&P TEOM w/ SCC – no correction factor
PM <sub>2.5</sub>	SPM	715 or 716***	R&P TEOM w/ VSCC – no correction factor
PM <sub>2.5</sub>	FEM	181	R&P TEOM 8500 w/ VSCC & FDMS
PM <sub>2.5</sub>	FEM	581	Thermo TEOM 1405-F (FDMS) w/ VSCC
PM <sub>2.5</sub>	FEM	170	Met One Beta Gauge (BAM)
PM <sub>10-2.5</sub>	FRM	176	Thermo Scientific Partisol-Plus Model 2025 Sequential Sampler Pair w/ VSCC
PM10 Pb	FEM	811	Thermo/R & P 2025 PM10 w/ VSCC w/ XRF analysis

\* PM<sub>10</sub> – particulate matter less than 10 microns in diameter; CO – carbon monoxide; SO<sub>2</sub> – sulfur dioxide; O<sub>3</sub> – ozone; NO<sub>2</sub> – nitrogen dioxide; NO<sub>y</sub> – total reactive nitrogen; PM<sub>2.5</sub> – particulate matter less than 2.5 microns in diameter; TEOM – tapered element oscillating microbalance

\*\* Trace gas monitor – NCore

\*\*\* Applicable code varies seasonally w/ instrument operating temperature settings



Monitoring sites designated as SLAMS sites, are intended to address specific air quality management interests, and as such, are frequently single-pollutant measurement sites. The SLAMS sites must be approved by the EPA Regional Administrator.

Monitoring sites designated as special purpose monitor (SPMs) stations in the annual network plan and in the Air Quality System (AQS) do not count toward meeting network minimum requirements. SPM sites using methods designated as FRMs or FEMs or approved as ARMs are bound to the quality assurance requirements of Appendix A to 40 CFR Part 58.

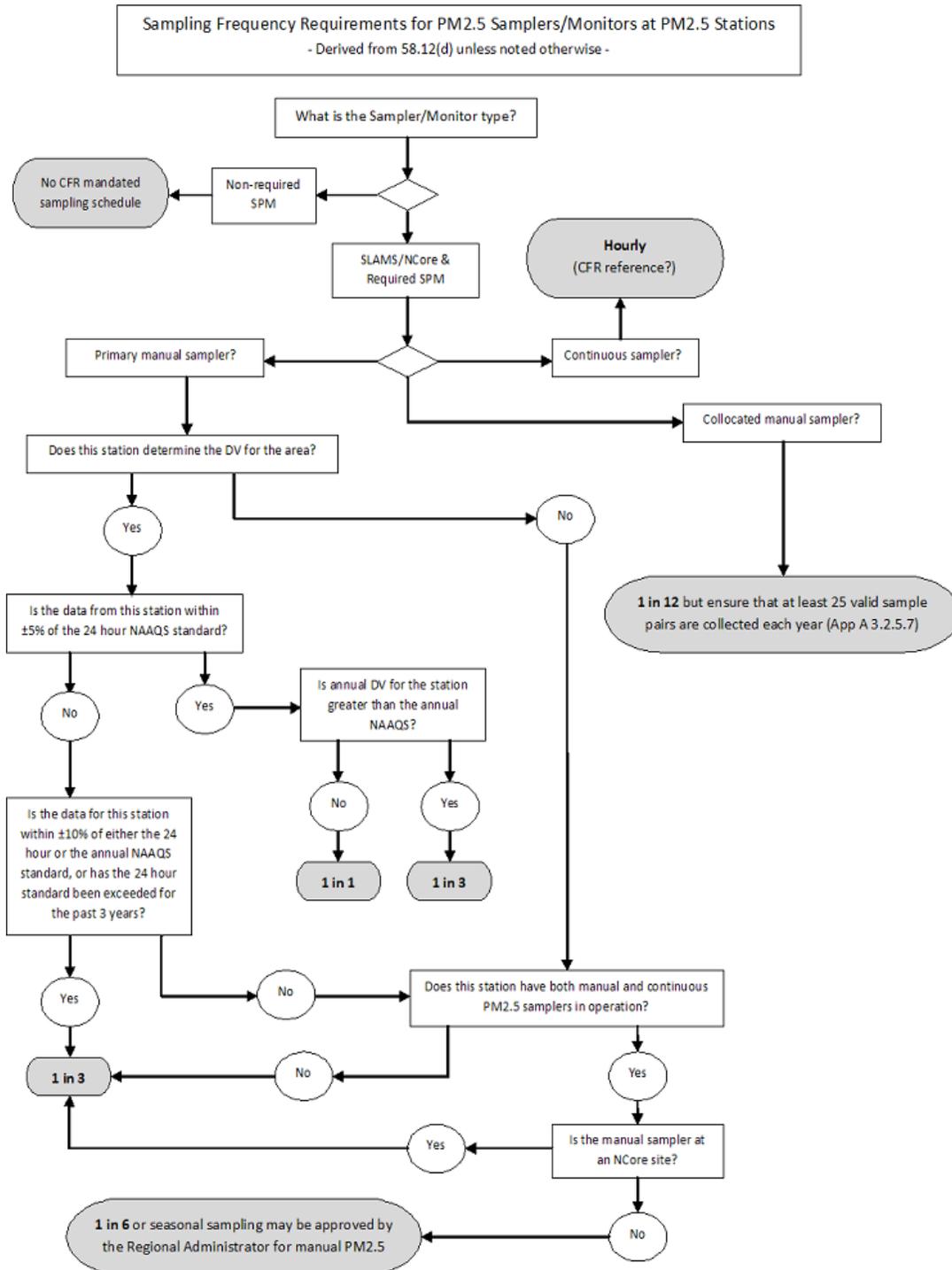
Gaseous pollutants and meteorological parameters are sampled continuously and typically averaged for each hour. Data completeness for a continuous monitor is computed as the number of valid hourly samples collected divided by the number of potential hourly samples for the period in question (e.g. 8,760 potential hourly samples annually).

Particulate matter (PM) can be sampled continuously or by time-integrated filter-based methods. Filter-based methods typically collect samples for 24-hour periods. For NAAQS comparison, PM data is reported as a 24-hour average, collected from midnight to midnight at local standard time. As illustrated in Figure 3-1, the minimum monitoring schedule for a site is based on the type of monitor, the monitor's objectives and the design value (relative to the 24-hour NAAQS) determined for the monitored site.

For the monitors in DEQ's ambient air quality monitoring network, Table 3-6 lists the pollutants monitored, the monitor's designation (e.g., SLAMS), the monitoring frequency, and the appropriate AQS method code (see Table 3-5).



**Figure 3-1. Minimum Monitoring Frequency Based on Ratio of Local Concentration to Standard**





**Table 3-6. Pollutants/Monitor Designation/Sampling Frequency/Method Codes**

Site	Pollutant Monitored**	Begin Date	Monitor Designation	Monitoring Frequency	AQS Method Code	Parameter Code	POC #
Sandpoint – University of Idaho	10-meter meteorology		SPM	Continuous	*	*	*
	PM <sub>10</sub> – TEOM	2013	SLAMS	Continuous	079	81102	3
	PM <sub>2.5</sub> – TEOM	2013	SPM	Continuous	715 or 716	88501	3
Coeur d’Alene – Lancaster Rd.	PM <sub>2.5</sub> - TEOM	2009	SPM	Continuous	715 or 716	88501	3
	10-meter meteorology		SPM	Continuous	*	*	*
Coeur d’Alene LMP	10-meter meteorology		SPM	Continuous	*	*	*
St. Maries	PM <sub>2.5</sub> – FRM	2003	SLAMS	1/6	145	88101	1
	PM <sub>2.5</sub> – BAM 1020	2014	SPM	Continuous	170	88101	3
Pinehurst	PM <sub>2.5</sub> – FRM	1999	SLAMS - Precision	1/6	145	88101	1
	PM <sub>2.5</sub> – BAM 1020	2014	SLAMS (proposed)	Continuous	170	88101	3
	PM <sub>2.5</sub> – 8500 TEOM/FDMS	2010	SLAMS	Continuous	181	88101	4
	PM <sub>10</sub> - TEOM 10-meter meteorology	1998	SLAMS SPM	Continuous Continuous	079 *	81102 *	3 *
Moscow	PM <sub>2.5</sub> – TEOM	2001	SPM	Continuous	715 or 716	88501	3
	10-meter meteorology		SPM	Continuous	*	*	*
Lewiston	PM <sub>2.5</sub> - TEOM	2001	SPM	Continuous	715 or 716	88501	3
	10-meter meteorology		SPM	Continuous	*	*	*
Grangeville	PM <sub>2.5</sub> – TEOM	2000	SPM	Continuous	715 or 716	88501	3
	10-meter meteorology		SPM	Continuous	*	*	*



2014 Ambient Air Monitoring Network Plan

Site	Pollutant Monitored**	Begin Date	Monitor Designation	Monitoring Frequency	AQS Method Code	Parameter Code	POC #
McCall	PM <sub>2.5</sub> – TEOM	2010	SPM	Continuous	715 or 716	88501	3
Garden Valley	PM <sub>2.5</sub> – TEOM	2001	SPM	Continuous	715 or 716	88501	3
Nampa	PM <sub>10</sub> - TEOM	2000	SLAMS	Continuous	079	81102	2
	PM <sub>2.5</sub> - FRM	2008	SLAMS	1/6	145	88101	1
	PM <sub>2.5</sub> TEOM	2008	SPM	Continuous	715 or 716	88501	3
Meridian St. Luke's	PM <sub>2.5</sub> – FRM	2006	NCORE	1/3	145	88101	1
	PM <sub>2.5</sub> - TEOM	2006	SPM	Continuous	715 or 716	88501	3
	PM <sub>2.5</sub> Chemical Speciation	2006	NCORE	1/3	810	88502	5
	PM <sub>10-2.5</sub>	2011	NCORE	1/3	176	86101	1
	O <sub>3</sub>	2007	NCORE	Continuous	087	44201	1
	SO <sub>2</sub>	2009	NCORE	Continuous	600	42401	1&2
	NO <sub>y</sub>	2009	NCORE	Continuous	599	42600/42601/42612	1,3,1
	CO	2009	NCORE	Continuous	593	42101	1
	PM <sub>10</sub> Pb	2011	NCORE	1/6	811	85129	1
	10-meter meteorology		NCORE	Continuous	*	*	*
	PM <sub>2.5</sub> – FRM	2013	Precision	1/6	145	88101	2
PM <sub>10</sub> Pb	2011	Precision	1/12	811	85129	2	
Meridian Near-road	NO <sub>2</sub> ,NO,NO <sub>x</sub> (Photolytic)	2012	SLAMS/Near Road	Continuous	600	42602/42601/42603	1,1,1
	CO	2012	SLAMS/Near Road	Continuous	593	42101	1



2014 Ambient Air Monitoring Network Plan

Site	Pollutant Monitored**	Begin Date	Monitor Designation	Monitoring Frequency	AQS Method Code	Parameter Code	POC #
Boise-Eastman Garage	CO	1993	SLAMS	Continuous	093	42101	1
Boise-Fire Station #5	PM <sub>10</sub> - TEOM	1999	SLAMS	Continuous	079	81102	3
Boise-White Pine Elementary	O <sub>3</sub>	2009	SLAMS	Continuous	087	44201	1
Garden City	10-meter meteorology		SPM	Continuous	*	*	*
Idaho City	PM <sub>2.5</sub> – TEOM	2000	SPM	Continuous	715 or 716	88501	3
Ketchum	PM <sub>2.5</sub> – TEOM	2009	SPM	Continuous	715 or 716	88501	3
Twin Falls	PM <sub>2.5</sub> – TEOM	2013	SPM	Continuous	715 or 716	88501	3
Kimberly	10-meter meteorology		SPM	Continuous	*	*	*
Pocatello	PM <sub>2.5</sub> - TEOM	2002	SPM	Continuous	715 or 716	88501	3
	PM <sub>10</sub> - TEOM	2001	SLAMS	Continuous	079	81102	3
	10-meter meteorology		SPM	Continuous	*	*	*
Pocatello-Sewage Treatment Plant	SO <sub>2</sub>	1981	SLAMS	Continuous	100	42401	2&4
Franklin	PM <sub>2.5</sub> - FRM	2004	SLAMS	1/3	145	88101	1
	PM <sub>2.5</sub> 1405-F TEOM/FDMS	2013	SPM	Continuous	581	88101	4
Soda Springs	SO <sub>2</sub>	2000	SLAMS	Continuous	100	42401	1&2
Idaho Falls	PM <sub>2.5</sub> – TEOM	2008	SPM	Continuous	715 or 716	88501	3



Site	Pollutant Monitored**	Begin Date	Monitor Designation	Monitoring Frequency	AQS Method Code	Parameter Code	POC #
Salmon – Charles St.	PM <sub>2.5</sub> - FRM	2003	SLAMS - Precision	1/3	145	88101	1
	PM <sub>2.5</sub> – BAM 1020	2009	SLAMS	Continuous	170	88101	3
Salmon – Hwy 93	10-meter meteorology		SPM	Continuous	*	*	*

\* Meteorological parameters are listed in Table 3-7

\*\* Abbreviations: PM<sub>10</sub> – particulate matter less than 10 microns in diameter; PM<sub>2.5</sub> – particulate matter less than 2.5 microns in diameter; TEOM – tapered element oscillating microbalance; O<sub>3</sub> – ozone; NO<sub>2</sub> – nitrogen dioxide; FRM – federal reference method; FDMS – filter dynamics measurement system; BAM – beta attenuation monitor; SO<sub>2</sub> – sulfur dioxide; NOy – total reactive nitrogen; CO – carbon monoxide

DEQ currently operates twelve (12) 10-meter meteorological stations. Meteorological measurements are used to support air quality index forecasting and air quality modeling analyses. Data collected from DEQ’s meteorological stations are submitted to AQS.

Table 3-7 provides a list of parameters measured at DEQ meteorological stations. DEQ operates the meteorological monitoring network in accordance with EPA’s guidance document: *Quality Assurance Handbook for Air Pollution Measurement Systems Volume IV: Meteorological Measurements Version 2.0 (Final)*.

**Table 3-7. DEQ Meteorological Monitoring Stations and Parameters**

Site	Meteorological Parameters Monitored
Sandpoint – University of Idaho	2 m. temp.(°C); 10 m. temp.(°C); Barometric Pressure (mbar); Relative Humidity (%RH); Wind Direction (Degrees); Wind Speed (m/s); Solar Radiation (Watt/m2); Precipitation (Rain – Inches)
Pinehurst	2 m. temp.(°C); 10 m. temp.(°C); Barometric Pressure (mbar); Relative Humidity (%RH); Wind Direction (Degrees); Wind Speed (m/s); Solar Radiation (Watt/m2); Precipitation (Rain – Inches)
Coeur d’Alene – LMP	2 m. temp.(°C); 10 m. temp.(°C); Barometric Pressure (mbar); Relative Humidity (%RH); Wind Direction (Degrees); Wind Speed (m/s); Solar Radiation (Watt/m2); Precipitation (Rain – Inches)
Coeur d’Alene – Lancaster Rd.	2 m. temp.(°C); 10 m. temp.(°C); Barometric Pressure (mbar); Relative Humidity (%RH); Wind Direction (Degrees); Wind Speed (m/s); Solar Radiation (Watt/m2); Precipitation (Rain – Inches)
Moscow	2 m. temp.(°C); 10 m. temp.(°C); Barometric Pressure (mbar); Relative Humidity (%RH); Wind Direction (Degrees); Wind Speed (m/s); Solar Radiation (Watt/m2); Precipitation (Rain – Inches)
Lewiston	2 m. temp.(°C); 10 m. temp.(°C); Barometric Pressure (mbar); Relative Humidity (%RH); Wind Direction (Degrees); Wind Speed (m/s); Solar Radiation (Watt/m2); Precipitation (Rain – Inches)
Grangeville	2 m. temp.(°C); 10 m. temp.(°C); Barometric Pressure (mbar); Relative Humidity (%RH); Wind Direction (Degrees); Wind Speed (m/s); Solar Radiation (Watt/m2); Precipitation (Rain – Inches)



Site	Meteorological Parameters Monitored
Meridian - St. Luke's	2 m. temp.(°C); 10 m. temp.(°C); Barometric Pressure (mbar); Relative Humidity (%RH); Wind Direction (Degrees); Wind Speed (m/s); Solar Radiation (Watt/m2)
Garden City	2 m. temp (°C); 10 m. temp. (°C); Barometric Pressure (mbar); Relative Humidity (%RH); Wind Direction (Degrees); Wind Speed (m/s); Solar Radiation (Watt/m2)
Kimberly	2 m. temp.(°C); 10 m. temp.(°C); Barometric Pressure (mbar); Relative Humidity (%RH); Wind Direction (Degrees); Wind Speed (m/s); Solar Radiation (Watt/m2)
Pocatello	2 m. temp.(°C); 10 m. temp.(°C); Barometric Pressure (mbar); Relative Humidity (%RH); Wind Direction (Degrees); Wind Speed (m/s); Solar Radiation (Watt/m2); Precipitation (Rain – Inches)
Salmon – Hwy 93	2 m. temp. (°C); Barometric Pressure (mbar); Relative Humidity (%RH); Wind Direction (Degrees); Wind Speed (m/s); Solar Radiation (Watt/m2)

#### 4. DEQ Network Modifications Subsequent to the EPA-Approved 2013 Ambient Monitoring Network Plan

The following network modifications were made subsequent to EPA approval of the 2013 ambient monitoring network plan. Modifications proposed/implemented subsequent to the 2013 plan and prior to DEQ submitting this 2014 plan have been addressed, case by case, and have been communicated through e-mail correspondence or regular mail if necessary.

1. The Sandpoint USFS PM10 and PM2.5 TEOM's were moved to the Sandpoint University of Idaho site, per the proposal issued in DEQ's 2013 network plan, and as approved by the EPA confirmed in the approval letter in Appendix C of this plan.
2. DEQ's Coeur d'Alene Regional Office (CRO) is testing PM2.5 BAM 1020's at Pinehurst and St. Maries. The Pinehurst BAM has shown a strong correlation against the FRM via the Class III FEM/FRM comparative criteria and is anticipated to become the primary monitor and replace the TEOM FDMS. The TEOM FDMS has had numerous issues that have compromised data completeness, and it has also not correlated as well against the FRM. The St. Maries BAM is also being tested in hopes that it may eventually replace the FRM at the site, contingent upon it meeting the Class III FEM/FRM comparative criteria. DEQ is requesting that the St. Maries monitor be deemed non-NAAQS during its testing. Data will be reported to AQS.
3. At DEQ's near road site, the Photolytic T200UP NOx analyzer was replaced temporarily with a conventional 200E NOx analyzer. This occurred late December of 2013, due to the T200UP analyzer experiencing an unexpected failure, which required further consultation with the manufacturer,



troubleshooting, and maintenance that took place over an extended period. The 200E analyzer collocated well against the T200UP in 2012, so DEQ chose to install the monitor to not compromise NO<sub>2</sub> data collection at the site while the T200UP analyzer was down. As of the time of this network plan submittal, the T200UP is expected to be running again at the site.

4. The Franklin PM<sub>2.5</sub> TEOM 1405-F (FDMS) is being tested in hopes that it may eventually replace the FRM at the site, contingent upon it meeting the Class III FEM/FRM comparative criteria. DEQ is requesting that this monitor be deemed non-NAAQS during its testing. Data will be reported to AQS.

## 5. Network Modifications Proposed in This 2014 Ambient Monitoring Network Plan

Below is a brief discussion of DEQ's rationale in proposing network modifications (if any) for each monitored pollutant, followed by a summary of those proposed changes. Annual air quality data summaries for DEQ's air monitoring network can be found at: <http://www.deq.idaho.gov/air-quality/monitoring/monitoring-network.aspx>.

More information about criteria pollutants (those pollutants for which EPA has established NAAQS) and NAAQS can be located at: <http://www.epa.gov/air/criteria.html>.

### 5.1. PM<sub>10</sub> Monitoring Network

Five PM<sub>10</sub> monitoring sites are currently in operation. These monitors support local state implementation plans (SIPs) and/or PM<sub>10</sub> maintenance plans by assessing compliance with the PM<sub>10</sub> NAAQS, and will continue operation through 2014. PM<sub>10</sub> monitoring site locations are selected to represent average population exposure to spatially representative concentrations in the middle, neighborhood, and urban scales. Airsheds classified as "moderate" nonattainment for the 24-hour PM<sub>10</sub> NAAQS (150 µg/m<sup>3</sup>) in Idaho are:

- Shoshone County – partial (including the entire city of Pinehurst)
- Pinehurst (Shoshone County – partial – City of Pinehurst)
- Fort Hall Reservation (Bannock County – partial, Power County – partial)

The Fort Hall Reservation nonattainment area is on Tribal land and is not administered by DEQ.

Airsheds previously classified as nonattainment, now classified as maintenance areas, and require monitoring to demonstrate compliance with a specific NAAQS over specific timeframes include:

- Boise-Northern Ada County
- Bonner County – partial (City of Sandpoint)



- Portneuf Valley (Bannock County – partial, Power County – partial)

2011 – 2013 PM<sub>10</sub> design values are listed in Appendix A.

Due to the necessity of PM<sub>10</sub> monitoring to meet the regulatory requirements associated with SIPs and maintenance plan objectives, DEQ proposes no substantive change to the PM<sub>10</sub> monitoring network.

### **5.2. PM<sub>2.5</sub> Core NAAQS Compliance Monitoring Network**

DEQ operates a “core network” of six PM<sub>2.5</sub> monitoring sites for NAAQS compliance. DEQ began monitoring PM<sub>2.5</sub> by FRM in 1998 with an initial network of 13 sites. Over time, the network has been reduced to six sites due to either site redundancy within airsheds, or overall low ambient concentrations relative to the NAAQS. The six remaining sites are:

- Pinehurst
- St. Maries
- Treasure Valley (Nampa – Fire Station)
- Treasure Valley (Meridian – St. Luke’s)
- Salmon
- Franklin

Federal regulations require a minimum of two PM<sub>2.5</sub> monitoring sites in the Treasure Valley, based on population. The Meridian monitor also satisfies the requirement for PM<sub>2.5</sub> monitoring at NCore sites.

DEQ is proposing the following changes:

- Designate the BAM 1020 as the primary monitor at Pinehurst and remove the TEOM FDMS (see explanation above in Section 4). A public comment period was provided, and no comments were received. The BAM meets Class III FEM/FRM comparative criteria.

DEQ is also requesting EPA approval for “non-NAAQS” designation for two (2) continuous PM<sub>2.5</sub> FEM monitors:

- Franklin, TEOM 1405-F (FDMS) – FRM comparison/evaluation and AQI  
(*Monitor start date = 1/1/2013*)
- St. Maries, BAM 1020 – FRM comparison/evaluation and AQI  
(*Monitor start date = 1/1/2014*)

DEQ would like to evaluate the new TEOM 1405-F (FDMS) monitors before deciding whether to designate them as primary reporting monitors. Regarding the BAM 1020,



Met One has provided updated recommendations and hardware/software for optimal BAM performance. DEQ would like to evaluate the BAM's, given this updated information, before deciding whether to designate them as primary reporting monitors. DEQ is requesting EPA approve these monitors as "non-NAAQS" for up to a two year period. If approved, data from these monitors will not be used to assess compliance to NAAQS but will be used for reporting daily AQI values for this period.

PM<sub>2.5</sub> design values (updated for 2011 – 2013) and current and proposed sampling frequencies are listed in Appendix A.

### **5.3. PM<sub>2.5</sub> Continuous Monitoring Network**

DEQ monitors PM<sub>2.5</sub> year-round (with the exception of Ketchum, which is a seasonal monitor and shut down during the winter months) at eighteen (18) sites throughout the state with continuous PM<sub>2.5</sub> monitors. The real-time and continuous PM<sub>2.5</sub> data support DEQ's air quality forecasting, AQI, and smoke management programs. The BAM 1020 at the Salmon site and the TEOM 8500 FDMS monitor at Pinehurst are also currently designated as SLAMS primary monitors for NAAQS compliance assessment. The rest are special purpose, non-NAAQS monitors.

The PM<sub>2.5</sub> continuous monitors are located at these monitoring sites:

- Sandpoint – University of Idaho site
- Coeur d'Alene – Lancaster Rd.
- St. Maries (BAM 1020 – non-NAAQS)\*
- Pinehurst – TEOM 8500 FDMS (SLAMS FEM-primary monitor) and BAM 1020 (SLAMS FEM – proposed primary monitor)
- Moscow
- Lewiston
- Grangeville
- McCall
- Garden Valley
- Idaho City
- Nampa
- Meridian - St. Luke's
- Ketchum (seasonal monitor – shut down in winter months)
- Twin Falls
- Pocatello
- Franklin (TEOM 1405-F (FDMS) – non-NAAQS)\*



- Idaho Falls
- Salmon (BAM 1020, SLAMS FEM – primary monitor)

*\*non-NAAQS, pending EPA approval*

DEQ also uses seasonal special purpose monitors (nephelometers) at these eleven (11) locations for the state's CRB program:

- Porthill
- Mt. Hall
- Athol
- Garwood
- Cottonwood
- Potlatch
- Kendrick
- Weiser
- Paul
- Soda Springs
- Rexburg

The McCall TEOM was moved a short distance away from the original site, due to requests from the USFS who owns the property. The Twin Falls TEOM was also moved from the Smith's Food Store site to the new location on the roof of the DEQ Twin Falls Regional Office's (TFRO) building. The reason for the move was due to access issues at the old site. All CFR Part 58 siting criteria were addressed and followed.

#### **5.4. Ozone Monitoring Network**

DEQ currently operates two ozone monitors in the Treasure Valley. Federal regulations require two ozone monitors in an urban area or MSA the size of the Boise City MSA. One site must be designed to record the maximum concentration for the MSA. NCore sites can be counted toward minimum SLAMS ozone network requirements. Ozone is monitored during the ozone "season" as prescribed in 40 CFR Part 58 Appendix D. For 2014 the ozone season is May 1 through September 30.

The Treasure Valley ozone monitors are located at:

- The Meridian St. Luke's NCore site near the Meridian St. Luke's Hospital
- The White Pine Elementary site in southeast Boise



DEQ began monitoring at the White Pine Elementary school in 2009 when it had to relocate the Whitney Elementary School site which was demolished in 2008. The White Pine Elementary site was chosen based on evidence that it would represent the maximum ozone concentration for the Boise City MSA.

DEQ is proposing no changes to the ozone monitoring network in this 2014 monitoring network plan.

2011 – 2013 ozone design values for DEQ’s monitors are listed in Appendix A.

### **5.5. Carbon Monoxide (CO) Monitoring Network**

Monitoring for carbon monoxide (CO) in the Treasure Valley began in 1977. Violations of the health-based standard for CO occurred every winter from 1977 until 1986, and as a result Northern Ada County was designated a CO nonattainment area by EPA. In December 2002, the Northern Ada County CO Limited Maintenance Plan was approved by EPA, which reclassified the area as attainment for the CO NAAQS. No exceedances of the CO NAAQS have occurred since 1991.

DEQ operates three (3) CO monitors, one at the Boise – Eastman site in downtown Boise, one at the Meridian St. Luke’s NCore site and one at the Meridian near-road site. The Boise – Eastman site is an “urban canyon” site designed to measure maximum concentrations to which the population is exposed. This site is needed to demonstrate NAAQS compliance as specified in the Northern Ada County CO Maintenance Plan. The Meridian St. Luke’s CO monitor is a “trace-level” monitor, able to measure much lower CO than conventional CO monitors used for NAAQS compliance. The Meridian St. Luke’s CO monitor is required for NCore sites. The Meridian near-road CO monitor has been established in advance of future EPA requirements for near-road CO monitoring.

2011 – 2013 CO design values are listed in Appendix A.

DEQ is proposing no changes to the CO monitoring network in this 2014 monitoring network plan.

### **5.6. Sulfur Dioxide (SO<sub>2</sub>) Monitoring Network**

Three SO<sub>2</sub> monitors currently operate in Idaho:

- Pocatello – Sewage Treatment Plant (STP)
- Soda Springs
- Meridian – St. Luke’s

The Pocatello Sewage Treatment Plant site is a maximum concentration site used to assess impacts of local industrial emissions. The Soda Springs monitor is also a maximum concentration site for assessing industrial impacts from a nearby source. Both SO<sub>2</sub> monitoring locations in southeastern Idaho were identified as fence-line “hot spots”



from conventional dispersion model applications. The St. Luke's monitor is a "trace-level" monitor, required for NCore monitoring.

DEQ is proposing no changes to the SO<sub>2</sub> monitoring network as part of this 2014 monitoring network plan.

2011 – 2013 design values for DEQ's SO<sub>2</sub> monitoring stations are listed in Appendix A.

### **5.7. Nitrogen Dioxide (NO<sub>2</sub>) Monitoring Network**

DEQ currently has one (1) SLAMS NO<sub>2</sub> monitoring station at the Meridian near-road site. On January 22, 2010 EPA revised the NO<sub>2</sub> primary NAAQS, along with revisions to the NO<sub>2</sub> monitoring requirements. Per this final rule, Idaho will be required to monitor NO<sub>2</sub> at a "near-road" monitoring station in the Boise-Nampa MSA. Initially, all monitoring was scheduled to begin January 1, 2013. However due to funding limitations, EPA has changed the requirement for the Boise City MSA (MSA > 500,000) to January 1, 2017. However, prior to the change in implementation date(s), DEQ received a grant from EPA to pilot a near-road monitoring site, which was established in Meridian, approximately 30 meters to Interstate 84. Upon completion of the pilot study (December 31, 2012) DEQ chose to continue NO<sub>2</sub> monitoring at the near-road site in order to sooner assemble a 3-year data record for NAAQS assessment (NO<sub>2</sub> NAAQS has a 3-year averaging period).

DEQ is proposing no changes to the NO<sub>2</sub> monitoring network as part of this 2014 monitoring network plan.

### **5.8. Lead (Pb) Monitoring Network**

On December 14, 2010 EPA made final revisions to the ambient monitoring requirements for measuring lead. Core Based Statistical Areas, or CBSAs, with a population of 500,000 people or more were required to initiate lead monitoring at NCore monitoring sites beginning by January 1, 2012. DEQ met this requirement and initiated PM<sub>10</sub> lead monitoring at the St. Luke's NCore site. EPA has also required Pb monitoring near facilities with Pb emissions exceeding 0.5 tons per year (tpy). Idaho has no such facilities and thus is not conducting any source-oriented Pb monitoring.

DEQ is utilizing a low-volume PM<sub>10</sub> sampler to collect filter-based samples for lead analysis. A low-volume Partisol 2025 sampler configured to collect PM<sub>10c</sub> as part of the PM<sub>10-2.5</sub> (Section 5.9) measurement is already collecting PM<sub>10c</sub> on the every sixth day schedule required for Pb. DEQ is utilizing the National Laboratory Contract and ships the samples/filters to the contract laboratory for Pb-PM<sub>10</sub> analysis by x-ray fluorescence (XRF) analysis.

Should lead concentrations exceed a three-month average greater than or equal to 0.1 µg/m<sup>3</sup>, DEQ will be required to install and operate a Pb-TSP monitor within six months of such determination. As of this date, values have been well below this threshold. Any



Pb-PM<sub>10</sub> measurements exceeding the NAAQS could lead toward a violation of the standard.

DEQ is proposing no changes to the Pb monitoring network as part of this 2014 monitoring network plan.

### **5.9. PM<sub>10-2.5</sub> (PMcoarse)**

PMcoarse is defined as the particulate fraction with a nominal diameter between 2.5 and 10.0 μ.

PMcoarse is determined by calculating the fractional mass difference between co-located and matching (i.e., same type of monitor) FRM PM<sub>10c</sub> and FRM PM<sub>2.5</sub> monitors. Section 3 of Appendix D, 40 CFR Part 58, requires PMcoarse monitoring at NCore monitoring stations.

DEQ initiated PMcoarse monitoring at the Meridian – St. Luke’s NCore site, beginning January 1, 2011. Both the PM<sub>2.5</sub> and PM<sub>10c</sub> samplers are operated every third day (1/3) in accordance with the national monitoring schedule. A second PM<sub>10c</sub> monitor is operated every twelfth day (1/12) for the purpose of assessing lo-vol PM<sub>10</sub> sampling precision.

DEQ is proposing no changes to the PMcoarse monitoring network as part of this 2014 monitoring network plan.

### **5.10. Summary of Proposed Network Modifications for DEQ’s 2014 Air Monitoring Network Plan**

DEQ is proposing the following network modifications in this plan:

- EPA approval to designate two (2) continuous FEM PM<sub>2.5</sub> monitors as “non-NAAQS”:
  - St. Maries BAM 1020 (for evaluation to FRM and AQI only)
  - Franklin TEOM 1405-F (FDMS) (for evaluation to FRM and AQI only)

\*If the above monitors meet the Class III FEM/FRM comparative criteria, and upon EPA approval, these monitors will be designated as the primary NAAQS monitors. If the above criteria are not satisfied, they may continue to run as non-NAAQS monitors for AQI reporting purposes only.

- EPA approval to designate the Pinehurst BAM 1020 as the primary PM<sub>2.5</sub> monitor for NAAQS
- Pending final EPA ruling, SASS PM<sub>2.5</sub> mass measurements to be discontinued tentatively as of July 1, 2014



## **6. Future Ambient Air Monitoring Requirements and Associated Costs**

EPA is required to review criteria pollutant NAAQS on a routine 5-year schedule. EPA has recently completed their review of a number of pollutants and through rulemaking has proposed changes to ambient air monitoring requirements for some pollutants. This can result in additional monitors and new monitoring requirements for Idaho. Many of the added monitoring requirements anticipated just a few years ago have been greatly reduced due to budget issues and it is difficult to project near-term impacts to DEQ's monitoring network and resources. At this time, aside from near-road monitoring requirements for CO and NO<sub>2</sub>, beginning in 2017, there are no anticipated additional federal requirements for ambient air monitoring in Idaho.

DRAFT

## APPENDIX A

### DEQ AMBIENT MONITORING NETWORK DESIGN VALUES

Note: Many of DEQ's PM<sub>2.5</sub> and PM<sub>10</sub> monitors were greatly impacted by smoke from wildfires and dust storms during 2011 through 2013. The Clean Air Act provides for agencies to flag such data for exceptional and natural events and for EPA to concur if appropriate steps and demonstrations are completed. DEQ intends to pursue Exceptional Event exclusion, at a minimum, for Salmon and Pinehurst PM<sub>2.5</sub> and Boise and Nampa PM<sub>10</sub>. Design values are provided which reflect the inclusion and exclusion of these data. It should be noted that these values are preliminary. DEQ has not determined whether it will seek EPA concurrence for data affecting other monitors because no significant regulatory impact has been determined at this time. This is subject to change, depending on what happens in 2014 and 2015.

#### 2011-2013 Design Values for Core PM<sub>2.5</sub> Monitoring Stations – Federal Reference or Federal Equivalent Method (Primary Monitor)

Monitoring Site	County/ AQS ID	98 <sup>th</sup> Percentile 24-hour Concentration (µg/m <sup>3</sup> )			2011-2013 24-hour Design Value (µg/m <sup>3</sup> )	Required Sampling Frequency <b>(Current Frequency)</b>	2011-2013 Annual Design Value (µg/m <sup>3</sup> )
		2011	2012	2013			
Meridian St. Luke's	Ada 160010010	29	41/19	89	53/46	1:3 <b>(1:3)</b>	9.1/8.5
St. Maries	Benewah 160090010	29	27	35	30	1:6 <b>(1:6)</b>	9.9/9.7
Nampa Fire Station	Canyon 160270002	23	27/20	50	33/31	1:6 <b>(1:6)</b>	10.8/10.2
Franklin	Franklin 160410001	40	32/16	55	42/37	1:6 <b>(1:3)</b>	8.0/7.8
Salmon	Lemhi 160590004	37	154/34	42	78/38	1:1 <b>(1:1)</b>	15.4/11.7
Pinehurst	Shoshone 160790017	43	36/35	43	41/40	1:1 <b>(1:1)</b>	12.7/12.4*

- Notes: 1- A monitor violates the 24-hour PM<sub>2.5</sub> NAAQS if the 3-year average of the annual 98<sup>th</sup> percentile 24-hour average exceeds 35 µg/m<sup>3</sup>. The annual PM<sub>2.5</sub> NAAQS is violated if the 3-year average of the annual arithmetic mean exceeds 12 µg/m<sup>3</sup>.
- 2- Values not meeting data completeness criteria are marked with an asterisk (“\*”).
- 3- See figure 3-7 for an explanation of required monitoring/sampling frequencies.
- 4- NCore monitors are required to operate every third day.
- 5- Concentration data is denoted with/without exceptional event data included.
- 6- Special purpose monitors are not listed in this table and instead that data is provided in DEQ’s annual data summary reports provided on the DEQ webpage.

### 2011-2013 O<sub>3</sub> Design Values

Site	County/ AIRS ID	4th – Highest Daily Maximum 8-hour Average (ppm)			3-year Design Value (ppm)
		2011	2012	2013	
<b>Boise White Pine</b>	Ada 160010017	.062	.070	.074/.071	.068/.067
<b>Lancaster</b>	Kootenai 160550003	.058	Monitoring terminated	Monitoring terminated	Insufficient data
<b>Meridian St. Luke's</b>	Ada 160010010	.069*	.073	.062	.068*
<b>Boise ITD</b>	Ada 160010019	.060	Monitoring terminated	Monitoring terminated	Insufficient data

- Notes: 1- A monitor violates the 8-hour ozone NAAQS if the 3-year average of the annual 4<sup>th</sup> daily maximum average exceeds 0.075 ppm.
- 2- Monitors not meeting data completeness requirements are marked with an asterisk (“\*”).
- 3- Concentration data is denoted with/without exceptional event data included.

### 2011-2013 PM<sub>10</sub> Design Values

Site	County/ AQS ID	Estimated Exceedances			3-year Estimated Exceedances
		2011	2012	2013	
<b>Sandpoint</b>	Bonner 160170003 160170005**	0.0	0.0	0.0	0.0

Site	County/ AQS ID	Estimated Exceedances			3-year Estimated Exceedances
		2011	2012	2013	
<b>Pinehurst</b>	Shoshone 160790017	0.0	0.0	1.0/0.0	0.3/0.0
<b>Nampa</b>	Canyon 160270002	1.0/0.0	1.0/0.0	0.0*	0.7/0.0
<b>Boise</b>	Ada 160010009	2.1/0.0	2.0/0.0	0.0	1.4/0.0
<b>Pocatello PM<sub>10</sub> TEOM</b>	Bannock 160050015	0.0	2.1/0.0	0.0	0.7/0.0

- Notes: 1- A monitor violates the 24-hour PM<sub>10</sub> NAAQS if the 3-year average of estimated exceedances (>150 µg/m<sup>3</sup>) is greater than 1.  
2- Monitors not meeting data completeness requirements are marked with an asterisk (“\*”).  
3- \*\* denotes the fact that this site was decommissioned in 2013 and moved to site ID 160170003. A split record exists for 2013 as a result.  
4- Concentration data is denoted with/without exceptional event data included.

### 2011- 2013 CO Design Values

Site	County/ AQS ID	1 <sup>st</sup> / 2 <sup>nd</sup> Highest 1-hour Average (ppm)		
		2011	2012	2013
<b>Boise Eastman</b>	Ada 160010014	20.4/8.7	23.1/2.3	4.0/3.0
<b>Meridian St. Luke's</b>	Ada 160010010	1.4/1.4	1.3/1.1	1.2/1.1
<b>Meridian Near - Road</b>	Ada 160010023	Not Monitored	2.7/2.6	1.3/1.2

- Notes: 1- A monitor violates the 1- hour CO NAAQS if it exceeds 35 ppm more than once per year.  
2- Monitors not meeting data completeness requirements are marked with an asterisk (“\*”).

Site	County/ AQS ID	1 <sup>st</sup> / 2 <sup>nd</sup> Highest 8-hour Average (ppm)		
		2011	2012	2013
<b>Boise Eastman</b>	Ada 160010014	4.5/1.6	3.5/1.6	1.7/1.4
<b>Meridian St. Luke's</b>	Ada 160010010	1.0/0.8	0.9/0.8	0.9/0.9
<b>Meridian Near - Road</b>	Ada 160010023	Not Monitored	1.3/1.0	0.9/0.9

Notes: 1- A monitor violates the 8- hour CO NAAQS if it exceeds 9 ppm more than once per year.

2- Monitors not meeting data completeness requirements are marked with an asterisk (“\*”).

#### 2011- 2013 SO<sub>2</sub> Design Values

Site	County/ AIRS ID	99 <sup>th</sup> Percentile – Highest Daily Maximum 1-hour Average (ppb)			3-year Design Value (ppb)
		2011	2012	2013	
<b>Pocatello STP</b>	Bannock 160050004	75	73	40	63
<b>Soda Springs</b>	Caribou 160290031	53	35	31	40
<b>Meridian St. Luke's</b>	Ada 160010010	8	6	11	8

Notes: 1- A monitor violates the 1- hour SO<sub>2</sub> NAAQS if the 3-year average of the annual 99<sup>th</sup> percentile highest daily maximum 1-hour averages exceeds 75 ppb

2- Monitors not meeting data completeness requirements are marked with an asterisk (“\*”).

**2011- 2013 NO<sub>2</sub> Design Values**

Site	County/ AIRS ID	98 <sup>th</sup> Percentile – Highest Daily Maximum 1-hour Average (ppb)			3-year Design Value (ppb)
		2011	2012	2013	
<b>Meridian Near-road</b>	Ada 160010023	Not Monitored	44	39	Insufficient Data
<b>Meridian St. Luke's</b>	Ada 160010010	36	Not Monitored	Not Monitored	Insufficient data

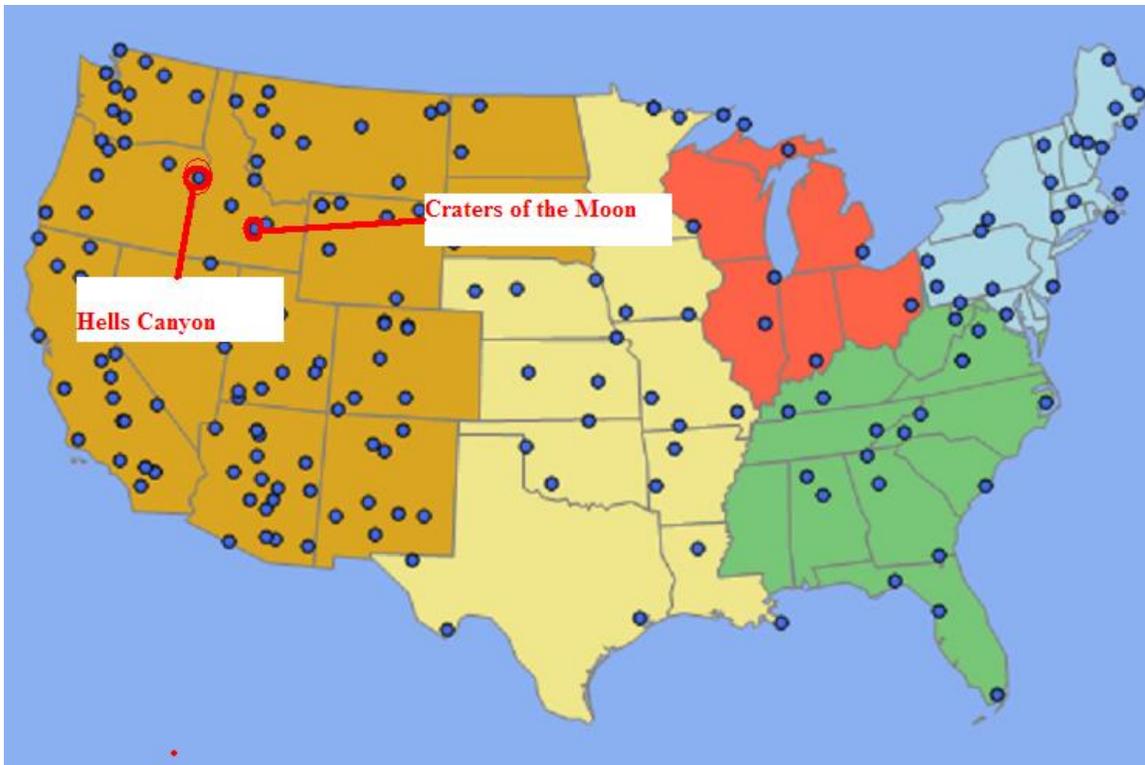
- Notes: 1- A monitor violates the 1- hour NO<sub>2</sub> NAAQS if the 3-year average of the annual 98<sup>th</sup> percentile highest daily maximum 1-hour averages exceeds 100 ppb  
 2- Monitors not meeting data completeness requirements are marked with an asterisk (“\*”).

DRAFT

**APPENDIX B**

**CRATERS OF THE MOON AND HELLS CANYON  
MONITORING STATIONS  
(IMPROVE NETWORK)**

DRAFT



### **IMPROVE Monitoring Network**

DEQ is leveraging the IMPROVE monitoring network to fulfill requirements for the PM<sub>2.5</sub> transport (Hell's Canyon) and PM<sub>2.5</sub> background (Craters of the Moon National Monument) monitoring sites.

A history of the IMPROVE monitoring network can be found at: <http://vista.cira.colostate.edu/improve/Default.htm>. The [IMPROVE program](#) was initiated in 1985 as an extensive long term monitoring program to establish the current visibility conditions, track changes in visibility and determine causal mechanism for the visibility impairment in the National Parks and Wilderness Areas.

### **Craters of the Moon**

Monitoring began at the Craters of the Moon site in 1992. Metadata for the site can be found at:

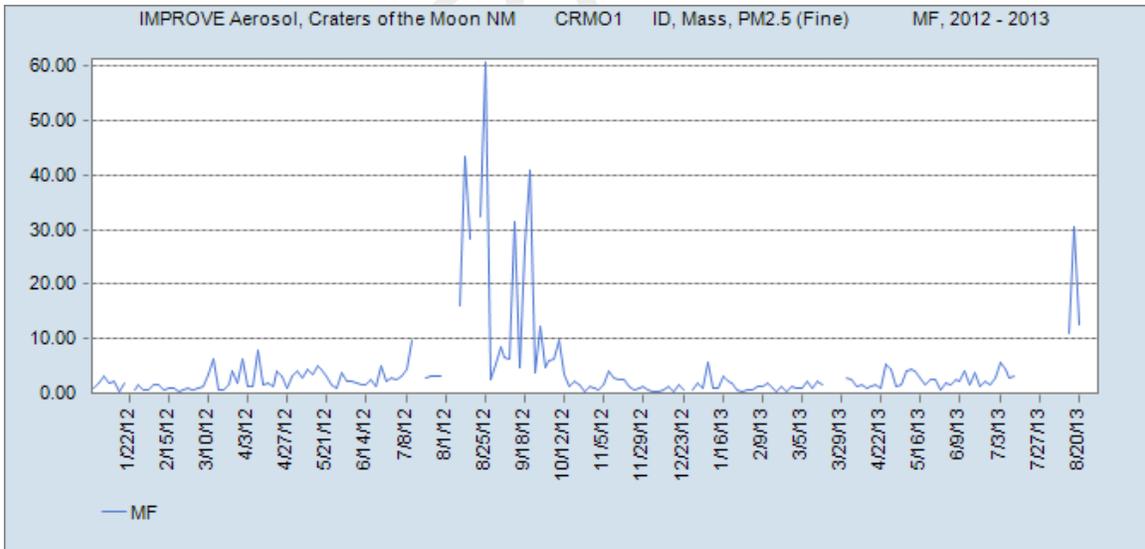
<http://vista.cira.colostate.edu/improve/Web/Sitebrowser/Sitebrowser.aspx?SiteID=69>.

Raw data gathered at this site can be found at:

<http://views.cira.colostate.edu/web/>



**Craters of the Moon sampling platform.**



**2012-2013 PM<sub>2.5</sub> measured at Craters of the Moon IMPROVE site.**

The graph above shows the typical background concentration of PM<sub>2.5</sub> of 1-6 µg/m<sup>3</sup>. On occasion the monitor is impacted by smoke from regional fires and other burning activities.

## **Hells Canyon**

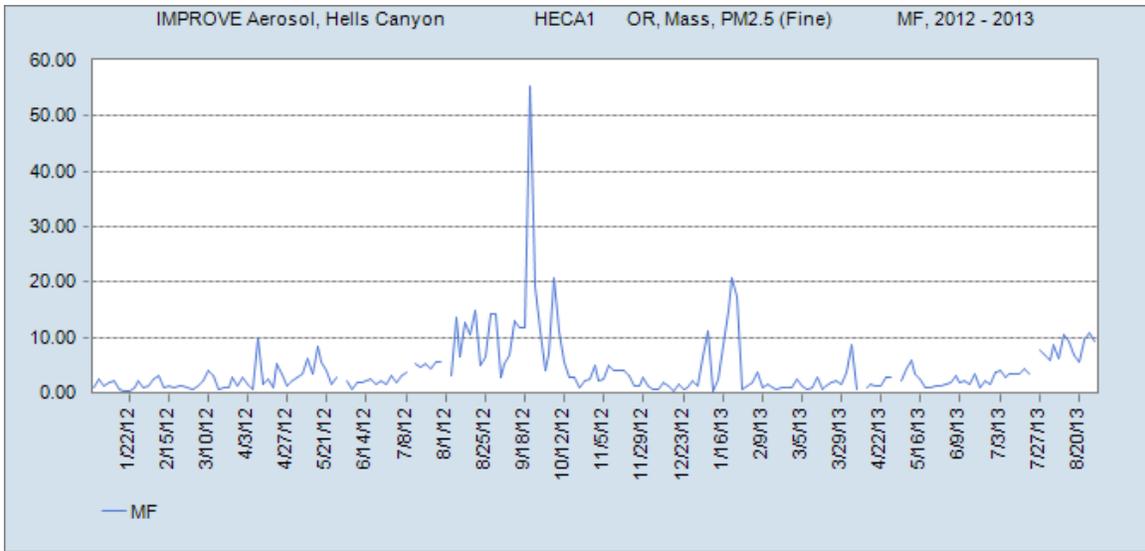
Monitoring began at the Hells Canyon site in 2001. Metadata for the site can be found at: <http://vista.cira.colostate.edu/improve/Web/Sitebrowser/Sitebrowser.aspx?SiteID=69>

Raw data gathered at this site can be found at: <http://views.cira.colostate.edu/web/>



**Hells Canyon monitoring station.**

The graph below shows the Hells Canyon PM<sub>2.5</sub> measurements for 2012-2013. Typical transport concentrations of 2-6 µg/m<sup>3</sup> are represented, however on occasion(s) values can be higher. Typically elevated levels of PM<sub>2.5</sub> are associated with either summer/fall smoke impacts or regional winter-time stagnation events.



**2012-2013 PM<sub>2.5</sub> measured at Hell's Canyon IMPROVE site.**

DRAFT

**APPENDIX C**

**EPA-DEQ CORRESPONDENCE**

DRAFT



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 10  
1200 Sixth Avenue, Suite 900  
Seattle, WA 98101-3140

RECEIVED

MAY 28 2013

DEPARTMENT OF ENVIRONMENTAL QUALITY  
STATE OF IDAHO

MAY 22 2013

OFFICE OF  
AIR, WASTE AND TOXICS

Mr. Bruce Louks  
Manager, MMEI  
Idaho Department of Environmental Quality  
1410 N. Hilton  
Boise, Idaho 83706

Dear Mr. Louks:

We reviewed your letter dated April 12, 2013, requesting relocation of two monitors in the Idaho ambient air-monitoring network. The first request is to relocate the Sandpoint PM10 monitor currently located at the United States Forest Service (USFS) property (160170005) 1.9 miles north-northeast to the University of Idaho (U of I) Extension property (160170003) where DEQ currently operates a PM2.5 monitor and a meteorology station. The proposed move would consolidate DEQ's monitors in Sandpoint to a single site and would reduce DEQ's operating cost. DEQ believes the U of I site would better represent population exposure in the Sandpoint urban area. Also, a correlation study conducted by DEQ on data collected at both the USFS and U of I sites found the sites well correlated, and the U of I site measured PM10 concentrations consistently higher than the USFS site. For these reasons, I approve the relocation of this PM10 monitor to the U of I site.

The second request is to relocate the St. Maries PM2.5 monitor from its' current location on the rooftop of the USFS building (160550003) to a location approximately 450 feet to the north-northwest onto city owned property. This relocation is necessary because installation of a new gutter system on the rooftop of the USFS building, the current location, has created an unstable platform for accessing the rooftop with a portable ladder. The relocation of the monitor to the city property will provide an improved work platform for the monitor, and will ensure the safety of DEQ field staff who need to access the monitor. Based on these reasons, I approve the relocation of this PM2.5 monitor to the city owned property.

After the monitors are relocated, please be sure to identify the new location (160170003) for the Sandpoint PM10 monitor in the EPA's Air Quality System (AQS), and since the new location for the St. Maries monitor is relatively close to the existing site, we recommend that you keep the current site ID (160550003) for that site but update the location of the site in AQS. Contact me if you have any questions.

Sincerely,

Keith Rose  
Air Monitoring Program Manager



STATE OF IDAHO  
DEPARTMENT OF  
ENVIRONMENTAL QUALITY

1410 North Hillon • Boise, Idaho 83708 • (208) 373-0502

C.L. "Butch" Otter, Governor  
Curt Fransen, Director

February 21, 2014

Debra Suzuki  
US Environmental Protection Agency  
Region 10  
1200 Sixth Avenue  
Seattle, WA 98101

Dear Ms. Suzuki:

Idaho DEQ has been operating a federal equivalent method (FEM) continuous PM2.5 monitor as the primary reporting monitor for its Pinehurst monitoring site. That monitor is an older Thermo Model 8500 TEOM/FDMS unit. With time, repairs and instrument downtime for the unit has increased. Not only does this add to our operating costs during a time when budgets are tight, it leads to gaps in critical data considering the impending designation of nonattainment (annual PM2.5 NAAQS) for the airshed. In anticipation of the ultimate need to replace this monitor, DEQ co-located a BAM model 1020 PM2.5 FEM with the existing PM2.5 FRM that DEQ uses for assessing precision at this site. Data was collected from July through December 2013.

Statistical comparison of the BAM/FRM relationship met the Class III FEM acceptance criteria and DEQ would like now to designate the BAM 1020 FEM as the primary PM2.5 monitor at the Pinehurst monitoring site. DEQ has submitted the data analysis to Mr. Keith Rose and Chris Hall at your office.

I understand that this request is being submitted in advance of the Annual Ambient Air Monitoring Network Plan. I consider it a minor change, compared to a monitoring site being relocated.

DEQ is compelled to make this change as soon as possible and would appreciate your concurrence/approval on this matter as soon as possible. If you have any questions or need more information feel free to call me (208) 373-0294, or Steve Miller (208) 373-0432.

Sincerely,

  
Bruce Louks

Manager, Air Quality Monitoring, Modeling and Emission Inventory  
Idaho Department of Environmental Quality

Cc: Keith Rose, EPA Region 10, with enclosures  
Steve Miller, DEQ  
Mark Boyle, DEQ

## APPENDIX D

### 40 CFR Part 58 – Appendix D & E Checklists

DRAFT

**PART 58 APPENDIX D SITE EVALUATION FORM FOR PM2.5**

APPLICABLE SECTION	REQUIREMENT	CRITERIA MET?		
		YES	NO	N/A
4.7.1(a)	States, and where applicable local agencies must operate the minimum number of required PM <sub>2.5</sub> SLAMS sites listed in Table D-5 of this appendix. Use the form below and Table D-5 to verify if each of your MSAs have the appropriate number of SLAMS FRM/FEM/ARM samplers.	X		
4.7.1(b)	Each required SLAMS FRM/FEM/ARM monitoring stations or sites must be sited to represent area-wide air quality in the given MSA (typically neighborhood or urban spatial scale, though micro-or middle-scale okay if it represent many such locations throughout the MSA).	X		
4.7.1(b)(1)	At least one SLAMS FRM/FEM/ARM monitoring station is to be sited at neighborhood or larger scale in an area of expected maximum concentration for each MSA where monitoring is required by 4.7.1(a).	X		
4.7.1(b)(2)	For CBSAs with a population of 1,000,000 or more persons, at least one FRM/FEM/ARM PM <sub>2.5</sub> monitor is to be collocated at a near-road NO <sub>2</sub> station.			X
4.7.1(b)(3)	For MSAs with additional required SLAMS sites, a FRM/FEM/ARM monitoring station is to be sited in an area of poor air quality.	X*		
4.7.2	Each State must operate continuous PM <sub>2.5</sub> analyzers equal to at least one-half (round up) the minimum required sites listed in Table D-5 of this appendix. At least one required continuous analyzer in each MSA must be collocated with one of the required FRM/FEM/ARM monitors, unless at least one of the required FRM/FEM/ARM monitors is itself a continuous FEM or ARM monitor, in which case no collocation requirement applies.	X		
4.7.3	Each State shall install and operate at least one PM <sub>2.5</sub> site to monitor for regional background and at least one PM <sub>2.5</sub> site to monitor regional transport (note locations in comment field). Non-reference PM <sub>2.5</sub> monitors such as IMPROVE can be used to meet this requirement.	X**		
4.7.4	Each State shall continue to conduct chemical speciation monitoring and analyses at sites designated to be part of the PM <sub>2.5</sub> Speciation Trends Network (STN).	X		

Comments:

\*DEQ has several sites in Idaho that are not found within an officially listed MSA, but DEQ has retained SLAMS FRM/FEM/ARM monitoring stations there due to moderate to poor air quality. Those sites include Pinehurst, Salmon, and St. Maries.

\*\*DEQ uses the IMPROVE network's Hells Canyon site for PM<sub>2.5</sub> regional transport and the Craters of the Moon National Monument site for PM<sub>2.5</sub> regional background.

MSA Description <sup>1</sup>	MSA population <sup>2,3</sup>	Design Value for years 2011-2013	Minimum required number of PM2.5 SLAMS FRM/FEM/ARM sites (from Table D-5)	Present number of PM2.5 SLAMS FRM/FEM/ARM sites in MSA	Present number of continuous PM2.5 analyzers in MSA	Present number of PM2.5 STN analyzers in MSA
Boise City-Nampa, ID MSA	616,561	10.8 (annual)	2	2	4	2
Logan, UT-ID MSA	125,442	42 (24-hour)	1	1	1	0

<sup>1</sup>see [http://www2.census.gov/econ/susb/data/msa\\_codes\\_2007\\_to\\_2011.txt](http://www2.census.gov/econ/susb/data/msa_codes_2007_to_2011.txt)

<sup>2</sup>Minimum monitoring requirements apply to the metropolitan statistical area (MSA). CBSA includes both MSAs and micropolitan statistical areas.

<sup>3</sup>Population based on latest available census figures.

MSA population <sup>1,2</sup>	Most recent 3-year design value $\geq$ 85% of any PM2.5 NAAQS <sup>3</sup>	Most recent 3-year design value $<$ 85% of any PM2.5 NAAQS <sup>3,4</sup>
>1 million	3	2
500K to 1 million	2	1
50K to <500K <sup>5</sup>	1	0

<sup>1</sup>Minimum monitoring requirements apply to the Metropolitan statistical area (MSA).  
<sup>2</sup>Population based on latest available census figures. <https://www.census.gov/>  
<sup>3</sup>The PM<sub>2.5</sub> National Ambient Air Quality Standards (NAAQS) levels and forms are defined in 40 CFR part 50.  
<sup>4</sup>These minimum monitoring requirements apply in the absence of a design value.  
<sup>5</sup>Metropolitan statistical areas (MSA) must contain an urbanized area of 50,000 or more population.

**PART 58 APPENDIX D SITE EVALUATION FORM FOR PM10**

APPLICABLE SECTION	REQUIREMENT	CRITERIA MET?		
		YES	NO	N/A
4.6(a)	Table D-4 indicates the approximate number of permanent stations required in MSAs to characterize national and regional PM10 air quality trends and geographical patterns. Use the form below and Table D-4 to verify if your PM10 network has to appropriate number of samplers.	X		
Comments:				

MSA Description <sup>1</sup>	MSA population <sup>2,3</sup>	Minimum required number of PM10 stations (from Table D-4)	Present number of PM10 stations in MSA
Boise City-Nampa, ID MSA	616,561	1-2	2

<sup>1</sup>see [http://www2.census.gov/econ/subs/data/msa\\_codes\\_2007\\_to\\_2011.txt](http://www2.census.gov/econ/subs/data/msa_codes_2007_to_2011.txt)

<sup>2</sup>Minimum monitoring requirements apply to the Metropolitan statistical area (MSA). CBSA includes both MSAs and micropolitan statistical areas.

<sup>3</sup>Population based on latest available census figures.

MSA population <sup>1,2</sup>	High concentration <sup>2</sup>	Medium concentration <sup>3</sup>	Low concentration <sup>4 5</sup>
>1 million	6-10	4-8	2-4
500K to 1 million	4-8	2-4	1-2
250K to 500K	3-4	1-2	0-1
100K to 250K	1-2	0-1	0

<sup>1</sup>Selection of urban areas and actual numbers of stations per area will be jointly determined by EPA and the State agency.

<sup>2</sup>High concentration areas are those for which ambient PM10 data show ambient concentrations exceeding the PM10 NAAQS by 20 percent or more.

<sup>3</sup>Medium concentration areas are those for which ambient PM10 data show ambient concentrations exceeding 80 percent of the PM10 NAAQS.

<sup>4</sup>Low concentration areas are those for which ambient PM10 data show ambient concentrations less than 80 percent of the PM10 NAAQS.

<sup>5</sup>These minimum monitoring requirements apply in the absence of a design value.

**PART 58 APPENDIX D SITE EVALUATION FORM FOR SO<sub>2</sub>**

APPLICABLE SECTION	REQUIREMENT	CRITERIA MET?		
		YES	NO	N/A
4.4.1	State and, where appropriate, local agencies must operate a minimum number of required SO <sub>2</sub> monitoring sites (based on PWEI calculation specified in 4.4.2 – use Table 1 and 2 below to determine minimum requirement for each CBSA)	X		
4.4.2(a)(1)	Is the monitor sited within the boundaries of the parent CBSA and is it one of the following site types: population exposure, highest concentration, source impacts, general background, or regional transport?	X		
4.4.3(a)	Has the EPA Regional Administrator required additional SO <sub>2</sub> monitoring stations above the minimum number of monitors required in 4.4.2? If so, note location in comment field.	X*		
4.4.5(a)	Is your agency counting an existing SO <sub>2</sub> monitor at an NCore site in a CBSA with a minimum monitoring requirement?	X		
Comments: *DEQ is conducting source/highest concentration monitoring in Pocatello and Soda Springs.				

CBSA Description <sup>1</sup>	CBSA population <sup>2</sup>	total amount of SO <sub>2</sub> in tons per year emitted within the CBSA (use 2008 NEI <sup>4</sup> )	PWEI (population x total emissions ÷ 1,000,000)	Minimum required number of SO <sub>2</sub> monitors in CBSA (see Table 2 below)	Present number of SO <sub>2</sub> monitors in CBSA
Boise City, ID	616,561	6,343.77	3911.32	0	1
<sup>1</sup> see <a href="http://www.census.gov/population/metro/data/def.html">http://www.census.gov/population/metro/data/def.html</a> <sup>2</sup> Minimum monitoring requirements apply to the Core Based statistical area (CBSA). CBSA includes both metropolitan and micropolitan statistical areas. <sup>3</sup> Population based on latest available census figures. <sup>4</sup> see <a href="http://www.epa.gov/ttn/chief/eiinformation.html">http://www.epa.gov/ttn/chief/eiinformation.html</a>					

PWEI (Population weighted Emission Index) Value	Require number of SO <sub>2</sub> monitors
>= 1,000,000	3
>= 100,000 but < 1,000,000	2
>= 5,000 but < 100,000	1

**PART 58 APPENDIX D SITE EVALUATION FORM FOR CARBON MONOXIDE (CO)**

APPLICABLE SECTION	REQUIREMENT	OBSERVED	CRITERIA MET?		
			YES	NO	N/A
4.2.1(a)	One CO monitor is required to operate collocated with one required near-road NO <sub>2</sub> monitor in CBSAs having a population of 1,000,000 or more persons. If a CBSA has more than one required near-road NO <sub>2</sub> monitor, only one CO monitor is required to be collocated with a near-road NO <sub>2</sub> monitor within that CBSA.		X*		
4.2.2(a)	Has the EPA Regional Administrator required additional CO monitoring stations above the minimum number of monitors required in 4.2.1? If so, note location in comment field.		X**		

**Comments:**

\*As described in the network plan, DEQ is technically not required to operate a near road site presently, but DEQ chose to continue monitoring at the end of the pilot study to obtain an ongoing data record.

\*\*DEQ has two additional monitors that are required. One is at DEQ's St. Lukes – Meridian, ID N-Core site, and the other one is at DEQ's Boise – Eastman CO maintenance area site.

MSA Description <sup>1</sup>	CBSA population <sup>2,3</sup>	Minimum required number of SLAMS CO sites	Present number of SLAMS CO sites in MSA
Boise City-Nampa, ID MSA	616,561	1 – Near Road* 1 – N-Core** 1 – Maintenance Area**	3

<sup>1</sup>see [http://www2.census.gov/econ/susb/data/msa\\_codes\\_2007\\_to\\_2011.txt](http://www2.census.gov/econ/susb/data/msa_codes_2007_to_2011.txt)

<sup>2</sup>Minimum monitoring requirements apply to the Core Based statistical area (CBSA). CBSA includes both metropolitan and micropolitan statistical areas.

<sup>3</sup>Population based on latest available census figures.

**PART 58 APPENDIX D SITE EVALUATION FORM FOR NITROGEN DIOXIDE (NO<sub>2</sub>)**

APPLICABLE SECTION	REQUIREMENT	CRITERIA MET?		
		YES	NO	N/A
4.3.2(a)	Near-road NO <sub>2</sub> Monitors: One microscale near-road NO <sub>2</sub> monitoring station in each CBSA with a population of 500,000 or more persons.	X*		
4.3.2(a)	Near-road NO <sub>2</sub> Monitors: An additional near-road NO <sub>2</sub> monitoring station is required for any CBSA with a population of 2,500,000 persons, or in any CBSA with a population of 500,000 or more persons that has one or more roadway segments with 250,000 or greater AADT count.			X
4.3.2(b)	Near-road NO <sub>2</sub> Monitors: Measurements at required near-road NO <sub>2</sub> monitor sites utilizing chemiluminescence FRMs must include at a minimum: NO, NO <sub>2</sub> , and NO <sub>x</sub>	X*		
4.3.3(a)	Area-wide NO <sub>2</sub> Monitoring: One monitoring station in each CBSA with a population of 1,000,000 or more persons to monitor a location of expected highest NO <sub>2</sub> concentrations representing the neighborhood or larger spatial scales.			X

**Comments:**

\*As described in the network plan, DEQ is technically not required to operate a near road site presently, but DEQ chose to continue monitoring at the end of the pilot study to obtain an ongoing data record.

CBSA Description <sup>1</sup>	CBSA population <sup>2, 3</sup>	Required number of Near-road NO <sub>2</sub> sites	Present number of Near-road NO <sub>2</sub> sites	Required number of Area-wide NO <sub>2</sub> sites	Present number of Area-wide NO <sub>2</sub> sites
Boise City-Nampa, ID MSA	616,561	1*	1*	0	0

<sup>1</sup>see [http://www2.census.gov/econ/susb/data/msa\\_codes\\_2007\\_to\\_2011.txt](http://www2.census.gov/econ/susb/data/msa_codes_2007_to_2011.txt)  
<sup>2</sup>Minimum monitoring requirements apply to the Core Based statistical area (CBSA). CBSA includes both metropolitan and micropolitan statistical areas.  
<sup>3</sup>Population based on latest available census figures.

**PART 58 APPENDIX D SITE EVALUATION FORM FOR OZONE**

APPLICABLE SECTION	REQUIREMENT	CRITERIA MET?		
		YES	NO	N/A
4.1(b)	At least one O <sub>3</sub> site for each MSA, or CSA if multiple MSAs are involved, must be designed to record the maximum concentration (note location in comment field).	X*		
4.1(c)	The appropriate spatial scales for O <sub>3</sub> sites are neighborhood, urban, and regional (note deviations in comment field).	X		
4.1(f)	Confirm that the monitoring agency consulted with EPA R10 when siting the maximum O <sub>3</sub> concentration site.	X		
4.1(i)	O <sub>3</sub> is being monitored at SLAMS monitoring sites during the “ozone season” as specified in Table D-3 of Appendix D to Part 58.	X		

Comments:

\*DEQ’s White Pine Elementary site in Boise serves as the maximum concentration site.

MSA Description <sup>a</sup>	MSA population <sup>1,2</sup>	Minimum required number of SLAMS O <sub>3</sub> sites (from Table D-2)	Present number of SLAMS O <sub>3</sub> sites in CBSA	
Boise City – Nampa, ID MSA	616,561	2	2	

<sup>a</sup>see [http://www2.census.gov/econ/susb/data/msa\\_codes\\_2007\\_to\\_2011.txt](http://www2.census.gov/econ/susb/data/msa_codes_2007_to_2011.txt)

Table D-2 of Appendix D to Part 58 - SLAMS O<sub>3</sub> Monitoring Minimum Requirements

MSA population <sup>1,2</sup>	Most recent 3-year design value concentrations ≥85% of any O <sub>3</sub> NAAQS <sup>3</sup>	Most recent 3-year design value concentrations <85% of any O <sub>3</sub> NAAQS <sup>3,4</sup>
>10 million	4	2
4-10 million	3	1
350,000-<4 million	2	1
50,000-<350,000 <sup>5</sup>	1	0

<sup>1</sup>Minimum monitoring requirements apply to the Metropolitan statistical area (MSA).

CBSA includes both MSAs and micropolitan statistical areas.

<sup>2</sup>Population based on latest available census figures.

<sup>3</sup>The ozone (O<sub>3</sub>) National Ambient Air Quality Standards (NAAQS) levels and forms are defined in 40 CFR part 50.

<sup>4</sup>These minimum monitoring requirements apply in the absence of a design value.

<sup>5</sup>Metropolitan statistical areas (MSA) must contain an urbanized area of 50,000 or more population.

Table D-3 of Appendix D to Part 58—  
Ozone Monitoring Season by State

State	Begin month	End Month
Alaska	April	October
Idaho	May	September
Oregon	May	September
Washington	May	September

**PART 58 APPENDIX E SITE EVALUATION FORM FOR CO**

SITE NAME Eastman SITE ADDRESS 166 N. 9<sup>th</sup> Street, Boise ID 83702  
 AQS ID 160010014 EVALUATION DATE 5/8/2014 EVALUATOR Leah Arnold – Idaho DEQ

APPLICABLE SECTION	REQUIREMENT	COMMENTS	CRITERIA MET?		
			YES	NO	N/A
2. HORIZONTAL AND VERTICLE PLACEMENT	For neighborhood or larger spatial scale sites the probe must be located 2-15 meters above ground level and must be at least 1 meter vertically or horizontally away from any supporting structure, walls, <i>etc.</i> , and away from dusty or dirty areas. If located near the side of a building or wall, then locate on the windward side relative to the prevailing wind direction during the season of highest concentration potential.		X		
3. SPACING FROM MINOR SOURCES	(a) For neighborhood scale avoid placing the monitor probe inlet near local, minor sources. The source plume should not be allowed to inappropriately impact the air quality data collected at a site.	Eastman is a microscale site.			X
4. SPACING FROM OBSTRUCTIONS	(a) To avoid scavenging, the probe inlet must have unrestricted airflow and be located away from obstacles. The separation distance must be at least twice the height that the obstacle protrudes above the probe inlet (exception is street canyon or source-oriented sites where buildings and other structures are unavoidable).		X		
	(b) The probe inlet must have unrestricted airflow in an arc of at least 180 degrees. This arc must include the predominant wind direction for the season of greatest pollutant concentration potential.		X		
5. SPACING FROM TREES	(a) To reduce possible interference the probe inlet must be at least 10 meters or further from the drip line of trees.			X*	
	(c) No trees should be between source and probe inlet for microscale sites.		X**		
6. SPACING FROM ROADWAYS	2. (b) Microscale CO monitor probes in downtown areas or urban street canyon locations shall be located a minimum distance of 2 meters and a maximum distance of 10 meters from the edge of the nearest traffic lane.			X***	
	2. (c) Microscale CO monitor inlet probes in downtown areas or urban street canyon locations shall be located at least 10 meters from an intersection and preferably at a midblock location.		X		
9. PROBE MATERIAL & RESIDENCE TIME	(a) Sampling train material must be FEP Teflon or borosilicate glass (e.g., Pyrex) for reactive gases.		X		
	(c) Sampling probes for reactive gas monitors at NCore must have a sample residence time less than 20 seconds.		X****		

Are there any changes that might compromise original siting criteria? If so, provide detail in comment section.

**Other Comments:**

\*Probe inlet is approximately 1 meter from tree branch. The City of Boise has worked with DEQ to keep the tree trimmed, but cutting the tree down is not favored.

\*\*Trees are on North and South sides of probe inlet and not the West side where the traffic (CO source) occurs.

\*\*\*Probe inlet is located at approximately 0.5 meters horizontally from nearest traffic lane. DEQ used a lamp post to route, conceal, and protect the probe line in. This lamp post is positioned 0.5 meters from the nearest traffic lane.

\*\*\*\*This site is not an N-Core site. Its sample residence time is longer than 20 seconds.

**PART 58 APPENDIX E SITE EVALUATION FORM FOR CO**

SITE NAME N-Core SITE ADDRESS Eagle Road & I-84, Meridian ID 83642

AQS ID 160010010 EVALUATION DATE 5/8/2014 EVALUATOR Ed Jolly – Idaho DEQ

APPLICABLE SECTION	REQUIREMENT	COMMENTS	CRITERIA MET?		
			YES	NO	N/A
2. HORIZONTAL AND VERTICLE PLACEMENT	For neighborhood or larger spatial scale sites the probe must be located 2-15 meters above ground level and must be at least 1 meter vertically or horizontally away from any supporting structure, walls, <i>etc.</i> , and away from dusty or dirty areas. If located near the side of a building or wall, then locate on the windward side relative to the prevailing wind direction during the season of highest concentration potential.		X		
3. SPACING FROM MINOR SOURCES	(a) For neighborhood scale avoid placing the monitor probe inlet near local, minor sources. The source plume should not be allowed to inappropriately impact the air quality data collected at a site.		X		
4. SPACING FROM OBSTRUCTIONS	(a) To avoid scavenging, the probe inlet must have unrestricted airflow and be located away from obstacles. The separation distance must be at least twice the height that the obstacle protrudes above the probe inlet (exception is street canyon or source-oriented sites where buildings and other structures are unavoidable).		X		
	(b) The probe inlet must have unrestricted airflow in an arc of at least 180 degrees. This arc must include the predominant wind direction for the season of greatest pollutant concentration potential.		X		
5. SPACING FROM TREES	(a) To reduce possible interference the probe inlet must be at least 10 meters or further from the drip line of trees.		X		
	(c) No trees should be between source and probe inlet for microscale sites.	Not a microscale site			X
6. SPACING FROM ROADWAYS	2. (b) Microscale CO monitor probes in downtown areas or urban street canyon locations shall be located a minimum distance of 2 meters and a maximum distance of 10 meters from the edge of the nearest traffic lane.				X
	2. (c) Microscale CO monitor inlet probes in downtown areas or urban street canyon locations shall be located at least 10 meters from an intersection and preferably at a midblock location.				X
9. PROBE MATERIAL & RESIDENCE TIME	(a) Sampling train material must be FEP Teflon or borosilicate glass (e.g., Pyrex) for reactive gases.		X		
	(c) Sampling probes for reactive gas monitors at NCore must have a sample residence time less than 20 seconds.		X		
Are there any changes that might compromise original siting criteria? If so, provide detail in comment section. No.					
Other Comments:					

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

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

**PART 58 APPENDIX E SITE EVALUATION FORM FOR CO**

SITE NAME Near Roadway SITE ADDRESS 1311 East Central Drive, Meridian ID 83642  
 AQS ID 160010023 EVALUATION DATE 5/14/2014 EVALUATOR Ed Jolly – Idaho DEQ

APPLICABLE SECTION	REQUIREMENT	COMMENTS	CRITERIA MET?		
			YES	NO	N/A
2. HORIZONTAL AND VERTICLE PLACEMENT	For neighborhood or larger spatial scale sites the probe must be located 2-15 meters above ground level and must be at least 1 meter vertically or horizontally away from any supporting structure, walls, <i>etc.</i> , and away from dusty or dirty areas. If located near the side of a building or wall, then locate on the windward side relative to the prevailing wind direction during the season of highest concentration potential.		X		
3. SPACING FROM MINOR SOURCES	(a) For neighborhood scale avoid placing the monitor probe inlet near local, minor sources. The source plume should not be allowed to inappropriately impact the air quality data collected at a site.		X		
4. SPACING FROM OBSTRUCTIONS	(a) To avoid scavenging, the probe inlet must have unrestricted airflow and be located away from obstacles. The separation distance must be at least twice the height that the obstacle protrudes above the probe inlet (exception is street canyon or source-oriented sites where buildings and other structures are unavoidable).		X		
	(b) The probe inlet must have unrestricted airflow in an arc of at least 180 degrees. This arc must include the predominant wind direction for the season of greatest pollutant concentration potential.		X		
5. SPACING FROM TREES	(a) To reduce possible interference the probe inlet must be at least 10 meters or further from the drip line of trees.			X*	
	(c) No trees should be between source and probe inlet for microscale sites.		X		
6. SPACING FROM ROADWAYS	2. (b) Microscale CO monitor probes in downtown areas or urban street canyon locations shall be located a minimum distance of 2 meters and a maximum distance of 10 meters from the edge of the nearest traffic lane.				X
	2. (c) Microscale CO monitor inlet probes in downtown areas or urban street canyon locations shall be located at least 10 meters from an intersection and preferably at a midblock location.				X
9. PROBE MATERIAL & RESIDENCE TIME	(a) Sampling train material must be FEP Teflon or borosilicate glass (e.g., Pyrex) for reactive gases.		X		
	(c) Sampling probes for reactive gas monitors at NCore must have a sample residence time less than 20 seconds.		X		
Are there any changes that might compromise original siting criteria? If so, provide detail in comment section. No.					
Other Comments: *Tree is 6.8 meters from inlet. Total height of tree is only approximately 0.5 meters above inlet.					

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

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

PART 58 APPENDIX E SITE EVALUATION FORM FOR NO, NO<sub>x</sub>, NO<sub>2</sub>, and NO<sub>y</sub>

SITE NAME\_ **N-Core** SITE ADDRESS\_ **Eagle Road & I-84, Meridian ID 83642**

AQS ID\_ **160010010** EVALUATION DATE\_ **5/8/2014**

EVALUATOR\_ **Ed Jolly – Idaho DEQ**

APPLICABLE SECTION	REQUIREMENT	COMMENTS	CRITERIA MET?		
			YES	NO	N/A
2. HORIZONTAL AND VERTICLE PLACEMENT	For neighborhood or larger spatial scale sites the probe must be located 2-15 meters above ground level and must be at least 1 meter vertically or horizontally away from any supporting structure, walls, etc., and away from dusty or dirty areas. Microscale near-road NO <sub>2</sub> monitoring sites are required to have sampler inlets between 2 and 7 meters above ground level. If located near the side of a building or wall, then locate the sampler probe on the windward side relative to the prevailing wind direction during the season of highest concentration potential.		X		
3. SPACING FROM MINOR SOURCES	(a) For neighborhood scale and larger avoid placing the monitor probe inlet near local, minor sources. The source plume should not be allowed to inappropriately impact the air quality data collected at a site.		X		
4. SPACING FROM OBSTRUCTIONS	(a) To avoid scavenging, the probe inlet must have unrestricted airflow and be located away from obstacles. The separation distance must be at least twice the height that the obstacle protrudes above the probe inlet.		X		
	(b) The probe inlet must have unrestricted airflow in an arc of at least 180 degrees. This arc must include the predominant wind direction for the season of greatest pollutant concentration potential.		X		
	(d) For near-road NO <sub>2</sub> monitoring stations, the monitor probe shall have an unobstructed air flow, where no obstacles exist at or above the height of the monitor probe, between the monitor probe and the outside nearest edge of the traffic lanes of the target road segment.				X
5. SPACING FROM TREES	(a) To reduce possible interference the probe inlet must be at least 10 meters or further from the drip line of trees.		X		
	(c) No trees should be between source and probe inlet for microscale sites.	Not a microscale site			X
6. SPACING FROM ROADWAYS	See spacing requirements table below		X		
9. PROBE MATERIAL & RESIDENCE TIME	(a) Sampling train material must be FEP Teflon or borosilicate glass (e.g., Pyrex).		X		
	(c) Sampling probes for reactive gas monitors at NCore and at NO <sub>2</sub> sites must have a sample residence time less than 20 seconds.		X		
Are there any changes that might compromise original siting criteria? If so, provide detail in comment section.					
No.					
Other Comments:					

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

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

Roadway average daily traffic, vehicles per day	Minimum distance <sup>1</sup> (meters)	Minimum distance <sup>1,2</sup> (meters)
≤1,000	10	10
10,000	10	20
15,000	20	30
20,000	30	40
40,000	50	60
70,000	100	100
≥110,000	250	250

PART 58 APPENDIX E SITE EVALUATION FORM FOR NO, NO<sub>x</sub>, NO<sub>2</sub>, and NO<sub>y</sub>

SITE NAME Near Roadway SITE ADDRESS 1311 East Central Drive, Meridian ID 83642

AQS ID 160010023 EVALUATION DATE 5/14/2014

EVALUATOR Ed Jolly – Idaho DEQ

APPLICABLE SECTION	REQUIREMENT	COMMENTS	CRITERIA MET?		
			YES	NO	N/A
2. HORIZONTAL AND VERTICLE PLACEMENT	For neighborhood or larger spatial scale sites the probe must be located 2-15 meters above ground level and must be at least 1 meter vertically or horizontally away from any supporting structure, walls, <i>etc.</i> , and away from dusty or dirty areas. Microscale near-road NO <sub>2</sub> monitoring sites are required to have sampler inlets between 2 and 7 meters above ground level. If located near the side of a building or wall, then locate the sampler probe on the windward side relative to the prevailing wind direction during the season of highest concentration potential.		X		
3. SPACING FROM MINOR SOURCES	(a) For neighborhood scale and larger avoid placing the monitor probe inlet near local, minor sources. The source plume should not be allowed to inappropriately impact the air quality data collected at a site.		X		
4. SPACING FROM OBSTRUCTIONS	(a) To avoid scavenging, the probe inlet must have unrestricted airflow and be located away from obstacles. The separation distance must be at least twice the height that the obstacle protrudes above the probe inlet.		X		
	(b) The probe inlet must have unrestricted airflow in an arc of at least 180 degrees. This arc must include the predominant wind direction for the season of greatest pollutant concentration potential.		X		
	(d) For near-road NO <sub>2</sub> monitoring stations, the monitor probe shall have an unobstructed air flow, where no obstacles exist at or above the height of the monitor probe, between the monitor probe and the outside nearest edge of the traffic lanes of the target road segment.		X		
5. SPACING FROM TREES	(a) To reduce possible interference the probe inlet must be at least 10 meters or further from the drip line of trees.			X*	
	(c) No trees should be between source and probe inlet for microscale sites.		X		
6. SPACING FROM ROADWAYS	See spacing requirements table below		X**		
9. PROBE MATERIAL & RESIDENCE TIME	(a) Sampling train material must be FEP Teflon or borosilicate glass (e.g., Pyrex).		X		
	(c) Sampling probes for reactive gas monitors at NCore and at NO <sub>2</sub> sites must have a sample residence time less than 20 seconds.		X		
Are there any changes that might compromise original siting criteria? If so, provide detail in comment section. No.					

Other Comments:

\*Tree is 6.8 meters from inlet. Total height of tree is only approximately 0.5 meters above inlet.

\*\*Meets the near-roadway specific requirements per the near-roadway Technical Assistance Document.

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

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

Roadway average daily traffic, vehicles per day	Minimum distance <sup>1</sup> (meters)	Minimum distance <sup>1,2</sup> (meters)
≤1,000	10	10
10,000	10	20
15,000	20	30
20,000	30	40
40,000	50	60
70,000	100	100
≥110,000	250	250

**PART 58 APPENDIX E SITE EVALUATION FORM FOR O3**

SITE NAME N-Core SITE ADDRESS Eagle Road & I-84, Meridian, ID 83642

AQS ID 160010010 EVALUATION DATE 5/8/2014 EVALUATOR Ed Jolly – Idaho DEQ

APPLICABLE SECTION	REQUIREMENT	COMMENTS	CRITERIA MET?		
			YES	NO	N/A
2. HORIZONTAL AND VERTICLE PLACEMENT	2-15 meters above ground level. 1 meter vertically or horizontally away from any supporting structure, walls, <i>etc.</i> , and away from dusty or dirty areas. If located near the side of a building or wall, then locate on the windward side relative to the prevailing wind direction during the season of highest concentration potential.		X		
3. SPACING FROM MINOR SOURCES	(a) For neighborhood scale avoid placing the monitor probe inlet near local, minor sources. The source plume should not be allowed to inappropriately impact the air quality data collected at a site.		X		
	(b) To minimize scavenging effects, the probe inlet must be away from furnace or incineration flues or other minor sources of SO <sub>2</sub> or NO.		X		
4. SPACING FROM OBSTRUCTIONS	(a) To avoid scavenging, the probe inlet must have unrestricted airflow and be located away from obstacles. The separation distance must be at least twice the height that the obstacle protrudes above the probe inlet.		X		
	(b) The probe inlet must have unrestricted airflow in an arc of at least 180 degrees. This arc must include the predominant wind direction for the season of greatest pollutant concentration potential.		X		
5. SPACING FROM TREES	(a) To reduce possible interference the probe inlet must be at least 10 meters or further from the drip line of trees.		X		
	(c) No trees should be between source and probe inlet for microscale sites.				X*
6. SPACING FROM ROADWAYS	See spacing requirements table below		X		
9. PROBE MATERIAL & RESIDENCE TIME	(a) Sampling train material must be FEP Teflon or borosilicate glass (e.g., Pyrex).		X		
	(c) Sampling probes for reactive gas monitors at NCore must have a sample residence time less than 20 seconds.		X		
Are there any changes that might compromise original siting criteria? If so, provide detail in comment section. No.					
Other Comments: *Not a microscale site.					

Roadway average daily traffic, vehicles per day	Minimum distance <sup>1</sup> (meters)	Minimum distance <sup>1,2</sup> (meters)
≤1,000	10	10
10,000	10	20
15,000	20	30
20,000	30	40
40,000	50	60
70,000	100	100
≥110,000	250	250

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

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

PART 58 APPENDIX E SITE EVALUATION FORM FOR O3

SITE NAME White Pine Elementary SITE ADDRESS 401 E. Linden St., Boise ID 83706  
 AQS ID 160010017 EVALUATION DATE 5/13/2014 EVALUATOR Ed Jolly/Leah Arnold – Idaho DEQ

APPLICABLE SECTION	REQUIREMENT	COMMENTS	CRITERIA MET?		
			YES	NO	N/A
2. HORIZONTAL AND VERTICLE PLACEMENT	2-15 meters above ground level. 1 meter vertically or horizontally away from any supporting structure, walls, <i>etc.</i> , and away from dusty or dirty areas. If located near the side of a building or wall, then locate on the windward side relative to the prevailing wind direction during the season of highest concentration potential.		X		
3. SPACING FROM MINOR SOURCES	(a) For neighborhood scale avoid placing the monitor probe inlet near local, minor sources. The source plume should not be allowed to inappropriately impact the air quality data collected at a site.		X		
	(b) To minimize scavenging effects, the probe inlet must be away from furnace or incineration flues or other minor sources of SO <sub>2</sub> or NO.		X		
4. SPACING FROM OBSTRUCTIONS	(a) To avoid scavenging, the probe inlet must have unrestricted airflow and be located away from obstacles. The separation distance must be at least twice the height that the obstacle protrudes above the probe inlet.		X		
	(b) The probe inlet must have unrestricted airflow in an arc of at least 180 degrees. This arc must include the predominant wind direction for the season of greatest pollutant concentration potential.		X		
5. SPACING FROM TREES	(a) To reduce possible interference the probe inlet must be at least 10 meters or further from the drip line of trees.		X		
	(c) No trees should be between source and probe inlet for microscale sites.				X*
6. SPACING FROM ROADWAYS	See spacing requirements table below		X		
9. PROBE MATERIAL & RESIDENCE TIME	(a) Sampling train material must be FEP Teflon or borosilicate glass (e.g., Pyrex).		X		
	(c) Sampling probes for reactive gas monitors at NCore must have a sample residence time less than 20 seconds.		X		
Are there any changes that might compromise original siting criteria? If so, provide detail in comment section. No.					
Other Comments: *Not a microscale site.					

Roadway average daily traffic, vehicles per day	Minimum distance <sup>1</sup> (meters)	Minimum distance <sup>1,2</sup> (meters)
≤1,000	10	10
10,000	10	20
15,000	20	30
20,000	30	40
40,000	50	60
70,000	100	100
≥110,000	250	250

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

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

PART 58 APPENDIX E SITE EVALUATION FORM FOR SO2

SITE NAME N-Core SITE ADDRESS Eagle Road & I-84, Meridian ID 83642

AQS ID 160010010 EVALUATION DATE 5/8/2014 EVALUATOR Ed Jolly – Idaho DEQ

APPLICABLE SECTION	REQUIREMENT	COMMENTS	CRITERIA MET?		
			YES	NO	N/A
2. HORIZONTAL AND VERTICLE PLACEMENT	2-15 meters above ground level. 1 meter vertically or horizontally away from any supporting structure, walls, <i>etc.</i> , and away from dusty or dirty areas. If located near the side of a building or wall, then locate on the windward side relative to the prevailing wind direction during the season of highest concentration potential.		X		
3. SPACING FROM MINOR SOURCES	(a) For neighborhood scale avoid placing the monitor probe inlet near local, minor sources. The source plume should not be allowed to inappropriately impact the air quality data collected at a site.		X		
4. SPACING FROM OBSTRUCTIONS	(a) To avoid scavenging, the probe inlet must have unrestricted airflow and be located away from obstacles. The separation distance must be at least twice the height that the obstacle protrudes above the probe inlet.		X		
	(b) The probe inlet must have unrestricted airflow in an arc of at least 180 degrees. This arc must include the predominant wind direction for the season of greatest pollutant concentration potential.		X		
5. SPACING FROM TREES	(a) To reduce possible interference the probe inlet must be at least 10 meters or further from the drip line of trees.		X		
	(c) No trees should be between source and probe inlet for microscale sites.	Not a microscale site			X
6. SPACING FROM ROADWAYS	There are no roadway spacing requirements for SO2.				X
9. PROBE MATERIAL & RESIDENCE TIME	(a) Sampling train material must be FEP Teflon or borosilicate glass (e.g., Pyrex).		X		
	(c) Sampling probes for reactive gas monitors at NCore must have a sample residence time less than 20 seconds.		X		
Are there any changes that might compromise original siting criteria? If so, provide detail in comment section. No.					
Other Comments:					

PART 58 APPENDIX E SITE EVALUATION FORM FOR SO2

SITE NAME Pocatello Sewage Treatment Plant SITE ADDRESS Batiste Chubbuck Rd., Pocatello ID 83204  
 AQ5 ID 160050004 EVALUATION DATE 5/14/2014 EVALUATOR Marshall Magee - Idaho DEQ

APPLICABLE SECTION	REQUIREMENT	COMMENTS	CRITERIA MET?		
			YES	NO	N/A
2. HORIZONTAL AND VERTICLE PLACEMENT	2-15 meters above ground level. 1 meter vertically or horizontally away from any supporting structure, walls, <i>etc.</i> , and away from dusty or dirty areas. If located near the side of a building or wall, then locate on the windward side relative to the prevailing wind direction during the season of highest concentration potential.		X		
3. SPACING FROM MINOR SOURCES	(a) For neighborhood scale avoid placing the monitor probe inlet near local, minor sources. The source plume should not be allowed to inappropriately impact the air quality data collected at a site.	Site is Middle Scale.			X
4. SPACING FROM OBSTRUCTIONS	(a) To avoid scavenging, the probe inlet must have unrestricted airflow and be located away from obstacles. The separation distance must be at least twice the height that the obstacle protrudes above the probe inlet.		X		
	(b) The probe inlet must have unrestricted airflow in an arc of at least 180 degrees. This arc must include the predominant wind direction for the season of greatest pollutant concentration potential.		X		
5. SPACING FROM TREES	(a) To reduce possible interference the probe inlet must be at least 10 meters or further from the drip line of trees.		X		
	(c) No trees should be between source and probe inlet for microscale sites.		X		
6. SPACING FROM ROADWAYS	There are no roadway spacing requirements for SO2.				X
9. PROBE MATERIAL & RESIDENCE TIME	(a) Sampling train material must be FEP Teflon or borosilicate glass (e.g., Pyrex).		X		
	(c) Sampling probes for reactive gas monitors at NCore must have a sample residence time less than 20 seconds.		X		
Are there any changes that might compromise original siting criteria? If so, provide detail in comment section. No.					

Other Comments:

PART 58 APPENDIX E SITE EVALUATION FORM FOR SO2

SITE NAME Soda Springs SITE ADDRESS 5-mile Road, Soda Springs ID 83276

AQS ID 160290031 EVALUATION DATE 5/14/2014 EVALUATOR Marshall Magee - Idaho DEQ

APPLICABLE SECTION	REQUIREMENT	COMMENTS	CRITERIA MET?		
			YES	NO	N/A
2. HORIZONTAL AND VERTICLE PLACEMENT	2-15 meters above ground level. 1 meter vertically or horizontally away from any supporting structure, walls, <i>etc.</i> , and away from dusty or dirty areas. If located near the side of a building or wall, then locate on the windward side relative to the prevailing wind direction during the season of highest concentration potential.		X		
3. SPACING FROM MINOR SOURCES	(a) For neighborhood scale avoid placing the monitor probe inlet near local, minor sources. The source plume should not be allowed to inappropriately impact the air quality data collected at a site.	Site is Middle-Micro Scale.			X
4. SPACING FROM OBSTRUCTIONS	(a) To avoid scavenging, the probe inlet must have unrestricted airflow and be located away from obstacles. The separation distance must be at least twice the height that the obstacle protrudes above the probe inlet.		X		
	(b) The probe inlet must have unrestricted airflow in an arc of at least 180 degrees. This arc must include the predominant wind direction for the season of greatest pollutant concentration potential.		X		
5. SPACING FROM TREES	(a) To reduce possible interference the probe inlet must be at least 10 meters or further from the drip line of trees.		X		
	(c) No trees should be between source and probe inlet for microscale sites.		X		
6. SPACING FROM ROADWAYS	There are no roadway spacing requirements for SO2.				X
9. PROBE MATERIAL & RESIDENCE TIME	(a) Sampling train material must be FEP Teflon or borosilicate glass (e.g., Pyrex).		X		
	(c) Sampling probes for reactive gas monitors at NCore must have a sample residence time less than 20 seconds.		X		
Are there any changes that might compromise original siting criteria? If so, provide detail in comment section. No.					

Other Comments:

PART 58 APPENDIX E SITE EVALUATION FORM FOR PM2.5, PM10, PM10-2.5, and Pb

SITE NAME Athol SITE ADDRESS NE corner of Pastime St. and Grove Ave., Athol ID 83801

AQS ID N/A EVALUATION DATE 4/24/2014

EVALUATOR Brian Prisock – Idaho DEQ

APPLICABLE SECTION	REQUIREMENT	COMMENTS	CRITERIA MET?		
			YES	NO	N/A
2. HORIZONTAL AND VERTICLE PLACEMENT	2-15 meters above ground level (AGL) for neighborhood or larger spatial scale, 2-7 meters for microscale spatial scale sites and middle spatial scale PM <sub>10-2.5</sub> sites. 1 meter vertically or horizontally away from any supporting structure, walls, <i>etc.</i> , and away from dusty or dirty areas. If located near the side of a building or wall, then locate on the windward side relative to the prevailing wind direction during the season of highest concentration potential.		X		
3. SPACING FROM MINOR SOURCES	(a) For neighborhood or larger spatial scales avoid placing the monitor near local, minor sources. The source plume should not be allowed to inappropriately impact the air quality data collected at a site. Particulate matter sites should not be located in an unpaved area unless there is vegetative ground cover year round.		X		
4. SPACING FROM OBSTRUCTIONS	(a) To avoid scavenging, the inlet must have unrestricted airflow and be located away from obstacles. The separation distance must be at least twice the height that the obstacle protrudes above the probe inlet.			X*	
	(b) The inlet must have unrestricted airflow in an arc of at least 180 degrees. This arc must include the predominant wind direction for the season of greatest pollutant concentration potential. For particle sampling, a minimum of 2 meters of separation from walls, parapets, and structures is required for rooftop site placement.		X		
5. SPACING FROM TREES	(a) To reduce possible interference the inlet must be at least 10 meters or further from the drip line of trees.		X		
	(c) No trees should be between source and probe inlet for microscale sites.	Not a microscale site			X
6. SPACING FROM ROADWAYS	Spacing from roadways is dependent on the spatial scale and ADT count. See section 6.3(b) and figure E-1 for specific requirements.		X		
Are there any changes that might compromise original siting criteria? No.					
Other Comments: * A pump house is located 2.5 meters away from the monitor. The pump house height is 2.8 meters above the height of the inlet. This monitor (nephelometer) is operated seasonally and is not a SLAMS site. The predominant wind direction during the season of highest pollutant concentration is from the South and not impeded by the pump house.					

**PART 58 APPENDIX E SITE EVALUATION FORM FOR PM2.5, PM10, PM10-2.5, and Pb**

SITE NAME Boise Fire Station SITE ADDRESS 16<sup>th</sup> and Front Street, Boise ID 83702

AQS ID 160010009 EVALUATION DATE 5/8/2014

EVALUATOR Leah Arnold – Idaho DEQ

APPLICABLE SECTION	REQUIREMENT	COMMENTS	CRITERIA MET?		
			YES	NO	N/A
2. HORIZONTAL AND VERTICLE PLACEMENT	2-15 meters above ground level (AGL) for neighborhood or larger spatial scale, 2-7 meters for microscale spatial scale sites and middle spatial scale PM <sub>10-2.5</sub> sites. 1 meter vertically or horizontally away from any supporting structure, walls, <i>etc.</i> , and away from dusty or dirty areas. If located near the side of a building or wall, then locate on the windward side relative to the prevailing wind direction during the season of highest concentration potential.		X		
3. SPACING FROM MINOR SOURCES	(a) For neighborhood or larger spatial scales avoid placing the monitor near local, minor sources. The source plume should not be allowed to inappropriately impact the air quality data collected at a site. Particulate matter sites should not be located in an unpaved area unless there is vegetative ground cover year round.		X		
4. SPACING FROM OBSTRUCTIONS	(a) To avoid scavenging, the inlet must have unrestricted airflow and be located away from obstacles. The separation distance must be at least twice the height that the obstacle protrudes above the probe inlet.		X		
	(b) The inlet must have unrestricted airflow in an arc of at least 180 degrees. This arc must include the predominant wind direction for the season of greatest pollutant concentration potential. For particle sampling, a minimum of 2 meters of separation from walls, parapets, and structures is required for rooftop site placement.		X		
5. SPACING FROM TREES	(a) To reduce possible interference the inlet must be at least 10 meters or further from the drip line of trees.		X		
	(c) No trees should be between source and probe inlet for microscale sites.	Not a microscale site			X
6. SPACING FROM ROADWAYS	Spacing from roadways is dependent on the spatial scale and ADT count. See section 6.3(b) and figure E-1 for specific requirements.		X		
Are there any changes that might compromise original siting criteria? No.					
Other Comments:					

PART 58 APPENDIX E SITE EVALUATION FORM FOR PM2.5, PM10, PM10-2.5, and Pb

SITE NAME Cottonwood SITE ADDRESS BLM Field Office – 1 Butte Dr., Cottonwood ID 83522

AQS ID N/A EVALUATION DATE 4/24/2014

EVALUATOR Zac Bishop – Idaho DEQ

APPLICABLE SECTION	REQUIREMENT	COMMENTS	CRITERIA MET?		
			YES	NO	N/A
2. HORIZONTAL AND VERTICLE PLACEMENT	2-15 meters above ground level (AGL) for neighborhood or larger spatial scale, 2-7 meters for microscale spatial scale sites and middle spatial scale PM <sub>10-2.5</sub> sites. 1 meter vertically or horizontally away from any supporting structure, walls, <i>etc.</i> , and away from dusty or dirty areas. If located near the side of a building or wall, then locate on the windward side relative to the prevailing wind direction during the season of highest concentration potential.		X		
3. SPACING FROM MINOR SOURCES	(a) For neighborhood or larger spatial scales avoid placing the monitor near local, minor sources. The source plume should not be allowed to inappropriately impact the air quality data collected at a site. Particulate matter sites should not be located in an unpaved area unless there is vegetative ground cover year round.		X		
4. SPACING FROM OBSTRUCTIONS	(a) To avoid scavenging, the inlet must have unrestricted airflow and be located away from obstacles. The separation distance must be at least twice the height that the obstacle protrudes above the probe inlet.			X*	
	(b) The inlet must have unrestricted airflow in an arc of at least 180 degrees. This arc must include the predominant wind direction for the season of greatest pollutant concentration potential. For particle sampling, a minimum of 2 meters of separation from walls, parapets, and structures is required for rooftop site placement.		X		
5. SPACING FROM TREES	(a) To reduce possible interference the inlet must be at least 10 meters or further from the drip line of trees.			X**	
	(c) No trees should be between source and probe inlet for microscale sites.	Not a microscale site			X
6. SPACING FROM ROADWAYS	Spacing from roadways is dependent on the spatial scale and ADT count. See section 6.3(b) and figure E-1 for specific requirements.		X		
Are there any changes that might compromise original siting criteria? No.					
<p>Other Comments:</p> <p>* A tree is located 6 meters away from the monitor. The tree height is 7 meters above the height of the inlet. This monitor (nephelometer) is operated seasonally and is not a SLAMS site. The predominant wind direction during the season of highest pollutant concentration is not impeded by the tree.</p> <p>**The monitor is approximately 6 meters from the drip line of a tree.</p>					

PART 58 APPENDIX E SITE EVALUATION FORM FOR PM2.5, PM10, PM10-2.5, and Pb

SITE NAME Franklin SITE ADDRESS East 4800 South Road, Franklin ID 83237

AQS ID 160410001 EVALUATION DATE 5/14/2014

EVALUATOR Marshall Magee – Idaho DEQ

APPLICABLE SECTION	REQUIREMENT	COMMENTS	CRITERIA MET?		
			YES	NO	N/A
2. HORIZONTAL AND VERTICLE PLACEMENT	2-15 meters above ground level (AGL) for neighborhood or larger spatial scale, 2-7 meters for microscale spatial scale sites and middle spatial scale PM <sub>10-2.5</sub> sites. 1 meter vertically or horizontally away from any supporting structure, walls, <i>etc.</i> , and away from dusty or dirty areas. If located near the side of a building or wall, then locate on the windward side relative to the prevailing wind direction during the season of highest concentration potential.		X		
3. SPACING FROM MINOR SOURCES	(a) For neighborhood or larger spatial scales avoid placing the monitor near local, minor sources. The source plume should not be allowed to inappropriately impact the air quality data collected at a site. Particulate matter sites should not be located in an unpaved area unless there is vegetative ground cover year round.		X		
4. SPACING FROM OBSTRUCTIONS	(a) To avoid scavenging, the inlet must have unrestricted airflow and be located away from obstacles. The separation distance must be at least twice the height that the obstacle protrudes above the probe inlet.		X		
	(b) The inlet must have unrestricted airflow in an arc of at least 180 degrees. This arc must include the predominant wind direction for the season of greatest pollutant concentration potential. For particle sampling, a minimum of 2 meters of separation from walls, parapets, and structures is required for rooftop site placement.		X		
5. SPACING FROM TREES	(a) To reduce possible interference the inlet must be at least 10 meters or further from the drip line of trees.		X		
	(c) No trees should be between source and probe inlet for microscale sites.	Not a microscale site			X
6. SPACING FROM ROADWAYS	Spacing from roadways is dependent on the spatial scale and ADT count. See section 6.3(b) and figure E-1 for specific requirements.		X		
Are there any changes that might compromise original siting criteria? No.					
Other Comments:					

PART 58 APPENDIX E SITE EVALUATION FORM FOR PM2.5, PM10, PM10-2.5, and Pb

SITE NAME Garden Valley SITE ADDRESS 946 Banks Lowman Rd., Garden Valley ID 83622

AQS ID 160150002 EVALUATION DATE 5/13/2014

EVALUATOR Ed Jolly – Idaho DEQ

APPLICABLE SECTION	REQUIREMENT	COMMENTS	CRITERIA MET?		
			YES	NO	N/A
2. HORIZONTAL AND VERTICLE PLACEMENT	2-15 meters above ground level (AGL) for neighborhood or larger spatial scale, 2-7 meters for microscale spatial scale sites and middle spatial scale PM <sub>10-2.5</sub> sites. 1 meter vertically or horizontally away from any supporting structure, walls, etc., and away from dusty or dirty areas. If located near the side of a building or wall, then locate on the windward side relative to the prevailing wind direction during the season of highest concentration potential.		X		
3. SPACING FROM MINOR SOURCES	(a) For neighborhood or larger spatial scales avoid placing the monitor near local, minor sources. The source plume should not be allowed to inappropriately impact the air quality data collected at a site. Particulate matter sites should not be located in an unpaved area unless there is vegetative ground cover year round.		X		
4. SPACING FROM OBSTRUCTIONS	(a) To avoid scavenging, the inlet must have unrestricted airflow and be located away from obstacles. The separation distance must be at least twice the height that the obstacle protrudes above the probe inlet.		X		
	(b) The inlet must have unrestricted airflow in an arc of at least 180 degrees. This arc must include the predominant wind direction for the season of greatest pollutant concentration potential. For particle sampling, a minimum of 2 meters of separation from walls, parapets, and structures is required for rooftop site placement.		X		
5. SPACING FROM TREES	(a) To reduce possible interference the inlet must be at least 10 meters or further from the drip line of trees.		X		
	(c) No trees should be between source and probe inlet for microscale sites.	Not a microscale site			X
6. SPACING FROM ROADWAYS	Spacing from roadways is dependent on the spatial scale and ADT count. See section 6.3(b) and figure E-1 for specific requirements.		X		
Are there any changes that might compromise original siting criteria? No.					
Other Comments:					

PART 58 APPENDIX E SITE EVALUATION FORM FOR PM2.5, PM10, PM10-2.5, and Pb

SITE NAME Garwood SITE ADDRESS 17506 N. Ramsey Rd., Rathdrum ID 83858

AQS ID N/A EVALUATION DATE 4/24/2014

EVALUATOR Brian Prisock – Idaho DEQ

APPLICABLE SECTION	REQUIREMENT	COMMENTS	CRITERIA MET?		
			YES	NO	N/A
2. HORIZONTAL AND VERTICLE PLACEMENT	2-15 meters above ground level (AGL) for neighborhood or larger spatial scale, 2-7 meters for microscale spatial scale sites and middle spatial scale PM <sub>10-2.5</sub> sties. 1 meter vertically or horizontally away from any supporting structure, walls, <i>etc.</i> , and away from dusty or dirty areas. If located near the side of a building or wall, then locate on the windward side relative to the prevailing wind direction during the season of highest concentration potential.		X		
3. SPACING FROM MINOR SOURCES	(a) For neighborhood or larger spatial scales avoid placing the monitor near local, minor sources. The source plume should not be allowed to inappropriately impact the air quality data collected at a site. Particulate matter sites should not be located in an unpaved area unless there is vegetative ground cover year round.		X		
4. SPACING FROM OBSTRUCTIONS	(a) To avoid scavenging, the inlet must have unrestricted airflow and be located away from obstacles. The separation distance must be at least twice the height that the obstacle protrudes above the probe inlet.			X*	
	(b) The inlet must have unrestricted airflow in an arc of at least 180 degrees. This arc must include the predominant wind direction for the season of greatest pollutant concentration potential. For particle sampling, a minimum of 2 meters of separation from walls, parapets, and structures is required for rooftop site placement.		X		
5. SPACING FROM TREES	(a) To reduce possible interference the inlet must be at least 10 meters or further from the drip line of trees.		X		
	(c) No trees should be between source and probe inlet for microscale sites.	Not a microscale site			X
6. SPACING FROM ROADWAYS	Spacing from roadways is dependent on the spatial scale and ADT count. See section 6.3(b) and figure E-1 for specific requirements.		X		
Are there any changes that might compromise original siting criteria? No.					
Other Comments: *The monitor is located on school grounds as a way to assess pollutants at a site with sensitive populations. This monitor (nephelometer) is operated seasonally and is not a SLAMS site. The predominant wind direction during the season of highest pollutant concentration is from the West and not impeded by the school building.					

PART 58 APPENDIX E SITE EVALUATION FORM FOR PM2.5, PM10, PM10-2.5, and Pb

SITE NAME Grangeville SITE ADDRESS USFS Compound – Grangeville ID 83530

AQS ID 160490002 EVALUATION DATE 5/1/2014

EVALUATOR Zac Bishop – Idaho DEQ

APPLICABLE SECTION	REQUIREMENT	COMMENTS	CRITERIA MET?		
			YES	NO	N/A
2. HORIZONTAL AND VERTICLE PLACEMENT	2-15 meters above ground level (AGL) for neighborhood or larger spatial scale, 2-7 meters for microscale spatial scale sites and middle spatial scale PM <sub>10-2.5</sub> sites. 1 meter vertically or horizontally away from any supporting structure, walls, <i>etc.</i> , and away from dusty or dirty areas. If located near the side of a building or wall, then locate on the windward side relative to the prevailing wind direction during the season of highest concentration potential.		X		
3. SPACING FROM MINOR SOURCES	(a) For neighborhood or larger spatial scales avoid placing the monitor near local, minor sources. The source plume should not be allowed to inappropriately impact the air quality data collected at a site. Particulate matter sites should not be located in an unpaved area unless there is vegetative ground cover year round.		X		
4. SPACING FROM OBSTRUCTIONS	(a) To avoid scavenging, the inlet must have unrestricted airflow and be located away from obstacles. The separation distance must be at least twice the height that the obstacle protrudes above the probe inlet.		X		
	(b) The inlet must have unrestricted airflow in an arc of at least 180 degrees. This arc must include the predominant wind direction for the season of greatest pollutant concentration potential. For particle sampling, a minimum of 2 meters of separation from walls, parapets, and structures is required for rooftop site placement.		X		
5. SPACING FROM TREES	(a) To reduce possible interference the inlet must be at least 10 meters or further from the drip line of trees.		X		
	(c) No trees should be between source and probe inlet for microscale sites.	Not a microscale site			X
6. SPACING FROM ROADWAYS	Spacing from roadways is dependent on the spatial scale and ADT count. See section 6.3(b) and figure E-1 for specific requirements.		X		
Are there any changes that might compromise original siting criteria? No.					
Other Comments:					

PART 58 APPENDIX E SITE EVALUATION FORM FOR PM2.5, PM10, PM10-2.5, and Pb

SITE NAME Idaho City SITE ADDRESS 3851 Hwy 21, Idaho City ID 83631

AQS ID 160150001 EVALUATION DATE 5/13/2014

EVALUATOR Ed Jolly – Idaho DEQ

APPLICABLE SECTION	REQUIREMENT	COMMENTS	CRITERIA MET?		
			YES	NO	N/A
2. HORIZONTAL AND VERTICLE PLACEMENT	2-15 meters above ground level (AGL) for neighborhood or larger spatial scale, 2-7 meters for microscale spatial scale sites and middle spatial scale PM <sub>10-2.5</sub> sites. 1 meter vertically or horizontally away from any supporting structure, walls, <i>etc.</i> , and away from dusty or dirty areas. If located near the side of a building or wall, then locate on the windward side relative to the prevailing wind direction during the season of highest concentration potential.		X		
3. SPACING FROM MINOR SOURCES	(a) For neighborhood or larger spatial scales avoid placing the monitor near local, minor sources. The source plume should not be allowed to inappropriately impact the air quality data collected at a site. Particulate matter sites should not be located in an unpaved area unless there is vegetative ground cover year round.		X		
4. SPACING FROM OBSTRUCTIONS	(a) To avoid scavenging, the inlet must have unrestricted airflow and be located away from obstacles. The separation distance must be at least twice the height that the obstacle protrudes above the probe inlet.		X		
	(b) The inlet must have unrestricted airflow in an arc of at least 180 degrees. This arc must include the predominant wind direction for the season of greatest pollutant concentration potential. For particle sampling, a minimum of 2 meters of separation from walls, parapets, and structures is required for rooftop site placement.		X		
5. SPACING FROM TREES	(a) To reduce possible interference the inlet must be at least 10 meters or further from the drip line of trees.		X		
	(c) No trees should be between source and probe inlet for microscale sites.	Not a microscale site			X
6. SPACING FROM ROADWAYS	Spacing from roadways is dependent on the spatial scale and ADT count. See section 6.3(b) and figure E-1 for specific requirements.		X		
Are there any changes that might compromise original siting criteria? No.					
Other Comments:					

PART 58 APPENDIX E SITE EVALUATION FORM FOR PM2.5, PM10, PM10-2.5, and Pb

SITE NAME Idaho Falls SITE ADDRESS Hickory and Sycamore Streets, Idaho Falls ID 83402

AQS ID 160190011 EVALUATION DATE 5/12/2014

EVALUATOR Ryan Rossi – Idaho DEQ

APPLICABLE SECTION	REQUIREMENT	COMMENTS	CRITERIA MET?		
			YES	NO	N/A
2. HORIZONTAL AND VERTICLE PLACEMENT	2-15 meters above ground level (AGL) for neighborhood or larger spatial scale, 2-7 meters for microscale spatial scale sites and middle spatial scale PM <sub>10-2.5</sub> sites. 1 meter vertically or horizontally away from any supporting structure, walls, <i>etc.</i> , and away from dusty or dirty areas. If located near the side of a building or wall, then locate on the windward side relative to the prevailing wind direction during the season of highest concentration potential.		X		
3. SPACING FROM MINOR SOURCES	(a) For neighborhood or larger spatial scales avoid placing the monitor near local, minor sources. The source plume should not be allowed to inappropriately impact the air quality data collected at a site. Particulate matter sites should not be located in an unpaved area unless there is vegetative ground cover year round.		X		
4. SPACING FROM OBSTRUCTIONS	(a) To avoid scavenging, the inlet must have unrestricted airflow and be located away from obstacles. The separation distance must be at least twice the height that the obstacle protrudes above the probe inlet.		X		
	(b) The inlet must have unrestricted airflow in an arc of at least 180 degrees. This arc must include the predominant wind direction for the season of greatest pollutant concentration potential. For particle sampling, a minimum of 2 meters of separation from walls, parapets, and structures is required for rooftop site placement.		X		
5. SPACING FROM TREES	(a) To reduce possible interference the inlet must be at least 10 meters or further from the drip line of trees.		X		
	(c) No trees should be between source and probe inlet for microscale sites.	Not a microscale site			X
6. SPACING FROM ROADWAYS	Spacing from roadways is dependent on the spatial scale and ADT count. See section 6.3(b) and figure E-1 for specific requirements.		X		
Are there any changes that might compromise original siting criteria? No.					
Other Comments:					

PART 58 APPENDIX E SITE EVALUATION FORM FOR PM2.5, PM10, PM10-2.5, and Pb

SITE NAME Kendrick SITE ADDRESS Kendrick Pump Station, Kendrick ID 83537

AQS ID N/A EVALUATION DATE 4/24/2014

EVALUATOR Zac Bishop – Idaho DEQ

APPLICABLE SECTION	REQUIREMENT	COMMENTS	CRITERIA MET?		
			YES	NO	N/A
2. HORIZONTAL AND VERTICLE PLACEMENT	2-15 meters above ground level (AGL) for neighborhood or larger spatial scale, 2-7 meters for microscale spatial scale sites and middle spatial scale PM <sub>10-2.5</sub> sites. 1 meter vertically or horizontally away from any supporting structure, walls, etc., and away from dusty or dirty areas. If located near the side of a building or wall, then locate on the windward side relative to the prevailing wind direction during the season of highest concentration potential.		X		
3. SPACING FROM MINOR SOURCES	(a) For neighborhood or larger spatial scales avoid placing the monitor near local, minor sources. The source plume should not be allowed to inappropriately impact the air quality data collected at a site. Particulate matter sites should not be located in an unpaved area unless there is vegetative ground cover year round.		X		
4. SPACING FROM OBSTRUCTIONS	(a) To avoid scavenging, the inlet must have unrestricted airflow and be located away from obstacles. The separation distance must be at least twice the height that the obstacle protrudes above the probe inlet.		X		
	(b) The inlet must have unrestricted airflow in an arc of at least 180 degrees. This arc must include the predominant wind direction for the season of greatest pollutant concentration potential. For particle sampling, a minimum of 2 meters of separation from walls, parapets, and structures is required for rooftop site placement.		X		
5. SPACING FROM TREES	(a) To reduce possible interference the inlet must be at least 10 meters or further from the drip line of trees.			X*	
	(c) No trees should be between source and probe inlet for microscale sites.	Not a microscale site			X
6. SPACING FROM ROADWAYS	Spacing from roadways is dependent on the spatial scale and ADT count. See section 6.3(b) and figure E-1 for specific requirements.		X		
Are there any changes that might compromise original siting criteria? No.					
Other Comments: *The monitor is approximately 8 meters from the drip line of a tree.					

PART 58 APPENDIX E SITE EVALUATION FORM FOR PM2.5, PM10, PM10-2.5, and Pb

SITE NAME Ketchum SITE ADDRESS 111 West 8<sup>th</sup> Street, Ketchum ID 83340

AQS ID 160130004 EVALUATION DATE 4/28/2014

EVALUATOR Tami Aslett/Drew Jones – Idaho DEQ

APPLICABLE SECTION	REQUIREMENT	COMMENTS	CRITERIA MET?		
			YES	NO	N/A
2. HORIZONTAL AND VERTICLE PLACEMENT	2-15 meters above ground level (AGL) for neighborhood or larger spatial scale, 2-7 meters for microscale spatial scale sites and middle spatial scale PM <sub>10-2.5</sub> sites. 1 meter vertically or horizontally away from any supporting structure, walls, <i>etc.</i> , and away from dusty or dirty areas. If located near the side of a building or wall, then locate on the windward side relative to the prevailing wind direction during the season of highest concentration potential.		X		
3. SPACING FROM MINOR SOURCES	(a) For neighborhood or larger spatial scales avoid placing the monitor near local, minor sources. The source plume should not be allowed to inappropriately impact the air quality data collected at a site. Particulate matter sites should not be located in an unpaved area unless there is vegetative ground cover year round.		X		
4. SPACING FROM OBSTRUCTIONS	(a) To avoid scavenging, the inlet must have unrestricted airflow and be located away from obstacles. The separation distance must be at least twice the height that the obstacle protrudes above the probe inlet.		X		
	(b) The inlet must have unrestricted airflow in an arc of at least 180 degrees. This arc must include the predominant wind direction for the season of greatest pollutant concentration potential. For particle sampling, a minimum of 2 meters of separation from walls, parapets, and structures is required for rooftop site placement.		X		
5. SPACING FROM TREES	(a) To reduce possible interference the inlet must be at least 10 meters or further from the drip line of trees.		X		
	(c) No trees should be between source and probe inlet for microscale sites.	Not a microscale site			X
6. SPACING FROM ROADWAYS	Spacing from roadways is dependent on the spatial scale and ADT count. See section 6.3(b) and figure E-1 for specific requirements.		X		
Are there any changes that might compromise original siting criteria? No.					
Other Comments:					

PART 58 APPENDIX E SITE EVALUATION FORM FOR PM2.5, PM10, PM10-2.5, and Pb

SITE NAME Lancaster SITE ADDRESS West Lancaster Rd., Hayden, ID 83835

AQS ID 160550003 EVALUATION DATE 4/22/2014

EVALUATOR Shawn Sweetapple – Idaho DEQ

APPLICABLE SECTION	REQUIREMENT	COMMENTS	CRITERIA MET?		
			YES	NO	N/A
2. HORIZONTAL AND VERTICLE PLACEMENT	2-15 meters above ground level (AGL) for neighborhood or larger spatial scale, 2-7 meters for microscale spatial scale sites and middle spatial scale PM <sub>10-2.5</sub> sites. 1 meter vertically or horizontally away from any supporting structure, walls, <i>etc.</i> , and away from dusty or dirty areas. If located near the side of a building or wall, then locate on the windward side relative to the prevailing wind direction during the season of highest concentration potential.		X		
3. SPACING FROM MINOR SOURCES	(a) For neighborhood or larger spatial scales avoid placing the monitor near local, minor sources. The source plume should not be allowed to inappropriately impact the air quality data collected at a site. Particulate matter sites should not be located in an unpaved area unless there is vegetative ground cover year round.		X		
4. SPACING FROM OBSTRUCTIONS	(a) To avoid scavenging, the inlet must have unrestricted airflow and be located away from obstacles. The separation distance must be at least twice the height that the obstacle protrudes above the probe inlet.		X		
	(b) The inlet must have unrestricted airflow in an arc of at least 180 degrees. This arc must include the predominant wind direction for the season of greatest pollutant concentration potential. For particle sampling, a minimum of 2 meters of separation from walls, parapets, and structures is required for rooftop site placement.		X		
5. SPACING FROM TREES	(a) To reduce possible interference the inlet must be at least 10 meters or further from the drip line of trees.		X		
	(c) No trees should be between source and probe inlet for microscale sites.	Not a microscale site			X
6. SPACING FROM ROADWAYS	Spacing from roadways is dependent on the spatial scale and ADT count. See section 6.3(b) and figure E-1 for specific requirements.		X		
Are there any changes that might compromise original siting criteria? No.					
Other Comments:					

PART 58 APPENDIX E SITE EVALUATION FORM FOR PM2.5, PM10, PM10-2.5, and Pb

SITE NAME Lewiston SITE ADDRESS 1200 29<sup>th</sup> Street, Lewiston ID 83501

AQS ID 160690012 EVALUATION DATE 5/8/2014

EVALUATOR Zac Bishop – Idaho DEQ

APPLICABLE SECTION	REQUIREMENT	COMMENTS	CRITERIA MET?		
			YES	NO	N/A
2. HORIZONTAL AND VERTICLE PLACEMENT	2-15 meters above ground level (AGL) for neighborhood or larger spatial scale, 2-7 meters for microscale spatial scale sites and middle spatial scale PM <sub>10-2.5</sub> sites. 1 meter vertically or horizontally away from any supporting structure, walls, <i>etc.</i> , and away from dusty or dirty areas. If located near the side of a building or wall, then locate on the windward side relative to the prevailing wind direction during the season of highest concentration potential.		X		
3. SPACING FROM MINOR SOURCES	(a) For neighborhood or larger spatial scales avoid placing the monitor near local, minor sources. The source plume should not be allowed to inappropriately impact the air quality data collected at a site. Particulate matter sites should not be located in an unpaved area unless there is vegetative ground cover year round.		X		
4. SPACING FROM OBSTRUCTIONS	(a) To avoid scavenging, the inlet must have unrestricted airflow and be located away from obstacles. The separation distance must be at least twice the height that the obstacle protrudes above the probe inlet.		X		
	(b) The inlet must have unrestricted airflow in an arc of at least 180 degrees. This arc must include the predominant wind direction for the season of greatest pollutant concentration potential. For particle sampling, a minimum of 2 meters of separation from walls, parapets, and structures is required for rooftop site placement.		X		
5. SPACING FROM TREES	(a) To reduce possible interference the inlet must be at least 10 meters or further from the drip line of trees.		X		
	(c) No trees should be between source and probe inlet for microscale sites.	Not a microscale site			X
6. SPACING FROM ROADWAYS	Spacing from roadways is dependent on the spatial scale and ADT count. See section 6.3(b) and figure E-1 for specific requirements.		X		
Are there any changes that might compromise original siting criteria? No.					
Other Comments:					

PART 58 APPENDIX E SITE EVALUATION FORM FOR PM2.5, PM10, PM10-2.5, and Pb

SITE NAME McCall SITE ADDRESS 500 N. Mission Street, McCall ID 83638

AQS ID 160850002 EVALUATION DATE 5/13/2014

EVALUATOR Matt Garringer – Idaho DEQ

APPLICABLE SECTION	REQUIREMENT	COMMENTS	CRITERIA MET?		
			YES	NO	N/A
2. HORIZONTAL AND VERTICLE PLACEMENT	2-15 meters above ground level (AGL) for neighborhood or larger spatial scale, 2-7 meters for microscale spatial scale sites and middle spatial scale PM <sub>10-2.5</sub> sites. 1 meter vertically or horizontally away from any supporting structure, walls, <i>etc.</i> , and away from dusty or dirty areas. If located near the side of a building or wall, then locate on the windward side relative to the prevailing wind direction during the season of highest concentration potential.		X		
3. SPACING FROM MINOR SOURCES	(a) For neighborhood or larger spatial scales avoid placing the monitor near local, minor sources. The source plume should not be allowed to inappropriately impact the air quality data collected at a site. Particulate matter sites should not be located in an unpaved area unless there is vegetative ground cover year round.		X		
4. SPACING FROM OBSTRUCTIONS	(a) To avoid scavenging, the inlet must have unrestricted airflow and be located away from obstacles. The separation distance must be at least twice the height that the obstacle protrudes above the probe inlet.		X		
	(b) The inlet must have unrestricted airflow in an arc of at least 180 degrees. This arc must include the predominant wind direction for the season of greatest pollutant concentration potential. For particle sampling, a minimum of 2 meters of separation from walls, parapets, and structures is required for rooftop site placement.		X		
5. SPACING FROM TREES	(a) To reduce possible interference the inlet must be at least 10 meters or further from the drip line of trees.			X*	
	(c) No trees should be between source and probe inlet for microscale sites.	Not a microscale site			X
6. SPACING FROM ROADWAYS	Spacing from roadways is dependent on the spatial scale and ADT count. See section 6.3(b) and figure E-1 for specific requirements.		X		
Are there any changes that might compromise original siting criteria? No.					
Other Comments: *Small tree is located at 8.7 meters away from monitor.					

PART 58 APPENDIX E SITE EVALUATION FORM FOR PM2.5, PM10, PM10-2.5, and Pb

SITE NAME Moscow SITE ADDRESS 1025 Plant Sciences Rd., Moscow ID 83843

AQS ID 160570005 EVALUATION DATE 5/2/2014

EVALUATOR Zac Bishop – Idaho DEQ

APPLICABLE SECTION	REQUIREMENT	COMMENTS	CRITERIA MET?		
			YES	NO	N/A
2. HORIZONTAL AND VERTICLE PLACEMENT	2-15 meters above ground level (AGL) for neighborhood or larger spatial scale, 2-7 meters for microscale spatial scale sites and middle spatial scale PM <sub>10-2.5</sub> sites. 1 meter vertically or horizontally away from any supporting structure, walls, <i>etc.</i> , and away from dusty or dirty areas. If located near the side of a building or wall, then locate on the windward side relative to the prevailing wind direction during the season of highest concentration potential.		X		
3. SPACING FROM MINOR SOURCES	(a) For neighborhood or larger spatial scales avoid placing the monitor near local, minor sources. The source plume should not be allowed to inappropriately impact the air quality data collected at a site. Particulate matter sites should not be located in an unpaved area unless there is vegetative ground cover year round.		X		
4. SPACING FROM OBSTRUCTIONS	(a) To avoid scavenging, the inlet must have unrestricted airflow and be located away from obstacles. The separation distance must be at least twice the height that the obstacle protrudes above the probe inlet.		X		
	(b) The inlet must have unrestricted airflow in an arc of at least 180 degrees. This arc must include the predominant wind direction for the season of greatest pollutant concentration potential. For particle sampling, a minimum of 2 meters of separation from walls, parapets, and structures is required for rooftop site placement.		X		
5. SPACING FROM TREES	(a) To reduce possible interference the inlet must be at least 10 meters or further from the drip line of trees.		X		
	(c) No trees should be between source and probe inlet for microscale sites.	Not a microscale site			X
6. SPACING FROM ROADWAYS	Spacing from roadways is dependent on the spatial scale and ADT count. See section 6.3(b) and figure E-1 for specific requirements.		X		
Are there any changes that might compromise original siting criteria? No.					
Other Comments:					

PART 58 APPENDIX E SITE EVALUATION FORM FOR PM2.5, PM10, PM10-2.5, and Pb

SITE NAME Mt. Hall SITE ADDRESS 1275 Idaho 1, Bonners Ferry ID 83805

AQS ID N/A EVALUATION DATE 4/24/2014

EVALUATOR Brian Prisock – Idaho DEQ

APPLICABLE SECTION	REQUIREMENT	COMMENTS	CRITERIA MET?		
			YES	NO	N/A
2. HORIZONTAL AND VERTICLE PLACEMENT	2-15 meters above ground level (AGL) for neighborhood or larger spatial scale, 2-7 meters for microscale spatial scale sites and middle spatial scale PM <sub>10-2.5</sub> sites. 1 meter vertically or horizontally away from any supporting structure, walls, <i>etc.</i> , and away from dusty or dirty areas. If located near the side of a building or wall, then locate on the windward side relative to the prevailing wind direction during the season of highest concentration potential.		X		
3. SPACING FROM MINOR SOURCES	(a) For neighborhood or larger spatial scales avoid placing the monitor near local, minor sources. The source plume should not be allowed to inappropriately impact the air quality data collected at a site. Particulate matter sites should not be located in an unpaved area unless there is vegetative ground cover year round.		X		
4. SPACING FROM OBSTRUCTIONS	(a) To avoid scavenging, the inlet must have unrestricted airflow and be located away from obstacles. The separation distance must be at least twice the height that the obstacle protrudes above the probe inlet.		X		
	(b) The inlet must have unrestricted airflow in an arc of at least 180 degrees. This arc must include the predominant wind direction for the season of greatest pollutant concentration potential. For particle sampling, a minimum of 2 meters of separation from walls, parapets, and structures is required for rooftop site placement.		X		
5. SPACING FROM TREES	(a) To reduce possible interference the inlet must be at least 10 meters or further from the drip line of trees.		X		
	(c) No trees should be between source and probe inlet for microscale sites.	Not a microscale site			X
6. SPACING FROM ROADWAYS	Spacing from roadways is dependent on the spatial scale and ADT count. See section 6.3(b) and figure E-1 for specific requirements.		X		
Are there any changes that might compromise original siting criteria? No.					
Other Comments:					

PART 58 APPENDIX E SITE EVALUATION FORM FOR PM2.5, PM10, PM10-2.5, and Pb

SITE NAME Nampa SITE ADDRESS Nampa Fire Station – 923 1<sup>st</sup> Street South, Nampa ID 83651

AQS ID 160270002 EVALUATION DATE 5/12/2014

EVALUATOR Matt Garringer – Idaho DEQ

APPLICABLE SECTION	REQUIREMENT	COMMENTS	CRITERIA MET?		
			YES	NO	N/A
2. HORIZONTAL AND VERTICLE PLACEMENT	2-15 meters above ground level (AGL) for neighborhood or larger spatial scale, 2-7 meters for microscale spatial scale sites and middle spatial scale PM <sub>10-2.5</sub> sites. 1 meter vertically or horizontally away from any supporting structure, walls, <i>etc.</i> , and away from dusty or dirty areas. If located near the side of a building or wall, then locate on the windward side relative to the prevailing wind direction during the season of highest concentration potential.		X		
3. SPACING FROM MINOR SOURCES	(a) For neighborhood or larger spatial scales avoid placing the monitor near local, minor sources. The source plume should not be allowed to inappropriately impact the air quality data collected at a site. Particulate matter sites should not be located in an unpaved area unless there is vegetative ground cover year round.		X		
4. SPACING FROM OBSTRUCTIONS	(a) To avoid scavenging, the inlet must have unrestricted airflow and be located away from obstacles. The separation distance must be at least twice the height that the obstacle protrudes above the probe inlet.		X		
	(b) The inlet must have unrestricted airflow in an arc of at least 180 degrees. This arc must include the predominant wind direction for the season of greatest pollutant concentration potential. For particle sampling, a minimum of 2 meters of separation from walls, parapets, and structures is required for rooftop site placement.		X		
5. SPACING FROM TREES	(a) To reduce possible interference the inlet must be at least 10 meters or further from the drip line of trees.		X		
	(c) No trees should be between source and probe inlet for microscale sites.	Not a microscale site			X
6. SPACING FROM ROADWAYS	Spacing from roadways is dependent on the spatial scale and ADT count. See section 6.3(b) and figure E-1 for specific requirements.		X		
Are there any changes that might compromise original siting criteria? No.					
Other Comments:					

PART 58 APPENDIX E SITE EVALUATION FORM FOR PM2.5, PM10, PM10-2.5, and Pb

SITE NAME N-Core SITE ADDRESS Eagle Road & I-84, Meridian ID 83642

AQS ID 160010010 EVALUATION DATE 5/8/2014

EVALUATOR Ed Jolly – Idaho DEQ

APPLICABLE SECTION	REQUIREMENT	COMMENTS	CRITERIA MET?		
			YES	NO	N/A
2. HORIZONTAL AND VERTICLE PLACEMENT	2-15 meters above ground level (AGL) for neighborhood or larger spatial scale, 2-7 meters for microscale spatial scale sites and middle spatial scale PM <sub>10-2.5</sub> sites. 1 meter vertically or horizontally away from any supporting structure, walls, etc., and away from dusty or dirty areas. If located near the side of a building or wall, then locate on the windward side relative to the prevailing wind direction during the season of highest concentration potential.		X		
3. SPACING FROM MINOR SOURCES	(a) For neighborhood or larger spatial scales avoid placing the monitor near local, minor sources. The source plume should not be allowed to inappropriately impact the air quality data collected at a site. Particulate matter sites should not be located in an unpaved area unless there is vegetative ground cover year round.		X		
4. SPACING FROM OBSTRUCTIONS	(a) To avoid scavenging, the inlet must have unrestricted airflow and be located away from obstacles. The separation distance must be at least twice the height that the obstacle protrudes above the probe inlet.		X		
	(b) The inlet must have unrestricted airflow in an arc of at least 180 degrees. This arc must include the predominant wind direction for the season of greatest pollutant concentration potential. For particle sampling, a minimum of 2 meters of separation from walls, parapets, and structures is required for rooftop site placement.		X		
5. SPACING FROM TREES	(a) To reduce possible interference the inlet must be at least 10 meters or further from the drip line of trees.		X		
	(c) No trees should be between source and probe inlet for microscale sites.	Not a microscale site			X
6. SPACING FROM ROADWAYS	Spacing from roadways is dependent on the spatial scale and ADT count. See section 6.3(b) and figure E-1 for specific requirements.		X		
Are there any changes that might compromise original siting criteria? No.					
Other Comments:					

PART 58 APPENDIX E SITE EVALUATION FORM FOR PM2.5, PM10, PM10-2.5, and Pb

SITE NAME Paul SITE ADDRESS 201 N. 1<sup>st</sup> Street West, Paul ID 83347

AQS ID N/A EVALUATION DATE 5/8/2014

EVALUATOR Tami Aslett/Drew Jones – Idaho DEQ

APPLICABLE SECTION	REQUIREMENT	COMMENTS	CRITERIA MET?		
			YES	NO	N/A
2. HORIZONTAL AND VERTICLE PLACEMENT	2-15 meters above ground level (AGL) for neighborhood or larger spatial scale, 2-7 meters for microscale spatial scale sites and middle spatial scale PM <sub>10-2.5</sub> sites. 1 meter vertically or horizontally away from any supporting structure, walls, <i>etc.</i> , and away from dusty or dirty areas. If located near the side of a building or wall, then locate on the windward side relative to the prevailing wind direction during the season of highest concentration potential.		X		
3. SPACING FROM MINOR SOURCES	(a) For neighborhood or larger spatial scales avoid placing the monitor near local, minor sources. The source plume should not be allowed to inappropriately impact the air quality data collected at a site. Particulate matter sites should not be located in an unpaved area unless there is vegetative ground cover year round.		X		
4. SPACING FROM OBSTRUCTIONS	(a) To avoid scavenging, the inlet must have unrestricted airflow and be located away from obstacles. The separation distance must be at least twice the height that the obstacle protrudes above the probe inlet.			X*	
	(b) The inlet must have unrestricted airflow in an arc of at least 180 degrees. This arc must include the predominant wind direction for the season of greatest pollutant concentration potential. For particle sampling, a minimum of 2 meters of separation from walls, parapets, and structures is required for rooftop site placement.		X		
5. SPACING FROM TREES	(a) To reduce possible interference the inlet must be at least 10 meters or further from the drip line of trees.			X**	
	(c) No trees should be between source and probe inlet for microscale sites.	Not a microscale site			X
6. SPACING FROM ROADWAYS	Spacing from roadways is dependent on the spatial scale and ADT count. See section 6.3(b) and figure E-1 for specific requirements.		X		
Are there any changes that might compromise original siting criteria? See below.					
Other Comments: *Tree stands 5.1 meters taller than probe inlet. Tree is only located 5.2 meters away from probe inlet. **Tree is located 5.2 meters away from probe inlet. Higher branches overhang probe inlet. DEQ will contact the school where the monitor is located to try to get approval for tree to be trimmed.					

PART 58 APPENDIX E SITE EVALUATION FORM FOR PM2.5, PM10, PM10-2.5, and Pb

SITE NAME Pinehurst SITE ADDRESS 106 Church Street, Pinehurst ID 83850

AQS ID 160790017 EVALUATION DATE 4/21/2014

EVALUATOR Shawn Sweetapple – Idaho DEQ

APPLICABLE SECTION	REQUIREMENT	COMMENTS	CRITERIA MET?		
			YES	NO	N/A
2. HORIZONTAL AND VERTICLE PLACEMENT	2-15 meters above ground level (AGL) for neighborhood or larger spatial scale, 2-7 meters for microscale spatial scale sites and middle spatial scale PM <sub>10-2.5</sub> sites. 1 meter vertically or horizontally away from any supporting structure, walls, etc., and away from dusty or dirty areas. If located near the side of a building or wall, then locate on the windward side relative to the prevailing wind direction during the season of highest concentration potential.		X		
3. SPACING FROM MINOR SOURCES	(a) For neighborhood or larger spatial scales avoid placing the monitor near local, minor sources. The source plume should not be allowed to inappropriately impact the air quality data collected at a site. Particulate matter sites should not be located in an unpaved area unless there is vegetative ground cover year round.		X		
4. SPACING FROM OBSTRUCTIONS	(a) To avoid scavenging, the inlet must have unrestricted airflow and be located away from obstacles. The separation distance must be at least twice the height that the obstacle protrudes above the probe inlet.		X		
	(b) The inlet must have unrestricted airflow in an arc of at least 180 degrees. This arc must include the predominant wind direction for the season of greatest pollutant concentration potential. For particle sampling, a minimum of 2 meters of separation from walls, parapets, and structures is required for rooftop site placement.		X		
5. SPACING FROM TREES	(a) To reduce possible interference the inlet must be at least 10 meters or further from the drip line of trees.		X		
	(c) No trees should be between source and probe inlet for microscale sites.	Not a microscale site			X
6. SPACING FROM ROADWAYS	Spacing from roadways is dependent on the spatial scale and ADT count. See section 6.3(b) and figure E-1 for specific requirements.		X		
Are there any changes that might compromise original siting criteria? No.					
Other Comments:					

PART 58 APPENDIX E SITE EVALUATION FORM FOR PM2.5, PM10, PM10-2.5, and Pb

SITE NAME Pocatello SITE ADDRESS Corner of Garrett and Gould Streets, Pocatello ID 83204

AQS ID 160050015 EVALUATION DATE 5/16/2014

EVALUATOR Marshall Magee – Idaho DEQ

APPLICABLE SECTION	REQUIREMENT	COMMENTS	CRITERIA MET?		
			YES	NO	N/A
2. HORIZONTAL AND VERTICLE PLACEMENT	2-15 meters above ground level (AGL) for neighborhood or larger spatial scale, 2-7 meters for microscale spatial scale sites and middle spatial scale PM <sub>10-2.5</sub> sites. 1 meter vertically or horizontally away from any supporting structure, walls, <i>etc.</i> , and away from dusty or dirty areas. If located near the side of a building or wall, then locate on the windward side relative to the prevailing wind direction during the season of highest concentration potential.		X		
3. SPACING FROM MINOR SOURCES	(a) For neighborhood or larger spatial scales avoid placing the monitor near local, minor sources. The source plume should not be allowed to inappropriately impact the air quality data collected at a site. Particulate matter sites should not be located in an unpaved area unless there is vegetative ground cover year round.		X		
4. SPACING FROM OBSTRUCTIONS	(a) To avoid scavenging, the inlet must have unrestricted airflow and be located away from obstacles. The separation distance must be at least twice the height that the obstacle protrudes above the probe inlet.		X		
	(b) The inlet must have unrestricted airflow in an arc of at least 180 degrees. This arc must include the predominant wind direction for the season of greatest pollutant concentration potential. For particle sampling, a minimum of 2 meters of separation from walls, parapets, and structures is required for rooftop site placement.		X		
5. SPACING FROM TREES	(a) To reduce possible interference the inlet must be at least 10 meters or further from the drip line of trees.		X		
	(c) No trees should be between source and probe inlet for microscale sites.	Not a microscale site			X
6. SPACING FROM ROADWAYS	Spacing from roadways is dependent on the spatial scale and ADT count. See section 6.3(b) and figure E-1 for specific requirements.		X		
Are there any changes that might compromise original siting criteria? No.					
Other Comments:					

PART 58 APPENDIX E SITE EVALUATION FORM FOR PM2.5, PM10, PM10-2.5, and Pb

SITE NAME Porthill SITE ADDRESS Tavern Farm Rd., Porthill ID 83853

AQS ID N/A EVALUATION DATE 4/24/2014

EVALUATOR Brian Prisock – Idaho DEQ

APPLICABLE SECTION	REQUIREMENT	COMMENTS	CRITERIA MET?		
			YES	NO	N/A
2. HORIZONTAL AND VERTICLE PLACEMENT	2-15 meters above ground level (AGL) for neighborhood or larger spatial scale, 2-7 meters for microscale spatial scale sites and middle spatial scale PM <sub>10-2.5</sub> sites. 1 meter vertically or horizontally away from any supporting structure, walls, <i>etc.</i> , and away from dusty or dirty areas. If located near the side of a building or wall, then locate on the windward side relative to the prevailing wind direction during the season of highest concentration potential.		X		
3. SPACING FROM MINOR SOURCES	(a) For neighborhood or larger spatial scales avoid placing the monitor near local, minor sources. The source plume should not be allowed to inappropriately impact the air quality data collected at a site. Particulate matter sites should not be located in an unpaved area unless there is vegetative ground cover year round.		X		
4. SPACING FROM OBSTRUCTIONS	(a) To avoid scavenging, the inlet must have unrestricted airflow and be located away from obstacles. The separation distance must be at least twice the height that the obstacle protrudes above the probe inlet.		X		
	(b) The inlet must have unrestricted airflow in an arc of at least 180 degrees. This arc must include the predominant wind direction for the season of greatest pollutant concentration potential. For particle sampling, a minimum of 2 meters of separation from walls, parapets, and structures is required for rooftop site placement.		X		
5. SPACING FROM TREES	(a) To reduce possible interference the inlet must be at least 10 meters or further from the drip line of trees.		X		
	(c) No trees should be between source and probe inlet for microscale sites.	Not a microscale site			X
6. SPACING FROM ROADWAYS	Spacing from roadways is dependent on the spatial scale and ADT count. See section 6.3(b) and figure E-1 for specific requirements.		X		
Are there any changes that might compromise original siting criteria? No.					
Other Comments:					

PART 58 APPENDIX E SITE EVALUATION FORM FOR PM2.5, PM10, PM10-2.5, and Pb

SITE NAME Potlatch SITE ADDRESS 510 Elm Street, Potlatch ID 83855

AQS ID N/A EVALUATION DATE 4/16/2014

EVALUATOR Zac Bishop – Idaho DEQ

APPLICABLE SECTION	REQUIREMENT	COMMENTS	CRITERIA MET?		
			YES	NO	N/A
2. HORIZONTAL AND VERTICLE PLACEMENT	2-15 meters above ground level (AGL) for neighborhood or larger spatial scale, 2-7 meters for microscale spatial scale sites and middle spatial scale PM <sub>10-2.5</sub> sites. 1 meter vertically or horizontally away from any supporting structure, walls, <i>etc.</i> , and away from dusty or dirty areas. If located near the side of a building or wall, then locate on the windward side relative to the prevailing wind direction during the season of highest concentration potential.		X		
3. SPACING FROM MINOR SOURCES	(a) For neighborhood or larger spatial scales avoid placing the monitor near local, minor sources. The source plume should not be allowed to inappropriately impact the air quality data collected at a site. Particulate matter sites should not be located in an unpaved area unless there is vegetative ground cover year round.		X		
4. SPACING FROM OBSTRUCTIONS	(a) To avoid scavenging, the inlet must have unrestricted airflow and be located away from obstacles. The separation distance must be at least twice the height that the obstacle protrudes above the probe inlet.		X		
	(b) The inlet must have unrestricted airflow in an arc of at least 180 degrees. This arc must include the predominant wind direction for the season of greatest pollutant concentration potential. For particle sampling, a minimum of 2 meters of separation from walls, parapets, and structures is required for rooftop site placement.		X		
5. SPACING FROM TREES	(a) To reduce possible interference the inlet must be at least 10 meters or further from the drip line of trees.		X		
	(c) No trees should be between source and probe inlet for microscale sites.	Not a microscale site			X
6. SPACING FROM ROADWAYS	Spacing from roadways is dependent on the spatial scale and ADT count. See section 6.3(b) and figure E-1 for specific requirements.		X		
Are there any changes that might compromise original siting criteria? No.					
Other Comments:					

PART 58 APPENDIX E SITE EVALUATION FORM FOR PM2.5, PM10, PM10-2.5, and Pb

SITE NAME Rexburg SITE ADDRESS Madison Middle School – 575 W. 7<sup>th</sup> Street, Rexburg ID 83440

AQS ID N/A EVALUATION DATE 5/14/2014

EVALUATOR Ryan Rossi – Idaho DEQ

APPLICABLE SECTION	REQUIREMENT	COMMENTS	CRITERIA MET?		
			YES	NO	N/A
2. HORIZONTAL AND VERTICLE PLACEMENT	2-15 meters above ground level (AGL) for neighborhood or larger spatial scale, 2-7 meters for microscale spatial scale sites and middle spatial scale PM <sub>10-2.5</sub> sites. 1 meter vertically or horizontally away from any supporting structure, walls, <i>etc.</i> , and away from dusty or dirty areas. If located near the side of a building or wall, then locate on the windward side relative to the prevailing wind direction during the season of highest concentration potential.		X		
3. SPACING FROM MINOR SOURCES	(a) For neighborhood or larger spatial scales avoid placing the monitor near local, minor sources. The source plume should not be allowed to inappropriately impact the air quality data collected at a site. Particulate matter sites should not be located in an unpaved area unless there is vegetative ground cover year round.		X		
4. SPACING FROM OBSTRUCTIONS	(a) To avoid scavenging, the inlet must have unrestricted airflow and be located away from obstacles. The separation distance must be at least twice the height that the obstacle protrudes above the probe inlet.		X		
	(b) The inlet must have unrestricted airflow in an arc of at least 180 degrees. This arc must include the predominant wind direction for the season of greatest pollutant concentration potential. For particle sampling, a minimum of 2 meters of separation from walls, parapets, and structures is required for rooftop site placement.		X		
5. SPACING FROM TREES	(a) To reduce possible interference the inlet must be at least 10 meters or further from the drip line of trees.		X		
	(c) No trees should be between source and probe inlet for microscale sites.	Not a microscale site			X
6. SPACING FROM ROADWAYS	Spacing from roadways is dependent on the spatial scale and ADT count. See section 6.3(b) and figure E-1 for specific requirements.		X		
Are there any changes that might compromise original siting criteria? No.					
Other Comments:					

PART 58 APPENDIX E SITE EVALUATION FORM FOR PM2.5, PM10, PM10-2.5, and Pb

SITE NAME Salmon SITE ADDRESS N. Charles Street, Salmon ID 83467

AQS ID 160590004 EVALUATION DATE 5/9/2014

EVALUATOR Ryan Rossi – Idaho DEQ

APPLICABLE SECTION	REQUIREMENT	COMMENTS	CRITERIA MET?		
			YES	NO	N/A
2. HORIZONTAL AND VERTICLE PLACEMENT	2-15 meters above ground level (AGL) for neighborhood or larger spatial scale, 2-7 meters for microscale spatial scale sites and middle spatial scale PM <sub>10-2.5</sub> sites. 1 meter vertically or horizontally away from any supporting structure, walls, <i>etc.</i> , and away from dusty or dirty areas. If located near the side of a building or wall, then locate on the windward side relative to the prevailing wind direction during the season of highest concentration potential.		X		
3. SPACING FROM MINOR SOURCES	(a) For neighborhood or larger spatial scales avoid placing the monitor near local, minor sources. The source plume should not be allowed to inappropriately impact the air quality data collected at a site. Particulate matter sites should not be located in an unpaved area unless there is vegetative ground cover year round.		X		
4. SPACING FROM OBSTRUCTIONS	(a) To avoid scavenging, the inlet must have unrestricted airflow and be located away from obstacles. The separation distance must be at least twice the height that the obstacle protrudes above the probe inlet.		X		
	(b) The inlet must have unrestricted airflow in an arc of at least 180 degrees. This arc must include the predominant wind direction for the season of greatest pollutant concentration potential. For particle sampling, a minimum of 2 meters of separation from walls, parapets, and structures is required for rooftop site placement.		X		
5. SPACING FROM TREES	(a) To reduce possible interference the inlet must be at least 10 meters or further from the drip line of trees.		X		
	(c) No trees should be between source and probe inlet for microscale sites.	Not a microscale site			X
6. SPACING FROM ROADWAYS	Spacing from roadways is dependent on the spatial scale and ADT count. See section 6.3(b) and figure E-1 for specific requirements.		X		
Are there any changes that might compromise original siting criteria? No.					
Other Comments:					

PART 58 APPENDIX E SITE EVALUATION FORM FOR PM2.5, PM10, PM10-2.5, and Pb

SITE NAME Sandpoint SITE ADDRESS U of I Research Center – 2105 N. Boyer Ave., Sandpoint ID 83864

AQS ID 160170003 EVALUATION DATE 4/18/2014

EVALUATOR Shawn Sweetapple – Idaho DEQ

APPLICABLE SECTION	REQUIREMENT	COMMENTS	CRITERIA MET?		
			YES	NO	N/A
2. HORIZONTAL AND VERTICLE PLACEMENT	2-15 meters above ground level (AGL) for neighborhood or larger spatial scale, 2-7 meters for microscale spatial scale sites and middle spatial scale PM <sub>10-2.5</sub> sites. 1 meter vertically or horizontally away from any supporting structure, walls, <i>etc.</i> , and away from dusty or dirty areas. If located near the side of a building or wall, then locate on the windward side relative to the prevailing wind direction during the season of highest concentration potential.		X		
3. SPACING FROM MINOR SOURCES	(a) For neighborhood or larger spatial scales avoid placing the monitor near local, minor sources. The source plume should not be allowed to inappropriately impact the air quality data collected at a site. Particulate matter sites should not be located in an unpaved area unless there is vegetative ground cover year round.		X		
4. SPACING FROM OBSTRUCTIONS	(a) To avoid scavenging, the inlet must have unrestricted airflow and be located away from obstacles. The separation distance must be at least twice the height that the obstacle protrudes above the probe inlet.		X		
	(b) The inlet must have unrestricted airflow in an arc of at least 180 degrees. This arc must include the predominant wind direction for the season of greatest pollutant concentration potential. For particle sampling, a minimum of 2 meters of separation from walls, parapets, and structures is required for rooftop site placement.		X		
5. SPACING FROM TREES	(a) To reduce possible interference the inlet must be at least 10 meters or further from the drip line of trees.		X		
	(c) No trees should be between source and probe inlet for microscale sites.	Not a microscale site			X
6. SPACING FROM ROADWAYS	Spacing from roadways is dependent on the spatial scale and ADT count. See section 6.3(b) and figure E-1 for specific requirements.		X		
Are there any changes that might compromise original siting criteria? No.					
Other Comments:					

PART 58 APPENDIX E SITE EVALUATION FORM FOR PM2.5, PM10, PM10-2.5, and Pb

SITE NAME Soda Springs SITE ADDRESS Caribou Hospital – 300 S. 3<sup>rd</sup> Street West, Soda Springs ID 83276

AQS ID N/A EVALUATION DATE 5/16/2014

EVALUATOR Marshall Magee – Idaho DEQ

APPLICABLE SECTION	REQUIREMENT	COMMENTS	CRITERIA MET?		
			YES	NO	N/A
2. HORIZONTAL AND VERTICLE PLACEMENT	2-15 meters above ground level (AGL) for neighborhood or larger spatial scale, 2-7 meters for microscale spatial scale sites and middle spatial scale PM <sub>10-2.5</sub> sites. 1 meter vertically or horizontally away from any supporting structure, walls, <i>etc.</i> , and away from dusty or dirty areas. If located near the side of a building or wall, then locate on the windward side relative to the prevailing wind direction during the season of highest concentration potential.		X		
3. SPACING FROM MINOR SOURCES	(a) For neighborhood or larger spatial scales avoid placing the monitor near local, minor sources. The source plume should not be allowed to inappropriately impact the air quality data collected at a site. Particulate matter sites should not be located in an unpaved area unless there is vegetative ground cover year round.		X		
4. SPACING FROM OBSTRUCTIONS	(a) To avoid scavenging, the inlet must have unrestricted airflow and be located away from obstacles. The separation distance must be at least twice the height that the obstacle protrudes above the probe inlet.		X		
	(b) The inlet must have unrestricted airflow in an arc of at least 180 degrees. This arc must include the predominant wind direction for the season of greatest pollutant concentration potential. For particle sampling, a minimum of 2 meters of separation from walls, parapets, and structures is required for rooftop site placement.		X		
5. SPACING FROM TREES	(a) To reduce possible interference the inlet must be at least 10 meters or further from the drip line of trees.		X		
	(c) No trees should be between source and probe inlet for microscale sites.	Not a microscale site			X
6. SPACING FROM ROADWAYS	Spacing from roadways is dependent on the spatial scale and ADT count. See section 6.3(b) and figure E-1 for specific requirements.		X		
Are there any changes that might compromise original siting criteria? No.					
Other Comments:					

PART 58 APPENDIX E SITE EVALUATION FORM FOR PM2.5, PM10, PM10-2.5, and Pb

SITE NAME St. Maries SITE ADDRESS USFS Building - St. Maries ID, 83666

AQS ID 160090010 EVALUATION DATE 4/11/2014

EVALUATOR Shawn Sweetapple – Idaho DEQ

APPLICABLE SECTION	REQUIREMENT	COMMENTS	CRITERIA MET?		
			YES	NO	N/A
2. HORIZONTAL AND VERTICLE PLACEMENT	2-15 meters above ground level (AGL) for neighborhood or larger spatial scale, 2-7 meters for microscale spatial scale sites and middle spatial scale PM <sub>10-2.5</sub> sites. 1 meter vertically or horizontally away from any supporting structure, walls, <i>etc.</i> , and away from dusty or dirty areas. If located near the side of a building or wall, then locate on the windward side relative to the prevailing wind direction during the season of highest concentration potential.		X		
3. SPACING FROM MINOR SOURCES	(a) For neighborhood or larger spatial scales avoid placing the monitor near local, minor sources. The source plume should not be allowed to inappropriately impact the air quality data collected at a site. Particulate matter sites should not be located in an unpaved area unless there is vegetative ground cover year round.		X		
4. SPACING FROM OBSTRUCTIONS	(a) To avoid scavenging, the inlet must have unrestricted airflow and be located away from obstacles. The separation distance must be at least twice the height that the obstacle protrudes above the probe inlet.		X		
	(b) The inlet must have unrestricted airflow in an arc of at least 180 degrees. This arc must include the predominant wind direction for the season of greatest pollutant concentration potential. For particle sampling, a minimum of 2 meters of separation from walls, parapets, and structures is required for rooftop site placement.		X		
5. SPACING FROM TREES	(a) To reduce possible interference the inlet must be at least 10 meters or further from the drip line of trees.		X		
	(c) No trees should be between source and probe inlet for microscale sites.	Not a microscale site			X
6. SPACING FROM ROADWAYS	Spacing from roadways is dependent on the spatial scale and ADT count. See section 6.3(b) and figure E-1 for specific requirements.		X		
Are there any changes that might compromise original siting criteria? No.					
Other Comments:					

PART 58 APPENDIX E SITE EVALUATION FORM FOR PM2.5, PM10, PM10-2.5, and Pb

SITE NAME Twin Falls SITE ADDRESS 650 W. Addison, Twin Falls ID 83301

AQS ID 160830007 EVALUATION DATE 5/14/2014

EVALUATOR Drew Jones – Idaho DEQ

APPLICABLE SECTION	REQUIREMENT	COMMENTS	CRITERIA MET?		
			YES	NO	N/A
2. HORIZONTAL AND VERTICLE PLACEMENT	2-15 meters above ground level (AGL) for neighborhood or larger spatial scale, 2-7 meters for microscale spatial scale sites and middle spatial scale PM <sub>10-2.5</sub> sites. 1 meter vertically or horizontally away from any supporting structure, walls, etc., and away from dusty or dirty areas. If located near the side of a building or wall, then locate on the windward side relative to the prevailing wind direction during the season of highest concentration potential.		X		
3. SPACING FROM MINOR SOURCES	(a) For neighborhood or larger spatial scales avoid placing the monitor near local, minor sources. The source plume should not be allowed to inappropriately impact the air quality data collected at a site. Particulate matter sites should not be located in an unpaved area unless there is vegetative ground cover year round.		X		
4. SPACING FROM OBSTRUCTIONS	(a) To avoid scavenging, the inlet must have unrestricted airflow and be located away from obstacles. The separation distance must be at least twice the height that the obstacle protrudes above the probe inlet.		X		
	(b) The inlet must have unrestricted airflow in an arc of at least 180 degrees. This arc must include the predominant wind direction for the season of greatest pollutant concentration potential. For particle sampling, a minimum of 2 meters of separation from walls, parapets, and structures is required for rooftop site placement.		X		
5. SPACING FROM TREES	(a) To reduce possible interference the inlet must be at least 10 meters or further from the drip line of trees.		X		
	(c) No trees should be between source and probe inlet for microscale sites.	Not a microscale site			X
6. SPACING FROM ROADWAYS	Spacing from roadways is dependent on the spatial scale and ADT count. See section 6.3(b) and figure E-1 for specific requirements.		X		
Are there any changes that might compromise original siting criteria? No.					
Other Comments:					

PART 58 APPENDIX E SITE EVALUATION FORM FOR PM2.5, PM10, PM10-2.5, and Pb

SITE NAME Weiser SITE ADDRESS 690 W. Indianhead Rd., Weiser ID 83672

AQS ID N/A EVALUATION DATE 5/12/2014

EVALUATOR Ed Jolly – Idaho DEQ

APPLICABLE SECTION	REQUIREMENT	COMMENTS	CRITERIA MET?		
			YES	NO	N/A
2. HORIZONTAL AND VERTICLE PLACEMENT	2-15 meters above ground level (AGL) for neighborhood or larger spatial scale, 2-7 meters for microscale spatial scale sites and middle spatial scale PM <sub>10-2.5</sub> sites. 1 meter vertically or horizontally away from any supporting structure, walls, etc., and away from dusty or dirty areas. If located near the side of a building or wall, then locate on the windward side relative to the prevailing wind direction during the season of highest concentration potential.		X		
3. SPACING FROM MINOR SOURCES	(a) For neighborhood or larger spatial scales avoid placing the monitor near local, minor sources. The source plume should not be allowed to inappropriately impact the air quality data collected at a site. Particulate matter sites should not be located in an unpaved area unless there is vegetative ground cover year round.		X		
4. SPACING FROM OBSTRUCTIONS	(a) To avoid scavenging, the inlet must have unrestricted airflow and be located away from obstacles. The separation distance must be at least twice the height that the obstacle protrudes above the probe inlet.		X		
	(b) The inlet must have unrestricted airflow in an arc of at least 180 degrees. This arc must include the predominant wind direction for the season of greatest pollutant concentration potential. For particle sampling, a minimum of 2 meters of separation from walls, parapets, and structures is required for rooftop site placement.		X		
5. SPACING FROM TREES	(a) To reduce possible interference the inlet must be at least 10 meters or further from the drip line of trees.		X		
	(c) No trees should be between source and probe inlet for microscale sites.	Not a microscale site			X
6. SPACING FROM ROADWAYS	Spacing from roadways is dependent on the spatial scale and ADT count. See section 6.3(b) and figure E-1 for specific requirements.		X		
Are there any changes that might compromise original siting criteria? No.					
Other Comments:					