2021 Ambient Air Monitoring Network Plan

By

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For the

Air Quality Program

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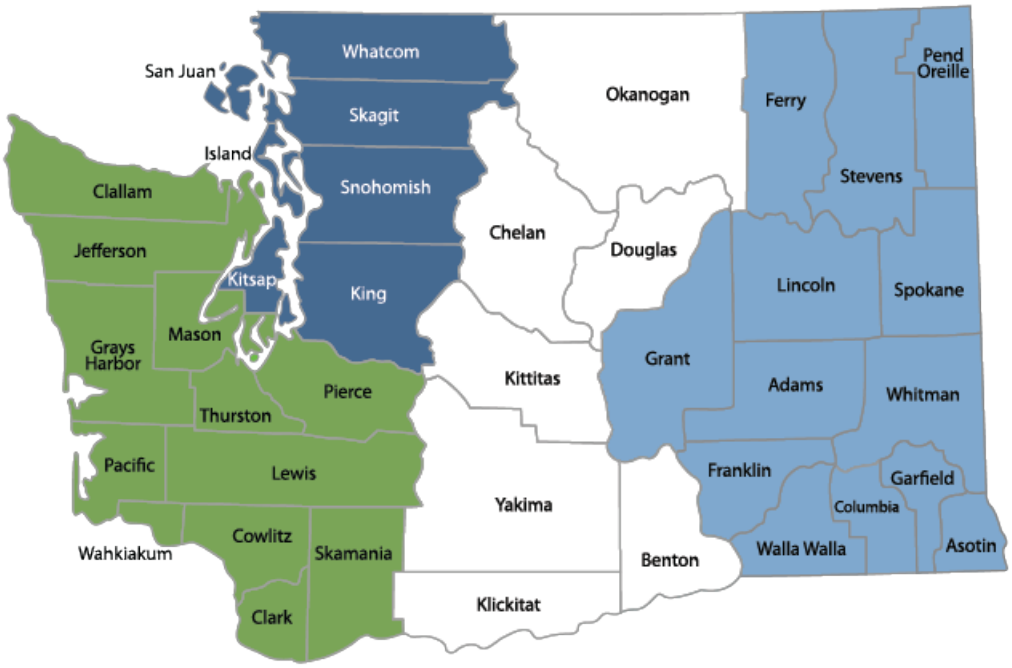
Department of Ecology's Regional Offices

Map of Counties Served



Southwest Region 360-407-6300	Northwest Region 425-649-7000	Central Region 509-575-2490	Eastern Region 509-329-3400

Region	Counties served	Mailing Address	Phone
Southwest	Clallam, Clark, Cowlitz, Grays Harbor, Jefferson, Mason, Lewis, Pacific, Pierce, Skamania, Thurston, Wahkiakum	PO Box 47775 Olympia, WA 98504	360-407-6300
Northwest	Island, King, Kitsap, San Juan, Skagit, Snohomish, Whatcom	3190 160th Ave SE Bellevue, WA 98008	425-649-7000
Central	Benton, Chelan, Douglas, Kittitas, Klickitat, Okanogan, Yakima	1250 W Alder St Union Gap, WA 98903	509-575-2490
Eastern	Adams, Asotin, Columbia, Ferry, Franklin, Garfield, Grant, Lincoln, Pend Oreille, Spokane, Stevens, Walla Walla, Whitman	4601 N Monroe Spokane, WA 99205	509-329-3400
Headquarters	Across Washington	PO Box 46700 Olympia, WA 98504	360-407-6000

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Olympia, WA

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Acronyms

AQS	EPA's Air Quality System database
BAM	Beta Attenuation Monitor
BCAA	Benton County Clean Air Agency
CBSA	Core-Based Statistical Area
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CSA	Combined Statistical Area
CSN	Chemical Speciation Network
DV	Design Value
Ecology	Washington State Department of Ecology
EPA	U.S. Environmental Protection Agency
FDMS	Filter Dynamic Measurement System
FEM	Federal Equivalent Method
FRM	Federal Reference Method
IMPROVE	Interagency Monitoring of Protected Visual Environments
MSA	Metropolitan Statistical Area
NAAQS	National Ambient Air Quality Standard
NATTS	National Air Toxics Trends Station
NCore	National Core
NO	Nitrogen Oxide
NO_2	Nitrogen Dioxide
NO_X	Oxides of Nitrogen
NO_y	Total Reactive Oxides of Nitrogen
NWCAA	Northwest Clean Air Agency
O_3	Ozone
ORCAA	Olympic Region Clean Air Agency
Pb	Lead
$PM_{2.5}$	Particulate matter ≤ 2.5 micrometers in diameter
PM_{10}	Particulate matter ≤ 10 micrometer in diameter
$PM_{10-2.5}$	Particulate matter ≤10 microns and > 2.5 micrometers in diameter
ppb	parts per billion
ppm	parts per million
PAMS	Photochemical Assessment Monitoring Station
PQAO	Primary Quality Assurance Organization
PSCAA	Puget Sound Clean Air Agency
PSD	Prevention of Significant Deterioration
QA	Quality Assurance
QA	Quality Control
SLAMS	State or Local Air Monitoring Station
SO_2	Sulfur Dioxide
SPM	Special Purpose Monitor
SRCAA	Spokane Region Clean Air Agency
SWCAA	Southwest Clean Air Agency
STN	Speciation Trends Network
TEOM	Tapered Element Oscillating Microbalance
TSP	Total Suspended Particulate
$\mu g/m^3$	micrograms per cubic meter
VOC	Volatile Organic Compound
YRCAA	Yakima Region Clean Air Agency

Executive Summary

Purpose

In accordance with the requirements described in 40 C.F.R. Part 58.10, the Washington State Department of Ecology (Ecology) reviews its ambient air monitoring network each year to ensure that it collects adequate, representative, and useful air quality data on which to base policy decisions. This report summarizes the results of the 2021 review. The annual review process includes:

- Documenting Ecology's ambient air quality monitoring needs, goals and priorities;
- Identifying modifications to Ecology's ambient air monitoring network since the previous annual network plan; and
- Identifying proposed modifications to the network in the upcoming 18 months.

Network modifications

Recent modifications

Ozone (44201)

Due to a planned construction project at the school where the Vancouver-Blairmont monitoring site (530110011) is located from 2020-2022, the site has been relocated to a temporary location on school property. It will again be relocated to a permanent location once construction is completed in spring 2022. As the original location, temporary location and future permanent location are all within 200 meters of each other on the same property, Ecology does not consider this a formal site relocation.

Regulatory $PM_{2.5}$ (88101)

In April 2021, a permanent FEM BAM 1020 $PM_{2.5}$ monitor was added to the Puget Sound Clean Air Agency's (PSCAA's) Tukwila-Allentown site (530330069). The FEM replaced the non-regulatory nephelometer previously used for $PM_{2.5}$ reporting.

In May 2020, PSCAA discontinued the Auburn-M St $PM_{2.5}$ monitoring site (530330089) because of a renovation project at the school where the site was located. PSCAA identified a replacement site at Auburn-29th St (530330047), but the replacement site does not meet the siting criteria described in 40 C.F.R. Part 58 Appendix E for regulatory $PM_{2.5}$ monitoring due to a line of evergreen trees less than 10 meters from the shelter location. Because of these limitations, the new Auburn-29th St site will only run a non-regulatory nephelometer classified as a Special Purpose Monitor (SPM). EPA approved relocating the Auburn monitoring site in its response to Ecology's 2020 Ambient Air Monitoring Network Plan. Ecology requests approval to discontinue FEM $PM_{2.5}$ monitoring in Auburn as allowed by 40 C.F.R. Part 58.14(c)(4): "A $PM_{2.5}$ SLAMS monitor which EPA has determined cannot be compared to the relevant NAAQS because of the siting of the monitor, in accordance with §58.30." The Auburn-M St FEM $PM_{2.5}$ monitor was not operational long enough to report a valid $PM_{2.5}$ design value and is not needed to meet minimum monitoring requirements in the Seattle-Tacoma-Bellevue, WA MSA.

In April 2021, PSCAA relocated the primary and collocated federal reference method (FRM) samplers from the Tacoma-L St site (530530029) to the Seattle-Duwamish site (530330057) and reduced the sampling frequency of the primary FRM from 1:1 to 1:6. This change was approved by EPA in response to Ecology's 2020 Ambient Air Monitoring Network Plan.

The Spokane Regional Clean Air Agency (SRCAA) discontinued $PM_{2.5}$ monitoring at the Spokane-Augusta monitoring site (530630021) in March 2021. The site was replaced by the Spokane-E Broadway Ave site (530630017), which began $PM_{2.5}$ monitoring in January 2021. This change was approved by EPA in response to Ecology's 2020 Ambient Air Monitoring Network Plan.

Non-regulatory $PM_{2.5}$ (88502)

In June 2020, the Twisp-Glover St monitoring site (530470009) was relocated to a new location approximately 1 mile south at Twisp-Ewell St (530470016) due to a planned construction project at the previous site. The discontinued Twisp-Glover St site was classified as a non-EPA federal monitor as it was previously operated by the U.S. Forest Service. The new Twisp-Ewell St will be operated by Ecology as a SPM.

The Pomeroy nephelometer monitoring site (530230001), which was established as a temporary SPM in 2017, became a permanent SLAMS site in September 2020. This addition was approved in EPA's response to Ecology's 2020 Ambient Air Monitoring Network Plan.

The Puyallup-128th St SLAMS site operated by PSCAA was discontinued in November 2020. This network modification is allowable under 40 C.F.R. Part 58.14(c)(3). This monitor has not measured a violation of the NAAQS in the past 5 years and is located within the Tacoma-Pierce County Maintenance Area. Continued attainment of the NAAQS in this maintenance area is demonstrated by the Tacoma-L St (530530029) monitoring site.

Ecology established the temporary Newport-Calispel SPM site (530510008) in December 2020. It is expected to operate for one year until December 2021.

Nephelometer monitoring at PSCAA's Tukwila-Allentown SLAMS site (530330069) was discontinued in March 2021 and replaced with an FEM BAM 1020 as of April 1, 2021.

In April 2021, PSCAA established the Auburn-29th St nephelometer SPM site (530330047).

PM_{10} (81102)

In March 2021, SRCAA discontinued PM_{10} monitoring at the Spokane-Augusta monitoring site (530630021). The site was replaced by the Spokane-E Broadway Ave site (530630017), which began PM_{10} monitoring in March 2021. This change was approved by EPA in response to Ecology's 2020 Ambient Air Monitoring Network Plan.

Meteorological (61101/61102/61103/61104/62101)

Ecology discontinued the Tacoma-Tower Dr meteorological monitoring site (530531016) in December 2020.

Meteorological monitoring at the North Bend-North Bend Way site (530330017) is currently suspended. A large residential building was constructed within several meters of the meteorological tower, which no longer meets siting requirements for PSD meteorological monitoring. Ecology plans to relocate the tower to another location at the existing site, but this

work has been delayed due to the staff shortage and hiring freeze associated with the COVID-19 pandemic.

Due to a planned construction project on the property of the Vancouver-Blairmont monitoring site (530110011) from 2020-2022, the site was relocated to a temporary shelter without access to a meteorological tower in May 2020. Meteorological monitoring is temporarily suspended from May 2020-April 2022.

Meteorological monitoring at White Swan (530770016) was suspended in April 2020 due to a tower failure. Installation of a new tower has been delayed due to the staff shortage and hiring freeze associated with the COVID-19 pandemic.

Planned modifications

Nitrogen dioxide (42602)

Based on existing population estimates, the Portland-Vancouver-Hillsboro, OR-WA MSA is projected to surpass 2.5 million people in 2020, which triggers the requirement for a second near-road NO_2 site. Ecology will work with the Oregon Department of Environmental Quality to identify a suitable location for a second near-road site in this MSA. Previous siting evaluations ruled out the I-5 corridor between Portland and Vancouver for near-road monitoring due to the absence of a suitable flat area.

Ozone (44201)

Ecology plans to suspend operation of the Yelm-Northern Pacific ozone monitoring site (530670005) during the 2021 ozone season due to a planned construction project at the water treatment facility where the site is located. No suitable location could be identified at the facility that would not be impacted by construction. Ecology anticipates that ozone monitoring at Yelm will resume by the 2022 ozone season.

Ecology plans to suspend the Issaquah-Lake Sammamish ozone monitoring site (530330010) during the 2021 ozone season due to a staff shortage resulting from the statewide hiring freeze issued in response to the COVID-19 pandemic. In order to find staff capacity to begin PAMS monitoring in 2021 amidst this staff shortage, Issaquah-Lake Sammamish ozone was identified as a non-required monitoring site to suspend until the hiring freeze is lifted.

Ecology requests approval to temporarily suspend the Yelm and Issaquah monitoring sites on a case-by-case basis as allowed in 40 C.F.R. Part 58.14(c), “if discontinuance does not compromise data collection needed for implementation of a NAAQS and if the requirements of appendix D to this part, if any, continue to be met.” Neither site has recorded a violation of the NAAQS in the past five years, neither site is required for an attainment or maintenance plan, and neither site is required by the minimum monitoring requirements in 40 C.F.R. Part 58 Appendix D. In 2020, the design value at Yelm was less than 80% of the ozone NAAQS, and the design value at Issaquah is consistently lower than that of at least one other monitoring site in the Seattle-Tacoma-Bellevue, WA MSA.

Non-regulatory $PM_{2.5}$ (88502)

Ecology plans to operate the Newport-Calispel SPM nephelometer monitoring site (530510008) until December 2021.

PM_{10} (81102)

Ecology plans to add the PM_{10} monitor operated by SRCAA at the Cheney-Turnbull site (530630001) to the Washington Network by October 1, 2021. This addition was requested in EPA's response to Ecology's 2019 Ambient Air Monitoring Network Plan but was delayed for several reasons. First, the COVID-19 pandemic delayed access to the site by quality assurance staff in spring and summer 2020, and during this delay SRCAA observed substantial localized dust impacts from the gravel road next to the monitoring site. SRCAA has identified an alternate location approximately 120 meters away where they expect localized dust impacts to be reduced. EPA approved this addition to the Washington Network in its response to Ecology's 2020 Ambient Air Monitoring Network Plan.

Photochemical Assessment Monitoring Stations (PAMS)

On January 8, 2020, EPA published a final rule in the federal register extending the start date for new required Photochemical Assessment Monitoring Stations (PAMS) from June 1, 2019, to June 1, 2021. Ecology is required to add PAMS measurements to the Seattle-Beacon Hill NCore site (530330080), as PAMS measurements are required at each NCore site in a core-based statistical area (CBSA) with population 1,000,000 or more (40 C.F.R. Part 58 Appendix D). Ecology has acquired the necessary equipment for PAMS monitoring through a combination of EPA's national contracts, EPA equipment funding and supplemental state funding. Due to scheduling limitations with the vendor of the automated gas chromatograph (Auto-GC), Ecology plans to install the Auto-GC from June 28-30, 2021, and begin sampling hourly speciated VOCs thereafter. Monitoring for all other PAMS parameters began by June 1, 2021.

Introduction

This document summarizes Ecology's annual review of the Washington Ambient Air Monitoring Network (Washington Network) in accordance with 40 C.F.R. Part 58.10.

EPA's ambient air quality surveillance regulations in 40 C.F.R. Part 58 require states to establish air quality surveillance systems in their State Implementation Plans (SIPs). An air quality surveillance system consists of a network of State and Local Air Monitoring Stations (SLAMS). These stations measure ambient concentrations of those air pollutants for which 40 C.F.R. Part 50 sets standards. SLAMS must meet the requirements of 40 C.F.R. Part 58 contained in:

- Appendix A (Quality Assurance Requirements)
- Appendix C (Ambient Air Quality Monitoring Methodology)
- Appendix D (Network Design Criteria)
- Appendix E (Probe and Path Siting Criteria)

States determine if they conform to Appendices A and C in part through periodic system and performance audits. States conform to Appendices D and E by conducting an annual network review of their air quality surveillance systems. This review is documented in an annual network plan that meets the following requirements:

- The plan describes any network modifications planned in the upcoming 18 months. Network modifications are subject to approval of the EPA Regional Administrator.
- For each existing and proposed monitoring site, the plan includes the following information:
    - The AQS site number
    - Geographic information, including street address, geographic coordinates, and the represented MSA, CBSA, CSA or other area
    - The monitoring objective, special scale, sampling and analysis method, and operating schedule for each monitor
- The plan outlines the state's approach to implementing PAMS monitoring requirements where required at National Core (NCore) network sites by June 1, 2019 (now June 1, 2021).
- The plan must be made available for public inspection and comment for at least 30 days prior to submission to the EPA. The final plan includes and addresses comments received through the public notification process.

Background Information

Monitoring Objectives

The Washington Network was designed to meet the three monitoring objectives defined in 40 C.F.R. Part 58 Appendix D:

1. **Provide air pollution data to the public in a timely manner.** Ecology provides timely air quality data to the public in a variety of ways:
    - Near-real-time data are available on Ecology's monitoring website.
    - Near-real-time data are submitted to EPA's AirNow system for public display and reporting.
    - Ecology conducts public outreach and issues alerts and bulletins when air quality is compromised.
2. **Support compliance with National Ambient Air Quality Standards (NAAQS) and development of pollution control strategies.** Ambient air quality data are used to:
    - Determine compliance with the NAAQS
    - Determine the location of maximum pollutant concentrations
    - Track the progress of SIPs
    - Determine the effectiveness of air pollution control programs
    - Develop responsible and cost-effective emission control strategies
    - Assist with permitting work
3. **Support air pollution research.** Ecology and its partners use ambient air quality data to improve our understanding of air pollution and its consequences. Research applications of air quality include:
    - Improving air quality forecasting
    - Evaluating the effects of air pollution on public health
    - Informing dispersion models
    - Identifying air quality trends and emerging pollution issues
    - Analyzing pollution episodes

In order to meet these three objectives, 40 C.F.R. Part 58 Appendix D calls for the design of SLAMS networks to include several different types of monitors. These general types are sites that:

1. Determine the highest pollutant concentrations expected in the area covered by the network.

2. Determine representative pollutant concentrations in areas of high population density.
3. Determine the impact of significant sources or source categories on pollutant concentrations in the ambient air.
4. Determine general background pollutant concentrations.
5. Determine the regional extent of pollutant transport between populated areas.
6. Determine the impacts on visibility or vegetation (welfare impacts) in more rural and remote areas.

Appendix D also provides guidance on spatial scales of representativeness for stations in a SLAMS network. Ideally, the station is located so that its sample represents the air quality across the scale that the station is intended to represent. Appendix D defines the following spatial scales:

1. **Microscale**: Area dimensions between several and 100 meters.
2. **Middle scale**: Areas between 100 and 500 meters, typically several city blocks.
3. **Neighborhood scale**: Areas between 0.5 and 4 kilometers with relatively uniform land use.
4. **Urban scale**: Areas with city-like dimensions between 4 and 50 kilometers. Urban and neighborhood scales can overlap considerably. Heterogeneous urban areas may not have a single representative site.
5. **Regional scale**: Areas from tens to hundreds of kilometers with relatively homogeneous geography and no large sources.
6. **National and global scales**: Scales representing the nation or globe as a whole.

Table 1 summarizes the appropriate spatial scales for each criteria pollutant and applicable site types.

Table 1. Summary of applicable spatial scales for criteria pollutants and monitoring objectives

Scale	SO_2	CO	O_3	NO_2	Pb	PM_{10}	$PM_{2.5}$	Site Types
Micro	✓	✓		✓	✓		✓	Highest concentration; source impact
Middle	✓	✓		✓	✓	✓	✓	Highest concentration; source impact
Neighborhood	✓	✓	✓	✓	✓	✓	✓	Highest concentration; population; source impact; general/background
Urban	✓		✓	✓			✓	Highest concentration; population;
Regional	✓		✓				✓	General/background; regional transport; welfare-related impacts

Other ambient monitoring data needs

In addition to its network of criteria pollutant monitoring sites, Ecology also uses nephelometers throughout Washington to estimate $PM_{2.5}$ concentrations and inform the public of air quality conditions in communities where criteria pollutant monitoring is not required. Typically, nephelometer monitoring sites use site-specific $PM_{2.5}$ correlations developed from collocated Federal Reference Method (FRM) or Federal Equivalent Method (FEM) monitor data. Lower concentration sites may use generalized regional correlations developed at sites with similar geographic and source characteristics. These sites are operated in accordance with 40 C.F.R. Part 58 Appendix A requirements for quality assurance and quality control. At nephelometer sites where $PM_{2.5}$ concentrations are consistently measured at or greater than 80 percent of the NAAQS, Ecology transitions to FEM monitoring.

On a limited basis, Ecology also supplements its network of fixed monitoring sites with portable low-cost $PM_{2.5}$ sensors for temporary reporting of air quality information. Typical applications of low-cost $PM_{2.5}$ sensors include temporary monitoring of smoke from wildland fires, responding to isolated or emergent events, monitoring to aid in smoke management decisions, and surveys or saturation studies of unmonitored areas. Portable low-cost $PM_{2.5}$ sensors are used primarily as a public information tool, and their data are not submitted to AQS.

Network Evaluation

Ecology uses a variety of tools to evaluate how well its monitoring network is meeting these goals and objectives. These tools include:

- EPA minimum monitoring requirements in 40 C.F.R. Part 58 Appendix D
- Results of Ecology's most recent 5-year Ambient Air Quality Monitoring Network Assessment
- Analyses of historic monitoring data
- Census data on population density and demographics
- Dispersion and air quality forecast models
- Planning requirements, including SIPs and maintenance plans
- Jurisdictional boundaries
- Results of special monitoring studies

The suitability of individual monitoring sites is evaluated according to the probe and monitoring path siting criteria described in 40 C.F.R. Part 58 Appendix E.

Washington Core-Based Statistical Areas

The minimum monitoring requirements listed in 40 C.F.R. Part 58 Appendix D are based on the core-based statistical areas (CBSAs) defined by the U.S. Office of Management and Budget. Washington's CBSAs are shown in the map in Figure 1 (U.S. Census Bureau, 2013). Note that since publication of this map, Pend Oreille County has been removed from the Spokane-

Spokane Valley MSA. The populations of CBSAs in Washington over 50,000 people are listed in Table 2.

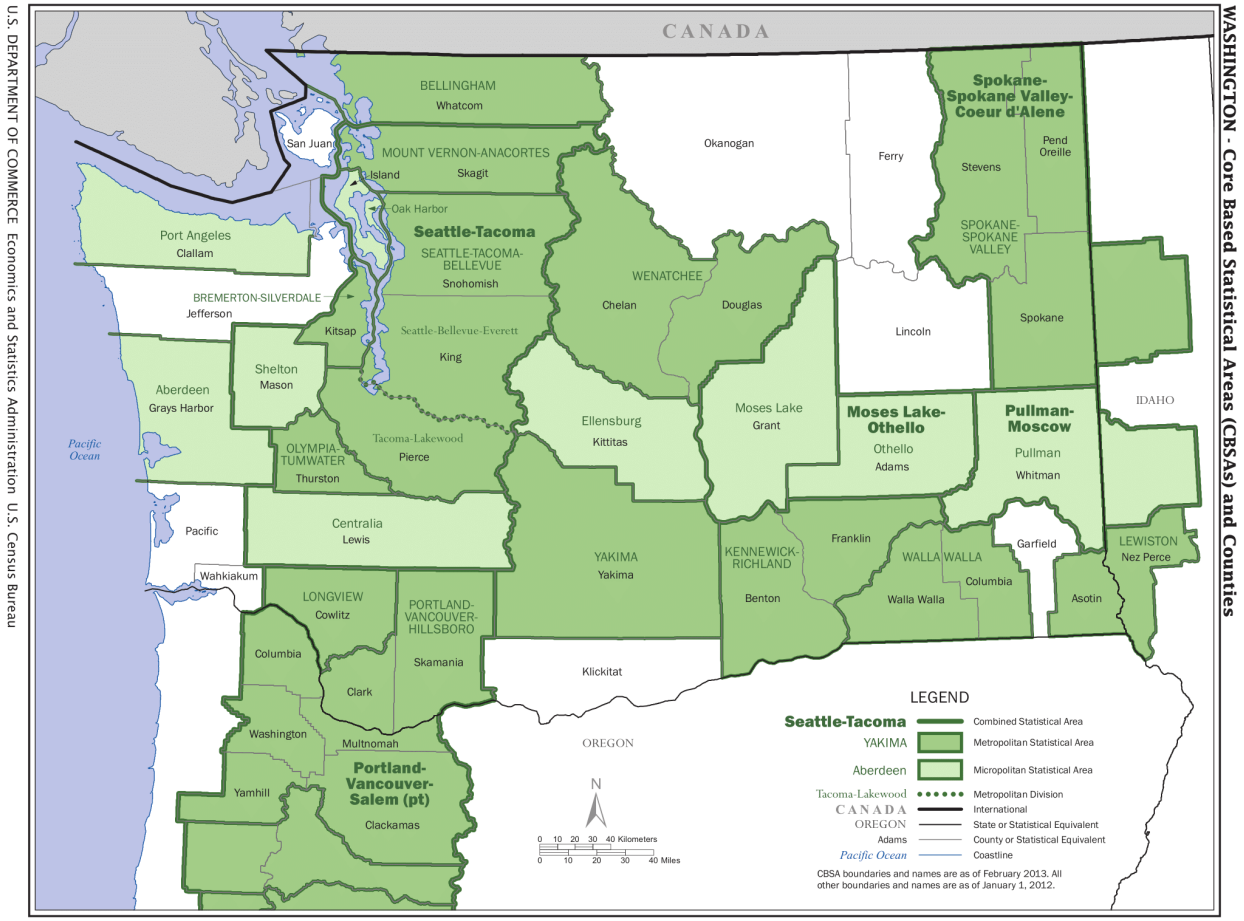


Figure 1. Washington's Core-Based Statistical Areas (CBSAs), U.S. Census Bureau 2013

Table 2. Washington's CBSA populations over 50,000 (U.S. Census Bureau)

Core-Based Statistical Area	2020 Estimated Population*
Seattle-Tacoma-Bellevue, WA	3,992,000
Portland-Vancouver-Hillsboro, OR-WA	2,549,460
Spokane-Spokane Valley, WA	568,520
Kennewick-Richland, WA	302,460
Olympia-Lacey-Tumwater, WA	291,000
Bremerton-Silverdale-Port Orchard, WA	272,200
Yakima, WA	258,200
Bellingham, WA	228,000
Mount Vernon-Anacortes, WA	130,450
Wenatchee, WA	123,410
Longview, WA	110,500
Moses Lake, WA	100,130
Oak Harbor, WA	85,530
Centralia, WA	80,250
Port Angeles, WA	76,770
Aberdeen, WA	74,720
Shelton, WA	65,650
Lewiston, ID-WA	63,048
Walla Walla, WA	62,580
Pullman, WA	50,480

*Washington population estimates were derived from the Washington Office of Financial Management's April 1, 2020 population estimates, and Oregon population estimates were obtained from Portland State University's Population Research Center, as federal 2020 Census results were not available at the time of writing. The table above uses the 2019 population estimate for Lewiston, ID because no suitable 2020 data source was available.

Washington shares the Portland-Vancouver-Hillsboro CBSA with the state of Oregon. The minimum monitoring requirements for PM_{10}, $PM_{2.5}$ and ozone in this CBSA are met through a combination of monitors operated by Ecology and the Oregon Department of Environmental Quality (DEQ). Ecology and Oregon DEQ established a Memorandum of Understanding on May 20, 2019 to formalize this arrangement (Appendix E).

Maintenance Areas

Washington has ten maintenance areas for criteria pollutants. Maintenance areas demonstrate continued attainment of the NAAQS either through monitoring or through EPA-approved alternate methods. These methods are summarized in Table 3.

Table 3. Washington PM_{10} maintenance areas and methods of demonstrating NAAQS attainment

Maintenance Area (Pollutant)	End of Maintenance Period	NAAQS Attainment Method
Seattle (PM_{10})	5/14/2021	Estimated PM_{10} from Seattle-Duwamish $PM_{2.5}$ (530330057)
Kent (PM_{10})	5/14/2021	Estimated PM_{10} from Kent-Central & James $PM_{2.5}$ (530332004)
Tacoma (PM_{10})	5/14/2021	Estimated PM_{10} from Tacoma-Alexander nephelometer $PM_{2.5}$ (530530031)
Thurston County (PM_{10})	12/4/2020*	Estimated PM_{10} from Lacey-College St nephelometer $PM_{2.5}$ (530670013)
Wallula (PM_{10})**	9/26/2025	Burbank-Maple St PM_{10} monitor (530710006)
Spokane (PM_{10})	8/30/2025	Spokane-Augusta PM_{10} monitor (530630021) until March 2021; Spokane-E Broadway Ave PM_{10} monitor (530630017) as of April 2021
Yakima (PM_{10})	3/10/2025	Yakima-4th Ave S PM_{10} monitor (530770009)
Tacoma ($PM_{2.5}$)	3/12/2035	Tacoma-L St $PM_{2.5}$ monitor (530530029)
Yakima (CO)	12/31/2022	Modeled CO vehicle emissions
Spokane (CO)	8/30/2025	Modeled onroad, nonroad and residential wood combustion CO emissions

* The Thurston County PM_{10} Limited Maintenance Period ended on December 4, 2020. This is the final year that the Verification of Continued Attainment in Limited Maintenance Areas contains design values for this maintenance area.

** The Wallula Maintenance Plan is a full maintenance plan, not a Limited Maintenance Plan. The compliance status of the Wallula Maintenance Area is determined by design value at the Burbank-Maple St monitoring site as listed in Table 27. Outside of exceedances due to extreme wildfire smoke events, the Burbank-Maple St is in compliance with the PM_{10} standard.

Washington has several maintenance areas that fall within the jurisdiction of local air agencies. In accordance with the maintenance plans, the local air agencies submitted design values to Ecology for the maintenance areas in their jurisdiction. These design values and their underlying calculations can be found in the document “Verification of Continued Attainment in Limited Maintenance Areas (2021)” submitted concurrently with this plan.

Monitoring Network Design

As of June 30, 2021, Ecology and its partners operate 74 monitoring sites as part of the Washington Network. Those sites are shown on the map in Figure 2, and the parameters monitored are summarized in Table 4. Detailed site information is provided in Appendix D. All monitoring sites described in this plan are operated under the Ecology Primary Quality Assurance Organization (PQAO). Other monitoring sites, such as IMPROVE sites, are operated in Washington as part of separate PQAOs, but those networks are outside the scope of this document.

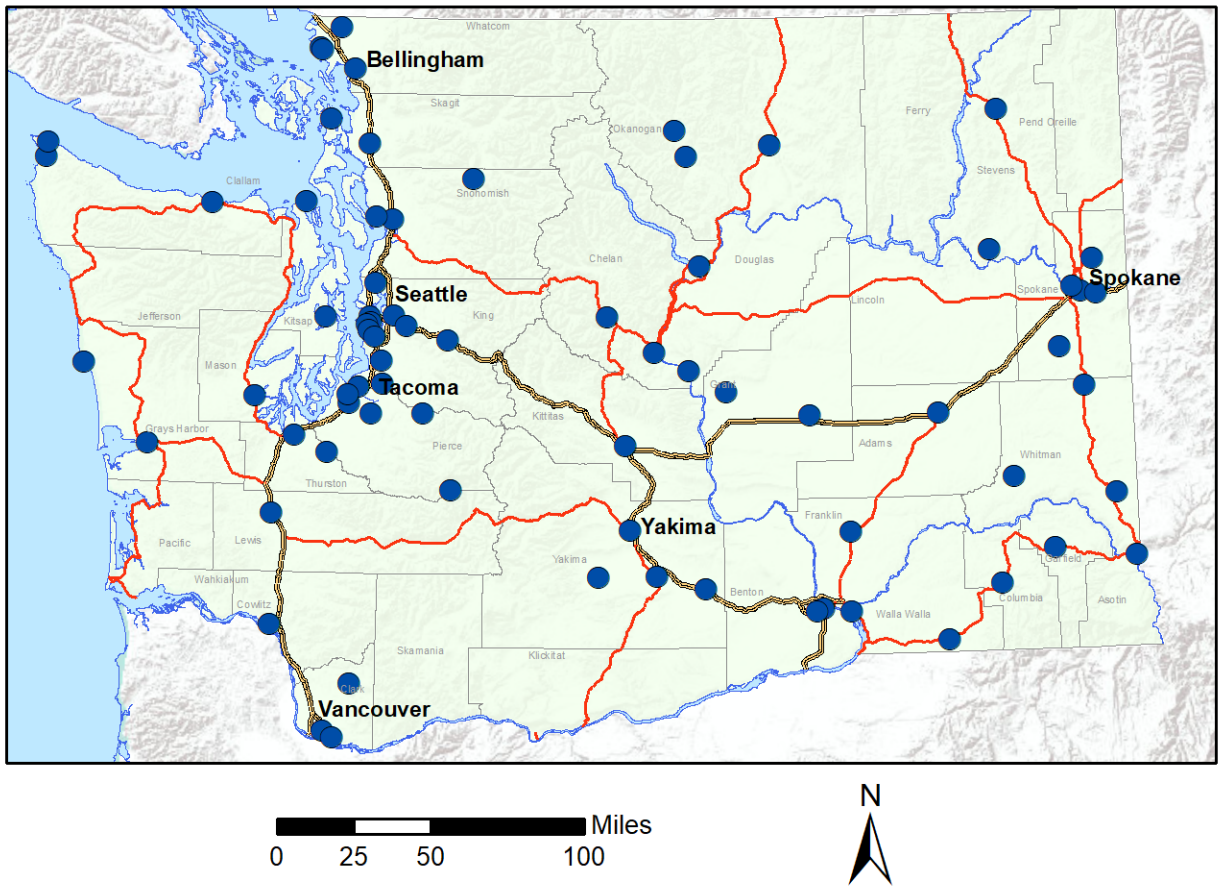


Figure 2. Map of all Washington Network monitoring sites.

Table 4. Summary of parameters monitored at Washington Network monitoring sites

CBSA	Site	AQS ID	CO	NO_2	O_3	SO_2	$PM_{2.5}$ (FRM/FEM)	$PM_{2.5}$ (Non-FRM/FEM)	PM_{10}	Meteor-ological	CSN
Aberdeen, WA	Aberdeen-Division St	530272002						x			
Aberdeen, WA	Taholah-Quinault Tribe	530270011						x			
Bellingham, WA	Bellingham-Pacific St	530730019					x				
Bellingham, WA	Custer-Loomis	530730005			x						
Bellingham, WA	Ferndale-Kickerville Road	530730013				x					

CBSA	Site	AQS ID	CO	NO_2	O_3	SO_2	$PM_{2.5}$ (FRM/FEM)	$PM_{2.5}$ (Non-FRM/FEM)	PM_{10}	Meteor-ological	CSN
Bellingham, WA	Ferndale-Mountain View Rd	530730017				x				x	
Bremerton-Silverdale-Port Orchard, WA	Bremerton-Spruce Ave	530350007					x				
Centralia, WA	Chehalis-Market Blvd	530410004						x			
Ellensburg, WA	Ellensburg-Ruby St	530370002					x	x			
Kennewick-Richland, WA	Kennewick-Metaline	530050002						x	x	x	
Kennewick-Richland, WA	Kennewick-S Clodfelter Rd	530050003			x						
Kennewick-Richland, WA	Mesa-Pepiot Way	530210002						x			
Lewiston, ID-WA	Clarkston-13th St	530030004						x			
Longview, WA	Longview-30th Ave	530150015						x			
Moses Lake, WA	Moses Lake-Balsam St	530251002						x			
Moses Lake, WA	Quincy-3rd Ave NE	530251003						x		x	
Mount Vernon-Anacortes, WA	Anacortes-202 O Ave	530570011			x	x	x				
Mount Vernon-Anacortes, WA	Mt Vernon-S Second St	530570015						x			
None	Dayton-W Main St	530130002						x			
None	Newport-Calispel	530510008						x			
None	Omak-Colville Tribe	530470013					x			x	
None	Pomeroy-Pataha St	530230001						x			
None	Port Townsend-San Juan Ave	530310003						x			
None	Twisp-Ewell St	530470016						x			
None	Winthrop-Chewuch Rd	530470010						x			
Olympia-Lacey-Tumwater, WA	Lacey-College St	530670013						x			
Olympia-Lacey-Tumwater, WA	Yelm-Northern Pacific	530670005									
Othello, WA	Ritzville-Alder St	530010003						x			
Port Angeles, WA	Cheeka Peak	530090013	x	x	x	x		x		x	
Port Angeles, WA	Neah Bay-Makah Tribe	530090015						x			
Port Angeles, WA	Port Angeles-E 5th St	530090017						x			
Portland-Vancouver-Hillsboro, OR-WA	Vancouver NE 84th Ave	530110024					x				
Portland-Vancouver-Hillsboro, OR-WA	Vancouver-Blairmont Dr	530110011			x						
Portland-Vancouver-Hillsboro, OR-WA	Yacolt-Yacolt Rd	530110022						x			
Pullman, WA	LaCrosse-Hill St	530750005						x			
Pullman, WA	Pullman-Dexter SE	530750003						x			
Pullman, WA	Rosalia-Josephine St	530750006						x			
Seattle-Tacoma-Bellevue, WA	Auburn-29th St	530330047						x			
Seattle-Tacoma-Bellevue, WA	Bellevue-SE 12th St	530330031						x			
Seattle-Tacoma-Bellevue, WA	Darrington-Fir St	530610020					x				
Seattle-Tacoma-Bellevue, WA	Enumclaw-Mud Mtn.	530330023			x					x	
Seattle-Tacoma-Bellevue, WA	Issaquah-Lake Sammamish	530330010									
Seattle-Tacoma-Bellevue, WA	Kent-Central & James	530332004					x				

CBSA	Site	AQS ID	CO	NO_2	O_3	SO_2	$PM_{2.5}$ (FRM/FEM)	$PM_{2.5}$ (Non-FRM/FEM)	PM_{10}	Meteor-ological	CSN
Seattle-Tacoma-Bellevue, WA	Lake Forest Park	530330024						x			
Seattle-Tacoma-Bellevue, WA	Marysville-7th Ave	530611007					x				
Seattle-Tacoma-Bellevue, WA	Mt Rainier-Jackson Visitors Ctr	530530012			x						
Seattle-Tacoma-Bellevue, WA	North Bend-North Bend Way	530330017			x			x			
Seattle-Tacoma-Bellevue, WA	Seattle-10th & Weller	530330030	x	x			x			x	x
Seattle-Tacoma-Bellevue, WA	Seattle-Beacon Hill	530330080	x	x	x	x	x			x	x
Seattle-Tacoma-Bellevue, WA	Seattle-Duwamish	530330057					x				x
Seattle-Tacoma-Bellevue, WA	Seattle-South Park	530331011						x			
Seattle-Tacoma-Bellevue, WA	Tacoma-L Street	530530029					x				x
Seattle-Tacoma-Bellevue, WA	Tacoma-Alexander Ave	530530031						x			x
Seattle-Tacoma-Bellevue, WA	Tacoma-S 36th St	530530024		x			x			x	
Seattle-Tacoma-Bellevue, WA	Tukwila Allentown	530330069					x				
Seattle-Tacoma-Bellevue, WA	Tulalip-Totem Beach Rd	530610021									
Shelton, WA	Shelton-W Franklin	530450007						x			
Spokane-Spokane Valley, WA	Cheney-Turnbull	530630001			x				x		
Spokane-Spokane Valley, WA	Colville-E 1st St	530650005					x		x	x	
Spokane-Spokane Valley, WA	Spokane-Augusta Ave	530630021								x	
Spokane-Spokane Valley, WA	Spokane-E Broadway Ave	530630017					x		x		
Spokane-Spokane Valley, WA	Spokane-Greenbluff	530630046			x						
Spokane-Spokane Valley, WA	Spokane-Monroe St	530630047						x			
Spokane-Spokane Valley, WA	Wellpinit-Spokane Tribe	530650002						x			
Walla Walla, WA	Burbank-Maple St	530710006							x	x	
Walla Walla, WA	Walla Walla-12th St	530710005						x			
Wenatchee, WA	Chelan-Woodin Ave	530070007						x			
Wenatchee, WA	Leavenworth-Evans St	530070010						x			
Wenatchee, WA	Malaga-Malaga Hwy	530070012				x				x	
Wenatchee, WA	Wenatchee-Fifth St	530070011						x		x	
Yakima, WA	Sunnyside-S 16th St	530770005						x			
Yakima, WA	Toppenish-Yakama Tribe	530770015					x			x	
Yakima, WA	White Swan-Yakama Tribe	530770016						x			
Yakima, WA	Yakima-4th Ave	530770009					x		x		x

Carbon monoxide (CO, 42101)

There are three CO monitoring sites in the Washington Network. All Washington Network CO monitoring sites collect data under method code 593 (Teledyne API 300 EU). For detailed site and monitor information, see Appendix D.

Table 5. Washington Network CO monitoring sites

AQS ID	Site Name	Established	Type	Scale
530090013	Cheeka Peak	05/2006	SLAMS, NCore	Regional
530330030	Seattle-10th & Weller	04/2014	SLAMS, Near-road	Microscale
530330080	Seattle-Beacon Hill	03/2007	SLAMS, NCore	Urban

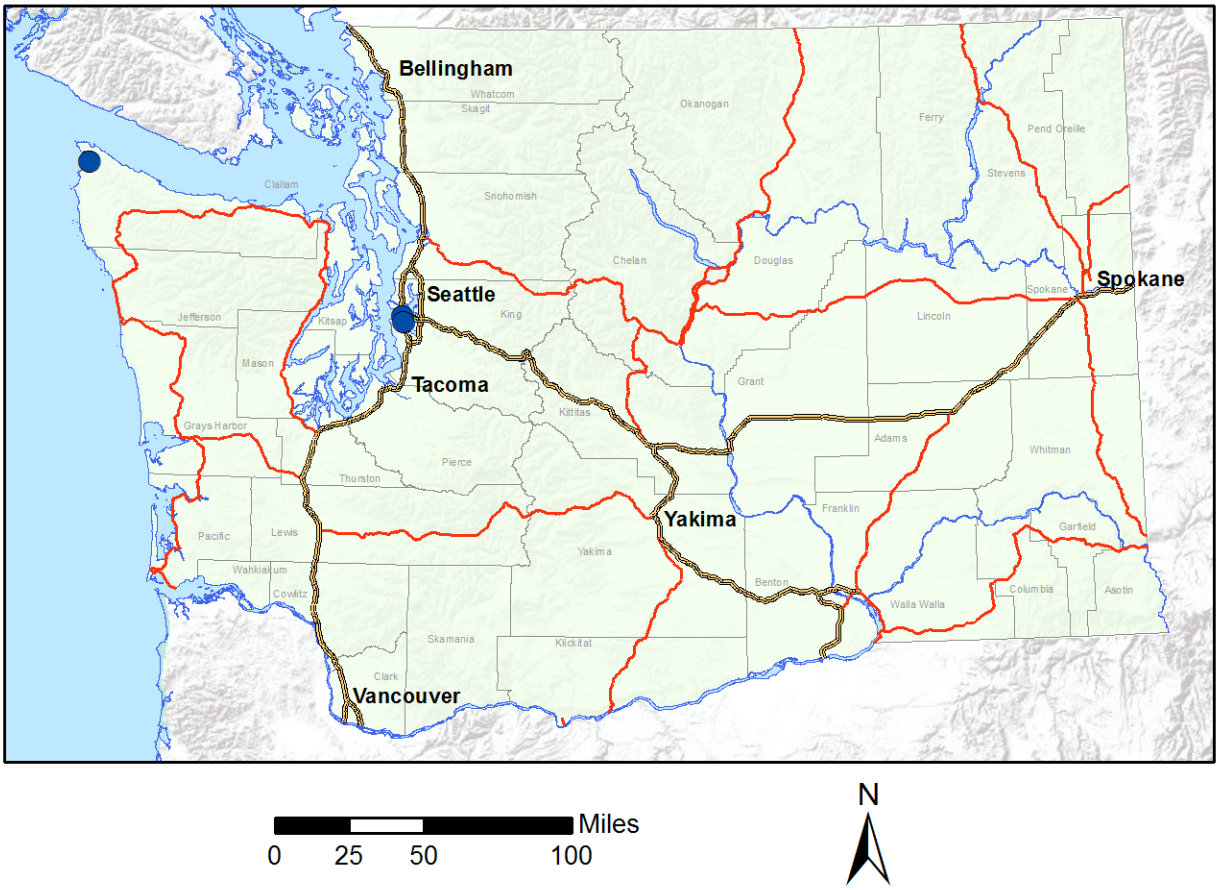


Figure 3. Map of Washington Network CO monitoring sites

Minimum monitoring requirements

Ecology is required to operate a CO monitor collocated with one required near-road NO_2 monitor in CBSAs with a population of 1,000,000 or more. In the Seattle-Tacoma-Bellevue MSA, this requirement is met at the Seattle-10th & Weller near-road monitoring site (530330030).

Recommended/proposed modifications: None.

Nitrogen dioxide (NO_2, 42602/42612)

There are three NO_2 (42602) monitoring sites in the Washington Network and two sites that monitor trace NO_y-NO (42612). Seattle-Beacon Hill monitors both area-wide NO_2 and trace NO_y-NO. For detailed site and monitor information, see Appendix D.

Table 6. Washington Network NO_2 and Trace NO_y-NO monitoring sites

AQS ID	Site Name	NO_2	Trace NO_y-NO	Established	Type	Scale	Method
530090013	Cheeka Peak		✓	01/2011	SLAMS, NCore	Regional	Teledyne API 200 EU (699)
530330030	Seattle-10th & Weller	✓		04/2014	SLAMS, Near-road	Microscale	Teledyne API 200 EU (599)
530330080	Seattle-Beacon Hill	✓	✓	08/2013	SLAMS, NCore	Urban	NO_2: Teledyne API T500U (212); Trace NO_y-NO: Teledyne API T200U (599)
530530024	Tacoma-S 36th	✓		01/2016	SLAMS, Near-road	Microscale	Teledyne API 200 EU (599)

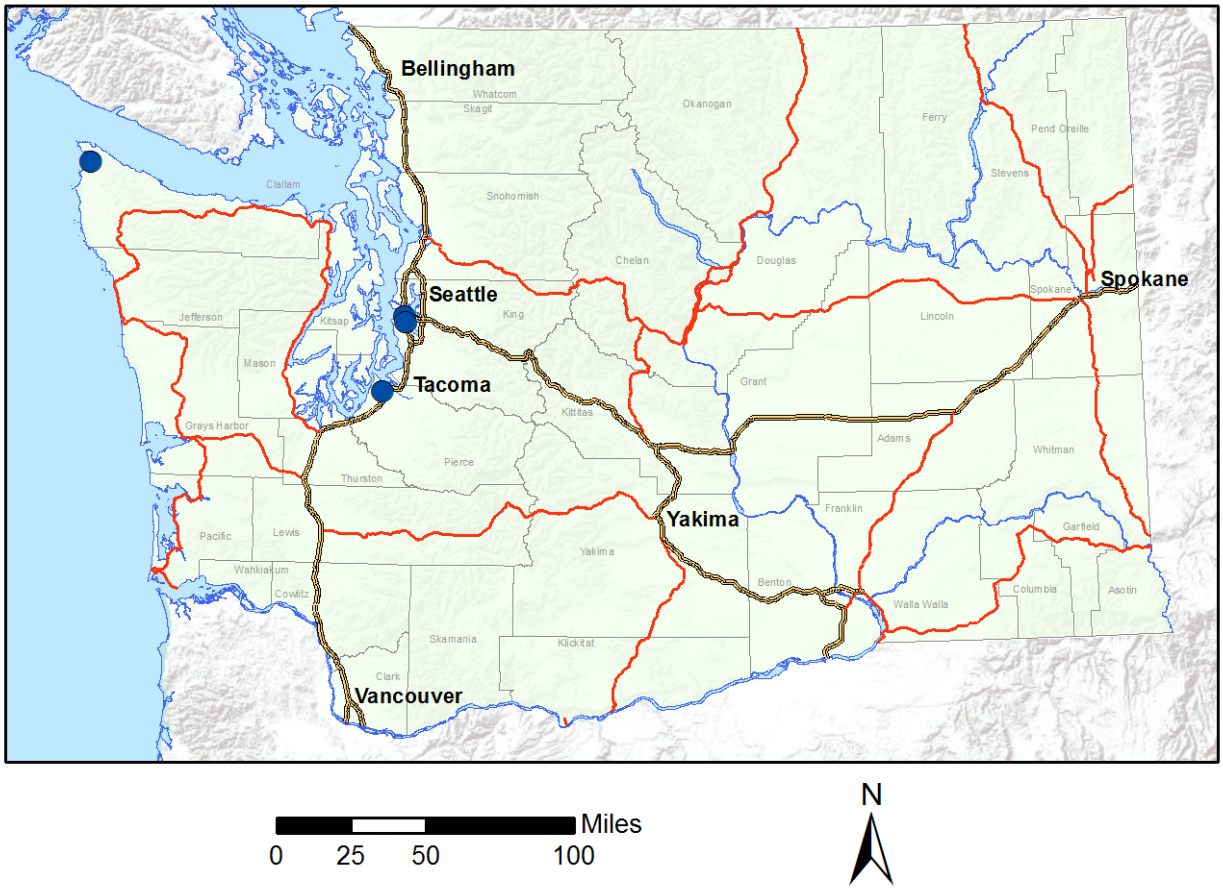


Figure 4. Map of Washington Network NO_2 and Trace NO_y-NO monitoring sites

Minimum monitoring requirements

Ecology is required to monitor both near-road and area-wide NO_2 in each CBSA with a population of 1,000,000 or greater. In CBSAs with a population of 2,500,000 or more, two near-road NO_2 monitoring sites are required. Ecology fulfills the near-road monitoring requirements at the Seattle-10th & Weller (530330030) and Tacoma-S 36th St (530530024) near-road sites. Seattle-Beacon Hill (530330080) fulfills the requirement for area-wide NO_2 monitoring.

Based on existing population estimates, the Portland-Vancouver-Hillsboro, OR-WA MSA is projected to surpass 2.5 million people in 2020, which triggers the requirement for a second near-road NO_2 site. Ecology will work with the Oregon Department of Environmental Quality to identify a suitable location for a second near-road site in this MSA. Previous siting evaluations ruled out the I-5 corridor between Portland and Vancouver for near-road monitoring due to the absence of a suitable flat area.

Recommended/proposed modifications: Ecology will work with the Oregon Department of Environmental Quality to identify a suitable location for a second near-road site in the Portland-Vancouver-Hillsboro, OR-WA MSA.

Ozone (O_3, 44201)

There are 13 ozone monitoring sites in the Washington Network. All Washington Network ozone sites collect data under method code 087 (UV Absorbance) using Teledyne API 400 analyzers. For detailed site and monitor information, see Appendix D.

Table 7. Washington Network ozone monitoring sites

AQS ID	Site Name	Established	Type	Scale
530570011	Anacortes-202 O Ave	05/2012	SLAMS	Neighborhood
530090013	Cheeka Peak	05/2006	SLAMS, NCore	Regional
530630001	Cheney-Turnbull	05/1999	SLAMS	Urban
530730005	Custer-Loomis	04/1989	SLAMS	Regional
530330023	Enumclaw-Mud Mtn	07/1998	SLAMS	Urban
530330010	Issaquah-Lake Sammamish*	12/1975	SLAMS	Urban
530050003	Kennewick-S Clodfelter Rd	06/2015	SLAMS	Urban
530530012	Mt Rainier-Jackson Visitors Ctr	07/1998	SLAMS	Regional
530330017	North Bend-North Bend Way	06/1998	SLAMS	Neighborhood
530330080	Seattle-Beacon Hill	03/2007	SLAMS, NCore	Urban
530630046	Spokane-Greenbluff	04/1990	SLAMS	Urban
530110011	Vancouver-Blairmont	05/1988	SLAMS	Urban
530670005	Yelm-Northern Pacific*	05/2006	SLAMS	Urban

*The Yelm and Issaquah monitoring sites are temporarily suspended for the 2021 ozone season. The Yelm-Northern Pacific ozone monitoring site (530670005) is suspended due to a planned construction project at the water treatment facility where the site is located. No suitable location could be identified at the facility that would not be impacted by construction. Ecology anticipates that ozone monitoring at Yelm will resume by the 2022 ozone season.

The Issaquah-Lake Sammamish ozone monitoring site (530330010) is suspended for the 2021 ozone season due to a staff shortage resulting from the statewide hiring freeze issued in response to the COVID-19 pandemic. In order to find staff capacity to begin PAMS monitoring in 2021 amidst this staff shortage, Issaquah-Lake Sammamish ozone was identified as a non-required monitoring site to suspend until the hiring freeze is lifted.

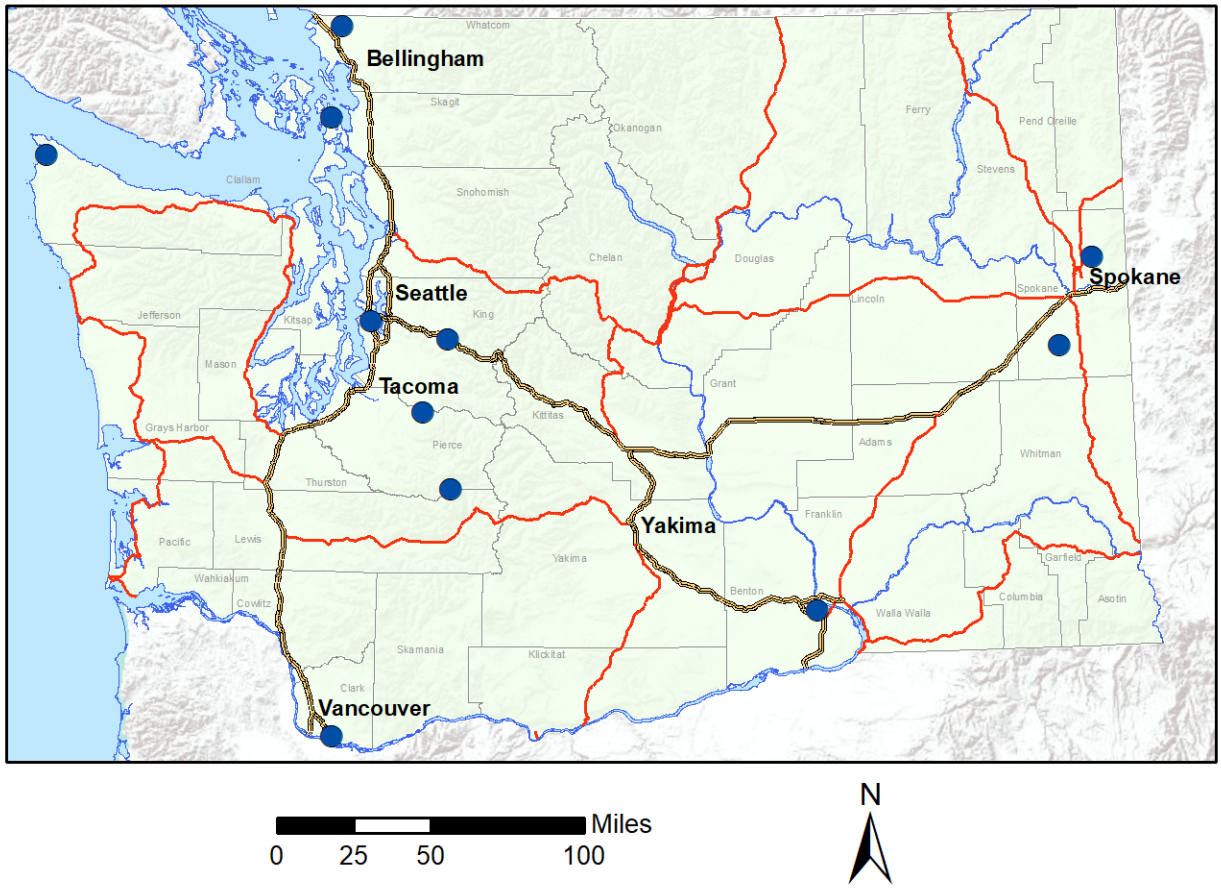


Figure 5. Map of Washington Network ozone monitoring sites

Minimum monitoring requirements

The Washington Network meets the minimum monitoring requirements for ozone defined in 40 C.F.R. Part 58 Appendix D. In each CBSA, the number of existing ozone monitors meets or exceeds the number of required monitors, as summarized in Table 8. The design values listed are the maximum valid design value of all sites within the CBSA. For a full list of design values at all ozone sites in the Washington Network, see Appendix A.

Table 8. EPA minimum monitoring requirements for ozone

CBSA	2020 Population Estimate	Highest Monitoring Site	2020 Design Value (ppm)	Number of Required Monitors	Number of Existing Monitors
Seattle-Tacoma-Bellevue, WA	3,992,000	Enumclaw-Mud Mtn	0.063	2	4**
Portland-Vancouver-Hillsboro, OR-WA***	2,549,460	Portland-Carus	0.068	2	6

CBSA	2020 Population Estimate	Highest Monitoring Site	2020 Design Value (ppm)	Number of Required Monitors	Number of Existing Monitors
Spokane-Spokane Valley, WA	568,520	Spokane-Greenbluff	0.061	2	2
Kennewick-Richland, WA	302,460	Kennewick-S Clodfelter	0.065	1	1
Olympia-Lacey-Tumwater, WA	291,000	Yelm-Northern Pacific	0.057	0	0**
Bellingham, WA	228,000	Custer-Loomis	0.052	0	1
Mount Vernon-Anacortes, WA	130,450	Anacortes-202 O Ave	0.042*	0	1
Port Angeles, WA	76,770	Cheeka Peak	0.052*	0	1

* Design values are estimated from incomplete data

** "Number of Existing Monitors" does not include the Yelm and Issaquah sites, which are suspended for the 2021 ozone season.

*** Washington shares the Portland-Vancouver-Hillsboro CBSA with the state of Oregon. The minimum monitoring requirements for ozone in this CBSA are met through a combination of monitors operated by Ecology and Oregon DEQ. Ecology and Oregon DEQ established a Memorandum of Understanding on May 20, 2019 to formalize this arrangement (Appendix E).

Recent modifications: Due to a planned construction project at the school where the Vancouver-Blairmont monitoring site (530110011) is located from 2020-2022, the site has been relocated to a temporary location on school property. It will again be relocated to a permanent location once construction is completed in spring 2022. As the original location, temporary location and future permanent location are all within 200 meters of each other on the same property, Ecology does not consider this a formal site relocation.

Recommended/proposed modifications: Ecology requests approval to temporarily suspend the Yelm and Issaquah monitoring sites on a case-by-case basis as allowed in 40 C.F.R. Part 58.14(c), "if discontinuance does not compromise data collection needed for implementation of a NAAQS and if the requirements of appendix D to this part, if any, continue to be met." Neither site has recorded a violation of the NAAQS in the past five years, neither site is required for an attainment or maintenance plan, and neither site is required by the minimum monitoring requirements in 40 C.F.R. Part 58 Appendix D. In 2020, the design value at Yelm was less than 80% of the ozone NAAQS, and the design value at Issaquah is consistently lower than that of at least one other monitoring site in the Seattle-Tacoma-Bellevue, WA MSA.

Sulfur dioxide (SO_2, 42401)

There are six SO_2 monitoring sites in the Washington Network. For detailed site and monitor information, see Appendix D.

Table 9. Washington Network SO_2 monitoring sites

AQS ID	Site Name	Established	Type	Scale	Method
530570011	Anacortes-202 O Ave	01/2013	SLAMS	Neighborhood	TAPI 100 EU (600)
530090013	Cheeka Peak	05/2006	SLAMS, NCore	Regional	TAPI 100 EU (600)
530730013	Ferndale-Kickerville Rd	01/2017	SLAMS	Microscale	TAPI 100 (077)
530730017	Ferndale-Mountain View Rd	01/2017	SLAMS	Microscale	TAPI 100 (077)
530070012	Malaga-Malaga Hwy	01/2017	SLAMS	Microscale	TAPI 100 (077)
530330080	Seattle-Beacon Hill	03/2007	SLAMS, NCore	Urban	TAPI 100 EU (600)

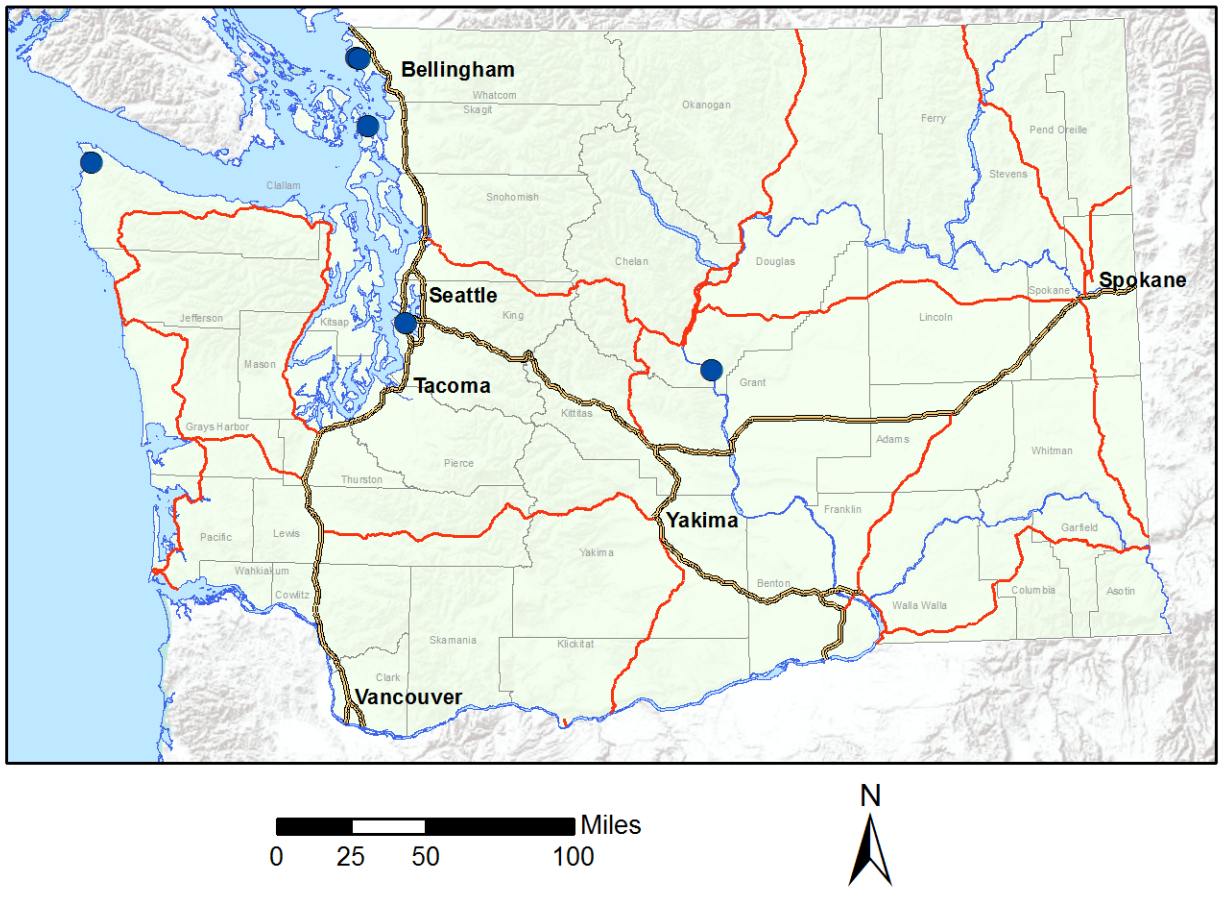


Figure 6. Map of Washington Network SO_2 monitoring sites

Minimum monitoring requirements

The Seattle-Beacon Hill NCore site (530330080) is used to satisfy the minimum monitoring requirement for a CBSA with minimally required monitors based on the Population Weighted Emissions Index.

Recommended/proposed modifications: None.

Particulate matter 2.5 ($PM_{2.5}$, 88101/88502)

FRM/FEM $PM_{2.5}$ (88101)

There are 19 sites in the Washington Network that monitor $PM_{2.5}$ with FRM or Class III FEM monitors. Sites operated with EPA funding through the Section 103 grant for $PM_{2.5}$ are noted in Table 10 below. For detailed site and monitor information, see Appendix D.

Table 10. Washington Network $PM_{2.5}$ monitoring sites

AQS ID	Site Name	Est.	Type	Scale	Method	$PM_{2.5}$ Grant Funded
530570011	Anacortes-202 O Ave	10/2011	SLAMS	Neighborhood	Met One BAM 1020 (170)	
530730019	Bellingham-Pacific St	01/2018	SLAMS	Neighborhood	Met One BAM 1020 (170)	✓
530350007	Bremerton-Spruce Ave	05/2012	SLAMS	Neighborhood	Met One BAM 1020 (170)	✓
530650005	Colville- E 1st St	11/2019	SLAMS	Neighborhood	Met One BAM 1020 (170)	
530610020	Darrington-Fir St	12/2010	SLAMS	Neighborhood	Met One BAM 1020 (170)	✓
530370002	Ellensburg-Ruby St	10/2007	SLAMS	Neighborhood	Met One BAM 1020 (170)	
530332004	Kent-Central & James	12/2010	SLAMS	Neighborhood	Met One BAM 1020 (170)	✓
530611007	Marysville-7th Ave	02/2010	SLAMS	Neighborhood	Met One BAM 1020 (170)	✓
530470013	Omak-Colville Tribe	10/2010	Tribal	Neighborhood	Met One BAM 1020 (170)	
530330030	Seattle-10th & Weller	06/2014	SLAMS, Near-road	Microscale	Met One BAM 1020 (170)	✓
530330080	Seattle-Beacon Hill	02/2010	SLAMS, NCore	Urban	Met One BAM 1020 (Primary) (170); R&P 2025 (Collocated) (145)	✓
530330057	Seattle-Duwamish	12/2009	SLAMS	Neighborhood	R&P 2025 (Primary and Collocated) (145); Met One BAM 1020 (170)	✓
530630017	Spokane-E Broadway Ave	01/2021	SLAMS	Neighborhood	Met One BAM 1020 (170)	✓
530530029	Tacoma- L Street	01/2010	SLAMS	Neighborhood	Met One BAM 1020 (170)	✓

AQS ID	Site Name	Est.	Type	Scale	Method	$PM_{2.5}$ Grant Funded
530530024	Tacoma-S 36th St	01/2016	SLAMS, Near-road	Microscale	Met One BAM 1020 (170) (Primary and Collocated)	
530770015	Toppenish-Yakama Tribe	08/2008	Tribal	Neighborhood	Met One BAM 1020 (170)	
530330069	Tukwila Allentown	04/2021	SLAMS	Neighborhood	Met One BAM 1020 (170)	✓
530110024	Vancouver NE 84th Ave	12/2014	SLAMS	Neighborhood	Met One BAM 1020 (170)	✓
530770009	Yakima-4th Ave	05/2011	SLAMS	Neighborhood	Met One BAM 1020 (Primary) (170); R&P 2025 (Collocated) (145)	✓

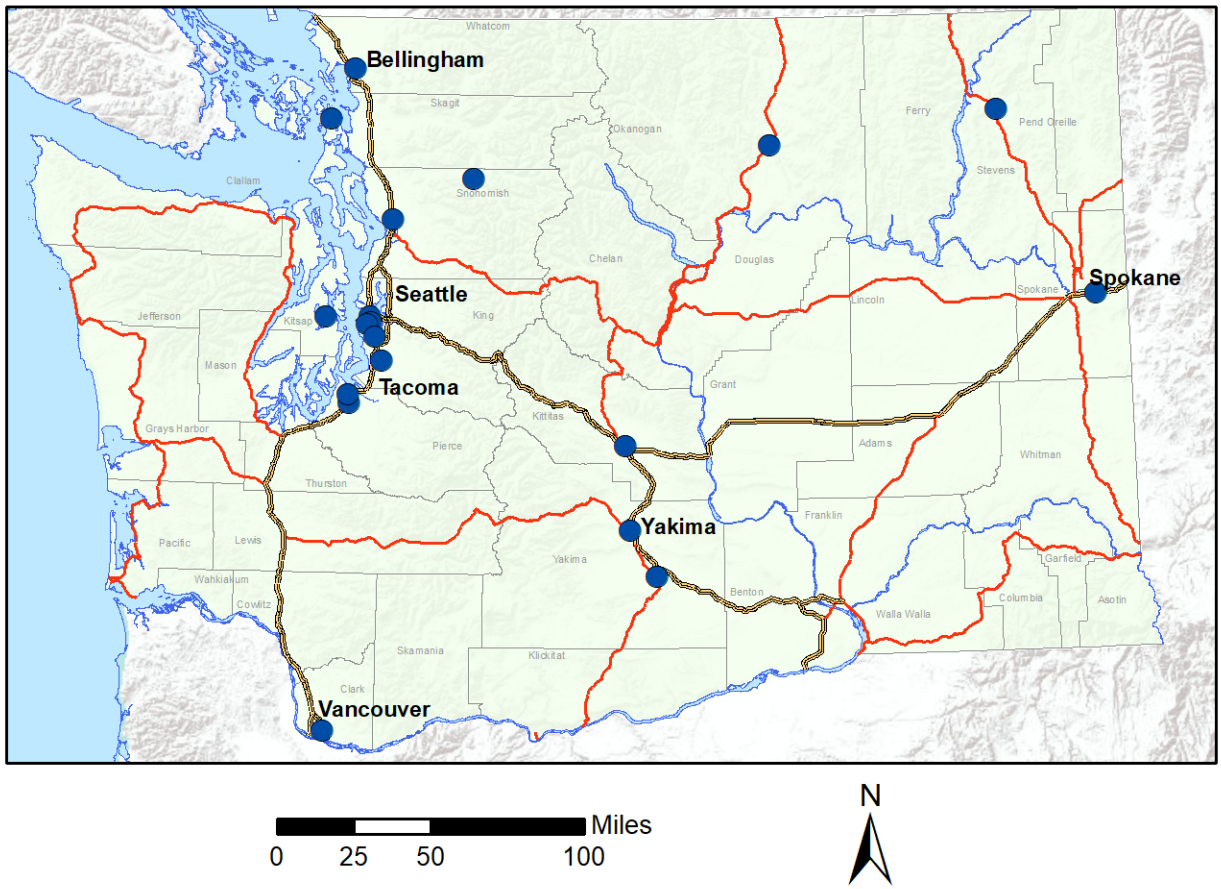


Figure 7. Map of Washington Network $PM_{2.5}$ monitoring sites

Minimum monitoring requirements

Minimum monitoring requirements for $PM_{2.5}$ are defined in 40 C.F.R. Part 58 Appendix D. Table 11 below summarizes the number of required and existing monitors in each of Washington's

CBSAs where monitoring is conducted. The design values listed are the maximum valid design value of all sites within the CBSA. The Washington Network is currently meeting the minimum monitoring requirements in all CBSAs.

For a full list of design values at all Washington Network $PM_{2.5}$ monitoring sites, see Appendix A.

Table 11. EPA minimum monitoring requirements for FRM/FEM $PM_{2.5}$

CBSA	2020 Population Estimate	Highest Monitoring Site	2020 Design Value (µg/m^3)	Number of Required Monitors	Number of Existing Monitors
Seattle-Tacoma-Bellevue, WA	3,992,000	Darrington-Fir St	39	3	9
Portland-Vancouver-Hillsboro, OR-WA*	2,549,460	Vancouver-NE 84th Ave	67	3	4
Spokane-Spokane Valley, WA	568,520	Spokane-Augusta Ave	35	2	2
Bremerton-Silverdale, WA	272,200	Bremerton-Spruce Ave	26	0	1
Yakima, WA	258,200	Yakima-4th Ave	61	1	2
Bellingham, WA	228,000	Bellingham-Pacific St	26	0	1
Mount Vernon-Anacortes, WA	130,450	Anacortes-202 O Ave	NA	0	1
Ellensburg, WA	48,140	Ellensburg-Ruby St	39	0	1

* Washington shares the Portland-Vancouver-Hillsboro CBSA with the state of Oregon. The minimum monitoring requirements for $PM_{2.5}$ in this CBSA are met through a combination of monitors operated by Ecology and the Oregon DEQ. Ecology and Oregon DEQ established a Memorandum of Understanding on May 20, 2019 to formalize this arrangement (Appendix E).

Collocation requirements

The monitoring sites listed in Table 12 are used to fulfill the collocation requirements described in 40 C.F.R. Part 58 Appendix A.

Table 12. $PM_{2.5}$ collocation requirements

Method Code	# Primary Monitors	# Required Collocated Monitors	# Active Collocated Monitors	Site
145	1	1	1	Seattle-Duwamish (530330057)
170	18	3	3	Tacoma-S 36th (530530024); Seattle-Beacon Hill (530330080) Yakima-4th Ave S (530770009)

Recent modifications: In April 2021, a permanent FEM BAM 1020 $PM_{2.5}$ monitor was added to the Puget Sound Clean Air Agency's (PSCAA's) Tukwila-Allentown site (530330069). The FEM replaced the non-regulatory nephelometer previously used for $PM_{2.5}$ reporting.

In May 2020, PSCAA discontinued the Auburn-M St $PM_{2.5}$ monitoring site (530330089) because of a renovation project at the school where the site was located. PSCAA identified a replacement site at Auburn-29th St (530330047), but the replacement site does not meet the siting criteria described in 40 C.F.R. Part 58 Appendix E for regulatory $PM_{2.5}$ monitoring due to a line of evergreen trees less than 10 meters from the shelter location. Because of these limitations, the new Auburn-29th St site will only run a non-regulatory nephelometer classified as a Special Purpose Monitor (SPM). EPA approved relocating the Auburn monitoring site in its response to Ecology's 2020 Ambient Air Monitoring Network Plan. Ecology requests approval to discontinue FEM $PM_{2.5}$ monitoring in Auburn as allowed by 40 C.F.R. Part 58.14(c)(4): "A $PM_{2.5}$ SLAMS monitor which EPA has determined cannot be compared to the relevant NAAQS because of the siting of the monitor, in accordance with §58.30." The Auburn-M St FEM monitor was not operational long enough to report a valid $PM_{2.5}$ design value and is not needed to meet minimum monitoring requirements in the Seattle-Tacoma-Bellevue, WA MSA.

In April 2021, PSCAA relocated the primary and collocated federal reference method (FRM) samplers from the Tacoma-L St site (530530029) to the Seattle-Duwamish site (530330057) and reduced the sampling frequency of the primary FRM from 1:1 to 1:6. This change was approved by EPA in response to Ecology's 2020 Ambient Air Monitoring Network Plan.

The Spokane Regional Clean Air Agency (SRCAA) discontinued $PM_{2.5}$ monitoring at the Spokane-Augusta monitoring site (530630021) in March 2021. The site was replaced by the Spokane-E Broadway Ave site (530630017), which began $PM_{2.5}$ monitoring in January 2021. This change was approved by EPA in response to Ecology's 2020 Ambient Air Monitoring Network Plan.

Recommended/proposed modifications: None.

Nephelometer $PM_{2.5}$ (88502)

Ecology and its partners operate 42 monitoring sites with correlated nephelometers to report estimated $PM_{2.5}$ concentrations and provide timely information on air quality conditions to the public. Sites operated with EPA funding through the Section 103 grant for $PM_{2.5}$ are noted in Table 14.

Table 13. Washington Network nephelometer monitoring sites

AQS ID	Site Name	Est.	Type	Scale	Method	$PM_{2.5}$ Grant Funded
530272002	Aberdeen-Division St	08/2002	SLAMS	Neighborhood	Radiance Research M903 (771)	✓
530330047	Auburn-29th St	03/2021	SPM	Neighborhood	Ecotech M9003 (812)	✓
530330031	Bellevue-SE 12th St	12/2016	SLAMS	Neighborhood	Radiance Research M903 (771)	✓
530090013	Cheeka Peak	05/2006	SLAMS, NCore	Regional	Radiance Research M903 (771)	

AQS ID	Site Name	Est.	Type	Scale	Method	$PM_{2.5}$ Grant Funded
530410004	Chehalis-Market Blvd	12/2009	SLAMS	Neighborhood	Radiance Research M903 (771)	
530070007	Chelan-Woodin Ave	12/2002	SPM	Neighborhood	Radiance Research M903 (771)	
530030004	Clarkston-13th St	03/2007	SLAMS	Neighborhood	Radiance Research M903 (771)	
530130002	Dayton-W Main St	02/2009	SLAMS	Neighborhood	Radiance Research M903 (771)	✓
530050002	Kennewick-Metaline	08/2004	SLAMS	Neighborhood	Radiance Research M903 (771)	✓
530670013	Lacey-College St	09/1990	SLAMS	Neighborhood	Radiance Research M903 (771)	
530750005	LaCrosse-Hill St	10/2002	SLAMS	Neighborhood	Radiance Research M903 (771)	✓
530330024	Lake Forest Park	10/2003	SLAMS	Neighborhood	Ecotech M9003 (812)	✓
530070010	Leavenworth-Evans St	07/2005	SPM	Neighborhood	Radiance Research M903 (771)	
530150015	Longview-30th Ave	03/2003	SLAMS	Neighborhood	Radiance Research M903 (771)	✓
530210002	Mesa-Pepiot Way	01/2003	SLAMS	Neighborhood	Radiance Research M903 (771)	✓
530251002	Moses Lake-Balsam St	01/2004	SLAMS	Neighborhood	Radiance Research M903 (771)	✓
530570015	Mt Vernon-S Second St	07/2005	SLAMS	Neighborhood	Radiance Research M903 (771)	✓
530090015	Neah Bay-Makah Tribe	02/2010	Tribal	Neighborhood	Radiance Research M903 (771)	
530510008	Newport-Calispel (Temporary)	12/2020	SPM	Neighborhood	Radiance Research M903 (771)	
530330017	North Bend-North Bend Way	03/2003	SLAMS	Neighborhood	Radiance Research M903 (771)	✓
530230001	Pomeroy-Pataha St	05/2017	SLAMS	Neighborhood	Radiance Research M903 (771)	✓
530090017	Port Angeles- E 5th St	04/2015	SLAMS	Neighborhood	Radiance Research M903 (771)	✓
530310003	Port Townsend-San Juan Ave	10/2002	SLAMS	Neighborhood	Radiance Research M903 (771)	
530750003	Pullman-Dexter SE	10/2002	SLAMS	Neighborhood	Radiance Research M903 (771)	✓
530251003	Quincy-3rd Ave NE	06/2017	SPM	Neighborhood	Radiance Research M903 (771)	
530010003	Ritzville-Alder St	03/2001	SLAMS	Neighborhood	Radiance Research M903 (771)	✓
530750006	Rosalia-Josephine St	10/2002	SLAMS	Neighborhood	Radiance Research M903 (771)	✓
530331011	Seattle-South Park	10/2003	SLAMS	Microscale	Ecotech M9003 (812)	
530450007	Shelton-W Franklin	04/2011	SLAMS	Neighborhood	Radiance Research M903 (771)	
530630047	Spokane-Monroe St	05/2004	SLAMS	Neighborhood	Radiance Research M903 (771)	✓

AQS ID	Site Name	Est.	Type	Scale	Method	$PM_{2.5}$ Grant Funded
530770005	Sunnyside-S 16th St	09/2015	SLAMS	Neighborhood	Radiance Research M903 (771)	
530530031	Tacoma-Alexander Ave	10/2003	SLAMS	Neighborhood	Ecotech M9003 (812)	✓
530270011	Taholah-Quinault Tribe	04/2004	Tribal	Neighborhood	Radiance Research M903 (771)	
530610021	Tulalip-Totem Beach Rd	10/2019	Tribal	Neighborhood	Radiance Research M903 (771)	
530470016	Twisp-Ewell St	06/2020	SPM	Neighborhood	Radiance Research M903 (771)	
530710005	Walla Walla-12th St	10/2002	SLAMS	Neighborhood	Radiance Research M903 (771)	✓
530650002	Wellpinit-Spokane Tribe	10/2008	Tribal	Neighborhood	Radiance Research M903 (771)	
530070011	Wenatchee-Fifth St	11/2012	SLAMS	Neighborhood	Radiance Research M903 (771)	
530770016	White Swan-Yakama Tribe	10/2009	Tribal	Neighborhood	Radiance Research M903 (771)	
530470010	Winthrop-Chewuch Rd	11/2003	SPM	Neighborhood	Radiance Research M903 (771)	
530110022	Yacolt-Yacolt Rd	07/2003	SLAMS	Neighborhood	Radiance Research M903 (771)	

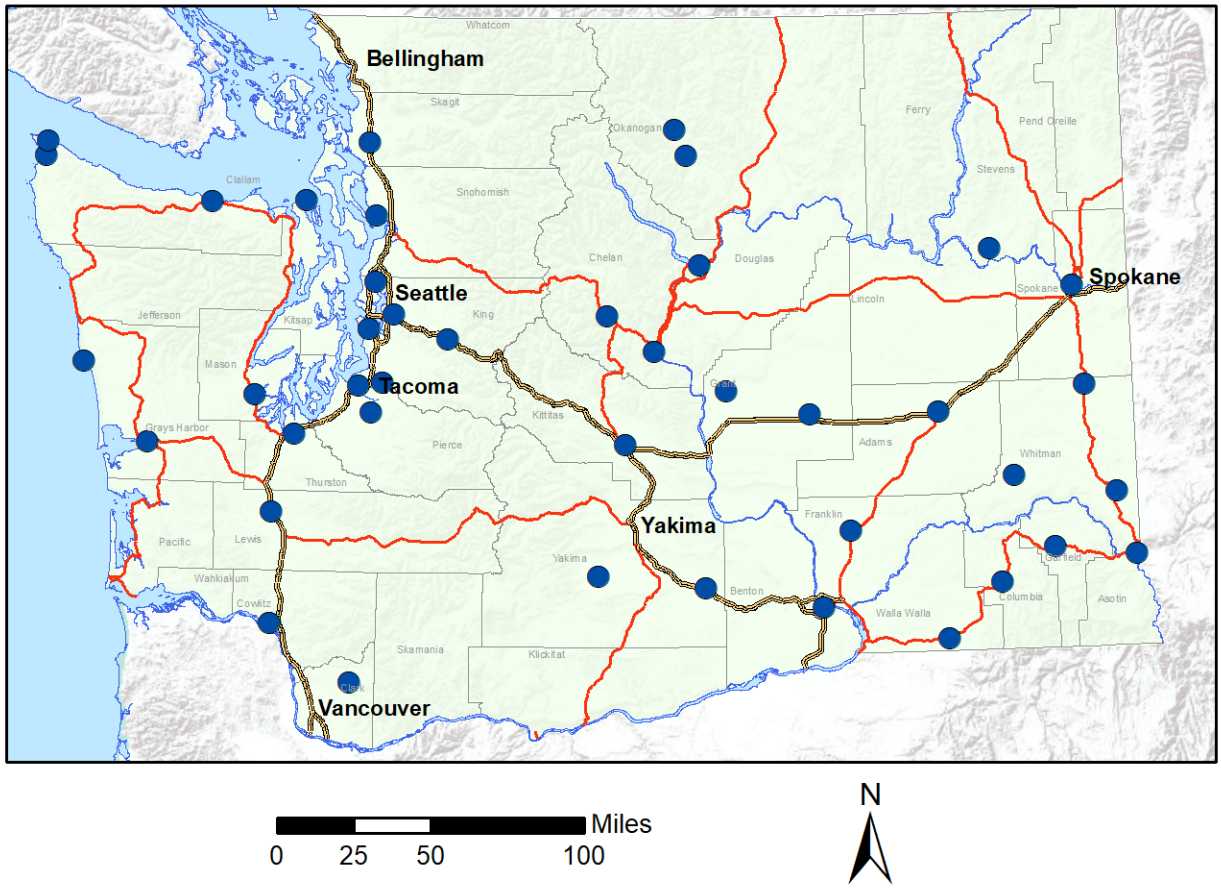


Figure 8. Map of Washington Network nephelometer monitoring sites

Regional background/transport requirements

Appendix D (4.7.3) of 40 C.F.R. Part 58 requires each state to operate at least one $PM_{2.5}$ monitoring site for regional background and one for regional transport. The Cheeka Peak NCore site serves as Washington's regional background site, and the Moses Lake SLAMS is designated as a regional transport site.

Recent modifications: In June 2020, the Twisp-Glover St monitoring site (530470009) was relocated to a new location approximately 1 mile south at Twisp-Ewell St (530470016) due to a planned construction project at the previous site. The discontinued Twisp-Glover St site was classified as a non-EPA federal monitor as it was previously operated by the U.S. Forest Service. The new Twisp-Ewell St will be operated by Ecology as a SPM.

The Pomeroy nephelometer monitoring site (530230001), which was established as a temporary SPM in 2017, became a permanent SLAMS site in September 2020. This addition was approved in EPA's response to Ecology's 2020 Ambient Air Monitoring Network Plan.

The Puyallup-128th St SLAMS site operated by PSCAA was discontinued in November 2020. This network modification is allowable under 40 C.F.R. Part 58.14(c)(3). This monitor has not

measured a violation of the NAAQS in the past 5 years and is located within the Tacoma-Pierce County Maintenance Area. Continued attainment of the NAAQS in this maintenance area is demonstrated by the Tacoma-L St (530530029) monitoring site.

Ecology established the temporary Newport-Calispel SPM site (530510008) in December 2020. It is expected to operate for one year until December 2021.

Nephelometer monitoring at PSCAA's Tukwila-Allentown SLAMS site (530330069) was discontinued in March 2021 and replaced with an FEM BAM 1020 as of April 1, 2021.

In April 2021, PSCAA established the Auburn-29th St nephelometer SPM site (530330047).

Recommended/proposed modifications: Ecology plans to operate the Newport-Calispel SPM nephelometer monitoring site (530510008) until December 2021.

Particulate matter 10 (PM_{10}, 81102)

There are six PM_{10} monitoring sites in the Washington Network. For detailed site and monitor information, see Appendix D.

Table 14. Washington Network PM_{10} monitoring sites*

AQS ID	Site Name	Established	Type	Scale	Method
530710006	Burbank-Maple St	08/2017	SLAMS	Neighborhood	BAM 1020 (122)
530650005	Colville-E 1st St	10/2015	SLAMS	Neighborhood	BAM 1020 (122)
530050002	Kennewick-Metaline	10/1994	SLAMS	Neighborhood	BAM 1020 (122)
530330080	Seattle-Beacon Hill	03/2003	SLAMS, NCore	Urban	R&P 2025 (127)
530630017	Spokane-E Broadway Ave	03/2021	SLAMS	Neighborhood	BAM 1020 (122)
530770009	Yakima-4th Ave S	04/2000	SLAMS	Neighborhood	BAM 1020 (122)

*PM_{10} monitoring is planned at Cheney-Turnbull (530630001) with an anticipated start date of October 1, 2021. The Cheney-Turnbull site is shown on the map in Figure 12 for reference.

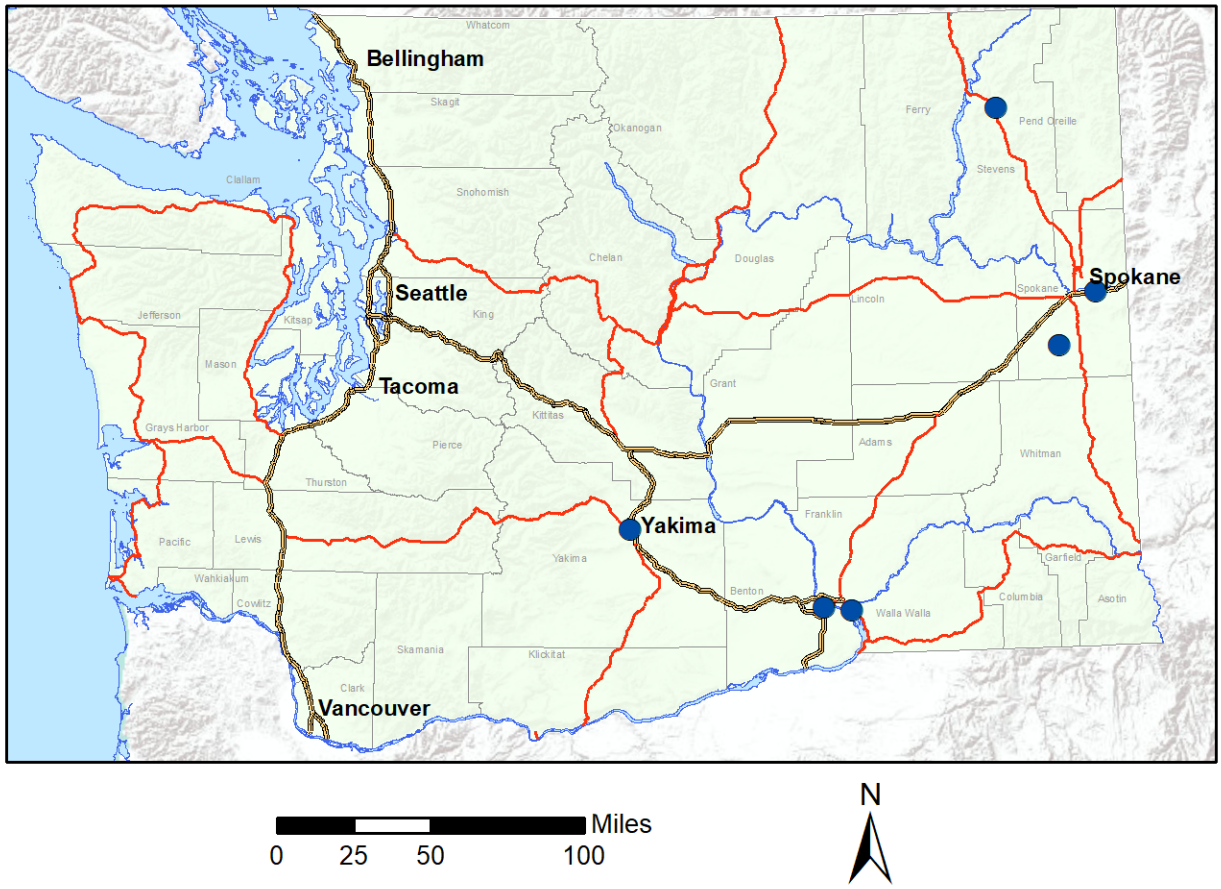


Figure 9. Map of Washington Network PM_{10} monitoring sites

The Washington Network is currently not meeting the PM_{10} minimum monitoring requirements defined in 40 C.F.R. Part 58 Appendix D in four metropolitan areas, as summarized in Table 16, and EPA Region 10 has approved waivers for the unmet monitoring requirements.

Table 15. EPA minimum monitoring requirements for PM_{10}

Core-Based Statistical Area	2020 Population Estimate	Annual Average Expected Exceedances (2018-2020)	Number of Required Monitors	Number of Existing Monitors
Seattle-Tacoma-Bellevue, WA	3,992,000	0	2	1
Portland-Vancouver-Hillsboro, OR-WA	2,549,460	0	2	4
Spokane-Spokane Valley, WA	568,520	2.7	4	2
Kennewick-Richland, WA	302,460	5.2	3	1
Yakima, WA	258,200	2.7	3	1

On April 2, 2019, Ecology submitted to EPA Region 10 a request for a waiver for the unmet minimum monitoring requirements in the Seattle-Tacoma-Bellevue, Spokane-Spokane Valley, Kennewick-Richland and Yakima MSAs. EPA issued Ecology a waiver for the unmet monitoring requirements in the Yakima and Kennewick-Richland MSAs on April 18, 2019. These waivers are provided in Appendix B. In a letter dated February 7, 2020 (Appendix C), EPA Region 10 also approved Ecology's request for a monitoring waiver for the unmet PM_{10} monitoring requirement in the Seattle-Tacoma-Bellevue MSA and one of the two unmet PM_{10} monitoring requirements in the Spokane-Spokane Valley MSA. In order to meet the remaining requirement for a third PM_{10} monitor in the Spokane-Spokane Valley MSA, EPA requested that data from the PM_{10} monitor that SRCAA operates at Cheney-Turnbull (530630001) be submitted to AQS.

Recent modifications: In March 2021, SRCAA discontinued PM_{10} monitoring at the Spokane-Augusta monitoring site (530630021). The site was replaced by the Spokane-E Broadway Ave site (530630017), which began PM_{10} monitoring in March 2021. This change was approved by EPA in response to Ecology's 2020 Ambient Air Monitoring Network Plan.

Recommended/proposed modifications: Ecology plans to add the PM_{10} monitor operated by SRCAA at the Cheney-Turnbull site (530630001) to the Washington Network by October 1, 2021. This addition was requested in EPA's response to Ecology's 2019 Ambient Air Monitoring Network Plan but was delayed for several reasons. First, the COVID-19 pandemic delayed access to the site by quality assurance staff in spring and summer 2020, and during this delay SRCAA observed substantial localized dust impacts from the gravel road next to the monitoring site. SRCAA has identified an alternate location approximately 120 meters away where they expect localized dust impacts to be reduced. EPA approved this addition to the Washington Network in its response to Ecology's 2020 Ambient Air Monitoring Network Plan.

Meteorological monitoring (61101/61102/61103/61104/62101)

There are 18 meteorological monitoring sites in the Washington Network. All Washington Network meteorological monitoring sites collect scalar and vector wind speed and direction using RM Young or Vaisala sonic anemometers (method codes 062 and 060, respectively) and ambient temperature under method code 040 (electronic or machine average). All Washington Network meteorological sites follow EPA's monitoring guidelines for prevention of significant deterioration (PSD). For detailed site and monitor information, see Appendix D.

Table 16. Washington Network meteorological monitoring sites

AQS ID	Site Name	Established	Type	Scale
530710006	Burbank-Maple St	03/2018	SLAMS	Urban
530090013	Cheeka Peak	08/2007	SLAMS, NCore	Urban
530650005	Colville-E 1st St	05/2016	SLAMS	Urban
530330023	Enumclaw-Mud Mtn.	02/2004	SLAMS	Urban
530730017	Ferndale-Mountain View Rd	01/2017	SLAMS	Urban
530050002	Kennewick-Metaline	08/2012	SLAMS	Urban
530070012	Malaga-Malaga Hwy	01/2017	SLAMS	Urban
530330017	North Bend-North Bend Way*	01/2000	SLAMS	Urban

AQS ID	Site Name	Established	Type	Scale
530470013	Omak-Colville Tribe	10/2010	Tribal	Urban
530251003	Quincy-3rd Ave NE	06/2017	SPM	Urban
530330030	Seattle-10th & Weller	04/2014	SLAMS, Near-road	Urban
530330080	Seattle-Beacon Hill	01/1991	SLAMS, NCore	Urban
530630021	Spokane-Augusta Ave	07/2009	SLAMS	Urban
530530024	Tacoma-S 36th St	02/2016	SLAMS, Near-road	Urban
530770015	Toppenish-Yakama Tribe	06/2009	Tribal	Urban
530110011	Vancouver-Blairmont Dr*	12/2007	SLAMS	Urban
530070011	Wenatchee-Fifth St	11/2012	SLAMS	Urban
530770016	White Swan-Yakama Tribe*	11/2009	Tribal	Urban

*Meteorological monitoring at North Bend-North Bend Way, Vancouver-Blairmont Dr and White Swan are temporarily suspended.

At the North Bend-North Bend Way site (530330017), a large residential building was constructed within several meters of the meteorological tower, which no longer meets siting requirements for PSD meteorological monitoring. Ecology plans to relocate the tower to another location at the existing site, but this work has been delayed due to the staff shortage and hiring freeze associated with the COVID-19 pandemic.

Due to a planned construction project on the property of the Vancouver-Blairmont monitoring site (530110011) from 2020-2022, the site was relocated to a temporary shelter without access to a meteorological tower in May 2020. Meteorological monitoring is temporarily suspended from May 2020-April 2022.

Meteorological monitoring at White Swan (530770016) was suspended in April 2020 due to a tower failure. Installation of a new tower has been delayed due to the staff shortage and hiring freeze associated with the COVID-19 pandemic.

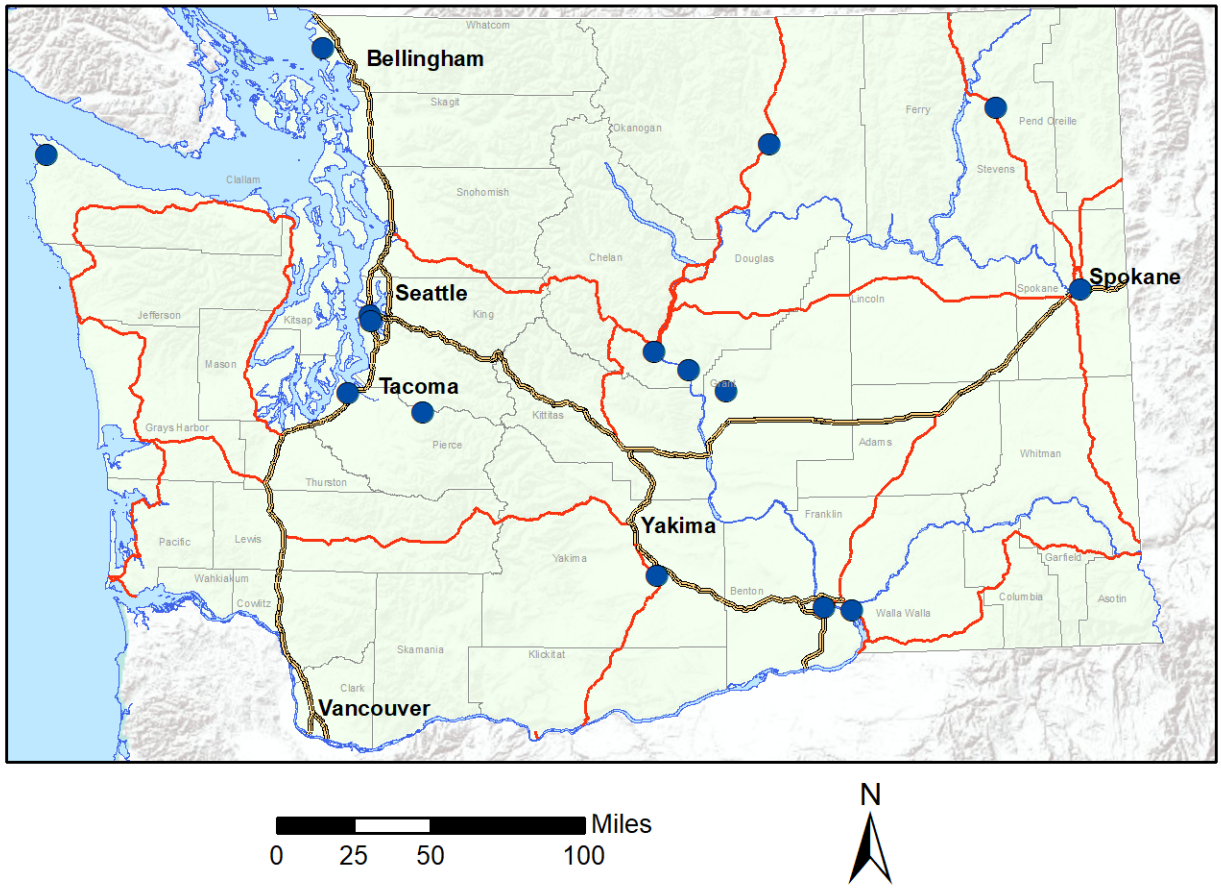


Figure 10. Map of Washington Network meteorological monitoring sites

Recent modifications: Ecology discontinued the Tacoma-Tower Dr meteorological monitoring site (530531016) in December 2020.

Recommended/proposed modifications: The North Bend, Vancouver-Blairmont and White Swan meteorological monitoring sites will resume monitoring when the issues described above are resolved.

Lead (Pb)

Ecology reports Pb in PM_{10} concentrations as part of the National Air Toxics Trends Station (NATTS) monitoring at Seattle-Beacon Hill (530330080). At the request of EPA, Ecology ceased reporting to parameter code 85129 and began reporting to parameter code 85128 as of January 1, 2019.

As described in 40 C.F.R. Part 58, Appendix D § 4.5, source-oriented lead monitoring is required in the vicinity of sources that emit 0.5 tons per year or more of lead. According to the 2017 National Emissions Inventory, Washington's only source above this threshold is Ardagh Glass in Seattle. Ecology modeled the impact of this facility on ambient air and demonstrated that it

would not contribute to a maximum Pb concentration in ambient air above 50 percent of the NAAQS. On April 18, 2019, EPA issued Ecology a waiver for lead monitoring at Ardagh Glass based on the modeling results. This waiver is provided in Appendix B.

Recommended/proposed modifications: None.

Chemical Speciation Network (CSN)

Ecology and its partners operate 6 speciation monitoring sites as part of the national Chemical Speciation Network. Four of these sites are ongoing, including one Speciation Trends Network (STN) site and three supplemental CSN sites. The remaining two speciation sites are operating for special studies funded by state or local partners from 2018-2021.*

Table 17. Washington Network Chemical Speciation Network monitoring sites

AQS ID	Site Name	Established	Type	Scale
530330030	Seattle-10th & Weller	11/2014	Supplemental CSN	Microscale
530330080	Seattle-Beacon Hill	02/2000	Speciation Trends Network (STN)	Urban
530330057	Seattle-Duwamish	08/2018	Special study (funded by Puget Sound Clean Air Agency)*	Neighborhood
530530031	Tacoma-Alexander	08/2018	Special study (funded by Washington State legislature)*	Neighborhood
530530029	Tacoma-L St	01/2006	Supplemental CSN	Neighborhood
530770009	Yakima-4th Ave S	11/2007	Supplemental CSN	Neighborhood

* With the passage of the Washington State 2018 supplemental operating budget (Engrossed Substitute Senate Bill 6032), Ecology was directed to use state funding to conduct a multiyear source apportionment study at the monitoring site closest to the Port of Tacoma. Ecology began conducting $PM_{2.5}$ speciation monitoring at PSCAA's Tacoma-Alexander Ave (530530031) monitoring site on August 6, 2018. Puget Sound Clean Air Agency is conducting a parallel speciation study at the Seattle-Duwamish monitoring site (530330057) concurrently with the Tacoma study. Sampling was expected to conclude at both sites in August 2021, but due to the COVID-19 pandemic, sampling was temporarily suspended from March 2020 – August 2020. Ecology plans to continue sampling at Tacoma-Alexander Ave until January 2022 in order to make up for this break in sampling. Puget Sound Clean Air Agency plans to continue speciation sampling at Seattle-Duwamish until June 2022 in conjunction with the Community-Scale Air Toxics Grant-funded study they plan to conduct at Seattle-Duwamish and other area sites from July 2021 – June 2022.

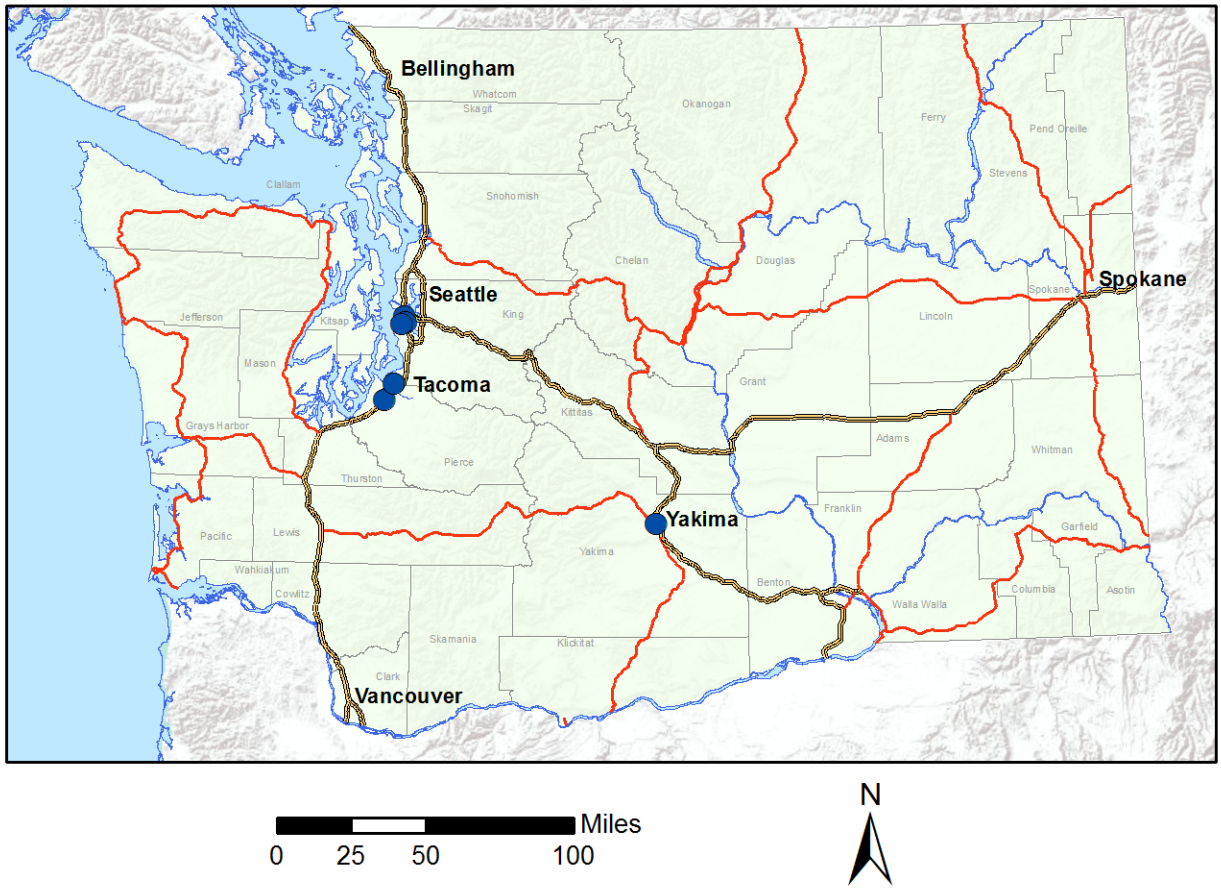


Figure 11. Map of Washington Chemical Speciation Network monitoring sites

Each speciation site samples the following parameters:

Table 18. Chemical Speciation Network monitoring parameters

Code	Parameter	Code	Parameter	Code	Parameter	Code	Parameter
88102	Antimony	88126	Iron	88167	Zinc	88370	OC CSN Rev Unadjusted
88103	Arsenic	88128	Lead	88168	Strontium	88374	OC1 CSN Rev Unadjusted
88104	Aluminum	88131	Indium	88169	Sulfur	88375	OC2 CSN Rev Unadjusted
88107	Barium	88132	Manganese	88176	Rubidium	88376	OC3 CSN Rev Unadjusted
88109	Bromine	88136	Nickel	88180	Potassium	88377	OC4 CSN Rev Unadjusted
88110	Cadmium	88140	Magnesium	88184	Sodium	88378	OP CSN Rev Unadjusted
88111	Calcium	88152	Phosphorus	88185	Zirconium	88380	EC CSN Rev Unadjusted
88112	Chromium	88154	Selenium	88301	Ammonium Ion	88383	EC1 CSN Rev Unadjusted
88113	Cobalt	88160	Tin	88302	Sodium Ion	88384	EC2 CSN Rev Unadjusted
88114	Copper	88161	Titanium	88303	Potassium Ion	88385	EC3 CSN Rev Unadjusted
88115	Chlorine	88164	Vanadium	88306	Total Nitrate	88388	OP CSN Rev Unadjusted
88117	Cerium	88165	Silicon	88355	OC CSN Rev Unadjusted	88403	Sulfate
88118	Cesium	88166	Silver	88357	EC CSN Rev Unadjusted	88502	$PM_{2.5}$ Speciation Mass

Recommended/proposed modifications: None.

National Core (NCore)

There are two NCore sites in the Washington Network: Seattle-Beacon Hill (530330080) is an urban NCore site, and Cheeka Peak (530090013) is a rural NCore site. The parameters monitored at each site are summarized in Table 20. The Olympic Region Clean Air Agency (ORCAA) is funded directly by EPA for operation of the Cheeka Peak NCore site. Per ORCAA's arrangement with EPA, the site does not include FRM/FEM $PM_{2.5}$, $PM_{10-2.5}$ or NO_2 monitoring.

Table 19. NCore parameters monitored at Cheeka Peak and Seattle-Beacon Hill

Parameter	Cheeka Peak	Seattle-Beacon Hill
Trace CO (42101)	✓	✓
Trace NO_y (42600)	✓	✓
Area-wide NO_2 (42602)		✓
Ozone (44201)	✓	✓
Trace SO_2 (42401)	✓	✓
Filter-based PM_{10} (81102)		✓
Filter-based $PM_{2.5}$ (88101)		✓
Continuous FEM $PM_{2.5}$ (88101)		✓
Nephelometer $PM_{2.5}$ (88502)	✓	
Meteorological (61101/61102/61103/61104/62101/64101/62201)	✓	✓
$PM_{2.5}$ speciation		✓
$PM_{10-2.5}$ (86101)		✓

Recommended/proposed modifications: None.

National Air Toxics Trends Station (NATTS)

Seattle-Beacon Hill (530330080) is a National Air Toxics Trends Station (NATTS) as well as a CSN, NCore and SLAMS site.

Recommended/proposed modifications: None.

Photochemical Assessment Monitoring Station (PAMS)

On January 8, 2020, EPA published a final rule in the federal register extending the start date for new required Photochemical Assessment Monitoring Stations (PAMS) from June 1, 2019, to June 1, 2021. Ecology is required to add PAMS measurements to the Seattle-Beacon Hill NCore site (530330080), as PAMS measurements are required at each NCore site in a core-based statistical area (CBSA) with population 1,000,000 or more (40 C.F.R. Part 58 Appendix D). Ecology has acquired the necessary equipment for PAMS monitoring through a combination of EPA's national contracts, EPA equipment funding and supplemental state funding. Due to scheduling limitations with the vendor of the automated gas chromatograph (Auto-GC), Ecology plans to install the Auto-GC from June 28-30, 2021, and begin sampling hourly speciated VOCs thereafter.

Monitoring for all other PAMS parameters began by June 1, 2021.

The following PAMS parameters are monitored at Seattle-Beacon Hill:

- Hourly averaged VOCs (as of June 30, 2021)
- Three 8-hour averaged carbonyl samples per day on a 1/3 schedule
- Hourly averaged O_3
- Hourly averaged NO, true nitrogen dioxide (NO_2), and total reactive nitrogen (NO_y)
- Hourly averaged ambient temperature
- Hourly vector-averaged wind direction
- Hourly vector-averaged wind speed
- Hourly average atmospheric pressure
- Hourly averaged relative humidity
- Hourly precipitation
- Hourly averaged mixing height

In November 2020, EPA approved a waiver request to collect the required solar and ultraviolet radiation parameters at the Seattle-Duwamish site (530330057) as an alternative location due to the lack of suitable space for those measurements at Seattle-Beacon Hill. This waiver is included in Appendix B. Monitoring for these parameters at Seattle-Duwamish also began by June 1, 2021.

References

Ambient Air Monitoring Reference and Equivalent Methods, 40 C.F.R. Part 53, 2011.

Ambient Air Quality Surveillance, 40 C.F.R. Part 58, 2020.

Ambient Monitoring Guidelines for Prevention of Significant Deterioration (PSD), EPA-450/4-87-007, May 1987.

National Primary and Secondary Ambient Air Quality Standards, 40 C.F.R. Part 50, 2015.

Portland State University Population Research Center. "Population Estimate Reports." https://www.pdx.edu/population-research/population-estimate-reports (March 2021).

United States Census Bureau. "State-based Metropolitan and Micropolitan Statistical Areas Maps." https://www.census.gov/geo/maps-data/maps/statecbsa.html (February 2013).

Washington Office of Financial Management. "April 1 Official Population Estimates." https://ofm.wa.gov/washington-data-research/population-demographics/population-estimates/april-1-official-population-estimates (March 2021).

Appendices

Appendix A. Criteria Pollutant Design Values

Tables 21-27 show criteria pollutant design values for all sites in the Washington Network.

Table 20. Carbon monoxide (CO) 2020 design values

Site	AQS ID	2020 Exceedances
Cheeka Peak	530090013	0
Seattle 10th & Weller	530330030	0
Seattle Beacon Hill	530330080	0

Table 21. Nitrogen dioxide (NO_2) 2020 design values (ppb)

Site	AQS ID	2018 98th Percentile	2019 98th Percentile	2020 98th Percentile	2020 Design Value
Seattle 10th & Weller	530330030	63.7	57.2	56.8	59
Seattle Beacon Hill	530330080	44.5	42.8	39.4	42
Tacoma S 36th	530530024	46.4	40.3	39.8	42

Table 22. Ozone (O_3) 2020 design values (ppm)

Site	AQS ID	2018 4th Highest D8M*	2019 4th Highest D8M	2020 4th Highest D8M	2020 Design Value
Anacortes 202 Avenue	530570011	0.041	0.040	NA	NA
Cheeka Peak	530090013	0.056	0.051	0.049	[0.052]
Cheney Turnbull	530630001	0.063	0.054	0.054	0.057
Custer Loomis	530730005	0.062	0.044	0.051	0.052
Enumclaw Mud Mtn	530330023	0.077	0.055	0.059	0.063
Issaquah Lake Sammamish	530330010	0.067	0.052	0.060	0.059
Kennewick S Clodfelter	530050003	0.073	0.061	0.061	0.065
Mt Rainier Jackson Visitors Ctr	530530012	0.067	0.056	0.060	0.061
North Bend North Bend Way	530330017	0.071	0.053	0.051	0.058
Seattle Beacon Hill	530330080	0.045	0.046	0.052	0.047
Spokane Greenbluff	530630046	0.072	0.057	0.055	0.061
Vancouver Blairmont Dr	530110011	0.062	0.058	[0.054]	[0.058]
Yelm Northern Pacific	530670005	0.063	0.052	0.057	0.057

*D8M is the daily maximum 8-hour average concentration.

Design values in brackets do not meet minimum data completeness requirements.

Table 23. Sulfur dioxide (SO_2) 2020 design values (ppb)

Site	AQS ID	2018 99th Percentile	2019 99th Percentile	2020 99th Percentile	2020 Design Value
Anacortes 202 Ave	530570011	2.4	3.4	NA	NA
Cheeka Peak	530090013	1	1	1	1
Ferndale-Kickerville Rd	530730013	73.7	69.6	59	68
Ferndale-Mountain View Rd	530730017	101.3	104.5	62	89
Malaga-Malaga Hwy	530070012	1.2	1.0	2	1
Seattle-Beacon Hill	530330080	8	6	4	6

Table 24. $PM_{2.5}$ 2020 24-hour design values and pseudo-design values (µg/m^3)

Design values from FRM and FEM monitoring sites are shaded. Pseudo-design values from nephelometer sites are estimates only and cannot be used to determine compliance with the NAAQS. DVs in brackets are estimated from fewer than three years of available data. In years with one or more quarters less than 50% complete, 98th percentiles are not reported.

Site	AQS ID	98th Percentile 2018	98th Percentile 2019	98th Percentile 2020	24-Hour Design Value 2020
Aberdeen Division St	530272002	12.4	NA	27.3	[20]
Anacortes 202 O Avenue	530570011	27.7	12.0	NA	[20]
Bellevue SE 12th St	530330031	9.2	9.4	68.0	29
Bellingham Pacific St	53073001	24.0	12.2	42.4	26
Bremerton Spruce Ave	530350007	24.0	11.6	41.2	26
Cheeka Peak	530090013	27.4	5.2	48.6	27
Chehalis Market Blvd	530410004	28.5	13.7	12.7	18
Chelan Woodin Ave	530070007	137.8	12.4	99.1	83
Clarkston 13th St	530030004	37.8	22.8	117.5	59
Colville E 1st St	530650005	73.3	24.3	65.7	54
Darrington Fir St	530610020	41.9	22.8	51.2	39
Dayton W Main St	530130002	37.3	15.4	79.2	44
Ellensburg Ruby St	530370002	46.5	18.8	50.3	39
Kennewick Metaline	530050002	32.6	18.6	76.5	43
Kent Central & James	530332004	32.8	17.8	42.2	31
Lacey College St	530670013	29.6	18.1	33.2	27
LaCrosse Hill St	530750005	38.4	11.8	48.3	33
Lake Forest Park	530330024	50.7	18.1	52.7	41
Leavenworth Evans St	530070010	60.0	19.6	57.4	46
Longview 30th Ave	530150015	24.8	16.7	63.9	35
Marysville 7th Ave	530611007	31.2	27.7	47.2	35
Mesa Pepiot Way	530210002	32.5	16.0	90.3	46
Moses Lake Balsam St	530251002	37.3	14.7	50.9	34
Mt Vernon S Second St	530570015	14.5	7.6	NA	[11]
Neah Bay Makah Tribe	530090015	22.2	NA	19.5	[21]
North Bend North Bend Way	530330017	34.6	12.2	45.9	31
Omak Colville Tribe	530470013	93.5	21.3	83.1	66
Pomeroy Pataha St	530230001	25.4	12.6	50.1	29

Site	AQS ID	98th Percentile 2018	98th Percentile 2019	98th Percentile 2020	24-Hour Design Value 2020
Port Angeles E 5th St	530090017	41.9	14.6	30.4	29
Port Townsend San Juan Ave	530310003	28.3	10.1	44.6	28
Pullman Dexter SE	530750003	NA	8.2	17.3	[13]
Quincy 3rd Ave NE	530251003	58.4	12.8	66.7	46
Ritzville Alder St	530010003	44.3	11.6	81.3	46
Rosalia Josephine St	530750006	36.0	12.0	20.1	23
Seattle 10th & Weller	530330030	35.5	16.5	60.5	38
Seattle Beacon Hill	530330080	37.0	11.9	53.0	34
Seattle Duwamish	530330057	41.7	20.2	46.3	36
Seattle South Park	530331011	43.8	16.3	19.1	26
Shelton W Franklin	530450007	25.7	14.5	52.0	31
Spokane Augusta Ave	530630021	49.5	25.1	31.0	35
Spokane Monroe St	530630047	51.0	23.3	23.7	33
Sunnyside S 16th St	530770005	62.4	31.3	118.1	71
Tacoma Alexander Ave	530530031	35.1	15.3	35.4	29
Tacoma L Street	530530029	37.5	27.5	36.8	34
Tacoma S 36th St	530530024	29.4	19.2	40.5	30
Taholah Quinault Tribe	530270011	25.6	NA	44.4	[35]
Toppenish Yakama Tribe	530770015	50.4	34.4	90.0	58
Tukwila Allentown	530330069	51.5	16.6	56.5	42
Tulalip Totem Beach Rd	530610021	NA	NA	29.5	[30]
Twisp (combined)	530470016	NA	20.7	51.3	[36]
Vancouver NE 84th Ave	530110024	30.0	24.9	147.4	67
Walla Walla 12th St	530710005	37.7	16.5	100.1	51
Wellpinit Spokane Tribe	530650002	46.5	15.1	42.4	35
Wenatchee Fifth St	530070011	90.1	18.6	92.7	67
White Swan Yakama Tribe	530770016	51.6	21.9	NA	[37]
Winthrop Chewuch Rd	530470010	71.7	15.7	56.9	48
Yacolt Yacolt Rd	530110022	18.4	17.4	17.3	18
Yakima 4th Ave	530770009	47.5	31.8	104.6	61

Table 25. $PM_{2.5}$ 2020 annual design values and pseudo-design values

Design values from FRM and FEM monitoring sites are shaded. Pseudo-design values from nephelometer sites are estimates only and cannot be used to determine compliance with the NAAQS. DVs in brackets are estimated from fewer than three years of available data. In years with one or more quarters less than 50% complete, annual means are not reported.

Site	AQS ID	Annual Mean 2018	Annual Mean 2019	Annual Mean 2020	Annual Design Value 2020
Aberdeen Division St	530272002	4.99	NA	7.16	[6.1]
Anacortes 202 O Avenue	530570011	6.25	5.49	NA	[5.9]
Bellevue SE 12th St	530330031	3.59	3.79	6.17	4.5
Bellingham Pacific St	53073001	5.29	4.55	5.55	5.1
Bremerton Spruce Ave	530350007	4.82	4.86	7.64	5.8
Cheeka Peak	530090013	3.96	2.00	4.88	3.6
Chehalis Market Blvd	530410004	6.93	5.86	5.06	5.9

Site	AQS ID	Annual Mean 2018	Annual Mean 2019	Annual Mean 2020	Annual Design Value 2020
Chelan Woodin Ave	530070007	12.98	4.80	9.70	9.2
Clarkston 13th St	530030004	9.36	8.01	10.84	9.4
Colville E 1st St	530650005	12.24	8.36	14.57	11.7
Darrington Fir St	530610020	6.67	5.95	7.25	6.6
Dayton W Main St	530130002	6.00	5.20	7.30	6.2
Ellensburg Ruby St	530370002	7.07	6.99	9.29	7.8
Kennewick Metaline	530050002	7.09	6.40	8.55	7.3
Kent Central & James	530332004	7.04	5.87	8.57	7.2
Lacey College St	530670013	5.94	6.18	7.23	6.5
LaCrosse Hill St	530750005	5.92	4.44	6.02	5.5
Lake Forest Park	530330024	8.83	7.11	8.13	8.0
Leavenworth Evans St	530070010	8.98	6.65	7.67	7.8
Longview 30th Ave	530150015	6.24	5.47	7.60	6.4
Marysville 7th Ave	530611007	8.13	8.52	10.57	9.1
Mesa Pepiot Way	530210002	6.53	4.82	7.47	6.3
Moses Lake Balsam St	530251002	7.54	5.55	7.38	6.8
Mt Vernon S Second St	530570015	3.50	2.76	NA	[3.1]
Neah Bay Makah Tribe	530090015	4.51	NA	5.36	[4.9]
North Bend North Bend Way	530330017	4.68	3.55	5.52	4.6
Omak Colville Tribe	530470013	13.41	7.36	15.04	11.9
Pomeroy Pataha St	530230001	5.53	4.76	6.48	5.6
Port Angeles E 5th St	530090017	9.18	6.75	9.03	8.3
Port Townsend San Juan Ave	530310003	6.36	5.14	7.02	6.2
Pullman Dexter SE	530750003	NA	3.25	4.59	[3.9]
Quincy 3rd Ave NE	530251003	7.34	4.19	6.61	6.0
Ritzville Alder St	530010003	6.06	4.00	6.39	5.5
Rosalia Josephine St	530750006	6.54	4.76	6.16	5.8
Seattle 10th & Weller	530330030	9.33	7.37	9.49	8.7
Seattle Beacon Hill	530330080	6.51	5.21	6.21	6.0
Seattle Duwamish	530330057	8.94	8.27	10.13	9.1
Seattle South Park	530331011	9.60	8.43	9.03	9.0
Shelton W Franklin	530450007	6.79	5.94	9.10	7.3
Spokane Augusta Ave	530630021	10.33	7.54	10.28	9.4
Spokane Monroe St	530630047	9.45	7.07	10.40	9.0
Sunnyside S 16th St	530770005	11.92	10.77	15.21	12.6
Tacoma Alexander Ave	530530031	8.06	6.78	7.46	7.4
Tacoma L Street	530530029	8.23	8.11	9.40	8.6
Tacoma S 36th St	530530024	7.89	7.15	9.12	8.1
Taholah Quinault Tribe	530270011	5.54	NA	6.62	[6.1]
Toppenish Yakama Tribe	530770015	10.42	9.80	14.12	11.4
Tukwila Allentown	530330069	8.70	7.28	9.69	8.6
Tulalip Totem Beach Rd	530610021	NA	NA	3.13	[3.1]
Twisp (combined)	530470016	NA	7.73	8.70	[8.2]
Vancouver NE 84th Ave	530110024	7.35	7.04	13.91	9.4
Walla Walla 12th St	530710005	7.11	6.21	9.05	7.5
Wellpinit Spokane Tribe	530650002	8.12	5.19	6.41	6.6
Wenatchee Fifth St	530070011	11.25	6.72	10.62	9.5
White Swan Yakama Tribe	530770016	7.39	5.94	NA	[6.7]
Winthrop Chewuch Rd	530470010	10.90	6.07	7.80	8.3

Site	AQS ID	Annual Mean 2018	Annual Mean 2019	Annual Mean 2020	Annual Design Value 2020
Yacolt Yacolt Rd	530110022	4.76	5.01	8.01	5.9
Yakima 4th Ave	530770009	10.54	9.24	12.29	10.7

Table 26. PM_{10} 2020 design values ($\mu g/m^3$)

Site	AQS ID	2018 Expected Exceedances	2019 Expected Exceedances	2020 Expected Exceedances	3-Year Estimated Exceedances
Burbank Maple St	530710006	2	0	9.5	3.8
Colville E 1st St	530650005	1.2	0	4.3	1.8
Kennewick Metaline	530050002	3	0	12.5	5.2
Seattle Beacon Hill	530330080	0	0	0	0
Spokane Augusta	530630021	2	0	6	2.7
Yakima 4th Ave S	530770009	0	0	8.2	2.7

Appendix B. Monitoring Waivers

Lead (Pb)

In 2014, EPA approved the use of lead in PM_{10} measurements as a surrogate for lead in TSP at Seattle-Beacon Hill (530330080). Ecology met this requirement through lead analysis of low-vol PM_{10} filters analyzed through the NATTS program. In 2016, EPA discontinued the requirement for lead monitoring at NCore sites. Ecology continues to report measurements of lead in PM_{10} at Seattle-Beacon Hill as a NATTS parameter. In 2017, at the request of EPA Region 10, Ecology redesignated the Seattle-Beacon Hill lead monitor a "NAAQS-exclusion" type monitor. At the further request of EPA, Ecology ceased reporting to parameter code 85129 and began reporting to parameter code 85128 as of January 1, 2019. It is no longer used to demonstrate compliance with the NAAQS.

On April 18, 2019, EPA issued Ecology a waiver for the source-oriented lead monitoring requirement at Ardagh Glass in Seattle. That waiver is provided below.

2019 Ardagh Glass Pb Waiver Approval

The U.S. Environmental Protection Agency has completed our review of your supporting information for waiving ambient air lead monitoring for the Ardagh Glass facility in Seattle, Washington (EIS ID: 4985311). Based on the information you provided in Attachment E of your correspondence and the available data in AQS, Region 10 agrees that the ambient air lead monitoring for this facility based on the results of the AERMOD dispersion modeling conducted by your staff meet the regulatory requirements for waiving ambient air lead monitoring for this facility.

According to 40 CFR Part 58, Appendix D §4.5(a)(ii), the Regional Administrator may waive the requirement for lead source monitoring if the state can demonstrate that the source will not contribute to a maximum lead concentration in ambient air in excess of 50 percent of the NAAQS. The modeling approach and protocol for the Ardagh Glass facility conducted by the Department of Ecology was consistent with the EPA's guidance and modeling requirements found in 40 CFR Part 51, Appendix W. The results of this modeling demonstrate that the maximum ambient air 3-month rolling average lead concentration at the facility does not exceed 50 percent of the lead NAAQS.

Monitoring regulations require that this waiver must be renewed every five years. As such, this waiver will be due for renewal in calendar year 2023 if the NEI emission estimates for this facility continue to be above 0.5 tons/year. The EPA reserves the right to rescind this waiver should a future need arise (e.g., increased production or emissions at the facility, monitoring regulation changes, or revisions to the NAAQS).

Enclosure 3

Yakima CO

In 2006, EPA approved the discontinuation of the Yakima CO monitor based on the low concentrations measured at the monitor and predicted reductions in onroad mobile source emissions in Yakima. Below is the approval letter from EPA approving discontinuation of the monitor.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, WA 98101

MAR 0 3 2006

Reply to
Attn Of: OAWT-107

Mr. Mike Ragan
Air Monitoring Coordinator
Air Quality Program
P.O. Box 47600
Olympia, WA 98504-7600

Re: Approval of the Washington 2006 Ambient Monitoring Network

Dear Mr. Ragan:

We have evaluated the Washington 2005 Ambient Air Monitoring Network Assessment and Ecology's proposed monitoring network for 2006. As you know, in December 2005 EPA proposed a lower 24-hour PM2.5 monitoring standard of 35 ug/m3, and a new 24-hour PMcoarse standard of 70 ug/m3 to replace the current PM10 standard. The implementation of these new standards will have a significant effect on the future number and locations of PM monitors in the State's monitoring network. This should be a major consideration in your 2006 annual monitoring network assessment. In order to ensure continued PM2.5 monitoring at sites required by population (40 CRF Part 58), and at sites reporting values near or above the proposed PM2.5 standard, Region 10 developed a list of monitoring priorities for a "core" PM2.5 monitoring network (Attachment 1). In response to these monitoring priorities, Ecology has proposed to discontinue PM2.5 FRM monitors at the following sites:

Monitoring Site	AIRS#
1. Moose Lodge – Vancouver	530110013
2. Benton County – Kennewick	530050002
3. Monroe Street - Spokane	530630047

The PM2.5 design values for these sites, based on monitoring data collected over the past 3 years, are below the current PM2.5 and proposed PM2.5 standards. Therefore, I approve the discontinuation of these PM2.5 FRM monitors. Ecology is authorized to operate all PM2.5 "core" monitors for 2006 including:

1. PM2.5 FRMs (or FEMs, if approved) at the Beacon Hill, Duwamish (primary and co-located), Crown Zellerbach (primary and co-located), and Tacoma/L Street sites.
2. PM2.5 speciation monitors located at the following sites:
    a. Beacon Hill
    b. Spokane
    c. Duwamish
    d. Tacoma

e. Lake Forest Park

3. Pre-cursor gas monitors operated at the Beacon Hill site

Operation of any additional PM2.5 monitors, in addition to the PM2.5 "core" network, are authorized as funding permits. Ecology is authorized to operate all ozone, SO2, NOx, other CO, and PM10 monitors identified in the 2005 Washington Ambient Air Monitoring Network Review.

The Yakama Regional Clean Air Authority has requested permission to discontinue operations of its CO monitor at the Tattoo Parlor site in Yakama. The rationale for discontinuing this monitor is that CO 8-hour design values at this site have decreased from a value of 5.1 ppm in 1998-1999, to a value of 3.5 ppm in 2002-2003. In addition, EPA's MOBILE6.2 model predicts that on-road mobile source emissions of CO in Yakama will decrease by 12.4% compared to the 1999 mobile source emissions. This should ensure that the 8-hour CO design values remain substantially below the CO standard of 9 ppm. Therefore, I approve the discontinuation of this CO monitor.

If you have any questions about our approval of the WA monitoring network, please contact Keith Rose at (206) 553-1949.

Sincerely,

Mahbubul Islam

Mahbubul Islam, Manager
State and Tribal Program Unit
Office of Air, Waste and Toxics

cc: William Puckett, OEA

Spokane CO

On July 14, 2016, Federal Register #81 FR 45417, the EPA approved an alternate method of verification of attainment of the CO NAAQS in Spokane and qualification for the limited maintenance plan option under 40 C.F.R. Part 58.14(c) in the Spokane Maintenance Area. Under this alternative, EPA considers the limited maintenance plan criteria met and continued verification of attainment of the CO NAAQS if the total of the three predominant CO emission source categories calculated as part of the triennial emissions inventory (onroad mobile, nonroad, and residential wood combustion) remain below the corresponding total of the 2002 emission inventory source categories approved at the time the Spokane area was redesignated to attainment. SRCAA and Ecology will compare future year 2017, 2020 and 2023 triennial emission analysis results to the baseline 2002.

PM_{10}

In the summers of 2017 and 2018, Washington experienced extended smoke events from regional wildfires in the Pacific Northwest. These smoke events caused repeated exceedances of the PM_{10} standard in Yakima and Kennewick, which triggered additional monitoring requirements as detailed in 40 C.F.R. Part 58 Appendix D, Table D-4. In addition, Kennewick routinely experiences high wind dust events that cause exceedances of the PM_{10} standard. Due to the regional and exceptional nature of these events, EPA issued Ecology waivers for the unmet PM_{10} monitoring requirements in the Yakima and Kennewick-Richland MSAs on April 18, 2019. In its February 7, 2020 response to Ecology's 2019 Annual Network Plan, EPA approved Ecology's waiver request for the remaining unmet monitoring requirement in the Seattle-Tacoma-Bellevue and one of the unmet monitoring requirements in the Spokane-Spokane Valley MSA. The waivers and Annual Network Plan response are provided below.

Yakima PM10 Waiver Approval

The U.S. Environmental Protection Agency has completed our review of your supporting information for waiving additional PM_{10} monitoring in the Yakima MSAs. Based on the information you provided in Attachment C of your correspondence and the available data in AQS, Region 10 agrees that the high concentration PM_{10} air quality episodes were broad scale events driven by wildfires. As such, Region 10 also concurs that the existing PM_{10} monitor in the Yakima MSA (AQS ID: 53-077-0009) is adequate for characterizing the PM_{10} air quality trends and spatial geographical patterns in this MSA. Per 40 CFR Part 58, Appendix D §4.6(a), Region 10 waives the minimum PM_{10} network size specified by Table D-4 of 40 CFR Part 58, Appendix D for the Yakima MSA and allows the Department of Ecology to use the existing PM_{10} monitor (AQS ID: 53-077-0009) for meeting minimum regulatory monitoring requirements for this MSA.

This monitoring waiver is effective for five years and may need to be renewed in calendar year 2023 to keep the minimum monitoring requirements set at a single PM_{10} monitor. The EPA reserves the right to reinstate the additional PM_{10} monitoring requirements in the MSA sooner than five years should a future need arise (e.g., changes in air quality due to local sources, monitoring regulation changes, or revisions to the NAAQS).

Enclosure 1

2019 Kennewick PM10 Waiver Approval

The U.S. Environmental Protection Agency has completed our review of your supporting information for waiving additional PM_{10} monitoring in the Kennewick-Richland MSAs. Based on the information you provided in Attachment B of your correspondence and the available data in AQS, Region 10 agrees that the high concentration PM_{10} air quality episodes were broad scale events driven by high winds and wildfires. As such, Region 10 also concurs that the existing PM_{10} monitor in the Kennewick-Richland MSA (AQS ID: 53-005-0002) is adequate for characterizing the PM_{10} air quality trends and spatial geographical patterns in this MSA. Per 40 CFR Part 58, Appendix D §4.6(a), Region 10 waives the minimum PM_{10} network size specified by Table D-4 of 40 CFR Part 58, Appendix D for the Kennewick-Richland MSA and allows the Department of Ecology to use the existing PM_{10} monitor (AQS ID: 53-005-0002) for meeting minimum regulatory monitoring requirements for this MSA.

This monitoring waiver is effective for five years and may need to be renewed in calendar year 2023 to keep the minimum monitoring requirements set at a single PM_{10} monitor. The EPA reserves the right to reinstate the additional PM_{10} monitoring requirements in the MSA sooner than five years should a future need arise (e.g., changes in air quality due to local sources, monitoring regulation changes, or revisions to the NAAQS).

Enclosure 2

PAMS Solar and Ultraviolet Radiation

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue, Suite 155
Seattle, WA 98101-3123

AIR & RADIATION
DIVISION

November 3, 2020

Ms. Jill Schulte
Ambient Air Monitoring Coordinator
Department of Ecology
State of Washington
P.O. Box 47600
Olympia, Washington 98504-7600

Dear Ms. Schulte:

This letter is in response to your October 7, 2020, correspondence requesting a waiver to collect solar radiation measurements for the Seattle Photochemical Assessment Monitoring Station (PAMS) at an alternative location. In this correspondence you explained that the Seattle-Beacon Hill station (AQS ID: 53-033-0080), where the remainder of the PAMS sampling will be located, is unacceptable for solar radiation measurements. This is due to the shadow cast on the monitoring site for part of the day by a nearby driving range net. Your proposed solution is to locate the radiometer and pyranometer instruments at the Seattle-Duwamish monitoring station (AQS ID: 53-033-0057) instead. You explained that this alternative siting is appropriate because of the proximity of the stations (1.55 miles) and the lack of obstructions at the Seattle-Duwamish station.

My staff completed the review of the information you provided and consulted the EPA's Office of Air Quality Planning and Standards regarding this request. We agree that siting the PAMS solar radiation instrumentation at the Seattle-Duwamish station is an acceptable solution. Per 40 CFR Part 58, Appendix D, Section 5(c) the EPA can grant a waiver to allow the collection of required PAMS measurements at an alternative location if the alternative location will provide representative and useful data. In this instance, we conclude that those standards will be met at the alternative location.

Region 10 approves the alternative siting of the PAMS solar radiation measurements at the Seattle-Duwamish station (AQS ID: 53-033-0057), instead of the Seattle-Beacon Hill station (AQS ID: 53-033-0080). Please reference and attach this waiver in future Annual Network Plan reports, and address whether this alternative location continues to be appropriate in future five-year network assessments. We also request that you continue to keep my staff informed of any other developments with the PAMS monitoring. If you have any questions regarding this waiver, please contact me at (206) 553-0985 or Sarah Waldo at (206) 553-1504.

Sincerely,

DEBRA SUZUKI Digitally signed by DEBRA SUZUKI Date: 2020.11.03 11:30:16 -08'00'

Debra Suzuki, Manager
Air Planning, State/Tribal Coordination Branch

Appendix C. EPA Response to 2019 Annual Network Plan

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue, Suite 155
Seattle, WA 98101-3123

AIR & RADIATION DIVISION

FEB - 7 2020

Ms. Jill Schulte
Ambient Air Monitoring Coordinator
Department of Ecology
State of Washington
P.O. Box 47600
Olympia, Washington 98504-7600

Dear Ms. Schulte:

The U.S. Environmental Protection Agency, Region 10 evaluated the Washington Department of Ecology's 2019 Annual Monitoring Network Plan (ANP) dated June 25, 2019. This approval letter documents Region 10's findings from the review of this ANP. Based on our review of the ANP, we did not identify any monitoring deficiencies for Washington State's ambient air monitoring network other than the PM_{10} network size that was previously identified by Ecology in the ANP. The ANP's description of modifications for the Washington State network was helpful in our review and is appreciated.

On April 2, 2019, Ecology requested a waiver from the minimum PM_{10} network size requirements for the following MSAs: Seattle-Tacoma-Bellevue, Spokane-Spokane Valley, Kennewick-Richland, and Yakima. On April 18, 2019, Region 10 approved Ecology's waiver request with the exception of the PM_{10} monitoring for the Seattle-Tacoma-Bellevue and Spokane-Spokane Valley MSAs. For these MSAs, EPA delayed its decision pending further review as these requests presented unique issues for consideration.

We have completed our assessment of the information Ecology provided on April 2, 2019. For the Seattle-Tacoma-Bellevue MSA, we agree with Ecology's conclusions from the April 2, 2019, correspondence to our office regarding the limited benefit of operating additional PM_{10} monitors in this MSA. As such, pursuant to 40 CFR Part 58, Appendix D §4.6(a), EPA approves your waiver request to limit the required PM_{10} SLAMS monitoring for the Seattle-Tacoma-Bellevue MSA to the single station located at the Beacon Hill NCore station. The EPA accepts your assertion that PM_{10} monitoring at Seattle-Beacon Hill is sufficient to characterize emissions across the MSA and concludes that expanding the size of the network at this time would provide limited additional information that is disproportionate to the costs associated with a network expansion.

While the EPA has flexibility to adjust the minimum monitoring requirements for MSAs in Region 10, the monitoring regulations do not provide provisions to waive the data reporting requirements of 40 CFR §§ 58.16 and 58.20. We understand that some local air agencies in Washington State operate more FRM/FEM monitors than are reported to AQS. The data from these additional monitoring stations are reported to the public through Washington's AQI webpage services and also submitted by Ecology to the EPA's AIRNow AQI system. However, in addition to these two data reporting systems, ambient air quality measurements obtained from FRM and FEM monitors are required to be submitted to AQS. As such, we request that all data from FRM and FEM monitors in the Washington State network be

uploaded to AQS going forward. Accordingly, data from the FEM PM_{10} monitor at Turnbull National Wildlife Refuge in the Spokane-Spokane Valley MSA should be reported to AQS.

For the Spokane-Spokane Valley MSA, in addition to reporting all FRM/FEM data to AQS, we also request that the FEM PM_{10} monitor at Turnbull National Wildlife Refuge in this MSA be designated as SLAMS. As such the monitor will count toward the minimum monitoring requirements for this MSA. The designation of the Turnbull PM_{10} monitor as a SLAMS for the Spokane-Spokane Valley MSA will bring the total number of SLAMS PM_{10} stations to three. Ecology has requested a waiver from the requirement to maintain a minimum of four SLAMS PM_{10} network monitoring stations in the Spokane-Spokane Valley MSA. To address your concerns expressed in your waiver request that expanding the PM_{10} network beyond the size of the existing network would adversely impact the statewide $PM_{2.5}$ network, EPA through this network approval letter waives the requirement to operate the fourth PM_{10} station in the Spokane-Spokane Valley MSA.

This PM_{10} network size waiver for reducing the monitoring requirements in the Seattle-Tacoma-Bellevue MSA to one station and the Spokane-Spokane Valley MSA to three stations is in effect for five years from the date of this correspondence. We ask that you reference this waiver approval in future ANPs. We also ask that Ecology evaluate whether additional PM_{10} monitors continue to provide limited air quality value relative to their operational costs for these MSAs during the network assessment and future Annual Network Plan submittals to our office. Additionally, changes to the air quality concentrations in the Spokane-Spokane Valley MSA may warrant reducing or modifying this network in the future.

The EPA appreciates Ecology's establishment of a MOU with the Oregon Department of Environmental Quality for jointly meeting the criteria pollutant monitoring requirements for the Portland-Vancouver-Hillsboro OR-WA MSA. Through this network approval letter, as provided by 40 CFR Part 58, Appendix D §2(e), Region 10 allows the minimum network size requirements for this MSA to be satisfied jointly by Ecology and the Oregon Department of Environmental Quality. The EPA requests that Ecology and the Oregon Department of Environmental Quality review and reaffirm this MOU periodically and renew the request from Region 10 to waive full monitoring requirements by Ecology for this MSA every five years.

Region 10 approves the State of Washington's 2019 ANP. Region 10 appreciates the timeliness and detail provided in the ANP. Please notify us when Ecology has determined the location for the second $PM_{2.5}$ SLAMS for the Spokane MSA and notify Region 10 when the supplemental Chemical Speciation Network (CSN) sampling at the 10th and Weller (53-033-0030) and/or L-Street (53-053-0029) stations ceases or is relocated. Since these monitoring stations are supplemental CSN stations and not members of the national Speciation Trends Network (STN), these approvals can be made by our Regional Office. If you have any questions about our approval of the ANP, please contact me or Doug Jager at (206) 553-2961.

Sincerely,

Debra M Suzuki

Debra Suzuki, Manager
Air Planning, State/Tribal Coordination Branch

Appendix D. Detailed Site and Monitor Information

The tables below describe the detailed site and monitor information for each monitoring site in the Washington Network. This information demonstrates compliance with the probe and monitoring path siting criteria described in 40 C.F.R. Part 58 Appendix E.

Aberdeen-Division St	**Site Information**	
	AQS ID	530272002
	Street Address	359 N Division St (Harbor High School)
	Zip Code	98520
	Latitude	46.97228
	Longitude	-123.83173
	Date Site Established	20021001
	MSA/CBSA/CSA Represented	Aberdeen
	County	Grays Harbor
	Distance from roadway (m)	200
	Traffic count (AADT)	12000
	Ground cover	Asphalt
Non-compliance $PM_{2.5}$ (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20021001
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Olympic Region Clean Air Agency (0815)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	5
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Anacortes-202 Ave	**Site Information**	
	AQS ID	530570011
	Street Address	202 O Ave
	Zip Code	98221
	Latitude	48.52059
	Longitude	-122.61428
	Date Site Established	20120501
	MSA/CBSA/CSA Represented	Mount Vernon-Anacortes
	County	Skagit
	Distance from roadway (m)	135
	Traffic count (AADT)	410
	Ground cover	Asphalt, gravel
Ozone (44201, POC 1)	Sampling/Analysis Method	UV Absorption (087)
	Parameter Begin Date	20111012
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Northwest Clean Air Agency
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	May-Sept
	Probe height (m)	3
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Probe material	Tygon
	Residence time (sec) (sec)	9.5
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes
$PM_{2.5}$ (88101, POC 5)	Sampling/Analysis Method	Met One BAM 1020 (170)
	Parameter Begin Date	20111012
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Northwest Clean Air Agency

Anacortes-202 Ave	Site Information	
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	3
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes
Sulfur Dioxide (42401, POC 2)	Sampling/Analysis Method	TAPI 100 EU (600)
	Parameter Begin Date	20111012
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Northwest Clean Air Agency
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	3
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Probe material	Teflon
	Residence time (sec) (sec)	9.5
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes

Anacortes-202 Ave	Site Information	
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Auburn-29th St	**Site Information**	
	AQS ID	530330047
	Street Address	402 29th St
	Zip Code	98002
	Latitude	47.2814
	Longitude	-122.2233
	Date Site Established	20210322
	MSA/CBSA/CSA Represented	Seattle-Tacoma-Bellevue
	County	King
	Distance from roadway (m)	60
	Traffic count (AADT)	5548
	Ground cover	Asphalt
$PM_{2.5}$ (88101, POC 5)	Sampling/Analysis Method	Ecotech M9003 Aurora (812)
	Parameter Begin Date	20210322
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SPM
	Collecting agency	Puget Sound Clean Air Agency
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Monitoring start date	20210322
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	3
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	8
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	180
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	No

Statement of Purpose: The Auburn SPM nephelometer site was established to report neighborhood-scale $PM_{2.5}$ conditions in the Auburn area. The site operates as a non-regulatory SPM site because a line of evergreen trees approximately 8 meters from the site prevents the site from meeting probe and path siting criteria for SLAMS $PM_{2.5}$ monitoring.

Bellevue-SE 12th	**Site Information**	
	AQS ID	530330031
	Street Address	14310 SE 12th St
	Zip Code	98007
	Latitude	47.600863
	Longitude	-122.148397
	Date Site Established	20161201
	MSA/CBSA/CSA Represented	Seattle-Tacoma-Bellevue
	County	King
	Distance from roadway (m)	200
	Traffic count (AADT)	11000
	Ground cover	Asphalt, concrete, grass
Non-compliance $PM_{2.5}$ (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20161201
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	2
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	30
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Bellingham-Pacific St	**Site Information**	
	AQS ID	530730019
	Street Address	2221 Pacific Street
	Zip Code	98229
	Latitude	48.760036
	Longitude	-122.456463
	Date Site Established	20180102
	MSA/CBSA/CSA Represented	Bellingham
	County	Skagit
	Distance from roadway (m)	25
	Traffic count (AADT)	2399
	Ground cover	Roof
$PM_{2.5}$ (88101, POC 5)	Sampling/Analysis Method	Met One BAM 1020 (170)
	Parameter Begin Date	20180102
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Northwest Clean Air Agency
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Monitoring start date	20180101
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	6
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Bremerton-Spruce	**Site Information**	
	AQS ID	530350007
	Street Address	3250 Spruce Ave
	Zip Code	98310
	Latitude	47.592675
	Longitude	-122.627397
	Date Site Established	20120501
	MSA/CBSA/CSA Represented	Bremerton-Silverdale
	County	Kitsap
	Distance from roadway (m)	160
	Traffic count (AADT)	35000
	Ground cover	Grass
$PM_{2.5}$ (88101, POC 5)	Sampling/Analysis Method	Met One BAM 1020 (170)
	Parameter Begin Date	20120501
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Puget Sound Clean Air Agency
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	3
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	150
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes
	Suitable for NAAQS comparison?	Yes

Burbank-Maple St	**Site Information**	
	AQS ID	530710006
	Street Address	755 Maple Street (Columbia High School)
	Zip Code	99323
	Latitude	46.199901
	Longitude	-119.008329
	Date Site Established	20021105
	MSA/CBSA/CSA Represented	Walla Walla
	County	Walla Walla
	Distance from roadway (m)	80
	Traffic count (AADT)	669
	Ground cover	Asphalt
PM_{10} (81102, POC 3)	Sampling/Analysis Method	Met One BAM 1020 (122)
	Parameter Begin Date	20170815
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	N/A
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes
Meteorological	Sampling/Analysis Method	RM Young Sonic Anemometer 85004 (062)
	Parameter Begin Date	20180301
	Monitor Objective	Population Exposure

Burbank-Maple St	**Site Information**	
	Measurement Scale	Urban
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	10
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	N/A

Cheeka Peak	Site Information	
	AQS ID	530090013
	Street Address	Located In A Tree Farm (Cheeka Peak)
	Zip Code	98381
	Latitude	48.29786
	Longitude	-124.62491
	Date Site Established	20060517
	MSA/CBSA/CSA Represented	Port Angeles
	County	Clallam
	Distance from roadway (m)	8500
	Traffic count (AADT)	1000
	Ground cover	Shrubs, grass, gravel/dirt
Trace NO_y (42600/42601/42612, POC 2)	Sampling/Analysis Method	TAPI 200 EU (699)
	Parameter Begin Date	20110101
	Monitor Objective	General/Background
	Measurement Scale	Regional Scale
	Monitor type	SLAMS, NCore
	Collecting agency	Olympic Region Clean Air Agency (0815)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	8
	Distance from supporting structure (m)	0.3
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	21
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	175
	Probe material	Teflon
	Residence time (sec)	1.6
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes
Carbon Monoxide (42101, POC 2)	Sampling/Analysis Method	TAPI 300 EU (593)

Cheeka Peak	**Site Information**	
	Parameter Begin Date	20080101
	Monitor Objective	General/Background
	Measurement Scale	Regional Scale
	Monitor type	SLAMS, NCore
	Collecting agency	Olympic Region Clean Air Agency (0815)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	6
	Distance from supporting structure (m)	0.3
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	21
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	175
	Probe material	Teflon
	Residence time (sec)	1.9
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes
Meteorological	Sampling/Analysis Method	RM Young Sonic Anemometer 85004 (062)
	Parameter Begin Date	20110101
	Monitor Objective	General/Background
	Measurement Scale	Regional Scale
	Monitor type	SLAMS, NCore
	Collecting agency	Olympic Region Clean Air Agency (0815)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	10
	Distance from supporting structure (m)	N/A

Cheeka Peak	Site Information	
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	40
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	N/A
Non-compliance $PM_{2.5}$ (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20060517
	Monitor Objective	General/Background
	Measurement Scale	Regional Scale
	Monitor type	SLAMS, NCore
	Collecting agency	Olympic Region Clean Air Agency (0815)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	6
	Distance from supporting structure (m)	0.3
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	21
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	175
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes
Ozone (44201, POC 1)	Sampling/Analysis Method	UV Absorption (087)
	Parameter Begin Date	20101217
	Monitor Objective	General/Background
	Measurement Scale	Regional Scale
	Monitor type	SLAMS, NCore
	Collecting agency	Olympic Region Clean Air Agency (0815)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous

Cheeka Peak	Site Information	
	Sampling season	Year-round
	Probe height (m)	6
	Distance from supporting structure (m)	0.3
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	21
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	175
	Probe material	Teflon
	Residence time (sec)	1.9
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes
Sulfur Dioxide (42401, POC 2)	Sampling/Analysis Method	TAPI 100 EU (600)
	Parameter Begin Date	20110101
	Monitor Objective	General/Background
	Measurement Scale	Regional Scale
	Monitor type	SLAMS, NCore
	Collecting agency	Olympic Region Clean Air Agency (0815)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	6
	Distance from supporting structure (m)	0.3
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	21
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	175
	Probe material	Teflon
	Residence time (sec)	5.8
	Changes in next 18 months?	No

Cheeka Peak	Site Information	
	Suitable for NAAQS comparison?	Yes
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Chehalis-Market Blvd	**Site Information**	
	AQS ID	530410004
	Street Address	350 N Market Blvd
	Zip Code	98532
	Latitude	46.66409
	Longitude	-122.96732
	Date Site Established	20091229
	MSA/CBSA/CSA Represented	Centralia
	County	Lewis
	Distance from roadway (m)	30
	Traffic count (AADT)	3769
	Ground cover	Roof
Non-compliance $PM_{2.5}$ (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20091229
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	10
	Distance from supporting structure (m)	0.3
	Distance from obstruction on roof (m)	11
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	25
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Chelan-Woodin Ave	Site Information	
	AQS ID	530070007
	Street Address	428 W Woodin Ave. , Chelan, WA (Chelan Ranger Station)
	Zip Code	98816
	Latitude	47.83861
	Longitude	-120.023076
	Date Site Established	20020915
	MSA/CBSA/CSA Represented	Wenatchee
	County	Chelan
	Distance from roadway (m)	275
	Traffic count (AADT)	5100
	Ground cover	Grass, dirt
Non-compliance $PM_{2.5}$ (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20160906
	Monitor Objective	General/Background
	Measurement Scale	Neighborhood
	Monitor type	SPM
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	10
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	10
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Statement of Purpose: The Chelan monitoring site was previously operated by the U.S. Forest Service as a non-EPA federal monitor to inform smoke management decisions. Ecology temporarily took over operational responsibility for the site as a SPM on October 1, 2018.

Cheney-Turnbull	Site Information	
	AQS ID	530630001
	Street Address	S 26010 Smith Road (Turnbull Slough National Wildlife Refuge)
	Zip Code	99004
	Latitude	47.41645
	Longitude	-117.52997
	Date Site Established	19710701
	MSA/CBSA/CSA Represented	Spokane-Spokane Valley
	County	Spokane
	Distance from roadway (m)	1900
	Traffic count (AADT)	992
	Ground cover	Grass, dirt
Ozone (44201, POC 1)	Sampling/Analysis Method	UV Absorption (087)
	Parameter Begin Date	19990501
	Monitor Objective	Population Exposure
	Measurement Scale	Urban Scale
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	May-Sept
	Probe height (m)	4
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	70
	Distance from trees (m)	100
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Probe material	Teflon
	Residence time (sec)	3.8
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Note: PM_{10} monitoring is planned at Cheney-Turnbull in 2021 with an anticipated start date of October 1, 2021.

Clarkston-13th St	**Site Information**	
	AQS ID	530030004
	Street Address	13th St And Port Way
	Zip Code	99403
	Latitude	46.425416
	Longitude	-117.060445
	Date Site Established	19930616
	MSA/CBSA/CSA Represented	Lewiston
	County	Asotin
	Distance from roadway (m)	600
	Traffic count (AADT)	8200
	Ground cover	Grass
Non-compliance $PM_{2.5}$ (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20070307
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	6
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Colville-E 1st St	**Site Information**	
	AQS ID	530650005
	Street Address	261 E 1St St
	Zip Code	99114
	Latitude	48.544448
	Longitude	-117.903425
	Date Site Established	20151025
	MSA/CBSA/CSA Represented	Spokane-Spokane Valley
	County	Spokane
	Distance from roadway (m)	190
	Traffic count (AADT)	7300
	Ground cover	Roof
Meteorological	Sampling/Analysis Method	Vaisala WMT700 Ultrasonic Sensor (060)
	Parameter Begin Date	20160520
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	10
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	50
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	N/A
$PM_{2.5}$ (88101, POC 5)	Sampling/Analysis Method	Met One BAM 1020 (170)
	Parameter Begin Date	20191105
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round

Colville-E 1st St	Site Information	
	Probe height (m)	8
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	50
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes
PM_{10} (81102, POC 3)	Sampling/Analysis Method	Met One BAM 1020 (122)
	Parameter Begin Date	20151025
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	15
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	50
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes

Colville-E 1st St	Site Information	
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Custer-Loomis	Site Information	
	AQS ID	530730005
	Street Address	1330 Loomis Trail Rd
	Zip Code	98240
	Latitude	48.95074
	Longitude	-122.55441
	Date Site Established	19890413
	MSA/CBSA/CSA Represented	Bellingham
	County	Whatcom
	Distance from roadway (m)	65
	Traffic count (AADT)	837
	Ground cover	Grass
Ozone (44201, POC 1)	Sampling/Analysis Method	UV Absorption (087)
	Parameter Begin Date	20090606
	Monitor Objective	Regional Transport
	Measurement Scale	Regional Scale
	Monitor type	SLAMS
	Collecting agency	Northwest Clean Air Agency
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	3
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	130
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Probe material	Teflon
	Residence time (sec)	9
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Darrington-Fir St	Site Information	
	AQS ID	530610020
	Street Address	1085 Fir St
	Zip Code	98241
	Latitude	48.2469
	Longitude	-121.6031
	Date Site Established	20060721
	MSA/CBSA/CSA Represented	Seattle-Tacoma-Bellevue
	County	Snohomish
	Distance from roadway (m)	1000
	Traffic count (AADT)	3800
	Ground cover	Asphalt
$PM_{2.5}$ (88101, POC 5)	Sampling/Analysis Method	Met One BAM 1020 (170)
	Parameter Begin Date	20101228
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Puget Sound Clean Air Agency
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	4
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	25
	Distance from trees (m)	200
	Distance from furnace or incinerator flue (m)	200
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Dayton-W Main	**Site Information**	
	AQS ID	530130002
	Street Address	206 W Main St
	Zip Code	99328
	Latitude	46.318
	Longitude	-117.985
	Date Site Established	20090205
	MSA/CBSA/CSA Represented	Walla Walla
	County	Walla Walla
	Distance from roadway (m)	27
	Traffic count (AADT)	5500
	Ground cover	Gravel, asphalt
Non-compliance $PM_{2.5}$ (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20090205
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	6
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Ellensburg-Ruby St	Site Information	
	AQS ID	530370002
	Street Address	201 N. Ruby
	Zip Code	98926
	Latitude	46.99364
	Longitude	-120.545
	Date Site Established	19951104
	MSA/CBSA/CSA Represented	Ellensburg
	County	Kittitas
	Distance from roadway (m)	35
	Traffic count (AADT)	3625
	Ground cover	Roof
$PM_{2.5}$ (88101, POC 5)	Sampling/Analysis Method	Met One BAM 1020 (170)
	Parameter Begin Date	20141001
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	3
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes
Non-compliance PM2.5 (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20180401
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)

Ellensburg-Ruby St	Site Information	
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	2
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Enumclaw-Mud Mtn	Site Information	
	AQS ID	530330023
	Street Address	30525 Se Mud Mountain Road
	Zip Code	98022
	Latitude	47.1411
	Longitude	-121.9379
	Date Site Established	19980708
	MSA/CBSA/CSA Represented	Seattle-Tacoma-Bellevue
	County	King
	Distance from roadway (m)	3300
	Traffic count (AADT)	2600
	Ground cover	Gravel, dirt, grass
Meteorological	Sampling/Analysis Method	RM Young Sonic Anemometer 85004 (062)
	Parameter Begin Date	20040201
	Monitor Objective	Regional Transport
	Measurement Scale	Urban Scale
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	10
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	N/A
Ozone (44201, POC 1)	Sampling/Analysis Method	UV Absorption (087)
	Parameter Begin Date	19980708
	Monitor Objective	Regional Transport
	Measurement Scale	Urban Scale
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	May-Sept
	Probe height (m)	3

Enumclaw-Mud Mtn	Site Information	
	Distance from supporting structure (m)	0.5
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Probe material	Teflon
	Residence time (sec)	5.7
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Ferndale-Kickerville Rd	Site Information	
	AQS ID	530730013
	Street Address	6036 Kickerville Road
	Zip Code	98248
	Latitude	48.855274
	Longitude	-122.7047
	Date Site Established	20170101
	MSA/CBSA/CSA Represented	Bellingham
	County	Whatcom
	Distance from roadway (m)	28
	Traffic count (AADT)	777
	Ground cover	Grass, gravel
Sulfur Dioxide (42401, POC 2)	Sampling/Analysis Method	TAPI 100 (077)
	Parameter Begin Date	20170101
	Monitor Objective	Source Oriented
	Measurement Scale	Microscale
	Monitor type	SLAMS
	Collecting agency	Intalco
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	3
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Probe material	Teflon
	Residence time (sec)	15
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Ferndale-Mountain View Rd	**Site Information**	
	AQS ID	530730017
	Street Address	4050 Mountain View Rd
	Zip Code	98248
	Latitude	48.848065
	Longitude	-122.688888
	Date Site Established	20170101
	MSA/CBSA/CSA Represented	Bellingham
	County	Whatcom
	Distance from roadway (m)	460
	Traffic count (AADT)	1001
	Ground cover	Grass
Meteorological	Sampling/Analysis Method	Vaisala WMT700 Ultrasonic Sensor (060)
	Parameter Begin Date	20170101
	Monitor Objective	Source Oriented
	Measurement Scale	Microscale
	Monitor type	SLAMS
	Collecting agency	Intalco
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	10
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	55
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	N/A
Sulfur Dioxide (42401, POC 2)	Sampling/Analysis Method	TAPI 100 (077)
	Parameter Begin Date	20170101
	Monitor Objective	Source Oriented
	Measurement Scale	Microscale
	Monitor type	SLAMS
	Collecting agency	Intalco
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	3

Ferndale-Mountain View Rd	Site Information	
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	55
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Probe material	Teflon
	Residence time (sec)	15
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Issaquah-Lake Sammamish	Site Information	
	AQS ID	530330010
	Street Address	2000 NW Sammamish Rd
	Zip Code	98027
	Latitude	47.5525
	Longitude	-122.064722
	Date Site Established	19751201
	MSA/CBSA/CSA Represented	Seattle-Tacoma-Bellevue
	MSA/CBSA/CSA Represented	Seattle-Tacoma-Bellevue
	County	King
	Distance from roadway (m)	65
	Traffic count (AADT)	10901
	Ground cover	Gravel, grass
Ozone (44201, POC 1)*	Sampling/Analysis Method	UV Absorption (087)
	Parameter Begin Date	19810101
	Monitor Objective	Population Exposure
	Measurement Scale	Urban Scale
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	May-Sept
	Probe height (m)	3
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Probe material	Teflon
	Residence time (sec)	2.8
	Changes in next 18 months?	Yes. Ozone monitoring is temporarily suspended for the 2021 ozone season.
	Suitable for NAAQS comparison?	Yes
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

***Note:** Ozone monitoring is temporarily suspended for the 2021 ozone season (May-Sept)

Kennewick-Metaline	**Site Information**	
	AQS ID	530050002
	Street Address	5929 W Metaline (Kennewick Skills Center)
	Zip Code	99336
	Latitude	46.21835
	Longitude	-119.204153
	Date Site Established	19941001
	MSA/CBSA/CSA Represented	Kennewick-Richland
	County	Benton
	Distance from roadway (m)	150
	Traffic count (AADT)	8476
	Ground cover	Roof
Meteorological	Sampling/Analysis Method	RM Young Sonic Anemometer 85004 (062)
	Parameter Begin Date	20120807
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	10
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	18
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	66
	Distance from furnace or incinerator flue (m)	
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	N/A
Non-compliance $PM_{2.5}$ (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20051019
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Benton Clean Air Agency
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round

Kennewick-Metaline	Site Information	
	Probe height (m)	7
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	18
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	66
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No
PM_{10} (81102, POC 3)	Sampling/Analysis Method	Met One BAM 1020 (122)
	Parameter Begin Date	20041001
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Benton Clean Air Agency
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	7
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	18
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	66
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Kennewick-S Clodfelter	**Site Information**	
	AQS ID	530050003
	Street Address	526 S Clodfelter Rd
	Zip Code	99336
	Latitude	46.204582
	Longitude	-119.243743
	Date Site Established	20150610
	MSA/CBSA/CSA Represented	Kennewick-Richland
	County	Benton
	Distance from roadway (m)	90
	Traffic count (AADT)	12261
	Ground cover	Grass, asphalt
Ozone (44201, POC 1)	Sampling/Analysis Method	UV Absorption (087)
	Parameter Begin Date	20150610
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Benton Clean Air Agency
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	May-Sept
	Probe height (m)	15
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Probe material	Teflon
	Residence time (sec)	9
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Kent-James & Central	**Site Information**	
	AQS ID	530332004
	Street Address	614 Railroad Ave N, Kent
	Zip Code	98030
	Latitude	47.386111
	Longitude	-122.230278
	Date Site Established	19870702
	MSA/CBSA/CSA Represented	Seattle-Tacoma-Bellevue
	County	King
	Distance from roadway (m)	65
	Traffic count (AADT)	24100
	Ground cover	Asphalt
$PM_{2.5}$ (88101, POC 5)	Sampling/Analysis Method	Met One BAM 1020 (170)
	Parameter Begin Date	20101217
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Puget Sound Clean Air Agency
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	3
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	1
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	120
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Lacey-College St	**Site Information**	
	AQS ID	530670013
	Street Address	1900 College St Se (Mountain View Elementary School)
	Zip Code	98503
	Latitude	47.029396
	Longitude	-122.821548
	Date Site Established	19840401
	MSA/CBSA/CSA Represented	Olympia-Tumwater
	County	Thurston
	Distance from roadway (m)	65
	Traffic count (AADT)	21346
	Ground cover	Grass
Non-compliance $PM_{2.5}$ (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20140401
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Olympic Region Clean Air Agency (0815)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	10
	Distance from supporting structure (m)	2
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

LaCrosse-Hill St	**Site Information**	
	AQS ID	530750005
	Street Address	111 Hill Street, Lacrosse, WA
	Zip Code	99143
	Latitude	46.8153
	Longitude	-117.8739
	Date Site Established	20020719
	MSA/CBSA/CSA Represented	Pullman
	County	Whitman
	Distance from roadway (m)	2000
	Traffic count (AADT)	1800
	Ground cover	Grass
Non-compliance $PM_{2.5}$ (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20021001
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	3
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Lake Forest Park	Site Information	
	AQS ID	530330024
	Street Address	17171 Bothell Way NE
	Zip Code	98155
	Latitude	47.7550
	Longitude	-122.2806
	Date Site Established	20171211
	MSA/CBSA/CSA Represented	Seattle-Tacoma-Bellevue
	County	King
	Distance from roadway (m)	230
	Traffic count (AADT)	42000
	Ground cover	Grass, asphalt
Non-compliance $PM_{2.5}$ (88502, POC 4)	Sampling/Analysis Method	Ecotech M9003 Aurora (812)
	Parameter Begin Date	20171211
	Monitor Objective	Population Exposure
	Measurement Scale	Middle
	Monitor type	SLAMS
	Collecting agency	Puget Sound Clean Air Agency
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	8
	Distance from supporting structure (m)	0.3
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Leavenworth-Evans St	Site Information	
	AQS ID	530070010
	Street Address	330 Evans St (Cascade School District)
	Zip Code	98826
	Latitude	47.598863
	Longitude	-120.664702
	Date Site Established	20050202
	MSA/CBSA/CSA Represented	Wenatchee
	County	Chelan
	Distance from roadway (m)	375
	Traffic count (AADT)	10000
	Ground cover	Grass, dirt
Non-compliance $PM_{2.5}$ (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20050701
	Monitor Objective	General/Background
	Measurement Scale	Neighborhood
	Monitor type	SPM
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	12
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	5
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	25
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Statement of Purpose: The Leavenworth monitoring site was previously operated by the U.S. Forest Service as a non-EPA federal monitor to inform smoke management decisions. Ecology temporarily took over operational responsibility for the site as a SPM on October 1, 2018.

Longview-30th Ave	**Site Information**	
	AQS ID	530150015
	Street Address	1324 30th Ave (Olympic Elementary School)
	Zip Code	98632
	Latitude	46.139444
	Longitude	-122.961944
	Date Site Established	20010401
	MSA/CBSA/CSA Represented	Longview
	County	Cowlitz
	Distance from roadway (m)	900
	Traffic count (AADT)	23000
	Ground cover	Grass, asphalt
Non-compliance $PM_{2.5}$ (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20030306
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Southwest Clean Air Agency
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	20
	Distance from supporting structure (m)	0.5
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Malaga-Malaga Hwy	**Site Information**	
	AQS ID	530070012
	Street Address	8100 Malaga Alcoa Highway
	Zip Code	98831
	Latitude	47.33444
	Longitude	-120.095544
	Date Site Established	20170101
	MSA/CBSA/CSA Represented	Wenatchee
	County	Chelan
	Distance from roadway (m)	910
	Traffic count (AADT)	8800
	Ground cover	Grass, gravel
Meteorological	Sampling/Analysis Method	Vaisala WMT700 Ultrasonic Sensor (060)
	Parameter Begin Date	20170101
	Monitor Objective	Source Oriented
	Measurement Scale	Microscale
	Monitor type	SLAMS
	Collecting agency	Intalco
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	10
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	N/A
Sulfur Dioxide (42401, POC 2)	Sampling/Analysis Method	TAPI 100 (077)
	Parameter Begin Date	20170101
	Monitor Objective	Source Oriented
	Measurement Scale	Microscale
	Monitor type	SLAMS
	Collecting agency	Intalco
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	3

Malaga-Malaga Hwy	Site Information	
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Probe material	Teflon
	Residence time (sec)	15
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Marysville-7th Ave	**Site Information**	
	AQS ID	530611007
	Street Address	1799 7th St
	Zip Code	98270
	Latitude	48.054315
	Longitude	-122.171529
	Date Site Established	19910927
	MSA/CBSA/CSA Represented	Seattle-Tacoma-Bellevue
	County	Snohomish
	Distance from roadway (m)	275
	Traffic count (AADT)	23000
	Ground cover	Grass
$PM_{2.5}$ (88101, POC 5)	Sampling/Analysis Method	Met One BAM 1020 (170)
	Parameter Begin Date	20110106
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Puget Sound Clean Air Agency
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	4
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	75
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Mesa-Pepiot Way	**Site Information**	
	AQS ID	530210002
	Street Address	200 Pepiot Way (Mesa Elementary School)
	Zip Code	99343
	Latitude	46.5754
	Longitude	-119.0021
	Date Site Established	20030115
	MSA/CBSA/CSA Represented	Kennewick-Richland
	County	Franklin
	Distance from roadway (m)	150
	Traffic count (AADT)	4800
	Ground cover	Grass
Non-compliance $PM_{2.5}$ (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20030115
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	6
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	33
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Moses Lake-Balsam St	**Site Information**	
	AQS ID	530251002
	Street Address	412 S Balsam St, Moses Lake, WA
	Zip Code	98837
	Latitude	47.1303
	Longitude	-119.2737
	Date Site Established	20030119
	MSA/CBSA/CSA Represented	Moses Lake-Othello, WA
	County	Grant
	Distance from roadway (m)	280
	Traffic count (AADT)	17000
	Ground cover	Grass
Non-compliance $PM_{2.5}$ (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20040101
	Monitor Objective	Regional Transport
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	6
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	2
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	25
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Mt Rainier-Jackson Visitor Ctr	Site Information	
	AQS ID	530530012
	Street Address	Jackson Visitor's Center Mt Rainier, WA
	Zip Code	98321
	Latitude	46.7841
	Longitude	-121.740367
	Date Site Established	19980710
	MSA/CBSA/CSA Represented	Seattle-Tacoma-Bellevue
	County	Pierce
	Distance from roadway (m)	14000
	Traffic count (AADT)	1100
	Ground cover	Asphalt, rock, snow
Ozone (44201, POC 1)	Sampling/Analysis Method	UV Absorption (087)
	Parameter Begin Date	19980710
	Monitor Objective	General/Background
	Measurement Scale	Regional Scale
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)/National Park Service
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	6
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	1
	Distance from trees (m)	35
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	180
	Probe material	Teflon
	Residence time (sec)	4
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Mt Vernon-Second Ave	**Site Information**	
	AQS ID	530570015
	Street Address	1600 South Second Street
	Zip Code	98273
	Latitude	48.4102
	Longitude	-122.3376
	Date Site Established	20020807
	MSA/CBSA/CSA Represented	Mount Vernon-Anacortes
	County	Skagit
	Distance from roadway (m)	25
	Traffic count (AADT)	14040
	Ground cover	Roof
Non-compliance $PM_{2.5}$ (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20050701
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Northwest Clean Air Agency
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	3
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Neah Bay 2-Makah Tribe	Site Information	
	AQS ID	530090015
	Street Address	1321 Bay View Avenue, Neah Bay
	Zip Code	98381
	Latitude	48.366058
	Longitude	-124.610045
	Date Site Established	20100216
	MSA/CBSA/CSA Represented	Port Angeles
	County	Clallam
	Distance from roadway (m)	100
	Traffic count (AADT)	1000
	Ground cover	Grass, dirt
Non-compliance $PM_{2.5}$ (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20100216
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	Tribal
	Collecting agency	Makah Nation
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	9
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	270
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Newport-Calispel (Temporary)	**Site Information**	
	AQS ID	530510008
	Street Address	1001 W 1st
	Zip Code	99156
	Latitude	48.181952
	Longitude	-117.053102
	Date Site Established	20201211
	MSA/CBSA/CSA Represented	None
	County	Pend Oreille
	Distance from roadway (m)	400
	Traffic count (AADT)	7400
	Ground cover	Grass
Non-compliance $PM_{2.5}$ (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20201211
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	4
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Statement of Purpose: The Newport-Calispel SPM was established to evaluate smoke impacts in a previously unmonitored community. Data from the monitoring site is used to assist with agricultural and outdoor burn decision making, smoke management and woodstove curtailment calls. The monitor is expected to run until December 2021.

North Bend-North Bend Way	**Site Information**	
	AQS ID	530330017
	Street Address	42404 Se North Bend Way
	Zip Code	98045
	Latitude	47.49022
	Longitude	-121.77278
	Date Site Established	19980601
	MSA/CBSA/CSA Represented	Seattle-Tacoma-Bellevue
	County	King
	Distance from roadway (m)	175
	Traffic count (AADT)	3149
	Ground cover	Grass
Meteorological*	Sampling/Analysis Method	RM Young Sonic Anemometer 85004 (062)
	Parameter Begin Date	20000111
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	10
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	20
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	Yes. Meteorological monitoring is currently suspended pending relocation of the meteorological tower.
	Suitable for NAAQS comparison?	N/A
Non-compliance $PM_{2.5}$ (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20030310
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A

North Bend-North Bend Way	Site Information	
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	3
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	20
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes
Ozone (44201, POC 1)	Sampling/Analysis Method	UV Absorption (087)
	Parameter Begin Date	19980601
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	May-Sept
	Probe height (m)	3
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	20
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Probe material	Teflon
	Residence time (sec)	2.8
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes

North Bend-North Bend Way	Site Information	
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

* Meteorological monitoring at the North Bend-North Bend Way site (530330017) is currently suspended. A large residential building was constructed within several meters of the meteorological tower, which no longer meets siting requirements for PSD meteorological monitoring. Ecology plans to relocate the tower to another location at the existing site, but this work has been delayed due to the staff shortage and hiring freeze associated with the COVID-19 pandemic.

Omak-Colville Tribe	**Site Information**	
	AQS ID	530470013
	Street Address	Corner of 8th Ave & Omak Okanogan E
	Zip Code	98841
	Latitude	48.39999
	Longitude	-119.51896
	Date Site Established	20101020
	MSA/CBSA/CSA Represented	NA
	County	Okanogan
	Distance from roadway (m)	420
	Traffic count (AADT)	6900
	Ground cover	Grass, dirt
Meteorological	Sampling/Analysis Method	RM Young Sonic Anemometer 85004 (062)
	Parameter Begin Date	20101020
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	Tribal
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	10
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	N/A
$PM_{2.5}$ (88101, POC 5)	Sampling/Analysis Method	Met One BAM 1020 (170)
	Parameter Begin Date	20161011
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	Tribal
	Collecting agency	Colville Tribe
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round

Omak-Colville Tribe	Site Information	
	Probe height (m)	2
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	100
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Pomeroy-Patah St	**Site Information**	
	AQS ID	530230001
	Street Address	572 Pataha St
	Zip Code	99347
	Latitude	46.474438
	Longitude	-117.614764
	Date Site Established	20170504
	MSA/CBSA/CSA Represented	NA
	County	Garfield
	Distance from roadway (m)	225
	Traffic count (AADT)	1900
	Ground cover	Asphalt, grass
Non-compliance $PM_{2.5}$ (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20170504
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	4
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Port Angeles-5th St	**Site Information**	
	AQS ID	530090017
	Street Address	102 E 5th St
	Zip Code	98362
	Latitude	48.115
	Longitude	-123.436434
	Date Site Established	20150406
	MSA/CBSA/CSA Represented	Port Angeles
	County	Clallam
	Distance from roadway (m)	110
	Traffic count (AADT)	8300
	Ground cover	Asphalt, grass
Non-compliance $PM_{2.5}$ (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20150406
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Olympic Region Clean Air Agency (0815)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	15
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Port Townsend-San Juan	**Site Information**	
	AQS ID	530310003
	Street Address	3939 San Juan Ave (Blue Heron Middle School)
	Zip Code	98368
	Latitude	48.12919
	Longitude	-122.77897
	Date Site Established	20000113
	MSA/CBSA/CSA Represented	NA
	County	Jefferson
	Distance from roadway (m)	85
	Traffic count (AADT)	3450
	Ground cover	Grass
Non-compliance $PM_{2.5}$ (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20021001
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Olympic Region Clean Air Agency (0815)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	12
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Pullman-Dexter Ave	**Site Information**	
	AQS ID	530750003
	Street Address	240 SE Dexter (Pullman Administration Building)
	Zip Code	99163
	Latitude	46.72447
	Longitude	-117.18014
	Date Site Established	20000119
	MSA/CBSA/CSA Represented	Pullman
	County	Whitman
	Distance from roadway (m)	410
	Traffic count (AADT)	15000
	Ground cover	Asphalt, grass
Non-compliance $PM_{2.5}$ (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20150101
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	5
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	20
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Quincy-3rd Ave NE	**Site Information**	
	AQS ID	530251003
	Street Address	330 3rd Ave NE
	Zip Code	98848
	Latitude	47.241153
	Longitude	-119.847824
	Date Site Established	20170601
	MSA/CBSA/CSA Represented	Moses Lake-Othello, WA
	County	Grant
	Distance from roadway (m)	800
	Traffic count (AADT)	13000
	Ground cover	Grass
Meteorological	Sampling/Analysis Method	RM Young Sonic Anemometer 85004 (062)
	Parameter Begin Date	20170601
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SPM
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	10
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	N/A
Non-compliance $PM_{2.5}$ (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20170601
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SPM
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous

Quincy-3rd Ave NE	Site Information	
	Sampling season	Year-round
	Probe height (m)	4
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Statement of Purpose: The Quincy-3rd Ave NE SPM site exists to provide meteorological and non-FEM $PM_{2.5}$ data in a previously unmonitored community and to support a health risk assessment of diesel emissions in the Quincy area published in 2020.

Ritzville-Alder	**Site Information**	
	AQS ID	530010003
	Street Address	109 W Alder, Ritzville, WA
	Zip Code	99169
	Latitude	47.12
	Longitude	-118.3819
	Date Site Established	20001021
	MSA/CBSA/CSA Represented	Moses Lake-Othello, WA
	County	Adams
	Distance from roadway (m)	1730
	Traffic count (AADT)	14000
	Ground cover	Asphalt, gravel
Non-compliance $PM_{2.5}$ (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20021001
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	8
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Rosalia-Josephine	**Site Information**	
	AQS ID	530750006
	Street Address	906 South Josephine Avenue (Rosalia Elementary School)
	Zip Code	99170
	Latitude	47.23136
	Longitude	-117.36856
	Date Site Established	20020619
	MSA/CBSA/CSA Represented	Pullman
	County	Whitman
	Distance from roadway (m)	750
	Traffic count (AADT)	5000
	Ground cover	Asphalt
Non-compliance $PM_{2.5}$ (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20021001
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	2
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	15
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Seattle-10th & Weller	Site Information	
	AQS ID	530330030
	Street Address	10th & Weller
	Zip Code	98104
	Latitude	47.597222
	Longitude	-122.319722
	Date Site Established	20140401
	MSA/CBSA/CSA Represented	Seattle-Tacoma-Bellevue
	County	King
	Distance from roadway (m)	13
	Traffic count (AADT)	150000
	Ground cover	Concrete, grass
Carbon Monoxide (42101, POC 2)	Sampling/Analysis Method	TAPI 300 EU (593)
	Parameter Begin Date	20140401
	Monitor Objective	Source Oriented
	Measurement Scale	Microscale
	Monitor type	SLAMS, Near-road
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	3
	Distance from supporting structure (m)	3
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Probe material	Teflon
	Residence time (sec)	1.6
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes
Meteorological	Sampling/Analysis Method	RM Young Sonic Anemometer 85004 (062)
	Parameter Begin Date	20140416

Seattle-10th & Weller	**Site Information**	
	Monitor Objective	Source Oriented
	Measurement Scale	Microscale
	Monitor type	SLAMS, Near-road
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	10
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	N/A
Nitrogen Dioxide (42602, POC 1)	Sampling/Analysis Method	TAPI 200 EU (599)
	Parameter Begin Date	20140401
	Monitor Objective	Source Oriented
	Measurement Scale	Microscale
	Monitor type	SLAMS, Near-road
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	3
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Probe material	Teflon
	Residence time (sec)	3.2
	Changes in next 18 months?	No

Seattle-10th & Weller	Site Information	
	Suitable for NAAQS comparison?	Yes
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes
$PM_{2.5}$ (88101, POC 5)	Sampling/Analysis Method	Met One BAM 1020 (170)
	Parameter Begin Date	20140519
	Monitor Objective	Source Oriented
	Measurement Scale	Microscale
	Monitor type	SLAMS, Near-road
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	3
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Seattle-Beacon Hill	**Site Information**	
	AQS ID	530330080
	Street Address	4103 Beacon Hill S
	Zip Code	98108
	Latitude	47.568236
	Longitude	-122.308628
	Date Site Established	19790604
	MSA/CBSA/CSA Represented	Seattle-Tacoma-Bellevue
	County	King
	Distance from roadway (m)	110
	Traffic count (AADT)	12000
	Ground cover	Grass, gravel
Trace NO_y (42600/42601/42612, POC 2)	Sampling/Analysis Method	Thermo 42C (674)
	Parameter Begin Date	20100801
	Monitor Objective	General/Background
	Measurement Scale	Urban Scale
	Monitor type	SLAMS, NCore
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	3
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	10
	Distance from trees (m)	20
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Probe material	Teflon
	Residence time (sec)	5.5
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No

Seattle-Beacon Hill	Site Information	
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes
Carbon Monoxide (42101, POC 2)	Sampling/Analysis Method	TAPI 300 EU (593)
	Parameter Begin Date	20070207
	Monitor Objective	General/Background
	Measurement Scale	Urban Scale
	Monitor type	SLAMS, NCore
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	4
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	20
	Distance from trees (m)	20
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Probe material	Teflon
	Residence time (sec)	15
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes

Seattle-Beacon Hill	Site Information	
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes
Meteorological	Sampling/Analysis Method	Vaisala WMT700 Ultrasonic Sensor (060)
	Parameter Begin Date	20110101
	Monitor Objective	Population Exposure
	Measurement Scale	Urban Scale
	Monitor type	SLAMS, NCore
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	10
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	N/A
Nitrogen Dioxide (42602)	Sampling/Analysis Method	TAPI 200 EU (599)
	Parameter Begin Date	20120801
	Monitor Objective	Population Exposure
	Measurement Scale	Urban Scale
	Monitor type	SLAMS, NCore

Seattle-Beacon Hill	Site Information	
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	4
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	20
	Distance from trees (m)	20
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Probe material	Teflon
	Residence time (sec)	3.7
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes
Ozone (44201, POC 1)	Sampling/Analysis Method	UV Absorption (087)
	Parameter Begin Date	20080208
	Monitor Objective	Population Exposure
	Measurement Scale	Urban Scale
	Monitor type	SLAMS, NCore
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A

Seattle-Beacon Hill	Site Information		
	Reporting agency	Washington State Department of Ecology (1136)	
	Sampling frequency	Continuous	
	Sampling season	Year-round	
	Probe height (m)	4	
	Distance from supporting structure (m)	1	
	Distance from obstruction on roof (m)	N/A	
	Distance from obstruction not on roof (m)	20	
	Distance from trees (m)	20	
	Distance from furnace or incinerator flue (m)	N/A	
	Unrestricted airflow (deg)	360	
	Probe material	Teflon	
	Residence time (sec)	15	
	Changes in next 18 months?	No	
	Suitable for NAAQS comparison?	Yes	
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes	
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes	
$PM_{2.5}$ (88101)		**Primary (POC 5)**	**Collocated (POC 1)**
	Sampling/Analysis Method	Met One BAM 1020	R & P 2025 (145)
	Parameter Begin Date	19981101	19981101
	Monitor Objective	General/Background	General/Background
	Measurement Scale	Urban Scale	Urban Scale
	Monitor type	SLAMS, NCore	SLAMS, NCore
	Collecting agency	Washington State Department of Ecology (1136)	Washington State Department of Ecology (1136)
	Analytical lab	N/A	Washington State Department of Ecology (1136)
	Reporting agency	Washington State Department of Ecology (1136)	Washington State Department of Ecology (1136)

Seattle-Beacon Hill	Site Information		
	Sampling frequency	Continuous	1/3
	Sampling season	Year-round	Year-round
	Probe height (m)	4	2
	Distance from supporting structure (m)	1	2
	Distance from obstruction on roof (m)	N/A	N/A
	Distance from obstruction not on roof (m)	N/A	N/A
	Distance from trees (m)	N/A	N/A
	Distance from furnace or incinerator flue (m)	N/A	N/A
	Unrestricted airflow (deg)	360	360
	Changes in next 18 months?	No	No
	Suitable for NAAQS comparison?	Yes	Yes
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes	Yes
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes	Yes
	Distance between collocated monitors	4.5	4.5
PM_{10} (81102, POC 2)	Sampling/Analysis Method	R&P 2025 (127)	
	Parameter Begin Date	20030316	
	Monitor Objective	General/Background	
	Measurement Scale	Urban	
	Monitor type	SLAMS, NCore	
	Collecting agency	Washington State Department of Ecology (1136)	
	Analytical lab	Washington State Department of Ecology (1136)	
	Reporting agency	Washington State Department of Ecology (1136)	
	Sampling frequency	1/3	
	Sampling season	Year-round	
	Probe height (m)	2	

Seattle-Beacon Hill	Site Information	
	Distance from supporting structure (m)	2
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes
Sulfur Dioxide (42401, POC 2)	Sampling/Analysis Method	TAPI 100 EU (600)
	Parameter Begin Date	20000214
	Monitor Objective	General/Background
	Measurement Scale	Urban Scale
	Monitor type	SLAMS, NCore
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	4
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	20
	Distance from trees (m)	20

Seattle-Beacon Hill	Site Information	
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Probe material	Teflon
	Residence time (sec)	15
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Seattle-Duwamish	Site Information			
	AQS ID	530330057		
	Street Address	4700 East Marginal Way South		
	Zip Code	98134		
	Latitude	47.55975		
	Longitude	-122.338265		
	Date Site Established	19710802		
	MSA/CBSA/CSA Represented	Seattle-Tacoma-Bellevue		
	County	King		
	Distance from roadway (m)	80		
	Traffic count (AADT)	52400		
	Ground cover	Asphalt		
$PM_{2.5}$ (88101)		**Primary (POC 1)**	**Collocated (POC 2)**	**Collocated (POC 5)**
	Sampling/Analysis Method	R & P 2025 (145)	R & P 2025 (145)	Met One BAM 1020 (170)
	Parameter Begin Date	20210401	20210401	20101227
	Monitor Objective	Population Exposure	Population Exposure	Population Exposure
	Measurement Scale	Neighborhood	Neighborhood	Neighborhood
	Monitor type	SLAMS	SLAMS	SLAMS
	Collecting agency	Puget Sound Clean Air Agency	Puget Sound Clean Air Agency	Puget Sound Clean Air Agency
	Analytical lab	Washington State Department of Ecology (1136)	Washington State Department of Ecology (1136)	N/A
	Reporting agency	Washington State Department of Ecology (1136)	Washington State Department of Ecology (1136)	Washington State Department of Ecology (1136)
	Sampling frequency	1/6	1/12	Continuous
	Sampling season	Year-round	Year-round	Year-round
	Probe height (m)	2	2	3
	Distance from supporting structure (m)	2	2	1
	Distance from obstruction on roof (m)	N/A	N/A	N/A
	Distance from obstruction not on roof (m)	N/A	N/A	N/A
	Distance from trees (m)	N/A	N/A	N/A
	Distance from furnace or incinerator flue (m)	N/A	N/A	N/A
	Unrestricted airflow (deg)	360	360	360
	Changes in next 18 months?	No	No	No
	Suitable for NAAQS comparison?	Yes	Yes	Yes

Seattle-Duwamish	Site Information			
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes	Yes	Yes
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes	Yes	Yes
	Distance between collocated monitors (m)	1.3		

Seattle-South Park	**Site Information**	
	AQS ID	530331011
	Street Address	8201 10th Avenue South
	Zip Code	98108
	Latitude	47.53091
	Longitude	-122.3208
	Date Site Established	20030106
	MSA/CBSA/CSA Represented	Seattle-Tacoma-Bellevue
	County	King
	Distance from roadway (m)	1.5
	Traffic count (AADT)	N/A
	Ground cover	Asphalt
Non-compliance $PM_{2.5}$ (88502, POC 4)	Sampling/Analysis Method	Ecotech M9003 Aurora (812)
	Parameter Begin Date	20030106
	Monitor Objective	Population Exposure
	Measurement Scale	Microscale
	Monitor type	SLAMS
	Collecting agency	Puget Sound Clean Air Agency
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	3
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	180
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	No

Shelton-W Franklin	**Site Information**	
	AQS ID	530450007
	Street Address	122 W Franklin
	Zip Code	98584
	Latitude	47.21355
	Longitude	-123.10081
	Date Site Established	20110420
	MSA/CBSA/CSA Represented	Shelton
	County	Mason
	Distance from roadway (m)	100
	Traffic count (AADT)	3800
	Ground cover	Roof
Non-compliance $PM_{2.5}$ (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20110420
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Olympic Region Clean Air Agency (0815)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	15
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	10
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	320
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	No

Spokane-Augusta Ave	Site Information	
	AQS ID	530630021
	Street Address	3104 E Augusta Ave
	Zip Code	99207
	Latitude	47.672482
	Longitude	-117.364852
	Date Site Established	20090329
	MSA/CBSA/CSA Represented	Spokane-Spokane Valley
	County	Spokane
	Distance from roadway (m)	70
	Traffic count (AADT)	12700
	Ground cover	Roof
Meteorological	Sampling/Analysis Method	RM Young Sonic Anemometer 85004 (062)
	Parameter Begin Date	20090713
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	10
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	Site may be relocated pending change of building ownership in 2021.
	Suitable for NAAQS comparison?	N/A

Spokane-Broadway Ave	Site Information	
	AQS ID	530630017
	Street Address	11016 E Broadway Ave
	Zip Code	99206
	Latitude	47.663962
	Longitude	-117.25765
	Date Site Established	20210101
	MSA/CBSA/CSA Represented	Spokane-Spokane Valley
	County	Spokane
	Distance from roadway (m)	50
	Traffic count (AADT)	
	Ground cover	Roof
PM_{10} (81102, POC 3)	Sampling/Analysis Method	Met One BAM 1020 (122)
	Parameter Begin Date	20210323
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Spokane Regional Clean Air Agency
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	2
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes
$PM_{2.5}$ (88101, POC 5)	Sampling/Analysis Method	Met One BAM 1020 (170)
	Parameter Begin Date	20210101
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood

Spokane-Broadway Ave	Site Information	
	Monitor type	SLAMS
	Collecting agency	Spokane Regional Clean Air Agency
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	2
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Spokane-Greenbluff	Site Information	
	AQS ID	530630046
	Street Address	E 9814 Greenbluff Rd, Greenbluff
	Zip Code	99005
	Latitude	47.82728
	Longitude	-117.27422
	Date Site Established	19900401
	MSA/CBSA/CSA Represented	Spokane-Spokane Valley
	County	Spokane
	Distance from roadway (m)	41
	Traffic count (AADT)	334
	Ground cover	Grass, gravel
Ozone (44201, POC 1)	Sampling/Analysis Method	UV Absorption (087)
	Parameter Begin Date	19900401
	Monitor Objective	Population Exposure
	Measurement Scale	Urban Scale
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	3
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Probe material	Teflon
	Residence time (sec)	5.7
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Spokane-Monroe St	**Site Information**	
	AQS ID	530630047
	Street Address	N 4601 Monroe St
	Zip Code	99205
	Latitude	47.69978
	Longitude	-117.42635
	Date Site Established	19890101
	MSA/CBSA/CSA Represented	Spokane-Spokane Valley
	County	Spokane
	Distance from roadway (m)	35
	Traffic count (AADT)	15800
	Ground cover	Roof
Non-compliance $PM_{2.5}$ (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20040517
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	12
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	40
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Sunnyside-S 16th	**Site Information**	
	AQS ID	530770005
	Street Address	810 16th St (Harrison Middle School)
	Zip Code	98944
	Latitude	46.31932
	Longitude	-119.999677
	Date Site Established	19980821
	MSA/CBSA/CSA Represented	Yakima
	County	Yakima
	Distance from roadway (m)	1450
	Traffic count (AADT)	3900
	Ground cover	Roof
Non-compliance $PM_{2.5}$ (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20150915
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Yakima Region Clean Air Agency
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	2
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Tacoma-Alexander Ave	**Site Information**	
	AQS ID	530530031
	Street Address	2301 Alexander Ave, Tacoma, WA
	Zip Code	98421
	Latitude	47.2656
	Longitude	-122.3858
	Date Site Established	19870101
	MSA/CBSA/CSA Represented	Seattle-Tacoma-Bellevue
	County	Pierce
	Distance from roadway (m)	65
	Traffic count (AADT)	638
	Ground cover	Grass, gravel
Non-compliance $PM_{2.5}$ (88502, POC 4)	Sampling/Analysis Method	Ecotech M9003 Aurora (812)
	Parameter Begin Date	20030101
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Puget Sound Clean Air Agency
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	3
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Tacoma-L St	Site Information	
	AQS ID	530530029
	Street Address	7802 South L Street
	Zip Code	98408
	Latitude	47.1864
	Longitude	-122.4517
	Date Site Established	19991003
	MSA/CBSA/CSA Represented	Seattle-Tacoma-Bellevue
	County	Pierce
	Distance from roadway (m)	570
	Traffic count (AADT)	14349
	Ground cover	Asphalt, grass
$PM_{2.5}$ (88101, POC 5)	Sampling/Analysis Method	Met One BAM 1020 (170)
	Parameter Begin Date	19991003
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Puget Sound Clean Air Agency
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	3
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	60
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Tacoma-S 36th	Site Information		
	AQS ID	530530024	
	Street Address	1802 S 36th St	
	Zip Code	98408	
	Latitude	47.22634	
	Longitude	-122.46256	
	Date Site Established	20160101	
	MSA/CBSA/CSA Represented	Seattle-Tacoma-Bellevue	
	County	Pierce	
	Distance from roadway (m)	15	
	Traffic count (AADT)	134000	
	Ground cover	Asphalt, grass	
Meteorological	Sampling/Analysis Method	Vaisala WMT700 Ultrasonic Sensor (060)	
	Parameter Begin Date	20160204	
	Monitor Objective	Source Oriented	
	Measurement Scale	Microscale	
	Monitor type	SLAMS, Near-road	
	Collecting agency	Washington State Department of Ecology (1136)	
	Analytical lab	N/A	
	Reporting agency	Washington State Department of Ecology (1136)	
	Sampling frequency	Continuous	
	Sampling season	Year-round	
	Probe height (m)	10	
	Distance from supporting structure (m)	N/A	
	Distance from obstruction on roof (m)	N/A	
	Distance from obstruction not on roof (m)	N/A	
	Distance from trees (m)	N/A	
	Distance from furnace or incinerator flue (m)	N/A	
	Unrestricted airflow (deg)	360	
	Changes in next 18 months?	No	
	Suitable for NAAQS comparison?	N/A	
Nitrogen Dioxide (42602, POC 1)	Sampling/Analysis Method	TAPI 200 EU (599)	
	Parameter Begin Date	20160101	
	Monitor Objective	Source Oriented	
	Measurement Scale	Microscale	
	Monitor type	SLAMS, Near-road	

Tacoma-S 36th	Site Information		
	Collecting agency	Washington State Department of Ecology (1136)	
	Analytical lab	N/A	
	Reporting agency	Washington State Department of Ecology (1136)	
	Sampling frequency	Continuous	
	Sampling season	Year-round	
	Probe height (m)	6	
	Distance from supporting structure (m)	1	
	Distance from obstruction on roof (m)	N/A	
	Distance from obstruction not on roof (m)	N/A	
	Distance from trees (m)	N/A	
	Distance from furnace or incinerator flue (m)	N/A	
	Unrestricted airflow (deg)	360	
	Probe material	Teflon	
	Residence time (sec)	3.2	
	Changes in next 18 months?	No	
	Suitable for NAAQS comparison?	Yes	
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes	
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes	
$PM_{2.5}$ (88101)		**Primary (POC 5)**	**Collocated (POC 6)**
	Sampling/Analysis Method	Met One BAM 1020 (170)	Met One BAM 1020 (170)
	Parameter Begin Date	20160204	20190301
	Monitor Objective	Highest Concentration	Highest Concentration
	Measurement Scale	Microscale	Microscale
	Monitor type	SLAMS, Near-road	SLAMS, Near-road
	Collecting agency	Washington State Department of Ecology (1136)	Washington State Department of Ecology (1136)
	Analytical lab	N/A	N/A
	Reporting agency	Washington State Department of Ecology (1136)	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous	Continuous

Tacoma-S 36th	Site Information		
	Sampling season	Year-round	Year-round
	Probe height (m)	4	4
	Distance from supporting structure (m)	1	1
	Distance from obstruction on roof (m)	N/A	N/A
	Distance from obstruction not on roof (m)	N/A	N/A
	Distance from trees (m)	N/A	N/A
	Distance from furnace or incinerator flue (m)	N/A	N/A
	Unrestricted airflow (deg)	360	360
	Changes in next 18 months?	No	No
	Suitable for NAAQS comparison?	Yes	Yes
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes	Yes
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes	Yes
	Distance between collocated monitors (m)		4

Taholah-Quinault Tribe	**Site Information**	
	AQS ID	530270011
	Street Address	Chitwin Drive, Taholah, WA
	Zip Code	98571
	Latitude	47.20637
	Longitude	-124.1722
	Date Site Established	20040428
	MSA/CBSA/CSA Represented	Aberdeen
	County	Grays Harbor
	Distance from roadway (m)	340
	Traffic count (AADT)	1300
	Ground cover	Grass
Non-compliance $PM_{2.5}$ (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20150818
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	Tribal
	Collecting agency	Quinault Tribe
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	4
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Toppenish-Yakama Tribe	Site Information	
	AQS ID	530770015
	Street Address	141 Ward Rd., Toppenish, WA
	Zip Code	98948
	Latitude	46.38024
	Longitude	-120.33266
	Date Site Established	20060131
	MSA/CBSA/CSA Represented	Yakima
	County	Yakima
	Distance from roadway (m)	310
	Traffic count (AADT)	14000
	Ground cover	Grass
Meteorological	Sampling/Analysis Method	Vaisala WMT700 Ultrasonic Sensor (060)
	Parameter Begin Date	20090608
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	Tribal
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	10
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	N/A
$PM_{2.5}$ (88101, POC 5)	Sampling/Analysis Method	Met One BAM 1020 (170)
	Parameter Begin Date	20151105
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	Tribal
	Collecting agency	Yakama Tribe
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	3

Toppenish-Yakama Tribe	Site Information	
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Tukwila-Allentown	**Site Information**	
	AQS ID	530330069
	Street Address	11675 44th Ave S, Tukwila
	Zip Code	98168
	Latitude	47.498535
	Longitude	-122.278385
	Date Site Established	20170622
	MSA/CBSA/CSA Represented	Seattle-Tacoma-Bellevue
	County	King
	Distance from roadway (m)	300
	Traffic count (AADT)	32000
	Ground cover	Grass
$PM_{2.5}$ (88101, POC 5)	Sampling/Analysis Method	Met One BAM 1020 (170)
	Parameter Begin Date	20210401
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Puget Sound Clean Air Agency
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	3
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Tulalip-Totem Beach Rd	**Site Information**	
	AQS ID	530610021
	Street Address	7525 Totem Beach Road
	Zip Code	98271
	Latitude	48.065339
	Longitude	-122.285194
	Date Site Established	20191023
	MSA/CBSA/CSA Represented	Seattle-Tacoma-Bellevue, WA
	County	Snohomish
	Distance from roadway (m)	371
	Traffic count (AADT)	7546
	Ground cover	Grass
Non-compliance $PM_{2.5}$ (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20191023
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	Tribal
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	NA
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	1
	Distance from supporting structure (m)	0.5
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Twisp-Ewell St	Site Information	
	AQS ID	530470016
	Street Address	1205 Ewell St
	Zip Code	98856
	Latitude	48.354124
	Longitude	-120.105116
	Date Site Established	20200610
	MSA/CBSA/CSA Represented	NA
	County	Okanogan
	Distance from roadway (m)	100
	Traffic count (AADT)	Unknown
	Ground cover	Roof
Non-compliance $PM_{2.5}$ (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20200610
	Monitor Objective	General/Background
	Measurement Scale	Neighborhood
	Monitor type	SPM
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	4
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Statement of Purpose: The previous Twisp monitoring site was operated by the U.S. Forest Service as a non-EPA federal monitor to inform smoke management decisions. Ecology temporarily took over operational responsibility for monitoring at the previous Twisp-Glover site on October 1, 2018 and relocated the site to Twisp-Ewell St in 2020.

Vancouver-Blairmont	Site Information	
	AQS ID	530110011
	Street Address	1500 SE Blairmont Dr (Mountain View High School)
	Zip Code	98683
	Latitude	45.616667
	Longitude	-122.516667
	Date Site Established	19880501
	MSA/CBSA/CSA Represented	Portland-Vancouver-Hillsboro
	County	Clark
	Distance from roadway (m)	520
	Traffic count (AADT)	8939
	Ground cover	Grass, asphalt
Meteorological*	Sampling/Analysis Method	Vaisala WMT700 Ultrasonic Sensor (060)
	Parameter Begin Date	20071220
	Monitor Objective	Population Exposure
	Measurement Scale	Urban Scale
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	10
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	Yes. Meteorological monitoring is currently suspended until spring 2022 due to construction at the property.
	Suitable for NAAQS comparison?	N/A
Ozone (44201, POC 1)	Sampling/Analysis Method	UV Absorption (087)
	Parameter Begin Date	19880501
	Monitor Objective	Population Exposure
	Measurement Scale	Urban Scale
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)

Vancouver-Blairmont	Site Information	
	Sampling frequency	Continuous
	Sampling season	May-Sept
	Probe height (m)	4
	Distance from supporting structure (m)	0.5
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	30
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Probe material	Teflon
	Residence time (sec)	15
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

* **Note:** Due to a planned construction project on the property of the Vancouver-Blairmont monitoring site (530110011) from 2020-2022, the site was relocated to a temporary shelter without access to a meteorological tower in May 2020. Meteorological monitoring is temporarily suspended from May 2020-April 2022.

Vancouver-NE 84th Ave	**Site Information**	
	AQS ID	530110024
	Street Address	2722 Ne 84th Ave
	Zip Code	98662
	Latitude	45.64336
	Longitude	-122.58737
	Date Site Established	20140901
	MSA/CBSA/CSA Represented	Portland-Vancouver-Hillsboro
	County	Clark
	Distance from roadway (m)	365
	Traffic count (AADT)	11559
	Ground cover	Grass
$PM_{2.5}$ (88101, POC 5)	Sampling/Analysis Method	Met One BAM 1020 (170)
	Parameter Begin Date	20151125
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Southwest Clean Air Agency
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	3
	Distance from supporting structure (m)	0.5
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	25
	Distance from trees (m)	31
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Walla Walla-12th St	**Site Information**	
	AQS ID	530710005
	Street Address	200 S 12th, Walla Walla, WA
	Zip Code	99362
	Latitude	46.05881
	Longitude	-118.35147
	Date Site Established	19890501
	MSA/CBSA/CSA Represented	Walla Walla
	County	Walla Walla
	Distance from roadway (m)	415
	Traffic count (AADT)	19000
	Ground cover	Roof
Non-compliance $PM_{2.5}$ (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20021001
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	2
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Wellpinit-Spokane Tribe	**Site Information**	
	AQS ID	530650002
	Street Address	6208 Ford Wellpinit Road, Wellpinit, WA
	Zip Code	99040
	Latitude	47.88528
	Longitude	-117.98865
	Date Site Established	20061010
	MSA/CBSA/CSA Represented	Spokane-Spokane Valley
	County	Spokane
	Distance from roadway (m)	10200
	Traffic count (AADT)	1200
	Ground cover	Asphalt, gravel
Non-compliance $PM_{2.5}$ (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20081015
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	Tribal
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	4
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Wenatchee-Fifth St	**Site Information**	
	AQS ID	530070011
	Street Address	1300 Fifth Street
	Zip Code	98801
	Latitude	47.43061
	Longitude	-120.34195
	Date Site Established	20121105
	MSA/CBSA/CSA Represented	Wenatchee
	County	Chelan
	Distance from roadway (m)	90
	Traffic count (AADT)	10691
	Ground cover	Gravel, grass
Meteorological	Sampling/Analysis Method	RM Young Sonic Anemometer 85004 (062)
	Parameter Begin Date	20121105
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	10
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	N/A
Non-compliance $PM_{2.5}$ (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20170401
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round

Wenatchee-Fifth St	Site Information	
	Probe height (m)	3
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

White Swan-Yakama Tribe	Site Information	
	AQS ID	530770016
	Street Address	321 Signal Peak Rd, White Swan
	Zip Code	98952
	Latitude	46.37543
	Longitude	-120.72932
	Date Site Established	20091027
	MSA/CBSA/CSA Represented	Yakima
	County	Yakima
	Distance from roadway (m)	25000
	Traffic count (AADT)	16000
	Ground cover	Grass
Meteorological*	Sampling/Analysis Method	Vaisala WMT700 Ultrasonic Sensor (060)
	Parameter Begin Date	20091109
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	Tribal
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	10
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	Yes. Meteorological monitoring is currently suspended pending tower reinstallation.
	Suitable for NAAQS comparison?	N/A
Non-compliance $PM_{2.5}$ (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20091027
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	Tribal
	Collecting agency	Yakama Tribe
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)

White Swan-Yakama Tribe	Site Information	
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	2
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

* **Note:** Meteorological monitoring at White Swan (530770016) was suspended in April 2020 due to a tower failure. Installation of a new tower has been delayed due to the staff shortage and hiring freeze associated with the COVID-19 pandemic.

Winthrop-Chewuch Rd	Site Information	
	AQS ID	530470010
	Street Address	24 West Chewuch Rd
	Zip Code	98862
	Latitude	48.47724
	Longitude	-120.19057
	Date Site Established	20031106
	MSA/CBSA/CSA Represented	NA
	County	Okanogan
	Distance from roadway (m)	50
	Traffic count (AADT)	2700
	Ground cover	Roof
Non-compliance $PM_{2.5}$ (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20031106
	Monitor Objective	General/Background
	Measurement Scale	Neighborhood
	Monitor type	SPM
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	5
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	1
	Distance from trees (m)	7
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	180
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	No

Statement of Purpose: The Winthrop monitoring site was previously operated by the U.S. Forest Service as a non-EPA federal monitor to inform smoke management decisions. Ecology temporarily took over operational responsibility for the site as a SPM on October 1, 2018.

Yacolt-Yacolt Rd	Site Information	
	AQS ID	530110022
	Street Address	406 W Yacolt Rd
	Zip Code	98675
	Latitude	45.8639
	Longitude	-122.410889
	Date Site Established	20030717
	MSA/CBSA/CSA Represented	Portland-Vancouver-Hillsboro
	County	Clark
	Distance from roadway (m)	4700
	Traffic count (AADT)	2900
	Ground cover	Asphalt, grass
Non-compliance $PM_{2.5}$ (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20070502
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Southwest Clean Air Agency
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	18
	Distance from supporting structure (m)	0.5
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

Yakima-4th Ave S	Site Information		
	AQS ID	530770009	
	Street Address	402 South 4th Ave	
	Zip Code	98901	
	Latitude	46.598056	
	Longitude	-120.499167	
	Date Site Established	20000421	
	MSA/CBSA/CSA Represented	Yakima	
	County	Yakima	
	Distance from roadway (m)	65	
	Traffic count (AADT)	7372	
	Ground cover	Roof	
PM_{10} (81102)	Sampling/Analysis Method	Met One BAM 1020 (122)	
	Parameter Begin Date	20150916	
	Monitor Objective	Population Exposure	
	Measurement Scale	Neighborhood	
	Monitor type	SLAMS	
	Collecting agency	Yakima Region Clean Air Agency	
	Analytical lab	N/A	
	Reporting agency	Washington State Department of Ecology (1136)	
	Sampling frequency	Continuous	
	Sampling season	Year-round	
	Probe height (m)	14	
	Distance from supporting structure (m)	1	
	Distance from obstruction on roof (m)	7	
	Distance from obstruction not on roof (m)	N/A	
	Distance from trees (m)	34	
	Distance from furnace or incinerator flue (m)	N/A	
	Unrestricted airflow (deg)	360	
	Changes in next 18 months?	No	
	Suitable for NAAQS comparison?	Yes	
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes	
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes	
$PM_{2.5}$ (88101)		**Primary (POC 5)**	**Collocated (POC 1)**
	Sampling/Analysis Method	Met One BAM 1020 (170)	R & P 2025 (145)

Yakima-4th Ave S	Site Information		
	Parameter Begin Date	20070202	20070202
	Monitor Objective	Population Exposure	Population Exposure
	Measurement Scale	Neighborhood	Neighborhood
	Monitor type	SLAMS	SLAMS
	Collecting agency	Yakima Region Clean Air Agency	Yakima Region Clean Air Agency
	Analytical lab	N/A	N/A
	Reporting agency	Washington State Department of Ecology (1136)	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous	1/3
	Sampling season	Year-round	Year-round
	Probe height (m)	16	16
	Distance from supporting structure (m)	1	1
	Distance from obstruction on roof (m)	7	7
	Distance from obstruction not on roof (m)	N/A	N/A
	Distance from trees (m)	34	34
	Distance from furnace or incinerator flue (m)	N/A	N/A
	Unrestricted airflow (deg)	360	360
	Changes in next 18 months?	No	No
	Suitable for NAAQS comparison?	Yes	Yes
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes	Yes
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes	Yes
	Distance between collocated monitors (m)	4	4

Yelm-Northern Pacific	Site Information	
	AQS ID	530670005
	Street Address	931 Northern Pacific Road
	Zip Code	98597
	Latitude	46.952562
	Longitude	-122.59527
	Date Site Established	20060501
	MSA/CBSA/CSA Represented	Olympia-Lacey-Tumwater
	County	Thurston
	Distance from roadway (m)	1250
	Traffic count (AADT)	14000
	Ground cover	Gravel, grass
Ozone (44201, POC 1)*	Sampling/Analysis Method	UV Absorption (087)
	Parameter Begin Date	20060501
	Monitor Objective	Population Exposure
	Measurement Scale	Urban Scale
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	May-Sept
	Probe height (m)	3
	Distance from supporting structure (m)	0.7
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	50
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Probe material	Teflon
	Residence time (sec)	4.4
	Changes in next 18 months?	Yes. Ozone monitoring is temporarily suspended for the 2021 ozone season.
	Suitable for NAAQS comparison?	Yes
	Does monitor meet quality assurance requirements for monitors used in NAAQS evaluations described in 40 C.F.R. Part 58 Appendix A?	Yes
	Does monitor meet probe and path siting criteria described in 40 C.F.R. Part 58 Appendix E?	Yes

***Note:** Ozone monitoring is temporarily suspended for the 2021 ozone season (May-Sept).

Appendix E. Interstate Memorandum of Understanding

Memorandum of Understanding
Between
Oregon Department of Environmental Quality
And
Washington Department of Ecology

I. PURPOSE

This Memorandum of Understanding (MOU) is entered into by and between the Oregon Department of Environmental Quality Air Quality Program, hereinafter referred to as ODEQ, and the Washington Department of Ecology Air Quality Program, hereinafter referred to as WDOE.

The purpose of this MOU is to agree in principle to cooperate with shared resources to collectively meet the United States Environmental Protection Agency (US EPA) minimum monitoring requirements for criteria air pollutants in the Portland-Vancouver-Hillsboro, OR-WA Metropolitan Statistical Area (MSA).

II. STATEMENT OF MUTUAL BENEFITS AND INTEREST

The Portland-Vancouver-Hillsboro, OR-WA MSA consists of Clackamas, Columbia, Multnomah, Washington, and Yamhill Counties in Oregon and Clark and Skamania Counties in Washington. The network design criteria for ambient air quality monitoring described in 40 C.F.R § 58 Appendix D require that in areas where metropolitan statistical areas (MSAs) cross jurisdictional boundaries, "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." This MOU establishes an agreement that ODEQ and WDOE cooperatively meet the minimum monitoring requirements in the Portland-Vancouver-Hillsboro, OR-WA MSA.

The Portland-Vancouver-Hillsboro, OR-WA MSA had an estimated population of 2,478,810 as of July 1, 2018. Based on 40 C.F.R § 58 Appendix D, the following minimum monitoring requirements for criteria pollutants apply to an MSA of this population size:

Pollutant	Minimum Number of Required Monitors
Ozone (O_3)	2
Carbon Monoxide (CO)	2
Nitrogen Dioxide (NO_2)	2*
Sulfur Dioxide (SO_2)	1
Particulate Matter ≤10µm (PM_{10})	2
Fine Particulate Matter ($PM_{2.5}$)	3

* An additional NO_2 monitor will be required if the population of the MSA grows above 2,500,000 people.

As of January 1, 2019, the minimum monitoring requirements were met or exceeded in the Portland-Vancouver-Hillsboro, OR-WA MSA for each of the criteria pollutants listed above.

III. GENERAL ROLES

ODEQ and WDOE formally agree to collectively provide adequate criteria pollutant monitoring as required by 40 C.F.R § 58 Appendix D. Each agency shall inform the other agency at its earliest convenience via telephone or email of any monitoring changes within the Portland-Vancouver-Hillsboro, OR-WA MSA that impact the minimum monitoring requirements. In the event that new minimum monitoring requirements are imposed after the execution of this MOU, ODEQ and WDOE agree to consult and jointly determine how to meet the new requirements.

IV. IT IS MUTUALLY AGREED AND UNDERSTOOD BY AND BETWEEN THE SAID PARTIES THAT:

A. This instrument is neither a fiscal nor a funds obligation document. Any endeavor involving reimbursement or contribution of funds between the parties to this instrument will be handled in accordance with applicable laws, regulations, and procedures, including those for government procurement and printing. Such endeavors will be outlined in separate agreements that shall be made in writing by representatives of the parties, and shall be independently authorized by appropriate statutory authority. This instrument does not provide such authority.

B. This instrument in no way restricts ODEQ or WDOE from participating in similar activities with other public or private agencies, organizations, and individuals.

C. Pursuant to Section 22, Title 41, United States Code, no Member of, or Delegate to, Congress shall be admitted to any share or part of this instrument, or any benefits that may arise therefrom.

D. Nothing in this MOU shall be construed as obligating either party to expend funds or to make any contract or other obligation for the future payment of money in excess of appropriations authorized by law and administratively allocated for this purpose.

E. Modifications within the scope of this instrument shall be made by mutual consent of the parties, by the issuance of a written modification, signed and dated by both parties.

F. Either party(s), in writing, may terminate the MOU in whole, or in part, at any time before the date of expiration provided that written notice is sent to the other party at least 120 calendar days prior to the termination date.

G. This MOU shall be effective upon execution by both parties and shall remain in effect for a period of 5 years unless otherwise modified. This agreement can be extended if mutually agreed to by both parties.

H. The principal contacts for this instrument are:

Oregon Department of Environmental Quality
Anthony Barnack, Ambient Monitoring Coordinator
7202 NE Evergreen Parkway, Suite 150
Hillsboro, OR 97124-6166
(503)693-5708

Washington Department of Ecology
Jill Schulte, Air Monitoring Coordinator
PO Box 47600
Olympia, WA 98504-7600
(360) 407-6877

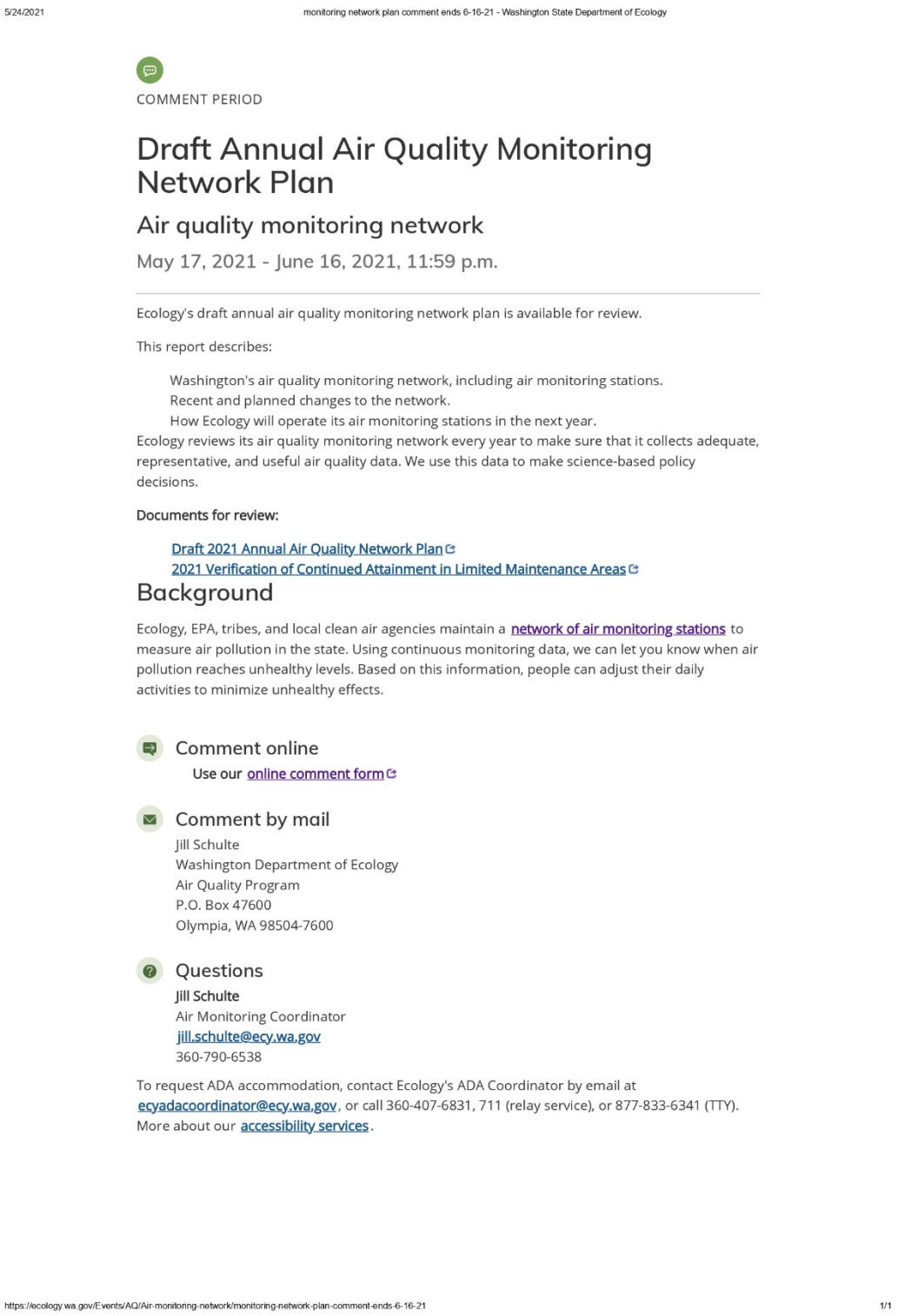
In Witness whereof, the parties hereto have executed this MOU as of the last date written below:

5/13/19
Date Tom Roick
Air Quality Monitoring Manager
Oregon Department of Environmental Quality

5/20/19
Date Kathy Taylor
Deputy Program Manager
Air Quality Program
Washington Department of Ecology

Appendix F. Public Comment Period

The draft 2021 Ambient Air Monitoring Network Plan was posted for public comment from May 17 – June 16, 2021, on Ecology's webpage. No comments were received.



5/24/2021 monitoring network plan comment ends 6-16-21 - Washington State Department of Ecology

COMMENT PERIOD

Draft Annual Air Quality Monitoring Network Plan

Air quality monitoring network

May 17, 2021 - June 16, 2021, 11:59 p.m.

Ecology's draft annual air quality monitoring network plan is available for review.

This report describes:

- Washington's air quality monitoring network, including air monitoring stations.
- Recent and planned changes to the network.
- How Ecology will operate its air monitoring stations in the next year.

Ecology reviews its air quality monitoring network every year to make sure that it collects adequate, representative, and useful air quality data. We use this data to make science-based policy decisions.

Documents for review:

Draft 2021 Annual Air Quality Network Plan
2021 Verification of Continued Attainment in Limited Maintenance Areas

Background

Ecology, EPA, tribes, and local clean air agencies maintain a network of air monitoring stations to measure air pollution in the state. Using continuous monitoring data, we can let you know when air pollution reaches unhealthy levels. Based on this information, people can adjust their daily activities to minimize unhealthy effects.

Comment online

Use our online comment form

Comment by mail

Jill Schulte
Washington Department of Ecology
Air Quality Program
P.O. Box 47600
Olympia, WA 98504-7600

Questions

Jill Schulte
Air Monitoring Coordinator
jill.schulte@ecy.wa.gov
360-790-6538

To request ADA accommodation, contact Ecology's ADA Coordinator by email at ecyadacoordinator@ecy.wa.gov, or call 360-407-6831, 711 (relay service), or 877-833-6341 (TTY). More about our accessibility services.

https://ecology.wa.gov/Events/AQ/Air-monitoring-network/monitoring-network-plan-comment-ends-6-16-21 1/1