# Nashville-Davidson County
# Air Monitoring Network Plan 2025

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Metro Public Health Dept
Nashville/Davidson County
Promoting and Protecting Health

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# 1.0 NASHVILLE AIR MONITORING NETWORK OVERVIEW

After the Clean Air Act (CAA) of 1970 was passed, the State of Tennessee's Department of Environment and Conservation Air Monitoring Program ("TDEC") was established in the mid-1970s. Shortly thereafter, the Nashville-Davidson County Air Monitoring Program ("Nashville") was established and worked in partnership with TDEC as a single Primary Quality Assurance Organization (PQAO). Beginning January 1st, 2015, Nashville became its own (PQAO) and has continually operated as such since. With that said, Nashville still works closely with TDEC as the requirements for the Nashville-Davidson-Murfreesboro-Franklin Core-Based Statistical Area (CBSA) are met by monitors operated within both the Nashville and TDEC's air monitoring networks.

This document provides information on Nashville's current 2025 Ambient Air Monitoring Network. With that, it details any proposed changes to the network, monitoring site descriptions, and monitoring site evaluations. This document is intended to fulfill the requirements of *40 CFR Part 58.10*, in which a monitoring organization must review their network on an annual basis to ensure that all requirements (within *40 CFR*, *Part 58, Appendices A, B, C, D, and E)* are being met.

## 1.1 CURRENT 2025 MONITORING NETWORK

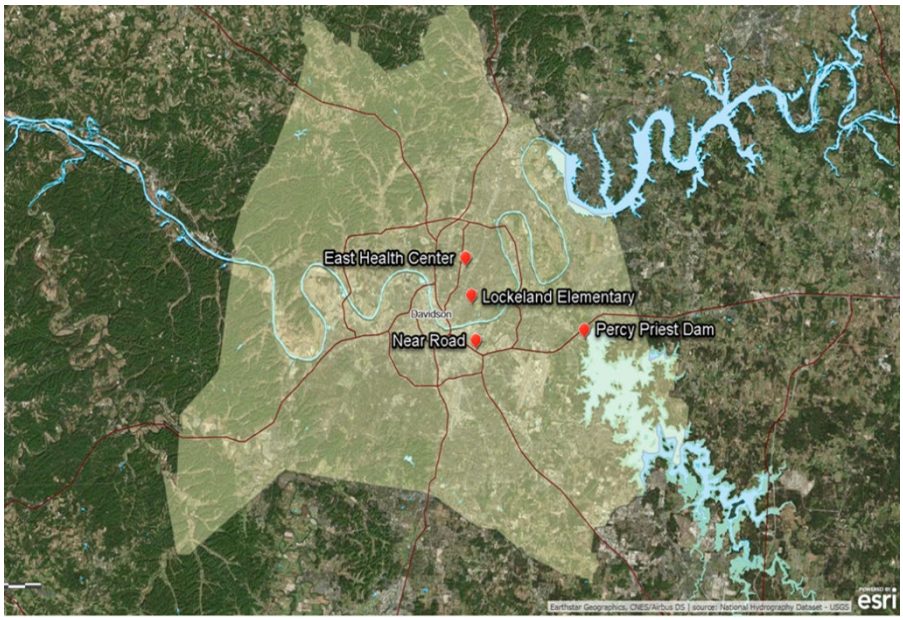
The 2025 Nashville-Davidson County Ambient Air Monitoring Network has had no significant changes compared to 2024. Nashville's 2025 air monitoring network meets all minimum monitoring requirements laid out in *40CFR* for all parameter pollutants ($PM_{2.5}$, $O_3$, $SO_2$, $NO_2$, and CO) except $PM_{10}$. In response to its 2016 Annual Network Plan and again in 2020, Nashville gained EPA approval for waiver of a *40CFR* requirement (*Part 58, Appendix D, Section 4.6*), which outlines the need for two (2) $PM_{10}$ monitors to be operated within the Nashville-Davidson-Murfreesboro-Franklin CBSA. This waiver allows Nashville to have only one (1) $PM_{10}$ monitor in operation within its monitoring network and was approved due to the historically low $PM_{10}$ concentrations recorded in Davidson County. The Nashville-Davidson County Air Monitoring Program (AMP) is requesting a waiver extension, which will be discussed in further detail later in *Section 2.2 "$PM_{10}$ Monitoring"*.

Additionally, from the start of its operation on September 1st, 2020, until August 30th, 2022 (*a 2-year period*) , the Teledyne T640x $PM_{2.5}$ continuous FEM monitor, located at the "LL" site, was operating under an EPA approved 2-year NAAQS exclusion. This exclusion period allowed for an investigation into the monitor's comparability to the FRM, which resulted in the conclusion that the T640x $PM_{2.5}$ Continuous FEM monitor had poor comparability to the FRM. In response to its 2023 Annual Network Plan, the AMP received EPA approval for changing the T640x $PM_{2.5}$ to a Special Purpose Monitor (SPM). The T640x $PM_{2.5}$ monitor data has been deemed to have sufficient comparability to the FRM to be used in AQI reporting. Thus, all data (*from the start of operation continuing on*) reported for Nashville's T640x $PM_{2.5}$ Continuous FEM monitor at "LL" will be used solely for AQI reporting purposes and is excluded from NAAQS comparison.

Nashville has continued to operate its collocated $PM_{2.5}$ FRM and $PM_{2.5}$ continuous FEM monitors to support the objective of comparison to the NAAQS, consequently all of Nashville's $PM_{2.5}$ monitors have been operated in such a way to meet the objectives of *the Network Design Criteria for Ambient Air Quality Monitoring* described in *Appendix D* to *Part 58.*

The map shown in *Figure 1-1* below depicts the location of each ambient air monitoring site within Nashville's 2025 monitoring network.

**Figure 1-1: Nashville-Davidson County Air Monitoring Network**




Nashville has four (4) monitoring sites in operation for 2025, which are listed below along with the criteria pollutants monitored at each site.

1) The **EAST HEALTH CENTER ("EAST")** site monitors for ozone ($O_3$) and nitrogen dioxide ($NO_2$) *(with supporting parameters Nitrous Oxide (NO) and Nitrogen Oxides ($NO_X$));*
2) The **LOCKELAND ELEMENTARY SCHOOL ("LL")** site monitors for continuous $PM_{10}$, continuous $PM_{2.5}$ (*Regulatory and AQI specific*), and intermittent filter-based $PM_{2.5}$;
3) The **PERCY PRIEST DAM ("PPD")** site monitors for $O_3$; and
4) The **NEAR ROAD SITE ("NRS")** monitors for $PM_{2.5}$, carbon monoxide (CO), $NO_2$ (*with NO/$NO_x$*), and sulfur dioxide ($SO_2$) (*with supporting parameter $SO_{2MAX}$*).

## 2.0 PROPOSED CHANGES TO MONITORING NETWORK

No major changes are proposed to take place in 2025 for the Nashville-Davidson County Monitoring Network.

### 2.1 OZONE ($O_3$) MONITORING

No changes are proposed for this portion of the Nashville Davidson County Air Monitoring Network in 2025. Although, discussions have taken place with the EPA with regards to moving the ozone monitor, currently located at the "PPD" monitoring site, to a new location for future monitoring. This new site has not yet been confirmed but likely will be in the Southeast quadrant of Davidson County, located to ensure the capture of pollutants downwind of the secondary wind direction. Some things must be kept in mind during this location scouting such as ideally positioning the new site 5-10 miles downwind from $NO_x$ production areas (downtown highway loop). The new location should be relevant to current population dynamics and ensure that afternoon wind directions during $O_3$ season are considered.

### 2.2 $PM_{10}$ MONITORING

In 2016, some significant changes were proposed to the Nashville $PM_{10}$ monitoring network including the closing of two sites, Hillwood and Trevecca, and the relocation of one $PM_{10}$ monitor to the

Lockeland Elementary site. As part of those changes, a waiver was issued to Nashville to allow the area to run just one $PM_{10}$ monitor instead of the two that are required for the CBSA per *40 CFR Part 58, Appendix D, Section 4.6*. Approval for this waiver to be extended was received as a result of the AMP's 2020 Annual Network Plan.

Nashville-Davidson County AMP is requesting the continuation of this waiver again in 2025. At the time that the current waiver was granted $PM_{10}$ levels were approximately 13% of the NAAQS 150 µg/m$^3$ (2016 Nashville-Davidson County Annual Network Plan). Since the waiver was approved, $PM_{10}$ levels in the area have stayed significantly below the 150 µg/m$^3$ threshold with a 2024 annual mean of 16.3 µg/m$^3$. *Figures 2-1 and 2-2* below illustrate the $PM_{10}$ trends at Lockeland Elementary since the waiver was first approved, showing the 2nd highest 24-hour max for the $PM_{10}$ monitor as well as the annual mean concentrations. As can be seen in these graphs, $PM_{10}$ levels have remained significantly below the 150 µg/m$^3$ threshold. At this time, Nashville-Davidson County Air Monitoring Program does not believe that the reintroduction of second $PM_{10}$ monitor to our network is necessary given such low numbers.

**Figure 2-1: $PM_{10}$ Trend - Annual Mean Values**

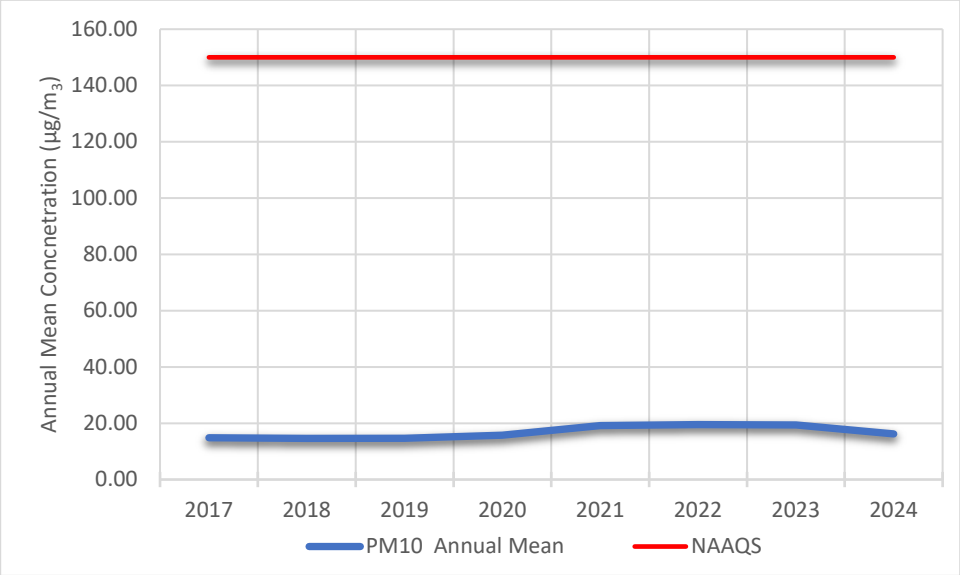
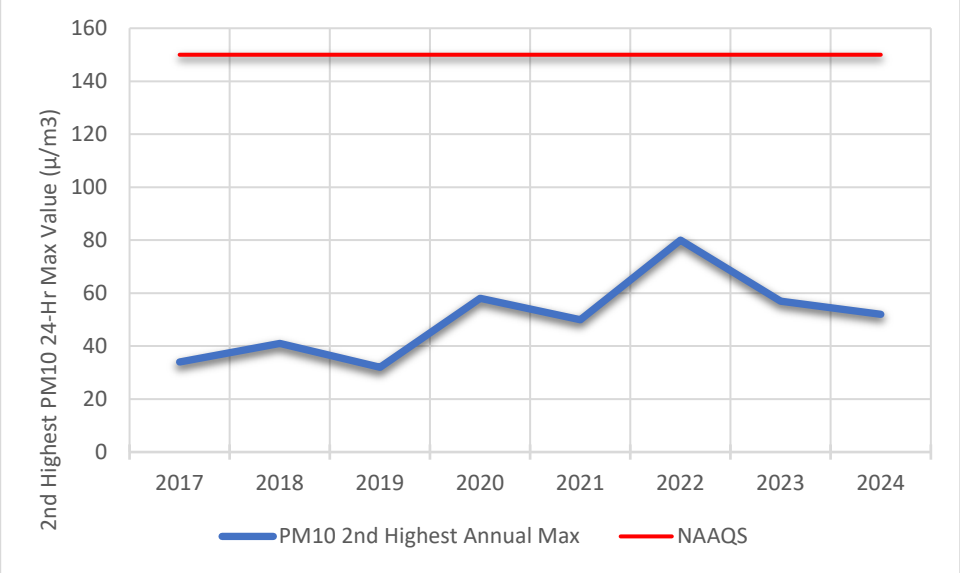



**Figure 2-2: $PM_{10}$ Trend - Annual 2nd high Max Values**



## 2.3 $PM_{2.5}$ Monitoring

No changes are proposed for this portion of the Nashville Davidson County Air Monitoring Network.

## 2.4 Nitrogen Dioxide ($NO_2$) Monitoring

No changes are proposed for this portion of the Nashville Davidson County Air Monitoring Network.

## 2.5 Carbon Monoxide (CO) Monitoring

No changes are proposed for this portion of the Nashville Davidson County Air Monitoring Network.

## 2.6 Sulfur Dioxide ($SO_2$) Monitoring

No changes are proposed for this portion of the Nashville Davidson County Air Monitoring Network.

# 3.0 NASHVILLE SITE DESCRIPTIONS

## 3.1 ("EAST") East Health Center – Davidson County, Tn

The East Health Center Monitoring Site has been in operation since 1972. Since its start, this site has been used to monitor $O_3$ and $NO_2$ (*and* $NO/NO_X$) and will continue to do so in 2025.

Additionally, although Nashville had its $SO_2$ monitor at this site, starting January 2020, $SO_2$ monitoring was moved to the "NRS" site location, where is has remained since.

**Figure 3-1: East Health Center**

**Figure 3-2: East Health Center (Aerial View)**

**Table 3-1: East Health Center Site Information**

| | | |
|---|---|---|
| **Agency Name (Code)** | Metro Public Health Department (0682) | |
| **AQS ID** | 470370011 | |
| **County Name** | Davidson | |
| **Address** | 1015 Trinity Lane | |
| **CBSA** | 34980 | |
| **Latitude, Longitude** | 36.205000, -86.744722 | |
| **Parameter Code** | 42602 | 44201 |
| **Parameter Name** | $NO_2$ | $O_3$ |
| **Monitor Type** | SLAMS | SLAMS |
| **POC** | 1 | 1 |
| **Collection Frequency** | Hourly | Hourly |
| **Method** | 074 | 047 |
| **Monitoring Instrument** | Thermo 42i | Thermo 49i |
| **Analysis** | Chemiluminescence | Photometric |
| **Ref. Method ID** | RFNA-1289-074 | EQOA-0880-047 |
| **Monitor Objective** | Highest Concentration | Population Exposure |
| **Dominant Source** | Area | Area |
| **Measurement Scale** | Neighborhood | Neighborhood |
| **Land Use Type** | Residential | Residential |
| **Location Setting** | Urban | Urban |
| **Date Established** | 1/6/1975 | 1/1/1972 |

## 3.2 ("PPD") Percy Priest Dam – Davidson County, TN

The Percy Priest Dam monitoring site was established in 1978. It is located on the Army Corps of Engineers Percy Priest Dam campus. This site is used to monitor solely for $O_3$ which will continue in 2025.

**Figure 3-3: Percy Priest Dam Site**

**Figure 3-4: Percy Priest Dam Site (Aerial View)**

**Table 3-2: Percy Priest Dam Site Information**

| | |
|---|---|
| **Agency Name (Code)** | Metro Public Health Department (0682) |
| **AQS ID** | 470370026 |
| **County Name** | Davidson |
| **Address** | 3711 Bell Road |
| **CBSA** | 34980 |
| **Latitude, Longitude** | 36.150742, -86.623301 |
| **Parameter Code** | 44201 |
| **Parameter Name** | $O_3$ |
| **Monitor Type** | SLAMS |
| **POC** | 1 |
| **Collection Frequency** | Hourly |
| **Method** | 087 |
| **Monitoring Instrument** | Teledyne T400 |
| **Analysis** | Photometric |
| **Ref. Method ID** | EQOA-0992-087 |
| **Monitor Objective** | Highest Concentration |
| **Dominant Source** | Area |
| **Measurement Scale** | Urban |
| **Land Use Type** | Agricultural |
| **Location Setting** | Urban |
| **Date Established** | 28491 |

## 3.3 ("LL") Lockeland Elementary School – Davidson County, TN

The "LL" monitoring site began operation in 1999 and monitors for $PM_{2.5}$ and $PM_{10}$. This will continue in 2025. At the end of 2014, this site was defunded as a CSN site and the SASS and URG monitors were shut down. At the end of 2016, the Hi-Vol $PM_{10}$ monitors at Trevecca and McCann were approved to be shut down and in January 2017 a $PM_{10}$ TEOM monitor began operation at this location. Starting July 1st, 2019, an FEM (POC 3) MetOne BAM1022 $PM_{2.5}$ monitor was added to the "LL" site to replace the Thermo 2025i FRM (POC 1) monitor. This decision to replace the FRM with an FEM was justified in the 2019 Annual Network Plan and approved by EPA. In the beginning on 2020, a Tornado caused damage to the "LL" site and the equipment stationed there, causing this site to be shut down for repair. All equipment had to be replaced and monitoring began again in August/September 2020. As a result of this incident, several changes were made to the type of PM monitors that were previously at the site. The two (2) Thermo TEOM 1405 monitors (*which captured data for $PM_{2.5}$ (AQI) and $PM_{10}$*) were replaced with a single piece of equipment, the Teledyne T640x which measures both criteria pollutants ($PM_{2.5}$ & $PM_{10}$). As discussed previously, the T640x $PM_{2.5}$ monitor at "LL" is used solely for AQI reporting.

In September 2023, Nashville's T640x monitors underwent a software configuration, released by Teledyne, to help more closely align the T640x with the FRM. After this update, the $PM_{2.5}$ and $PM_{10}$ method codes changed (*from 238 and 239 to 638 and 639, respectively*); although the T640x $PM_{2.5}$ has a NAAQs exclusion and is considered a Special Purpose Monitor (SPM), it will be reported with the 88101 Parameter Code instead of 88502, as the 88502 code does not work in AQS with the new 638 method code.

**Figure 3-6: Lockeland Site**

**Figure 3-5: Lockeland Aerial View**

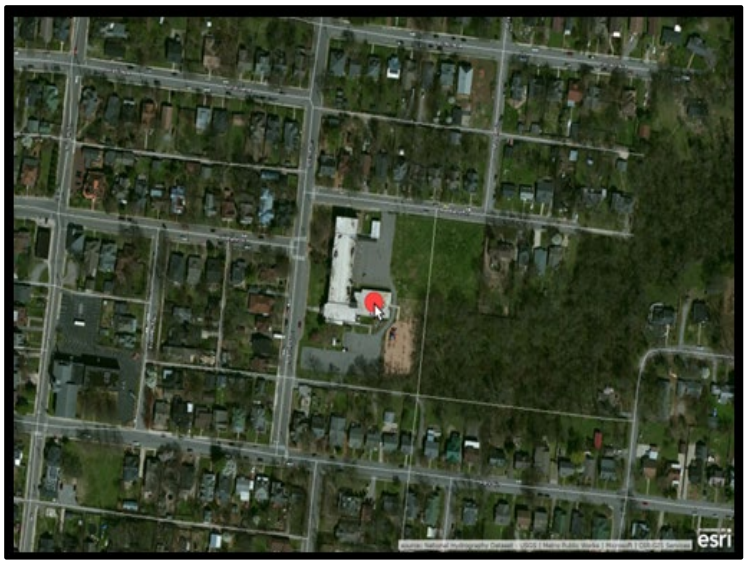


**Table 3-3: Lockeland Site Information**

| | | | | |
|---|---|---|---|---|
| **Agency Name (Code)** | Metro Public Health Department (0682) | | | |
| **AQS ID** | 470370023 | | | |
| **County Name** | Davidson | | | |
| **Address** | 105 South 17th Street | | | |
| **CBSA** | 34980 | | | |
| **Latitude, Longitude** | 36.176326, -86.738902 | | | |
| **Parameter Code** | 88101 | 88101 | 88101 | 81102 |
| **Parameter Name** | $PM_{2.5}$ | $PM_{2.5}$ | $PM_{2.5}$ | $PM_{10}$ |
| **Monitor Type** | SLAMS | SLAMS | SPM *(AQI only - NAAQS Exclusion)* | SLAMS |
| **POC** | 2 | 3 | 4 | 2 |
| **Collection Frequency** | 1:6 | Hourly | Hourly | Hourly |
| **Method** | 145 | 209 | 638 | 639 |
| **Monitoring Instrument** | Thermo 2025i | MetOne BAM1022 | Teledyne T640x | Teledyne T640x |
| **Analysis** | Gravimetric | Beta Attenuation | Light Scattering | Light Scattering |
| **Ref. Method ID** | EQPM-0202-145 | EQPM-1013-209 | EQPM-0516-238 | EQPM-0516-239 |
| **Monitor Objective** | Population Exposure | Population Exposure | Population Exposure | Population Exposure |
| **Dominant Source** | Area | Area | Area | Area |
| **Measurement Scale** | Neighborhood | Neighborhood | Neighborhood | Neighborhood |
| **Land Use Type** | Residential | Residential | Residential | Residential |
| **Location Setting** | Urban | Urban | Urban | Urban |
| **Date Established** | 1/1/1999 | 1/1/1999 | 3/1/2001 | 1/1/2017 |

## 3.4 ("NRS") Near Road Site – Davidson County, TN

As a result of the *40CFR* near road $NO_2$ monitoring requirement, Nashville's Near Road monitoring site was established in July 2014, along the I-24/I-40 split in downtown Nashville. CO, $NO_2$, and $PM_{2.5}$ monitors have been in operation at this site since its start. Although initially using a $PM_{2.5}$ FRM monitor (Thermo 2025i) at this site, in July 2019, Nashville replaced it with an FEM $PM_{2.5}$ monitor (MetOne BAM1022). In January 2020, $SO_2$ monitoring began at this site after being moved from the "EAST" site. Nashville will continue to monitor for $PM_{2.5}$, CO, $SO_2$ (& *$SO_{2MAX}$*), and $NO_2$ (& *$NO/NO_X$*) at "NRS" in 2025.

**Figure 3-7: Near Road Site**

**Figure 3-8: Near Road Site (Aerial View)**

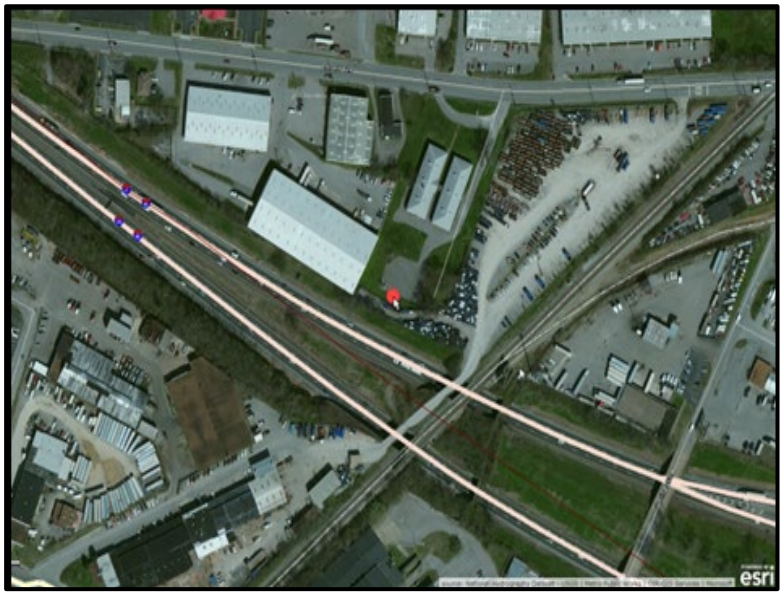


**Table 3-4: Near Road Site Information**

| | | | | |
|---|---|---|---|---|
| **Agency Name** | Metro Public Health Department (0682) | | | |
| **AQS ID** | 470370040 | | | |
| **County Name** | Davidson | | | |
| **Address** | 1113 Elm Hill Pike | | | |
| **CBSA** | 34980 | | | |
| **Latitude, Longitude** | 36.142377, -86.734142 | | | |
| **Parameter Code** | 42101 | 42602 | 42401 | 88101 |
| **Parameter Name** | CO | $NO_2$ | $SO_2$ | $PM_{2.5}$ |
| **Monitor Type** | SLAMS | SLAMS | SLAMS | SLAMS |
| **POC** | 1 | 1 | 1 | 3 |
| **Collection Frequency** | Hourly | Hourly | Hourly | Hourly |
| **Method** | 093 | 074 | 060 | 209 |
| **Monitoring Instrument** | Teledyne T300 | Thermo 42iQ | Thermo 43iQ | MetOne BAM1022 |
| **Analysis** | Infrared | Chemiluminescence | Pulsed Fluorescence | Beta Attenuation |
| **Ref. Method ID** | RFCA-1093-93 | RFCA-1289-74 | EQSA-0486-060 | EQPM-1013-209 |
| **Monitor Objective** | Population Exposure | Population Exposure | Population Exposure | Population Exposure |
| **Dominant Source** | Area | Area | Area | Area |
| **Measurement Scale** | Urban | Urban | Urban | Urban |
| **Land Use Type** | Industrial | Industrial | Residential | Industrial |
| **Location Setting** | Urban | Urban | Urban | Urban |
| **Date Established** | 7/1/2014 | | | |

## 4.0 CURRENT SITE ASSESSMENTS

Each year, site evaluations are performed to assess the impact of obstructions, such as trees and buildings, on the sampling inlets at Nashville's monitoring sites. These assessments should be measured while the leaf canopy is full to assess the potential issues fully.

Each of Nashville's monitoring sites have been assessed in the last calendar year, and meet requirements laid out in *40 CFR Part 58, Appendix E*. The results of these site assessments can be found below in: *Table 4-1 "2025 Site Assessment Results Summary"* , the filled-out *Site Evaluation Forms* [PCD-AM-020] for each site, as well as pictures showing 360° around the site monitor inlet. Additionally, included in *Appendix A* of this document, is the *Site Evaluation Form [PCD-AM-020]* that Nashville's Field Technicians will use to conduct these site evaluations.

**Table 4-1: 2025 Site Assessment Results Summary**

| East Health Center | | | | | | | *Assessment Date:* **4/15/25** |
|---|---|---|---|---|---|---|---|
| **Site Pollutant** | **Probe Inlet Height (IH)** | **Obstruct. Height (OH)** | **Dripline** | **Obstruct. Distance (OD)** | **Obstruct. Type** | **Unrestricted Airflow** | **Findings** |
| $O_3$ | 10.0 m | 16.5 m | 16.9 m | 19.3 m | Trees | 300° | Site OK; trees to the north and east will be monitored. |
| $NO_2$ | 10.0 m | 16.5 m | 16.9 m | 19.3 m | Trees | 300° | |
| **Percy Priest Dam** | | | | | | | *Assessment Date:* **4/23/25** |
| **Site Pollutant** | **Probe Inlet Height (IH)** | **Obstruct. Height (OH)** | **Dripline** | **Obstruct. Distance (OD)** | **Obstruct. Type** | **Unrestricted Airflow** | **Findings** |
| $O_3$ | 5.3 m | 17.0 m | 39.0 m | 45.0 m | Trees | 310° | Site OK; trees to the north will be monitored. |
| **Lockeland Elementary** | | | | | | | *Assessment Date:* **4/24/25** |
| **Site Pollutant** | **Probe Inlet Height (IH)** | **Obstruct. Height (OH)** | **Dripline** | **Obstruct. Distance (OD)** | **Obstruct. Type** | **Unrestricted Airflow** | **Findings** |
| $PM_{2.5}$ *(Primary FEM - Collocated)* | 5.8 m | 6.1 m | 30.0 m | 19.0 m | Building | 280° | Site OK; all large trees lost at site due to 2020 tornado/2021 storms. *Collocated Distance: 3.0 m* |
| $PM_{2.5}$ *(FRM - Collocated)* | 5.8 m | 6.1 m | 30.0 m | 20.5 m | Building | 280° | |
| $PM_{2.5}$ *(SPM - AQI)* | 5.8 m | 6.1 m | 30.0 m | 18.5 m | Building | 280° | |
| $PM_{10}$ | | | | | | | |
| **Near Road Site** | | | | | | | *Assessment Date:* **4/15/25** |
| **Site Pollutant** | **Probe Inlet Height (IH)** | **Obstruct. Height (OH)** | **Dripline** | **Obstruct. Distance (OD)** | **Obstruct. Type** | **Unrestricted Airflow** | **Findings** |
| $SO_2$ | 4.5 m | 14.2 m | 20.0 m | 23.0 m | Trees | 295° | Site OK; vegetation on fence line and trees to the east will be monitored. *Distance to nearest road: 28.9 m* |
| CO | 4.5 m | 14.2 m | 20.0 m | 23.0 m | Trees | 295° | |
| $NO_2$ | 4.5 m | 14.2 m | 20.0 m | 23.0 m | Trees | 295° | |
| $PM_{2.5}$ | 4.5 m | 14.2 m | 20.0 m | 23.0 m | Trees | 295° | |

## 4.1 ("EAST") East Health Center 2025 Site Assessment

Figure 4-1: "EAST" North-Facing View

Figure 4-2: "EAST" East-Facing View

Figure 4-3: "EAST" South-Facing View

Figure 4-4: "EAST" West-Facing View

**Figure 4-5: "EAST" 2025 Site Assessment Form**

Revision 1

## SITING EVALUATION FIELD FORM

Metro Public Health Department
Air Pollution Lab
PCD-AM-020, Rev. 1
Rev. 5/2023

Site Name: East Health Clinic
AQS I.D: 47-037-0011
Coordinates: 36.204, -83.744
Scale: Neighborhood

Date: 4/15/25
Time: 12:30pm
Inspected by: HM
Signature: Hah M Sty

EQUIPMENT USED DURRING EVALUATION *(List Below)*

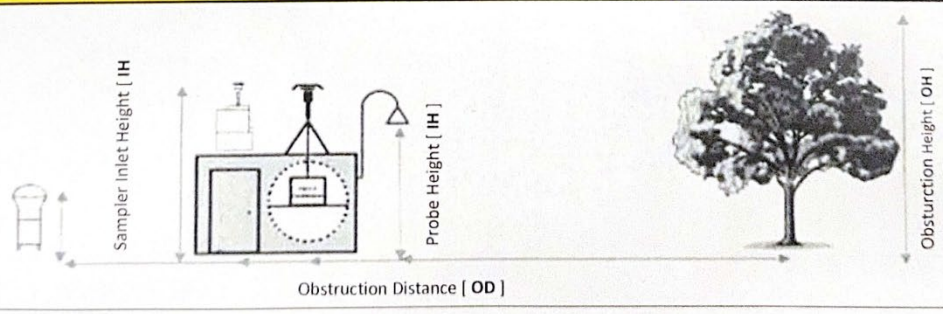
PARTICULATE MONITORS

| | Units | $PM_{2.5}$ | $PM_{2.5}$ *(FRM)* | $PM_{10}$ / $PM_{2.5}$ *(AQI)* |
|---|---|---|---|---|
| Probe Inlet Height [ **IH** ] | m | | | |
| Distance to nearest road | m | | | |
| Obstruction Type | / | | | |
| Obstruction Height [ **OH** ] | m | | | |
| Obstruction Distance [ **OD** ] | m | | | |
| Collocated Distance | m | | | |
| Unrestricted Airflow | degrees | | | |
| Dripline | m | | | |

GASEOUS MONITORS

| | Units | CO | OZONE | $NO_x$ | $SO_2$ |
|---|---|---|---|---|---|
| Probe Inlet Height [ **IH** ] | m | | 10m | 10m | |
| Distance to nearest road | m | | 31m | 31m | |
| Obstruction Type | / | | Tree | Tree | |
| Obstruction Height [ **OH** ] | m | | 16.5 | 16.5 | |
| Obstruction Distance [ **OD** ] | m | | 19.3m | 19.3m | |
| Collocated Distance | m | | | | |
| Unrestricted Airflow | degrees | | 300 | 300 | |
| Dripline | m | | 16.9 | 16.9 | |

| | YES/NO | PASS/FAIL |
|---|---|---|
| Are all probes at least 1 meter apart? | Yes | |
| Are all probes located in an area that is paved or has vegetative ground cover? | Yes | |
| Are all rooftop samplers located at least 2 meters away from any structures? | Yes | |
| There MUST be 270 degrees of unrestricted airflow around the probe or sampler. | | Pass |
| Obstruction Distance MUST be ≥ 2*(OH - IH). | | Pass |
| Dripline must be at least 10m away when tree is an obstruction. | | Pass |



## 4.2 ("PPD") Percy Priest Dam 2025 Site Assessment

Figure 4-6: "PPD" North-Facing View

Figure 4-9: "PPD" East-Facing View

Figure 4-8: "PPD" South-Facing View

Figure 4-7: "PPD" West-Facing View

## Figure 4-10: "PPD" 2025 Site Assessment Form

Revision 1

**SITING EVALUATION FIELD FORM**

Metro Public Health Department
Air Pollution Lab
PCD-AM-020, Rev. 1
Rev. 5/2023

| | | | |
|---|---|---|---|
| Site Name: | Percy Priest Dam | Date: | 4-23-25 |
| AQS I.D: | 47-037-0026 | Time: | 9:15 |
| Coordinates: | 36.150, -86.623 | Inspected by: | G L |
| Scale: | Urban | Signature: | |

EQUIPMENT USED DURRING EVALUATION *(List Below)*

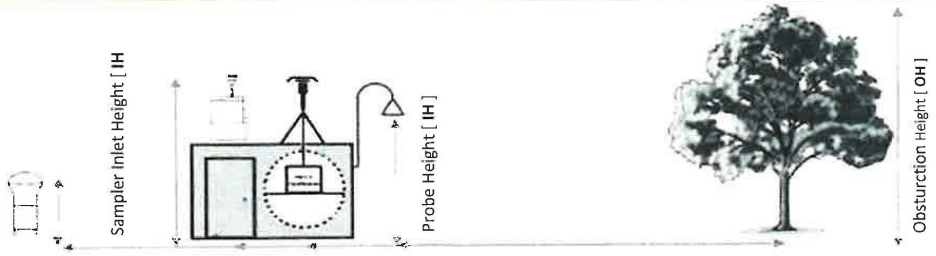
**PARTICULATE MONITORS**

| | Units | $PM_{2.5}$ | $PM_{2.5}$ *(FRM)* | $PM_{10}$ / $PM_{2.5}$ *(AQI)* |
|---|---|---|---|---|
| Probe Inlet Height [ **IH** ] | m | | | |
| Distance to nearest road | m | | | |
| Obstruction Type | / | | | |
| Obstruction Height [ **OH** ] | m | | | |
| Obstruction Distance [ **OD** ] | m | | | |
| Collocated Distance | m | | | |
| Unrestricted Airflow | degrees | | | |
| Dripline | m | | | |

**GASEOUS MONITORS**

| | Units | CO | OZONE | $NO_x$ | $SO_2$ |
|---|---|---|---|---|---|
| Probe Inlet Height [ **IH** ] | m | | 5.3 | | |
| Distance to nearest road | m | | 164 | | |
| Obstruction Type | / | | Tree | | |
| Obstruction Height [ **OH** ] | m | | 17 | | |
| Obstruction Distance [ **OD** ] | m | | 45 | | |
| Collocated Distance | m | | | | |
| Unrestricted Airflow | degrees | | 310 | | |
| Dripline | m | | 39 | | |

| | YES/NO | PASS/FAIL |
|---|---|---|
| Are all probes at least 1 meter apart? | Yes | |
| Are all probes located in an area that is paved or has vegetative ground cover? | Yes | |
| Are all rooftop samplers located at least 2 meters away from any structures? | Yes | |
| There MUST be 270 degrees of unrestricted airflow around the probe or sampler. | | Pass |
| Obstruction Distance MUST be ≥ 2*(OH - IH). | | Pass |
| Dripline must be at least 10m away when tree is an obstruction. | | Pass |



## 4.3 Lockeland Elementary ("LL") 2025 Site Assessment

Figure 4-11: "LL" North-Facing View

Figure 4-12: "LL" East-Facing View

Figure 4-13: "LL" South-Facing View

Figure 4-14: "LL" West-Facing View

## Figure 4-15: "LL" 2025 Site Assessment Form

Revision 1

**SITING EVALUATION FIELD FORM**

Metro Public Health Department
Air Pollution Lab
PCD-AM-020, Rev. 1 Rev. 5/2023

Site Name: Lockeland
AQS I.D: 47-0037-0023
Coordinates: 36.176, -86.738
Scale: Neighborhood

Date: 4-24-25
Time: 10:35
Inspected by: GL
Signature:

**EQUIPMENT USED DURRING EVALUATION** *(List Below)*

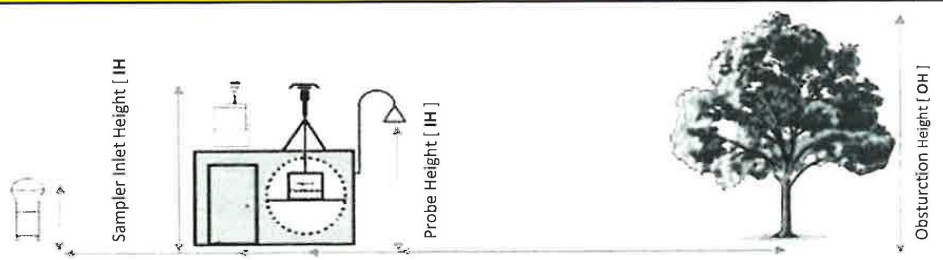
**PARTICULATE MONITORS**

| | Units | $PM_{2.5}$ | $PM_{2.5}$ *(FRM)* | $PM_{10}$ / $PM_{2.5}$ *(AQI)* |
|---|---|---|---|---|
| Probe Inlet Height [ **IH** ] | m | 5.8 | 5.8 | 5.8 |
| Distance to nearest road | m | 6.6 | 6.6 | 6.6 |
| Obstruction Type | / | building | building | building |
| Obstruction Height [ **OH** ] | m | 6.1 | 6.1 | 6.1 |
| Obstruction Distance [ **OD** ] | m | 19.0 | 20.5 | 18.5 |
| Collocated Distance | m | 3 | 3 | |
| Unrestricted Airflow | degrees | 280 | 280 | 280 |
| Dripline | m | 30 | 30 | 30 |

**GASEOUS MONITORS**

| | Units | CO | OZONE | $NO_x$ | $SO_2$ |
|---|---|---|---|---|---|
| Probe Inlet Height [ **IH** ] | m | | | | |
| Distance to nearest road | m | | | | |
| Obstruction Type | / | | | | |
| Obstruction Height [ **OH** ] | m | | | | |
| Obstruction Distance [ **OD** ] | m | | | | |
| Collocated Distance | m | | | | |
| Unrestricted Airflow | degrees | | | | |
| Dripline | m | | | | |

| | YES/NO | PASS/FAIL |
|---|---|---|
| Are all probes at least 1 meter apart? | Yes | |
| Are all probes located in an area that is paved or has vegetative ground cover? | Yes | |
| Are all rooftop samplers located at least 2 meters away from any structures? | Yes | |
| There MUST be 270 degrees of unrestricted airflow around the probe or sampler. | | Pass |
| Obstruction Distance MUST be ≥ 2*(OH - IH). | | Pass |
| Dripline must be at least 10m away when tree is an obstruction. | | Pass |



## 4.4 NEAR ROAD ("NRS") 2025 SITE ASSESSMENT

Figure 4-16: "NRS" NORTH-FACING VIEW

Figure 4-17: "NRS" EAST-FACING VIEW

Figure 4-18: "NRS" SOUTH-FACING VIEW

Figure 4-19: "NRS" WEST-FACING VIEW

**Figure 4-20: "NRS" 2025 Site Assessment Form**

Revision 1

## SITING EVALUATION FIELD FORM

Metro Public Health Department
Air Pollution Lab
PCD-AM-020, Rev. 1
Rev. 5/2023

Site Name: Near Road Site
AQS I.D: 47-037-0040
Coordinates: 36.142, -86.734
Scale: Urban

Date: 4/15/25
Time: 9:15 am
Inspected by: HM
Signature: Hal Mgup

EQUIPMENT USED DURRING EVALUATION *(List Below)*

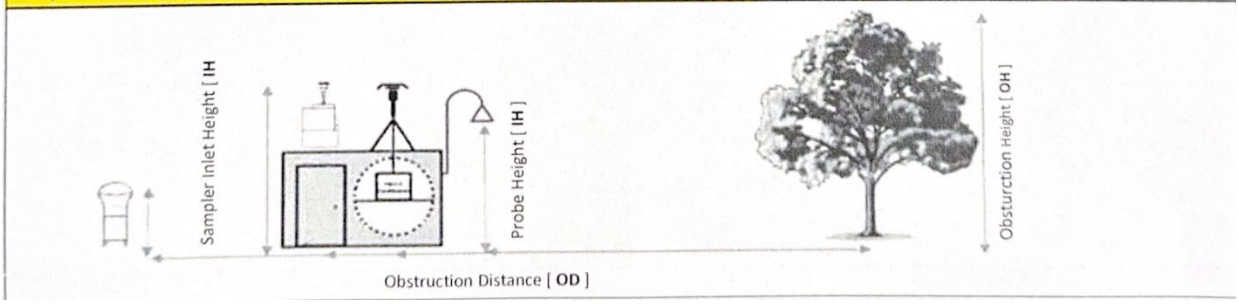
PARTICULATE MONITORS

| | Units | $PM_{2.5}$ | $PM_{2.5}$ (FRM) | $PM_{10}$ / $PM_{2.5}$ (AQI) |
|---|---|---|---|---|
| Probe Inlet Height [ **IH** ] | m | 4.5 | | |
| Distance to nearest road | m | 28.9 | | |
| Obstruction Type | / | Tree | | |
| Obstruction Height [ **OH** ] | m | 14.2 | | |
| Obstruction Distance [ **OD** ] | m | 23 | | |
| Collocated Distance | m | | | |
| Unrestricted Airflow | degrees | 295 | | |
| Dripline | m | 20.0 | | |

GASEOUS MONITORS

| | Units | CO | OZONE | $NO_x$ | $SO_2$ |
|---|---|---|---|---|---|
| Probe Inlet Height [ **IH** ] | m | 4.5 | | 4.5 | 4.5 |
| Distance to nearest road | m | 28.9 | | 28.9 | 28.9 |
| Obstruction Type | / | Tree | | Tree | Tree |
| Obstruction Height [ **OH** ] | m | 14.2 | | 14.2 | 14.2 |
| Obstruction Distance [ **OD** ] | m | 23 | | 23 | 23 |
| Collocated Distance | m | | | | |
| Unrestricted Airflow | degrees | 295 | | 295 | 295 |
| Dripline | m | 20.0 | | 20.0 | 20.0 |

| | YES/NO | PASS/FAIL |
|---|---|---|
| Are all probes at least 1 meter apart? | Yes | |
| Are all probes located in an area that is paved or has vegetative ground cover? | Yes | |
| Are all rooftop samplers located at least 2 meters away from any structures? | Yes | |
| There MUST be 270 degrees of unrestricted airflow around the probe or sampler. | | Pass |
| Obstruction Distance MUST be ≥ 2*(OH - IH). | | Pass |
| Dripline must be at least 10m away when tree is an obstruction. | | Pass |



## *APPENDIX A: SITE EVALUATION FORM [PCD-AM-020]*

**SITING EVALUATION FIELD FORM** Rev. 4/12/23

Metro Public Health Department
Air Pollution Lab
PCD-AM-020

**Site Name:** _____ **Date:** _____
**AQS I.D:** _____ **Time:** _____
**Coordinates:** _____ **Inspected by:** _____
**Scale:** _____ **Signature:** _____

**LIST EQUIPMENT USED**

**PARTICULATE MONITORS**

| | Units | PM2.5 | PM2.5 Collocated | PM10 |
|---|---|---|---|---|
| Probe Inlet Height [ **IH** ] | m | | | |
| Distance to nearest road | m | | | |
| Obstruction Type | / | | | |
| Obstruction Height [ **OH** ] | m | | | |
| Obstruction Distance [ **OD** ] | m | | | |
| Collocated Distance | m | | | |
| Unrestricted Airflow | degrees | | | |
| Dripline | m | | | |

**GASEOUS MONITORS**

| | Units | CO | OZONE | NOx | SO2 |
|---|---|---|---|---|---|
| Probe Inlet Height [ **IH** ] | m | | | | |
| Distance to nearest road | m | | | | |
| Obstruction Type | / | | | | |
| Obstruction Height [ **OH** ] | m | | | | |
| Obstruction Distance [ **OD** ] | m | | | | |
| Collocated Distance | m | | | | |
| Unrestricted Airflow | degrees | | | | |
| Dripline | m | | | | |

| | YES/NO | PASS/FAIL |
|---|---|---|
| Are all probes at least 1 meter apart? | | |
| Are all probes located in an area that is paved or has vegetative ground cover? | | |
| Are all rooftop samplers located at least 2 meters away from any structures? | | |
| There MUST be 270 degrees of unrestricted airflow around the probe or sampler. | | |
| Obstruction Distance MUST be ≥ 2*(OH - IH). | | |
| Dripline must be at least 10m away when tree is an obstruction. | | |