2018 Annual Air Monitoring Network Plan

Appendix A

2017 Air Monitoring Site Descriptions

Summary

The following pages are descriptions of MPCA Air Quality Monitoring Sites. Each site has its own page and each page is listed in the Table of Contents.

At the top of each page is the city where the site is located and the site name. Below the heading there is identification information for each site, including the AQS site identification number, MPCA site identification number, address, city, county, location setting, latitude, longitude, elevation, and year established.

The next section of the page has a table of possible monitoring parameters and a map of Minnesota. Parameters that are monitored at the particular site are indicated in the table. The Minnesota map portrays the approximate location of the site within the state.

Next, there is a smaller scale map of the site. This map indicates the major roadways or other geographic features that are near the site. It is followed by a recent picture of the monitors in their current location.

The final section of the page contains a short site description, a list of monitoring objectives, and any changes proposed for the site.

Federal Regulation

40 CFR § 58.10 Annual monitoring network plan and periodic network assessment.
(a)(1) Beginning July 1, 2007, the state, or where applicable local, agency shall submit to the Regional Administrator an annual monitoring network plan which shall provide for the documentation of the establishment and maintenance of an air quality surveillance system that consists of a network of SLAMS monitoring stations that can include FRM, FEM, and ARM monitors that are part of SLAMS, NCore, CSN, PAMS, and SPM stations. The plan shall include a statement of whether the operation of each monitor meets the requirements of appendices A, B, C, D, and E of this part, where applicable. The Regional Administrator may require additional information in support of this statement. The annual monitoring network plan must be made available for public inspection and comment for at least 30 days prior to submission to the EPA and the submitted plan shall include and address, as appropriate, any received comments.

Authors

Kurt Anderson
Kellie Gavin
Dennis Fenlon
Rick Strassman

Contributors / acknowledgements

Cassie McMahon
Shawn Nelson
Joseph Smith
Christine Steinwand

Minnesota Pollution Control Agency

520 Lafayette Road North | Saint Paul, MN 55155-4194 |

651-296-6300 | 800-657-3864 | Or use your preferred relay service. | Info.pca@state.mn.us

This report is available in alternative formats upon request, and online at www.pca.state.mn.us.

Document number: aq10-15b

Table of Contents

Hovland

Site Information:

AQS Site ID: **(none)**
NADP Site ID: **MN08**
Address: **(open field)**
City: **Hovland**
County: **Cook**

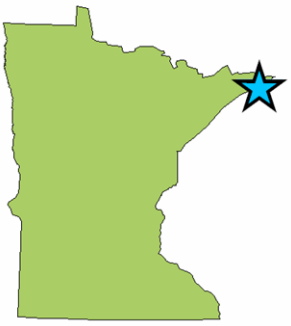
Location Setting: **Rural**
Latitude: **47.8472**
Longitude: **-89.9625**
Elevation: **224 m**
Year Established: **1996**

Monitoring Parameters:

$PM_{2.5}$ FRM	$PM_{2.5}$ Continuous	$PM_{2.5}$ Speciation	PM_{10}	TSP/Metals	VOCs	Carbonyls	Carbon Monoxide	Ozone	SO_2	NO_X	Meteorological Data	Other*
												E

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day

*Acid Deposition



Site Description:

This NADP acid rain monitoring site is located in Cook County, near the small community of Hovland, in northeastern Minnesota. The site is located in a two-acre clearing along County Road 69, ½ mile north of State Highway 61 and Lake Superior. Land use within one mile of the site is a mix of residential along the Lake Superior shoreline and county, state, and federal forests inland along the Arrowhead Trail. Significant air emission sources are located more than 50 miles from the site and consist of pulp and paper mills, lumber mills, taconite-processing facilities, and a coal fired power plant. The power plant is currently on track to cease operations in 2018.

Monitoring Objectives:

- Characterize precipitation chemistry to track long-term spatial and temporal trends, support research, and assess the effectiveness of State and Federal SO2 emission reduction programs.
- Demonstrate compliance with the Minnesota Wet Sulfate Deposition Standard (Minn. R. 7005.4010 to 7005.4050).

Planned Changes:

None

Marcell

Site Information:

AQS Site ID: **(none)**
NADP Site ID: **MN16**
Address: **Marcell Experimental Forest**
City: **Balsam Lake**
County: **Itasca**

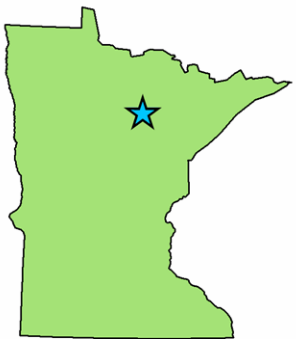
Location Setting: **National Forest**
Latitude: **47.5311**
Longitude: **-93.4686**
Elevation: **431 m**
Year Established: **1978**

Monitoring Parameters:

$PM_{2.5}$ FRM	$PM_{2.5}$ Continuous	$PM_{2.5}$ Speciation	PM_{10}	TSP/Metals	VOCs	Carbonyls	Carbon Monoxide	Ozone	SO_2	NO_X	Meteorological Data	Other*
												E

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day

*Acid and Hg Deposition



Site Description:

This NADP acid rain and mercury-monitoring site is located in Itasca County, approximately 20 miles north of Grand Rapids, in a two-acre clearing at the Marcell Experimental Forest. This area is within the Chippewa National Forest. U.S. Forest Service personnel operate and maintain this site with support from the MPCA. Land use within one mile of the site is dominated by managed forests and seasonal residences on the area lakes. Significant air emission sources are located more than 20 miles from the site, and consist of pulp and paper mills, lumber mills, and a coal-fired power plant.

Monitoring Objectives:

- Characterize precipitation chemistry to track long-term spatial and temporal trends, support research, and assess the effectiveness of State and Federal SO_2 and mercury emissions reduction programs.
- Demonstrate compliance with the Minnesota Wet Sulfate Deposition Standard (Minn. R. 7005.4010 to 7005.4050).

Planned Changes:

None

Camp Ripley

Site Information:

AQS Site ID: **(none)**
NADP Site ID: **MN23**
Address: **(open field)**
City: **Pillager**
County: **Morrison**

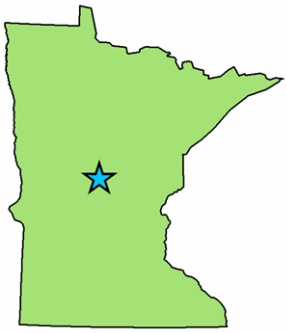
Location Setting: **Rural**
Latitude: **46.2494**
Longitude: **-94.4972**
Elevation: **410 m**
Year Established: **1983**

Monitoring Parameters:

$PM_{2.5}$ FRM	$PM_{2.5}$ Continuous	$PM_{2.5}$ Speciation	PM_{10}	TSP/Metals	VOCs	Carbonyls	Carbon Monoxide	Ozone	SO_2	NO_X	Meteorological Data	Other*
												E

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day

*Acid and Hg Deposition



Site Description:

This NADP acid rain and mercury-monitoring site is located in Morrison County, south of Pillager, in a two-acre forest clearing. Land use within one mile of the site is primarily forest cover, with some agricultural activity. This site is located on the western boundary of the Camp Ripley Military Reservation. It is south of the Brainerd Lakes area, which is the nearest population center and a seasonal tourism destination in north central Minnesota. Significant air emission sources are located more than 20 miles from the site. The MPCA and the U.S. Geological Survey (USGS) sponsor operation and maintenance at this site.

Monitoring Objectives:

- Characterize precipitation chemistry to track long-term spatial and temporal trends, support research, and assess the effectiveness of State and Federal SO_2 and mercury emissions reduction programs.
- Demonstrate compliance with the Minnesota Wet Sulfate Deposition Standard (Minn. R. 7005.4010 to 7005.4050).

Planned Changes:

None

Lamberton

Site Information:

AQS Site ID: **(none)**
NADP Site ID: **MN27**
Address: **U of M SW Agricultural Research Center**
City: **Lamberton**
County: **Redwood**

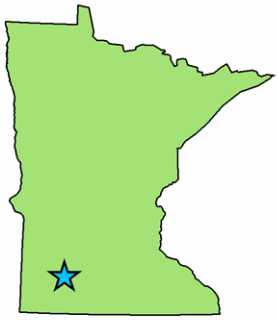
Location Setting: **Rural**
Latitude: **44.2369**
Longitude: **-95.3010**
Elevation: **343 m**
Year Established: **1979**

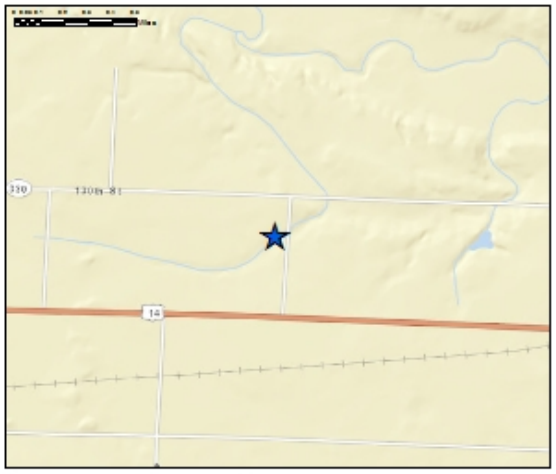
Monitoring Parameters:

$PM_{2.5}$ FRM	$PM_{2.5}$ Continuous	$PM_{2.5}$ Speciation	PM_{10}	TSP/Metals	VOCs	Carbonyls	Carbon Monoxide	Ozone	SO_2	NO_X	Meteorological Data	Other*
												E

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day

*Acid and Hg Deposition





Site Description:

This NADP acid rain and mercury-monitoring site is located at the University of Minnesota Southwest Agricultural Research and Outreach Center just north of U.S. Highway 14, near Lamberton. The primary land use in the area is row-crop agriculture. University of Minnesota (U of M) personnel operate and maintain this site with support from the MPCA.

Monitoring Objectives:

- Characterize precipitation chemistry to track long-term spatial and temporal trends, support research, and assess the effectiveness of State and Federal SO_2 and mercury emissions reduction programs.
- Demonstrate compliance with the Minnesota Wet Sulfate Deposition Standard (Minn. R. 7005.4010 to 7005.4050).

Planned Changes:

None

Grindstone Lake

Site Information:

AQS Site ID: **(none)**
NADP Site ID: **MN28**
Address: **Audubon Center of the North Woods**
City: **Sandstone**
County: **Pine**

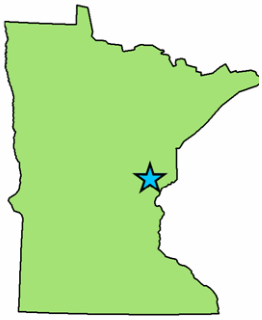
Location Setting: **Rural**
Latitude: **46.1208**
Longitude: **-93.0042**
Elevation: **337 m**
Year Established: **1996**

Monitoring Parameters:

$PM_{2.5}$ FRM	$PM_{2.5}$ Continuous	$PM_{2.5}$ Speciation	PM_{10}	TSP/Metals	VOCs	Carbonyls	Carbon Monoxide	Ozone	SO_2	NO_X	Meteorological Data	Other*
												E

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day

*Acid Deposition



Site Description:

This NADP acid rain monitoring site is located approximately five miles west of I-35 at the Audubon Center of the North Woods, on the eastern shore of Grindstone Lake in Pine County. Land use is in the area is a mix of agriculture and forest cover. Significant air emission sources are located more than 20 miles from the site.

Monitoring Objectives:

- Characterize precipitation chemistry to track long-term spatial and temporal trends, support research, and assess the effectiveness of State and Federal SO_2 emissions reduction programs.
- Demonstrate compliance with the Minnesota Wet Sulfate Deposition Standard (Minn. R. 7005.4010 to 7005.4050).

Planned Changes:

None

Voyageurs NP

Site Information:

AQS Site ID: **27-137-0034**
NADP Site ID: **MN32**
IMPROVE Site ID: **VOYA2**
Address: **Sullivan Bay**
City: **International Falls**
County: **Louis**

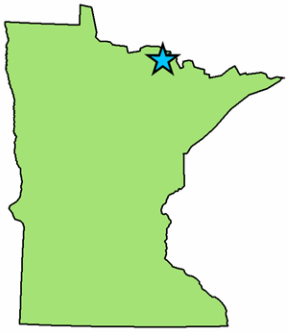
Location Setting: **National Park**
Latitude: **48.4128**
Longitude: **-92.8292**
Elevation: **429 m**
Year Established: **2000**

Monitoring Parameters:

$PM_{2.5}$ FRM	$PM_{2.5}$ Continuous	$PM_{2.5}$ Speciation**	PM_{10}	TSP/Metals	VOCs	Carbonyls	Carbon Monoxide	Ozone+	SO_2	NO_X	Meteorological Data	Other*
		1/6						E				E

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day

*Acid Deposition **IMPROVE +not part of the MPCA network



Site Description:

This monitoring site is located on a rocky outcrop near the Ash River Interpretive Center, on the southeast side of Voyageurs National Park. Land use in this area is primarily forest managed for recreation, timber, and wilderness. Pulp and paper mills in International Falls and Fort Frances, Ontario are located approximately 20 miles northwest of the site. The National Park Service operates this site.

Monitoring Objectives:

- Characterize precipitation chemistry to track long-term spatial and temporal trends, support research, and assess the effectiveness of State and Federal SO_2 emissions reduction programs.
- Demonstrate compliance with the Minnesota Wet Sulfate Deposition Standard (Minn. R. 7005.4010 to 7005.4050).
- Characterize fine particle chemistry to quantify existing conditions, track trends, and develop plans to protect visibility in Class 1 wilderness areas.

Planned Changes:

None

Wolf Ridge

Site Information:

AQS Site ID: **(none)**
NADP Site ID: **MN99**
Address: **6282 Cranberry Rd**
City: **Finland**
County: **Lake**

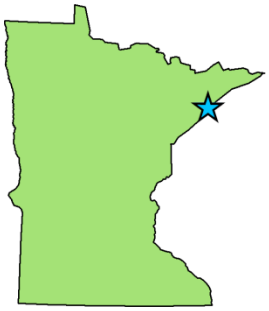
Location Setting: **Rural**
Latitude: **47.3875**
Longitude: **-91.1958**
Elevation: **351 m**
Year Established: **1996**

Monitoring Parameters:

$PM_{2.5}$ FRM	$PM_{2.5}$ Continuous	$PM_{2.5}$ Speciation	PM_{10}	TSP/Metals	VOCs	Carbonyls	Carbon Monoxide	Ozone	SO_2	NO_X	Meteorological Data	Other*
												E

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day

*Acid Deposition



Site Description:

This NADP acid rain monitoring site is located in Lake County, approximately two miles inland from Lake Superior. The site is located at Wolf Ridge Environmental Learning Center, which is approximately five miles east of Finland on County Road 6. Land use near the site is a mix of residential along Lake Superior and county, state, and federal forests managed for timber and recreation. Significant air emission sources include a taconite ore processing plant 15 miles southwest at Silver Bay and a coal-fired power plant 25 miles to the northeast at Schroeder (on track to close in 2018). Wolf Ridge Environmental Learning Center personnel operate and maintain the site with support from the MPCA.

Monitoring Objectives:

- Characterize precipitation chemistry to track long-term spatial and temporal trends, support research, and assess the effectiveness of State and Federal SO_2 emissions reduction programs.
- Demonstrate compliance with the Minnesota Wet Sulfate Deposition Standard (Minn. R. 7005.4010 to 7005.4050).

Planned Changes:

None

St. Louis Park – City Hall

Site Information:

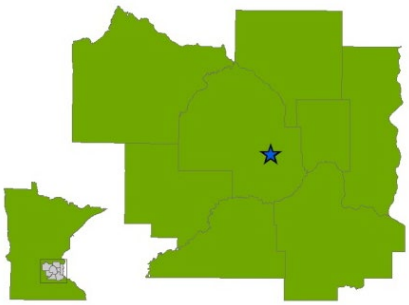
AQS Site ID: **27-053-2006**
MPCA Site ID: **250**
Address: **5005 Minnetonka Blvd**
City: **St. Louis Park**
County: **Hennepin**

Location Setting: **Suburban**
Latitude: **44.9481**
Longitude: **-93.3429**
Elevation: **282 m**
Year Established: **1972**

Monitoring Parameters:

$PM_{2.5}$ FRM	$PM_{2.5}$ Continuous	$PM_{2.5}$ Speciation	PM_{10}	TSP/Metals	VOCs	Carbonyls	Carbon Monoxide	Ozone	SO_2	NO_X	Meteorological Data	Other
1/3					1/6	1/6						

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day



Site Description:

This monitoring site is located on the roof of the St. Louis Park City Hall. This location provides air quality data representative of suburban neighborhoods, which are dominated by residential areas, commercial zones, and high-volume roadways. It is approximately three blocks east of State Highway 100 and ½ mile north of State Highway 7.

Monitoring Objectives:

- Demonstrate compliance with $PM_{2.5}$ NAAQS.
- Characterize air toxics (VOCs, carbonyls).

Planned Changes:

None

Rosemount – Flint Hills Refinery 420

Site Information:

AQS Site ID: **27-037-0020**
MPCA Site ID: **420**
Address: **12821 Pine Bend Trail**
City: **Rosemount**
County: **Dakota**

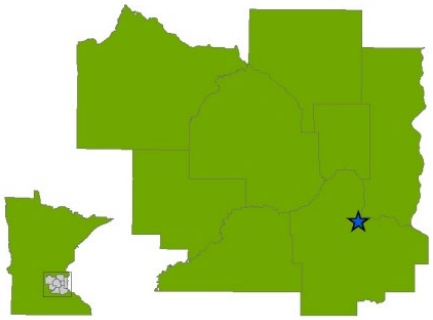
Location Setting: **Rural**
Latitude: **44.7632**
Longitude: **-93.0325**
Elevation: **285 m**
Year Established: **1972**

Monitoring Parameters:

$PM_{2.5}$ FRM	$PM_{2.5}$ Continuous	$PM_{2.5}$ Speciation	PM_{10}	TSP/Metals	VOCs	Carbonyls	Carbon Monoxide	Ozone	SO_2	NO_X	Meteorological Data	Other*
				1/6	1/6	1/6	E		E	E	E	E

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day

*TRS, PAH (ending June 2017)



Site Description:

This monitoring site is located in Rosemount and is one of three sites in the Flint Hills Resources Pine Bend air quality monitoring network. This site is located in the highway median created by the split of State Highways 55 and 52, less than one mile east of the refinery complex. In addition to the refinery, several air emission sources are located to the north, east, and southeast of this site. These include household waste and demo landfills, truck terminals, sand and gravel operations, waste food recycling, aluminum smelting, and a fertilizer plant.

Monitoring Objectives:

- Demonstrate compliance with SO_2, NO_2, CO NAAQS.
- Demonstrate compliance with TSP and H_2S MAAQS.
- Characterize air toxics (VOCs, carbonyls, PAHs, and metals).
- Support modeling and source separation by collecting meteorological data.

Planned Changes:

Polycyclic aromatic hydrocarbons (PAH) monitoring will end in June 2017 after being conducted for one year. More information on PAH monitoring can be found at https://www.pca.state.mn.us/air/air-monitoring-polycyclic-aromatic-hydrocarbons-urban-and-rural-sites.

Rosemount – Flint Hills Refinery 423

Site Information:

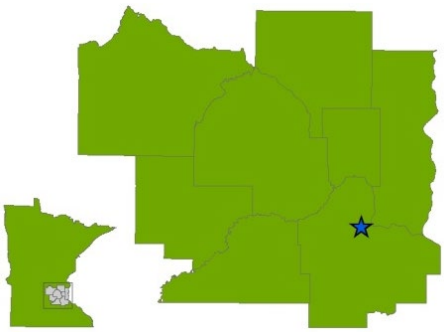
AQS Site ID : **27-037-0423**
MPCA Site ID: **423**
Address: **2142 120th St E**
City: **Rosemount**
County: **Dakota**

Location Setting: **Rural**
Latitude: **44.7730**
Longitude: **-93.0627**
Elevation: **272 m**
Year Established: **1990**

Monitoring Parameters:

$PM_{2.5}$ FRM	$PM_{2.5}$ Continuous	$PM_{2.5}$ Speciation	PM_{10}	TSP/Metals	VOCs	Carbonyls	Carbon Monoxide	Ozone	SO_2	NO_X	Meteorological Data	Other*
				1/6	1/6	1/6	E		E	E	E	E

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day



*TRS

Site Description:

This monitoring site is located in Rosemount and is one of three sites in the Flint Hills Resources Pine Bend air quality monitoring network. This site is located on the west side of the refinery less than one mile west of County Road 71 on 120th Street. Large municipal waste and demo landfills are located to the northeast of this site.

Monitoring Objectives:

- Demonstrate compliance with SO_2, NO_2, and CO NAAQS.
- Demonstrate compliance with TSP and H_2S MAAQS.
- Characterize air toxics (VOCs carbonyls, and metals).
- Support modeling and source separation by collecting meteorological data.

Planned Changes:

None

St. Paul Park Refinery 436

Site Information:

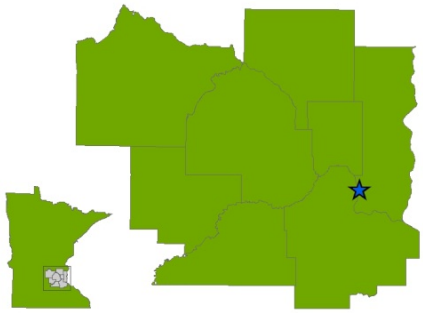
AQS Site ID: **27-163-0436**
MPCA Site ID: **436**
Address: **649 5th St**
City: **Saint Paul Park**
County: **Washington**

Location Setting: **Suburban**
Latitude: **44.8473**
Longitude: **-92.9956**
Elevation: **245 m**
Year Established: **1989**

Monitoring Parameters:

$PM_{2.5}$ FRM	$PM_{2.5}$ Continuous	$PM_{2.5}$ Speciation	PM_{10}	TSP/Metals	VOCs**	Carbonyls**	Carbon Monoxide	Ozone	SO_2	NO_X	Meteorological Data	Other*
					1/6	1/6			E			E

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day



* TRS **Collocated

Site Description:

This monitoring site is located in Saint Paul Park and is one of two sites in the St. Paul Park Refining Company air quality monitoring network. The monitoring shelter is located in an alley corridor just off 5th Street. The alley corridor runs along the north boundary of the maintenance garage. The refinery complex is located four blocks northeast of the monitoring site. A commercial freight railroad line is located 200 meters west of the site.

Monitoring Objectives:

- Demonstrate compliance with SO_2 NAAQS.
- Demonstrate compliance with H_2S MAAQS.
- Characterize air toxics (VOCs and carbonyls).

Planned Changes:

None

Newport – St. Paul Park Refinery 438

Site Information:

AQS Site ID : **27-163-0438**
MPCA Site ID: **438**
Address: **4th Ave & 2nd St**
City: **Newport**
County: **Washington**

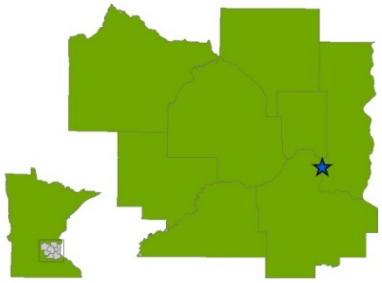
Location Setting: **Suburban**
Latitude: **44.8599**
Longitude: **-93.0035**
Elevation: **230 m**
Year Established: **1995**

Monitoring Parameters:

$PM_{2.5}$ FRM	$PM_{2.5}$ Continuous	$PM_{2.5}$ Speciation	PM_{10}	TSP/Metals	VOCs	Carbonyls	Carbon Monoxide	Ozone	SO_2	NO_X	Meteorological Data	Other*
				1/6	1/6	1/6						E

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day

*PAH (beginning June 2017)



Site Description:

This monitoring site is located in Newport, and is one of two sites in the St. Paul Park Refining Company air quality monitoring network. The site is one block north of the refinery tank storage and truck loading terminal. The area north of the monitoring site is predominantly residential. The area south and east is predominantly industrial and commercial. The Mississippi River is three blocks west of the monitoring site. The monitoring site is on property owned by St. Paul Park Refining Company, LLC.

Monitoring Objectives:

- Characterize air toxics (VOCs, carbonyls, and metals).
- Demonstrate compliance with TSP MAAQS.

Planned Changes:

Polycyclic aromatic hydrocarbons (PAH) will be monitored from July 2017 to June 2018. More information on PAH monitoring can be found at https://www.pca.state.mn.us/air/air-monitoring-polycyclic-aromatic-hydrocarbons-urban-and-rural-sites.

Rosemount – Flint Hills Refinery 443

Site Information:

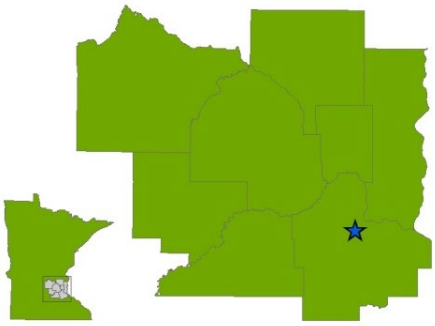
AQS Site ID: **27-037-0443**
MPCA Site ID: **443**
Address: **14035 Blaine Ave E**
City: **Rosemount**
County: **Dakota**

Location Setting: **Rural**
Latitude: **44.7457**
Longitude: **-93.0554**
Elevation: **270 m**
Year Established: **2008**

Monitoring Parameters:

$PM_{2.5}$ FRM	$PM_{2.5}$ Continuous	$PM_{2.5}$ Speciation	PM_{10}	TSP/Metals	VOCs	Carbonyls	Carbon Monoxide	Ozone	SO_2	NO_X	Meteorological Data	Other*
					1/6	1/6			E			

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day



Site Description:

This monitoring site is located in Rosemount, and is one of three sites in the Flint Hills Resources Pine Bend air quality monitoring network. The site is located approximately one mile west of U.S. Highway 52 and one mile southwest of the refinery complex.

Monitoring Objectives:

- Demonstrate compliance with SO_2 NAAQS.
- Characterize air toxics (VOCs and carbonyls).

Planned Changes:

None

Bayport – Point Road

Site Information:

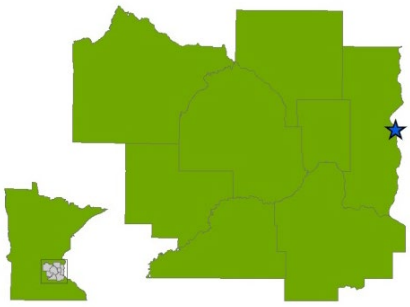
AQS Site ID: **27-163-0446**
MPCA Site ID: **446**
Address: **22 Point Rd**
City: **Bayport**
County: **Washington**

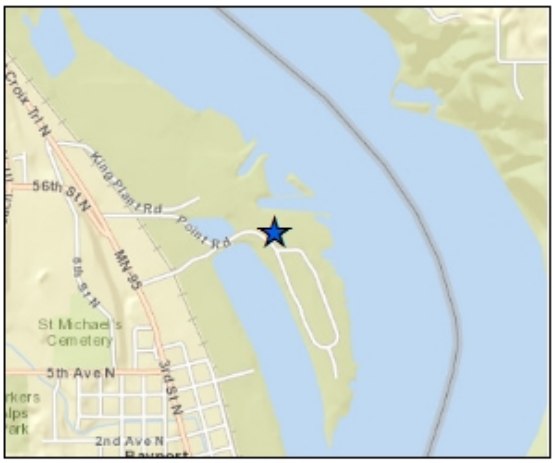
Location Setting: **Suburban**
Latitude: **45.02798**
Longitude: **-92.77415**
Elevation: **230 m**
Year Established: **2007**

Monitoring Parameters:

$PM_{2.5}$ FRM	$PM_{2.5}$ Continuous	$PM_{2.5}$ Speciation	PM_{10}	TSP/Metals	VOCs	Carbonyls	Carbon Monoxide	Ozone	SO_2	NO_X	Meteorological Data	Other
				1/6	1/6	1/6						

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day





Site Description:

This monitoring site is located off Point Road, in an open field north of Andersen Window Corporation and south of the Xcel Energy Allen S. King Plant. This site was selected in order to sample between the two primary emissions sources, to provide some degree of source separation. Monitoring began in 2007 in response to citizen concerns about the potential impact of emissions from Andersen Windows and the Allen S. King Plant on air quality in Bayport.

Monitoring Objectives:

- Characterize air toxics (VOCs, carbonyls, and metals).
- Demonstrate compliance with TSP MAAQS.
- Assess neighborhood exposure to air emissions.

Planned Changes:

None

Eagan – Gopher Resources

Site Information:

AQS Site ID: **27-037-0465**
MPCA Site ID: **465**
Address: **Yankee Doodle Rd & Hwy 149**
City: **Eagan**
County: **Dakota**

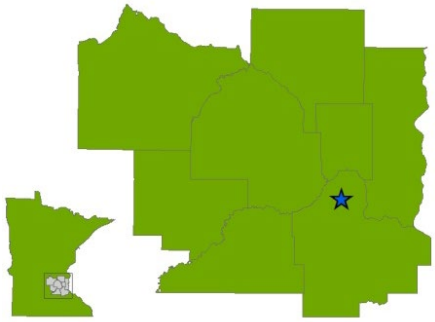
Location Setting: **Suburban**
Latitude: **44.8343**
Longitude: **-93.1163**
Elevation: **281 m**
Year Established: **2006**

Monitoring Parameters:

$PM_{2.5}$ FRM	$PM_{2.5}$ Continuous	$PM_{2.5}$ Speciation	PM_{10}	TSP/Metals*	VOCs	Carbonyls	Carbon Monoxide	Ozone	SO_2	NO_X	Meteorological Data	Other
				1/6								

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day

*Collocated and source-oriented



Site Description:

This monitoring site is located in Eagan, near the northeast corner of State Highway 149 and Yankee Doodle Road. The site is approximately 100 meters east of Gopher Resources Corporation, a lead recycling, smelting, and refining facility. This is the MPCA's only source-oriented lead monitoring site; however, a full scan of metals is performed on all TSP samples. More detailed information about this site can be found in the 2011 Source-oriented Lead Monitoring Plan on the MPCA website, at https://www.pca.state.mn.us/air/state-implementation-plan-lead.

Monitoring Objectives:

- Demonstrate compliance with the lead NAAQS.
- Demonstrate compliance with the TSP MAAQS.
- Characterize metals concentrations.

Planned Changes:

None

Apple Valley – Westview School

Site Information:

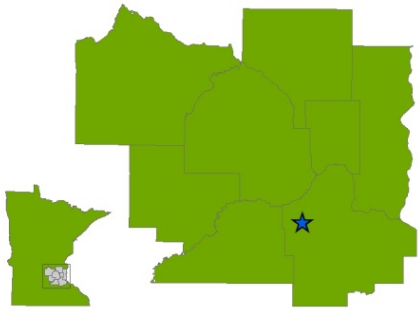
AQS Site ID: **27-037-0470**
MPCA Site ID: **470**
Address: **225 Garden View Dr**
City: **Apple Valley**
County: **Dakota**

Location Setting: **Suburban**
Latitude: **44.7387**
Longitude: **-93.2373**
Elevation: **306 m**
Year Established: **2000**

Monitoring Parameters:

$PM_{2.5}$ FRM	$PM_{2.5}$ Continuous FEM	$PM_{2.5}$ Speciation	PM_{10}	TSP/Metals	VOCs	Carbonyls	Carbon Monoxide	Ozone	SO_2	NO_X	Meteorological Data	Other
1/3	E			1/6	1/6	1/6						

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day



Site Description:

This monitoring site is located on the roof of Westview Elementary School in Apple Valley. This location provides air quality data representative of suburban neighborhoods, which are dominated by residential areas, light commercial zones, retail zones, and roadways. The school is located less than one mile north of County Road 42.

Monitoring Objectives:

- Demonstrate compliance with the $PM_{2.5}$ NAAQS.
- Demonstrate compliance with the TSP MAAQS.
- Support AQI reporting and forecasting for $PM_{2.5}$.
- Characterize air toxics (VOCs, carbonyls, and metals).

Planned Changes:

None

Lakeville – Near Road I-35

Site Information:

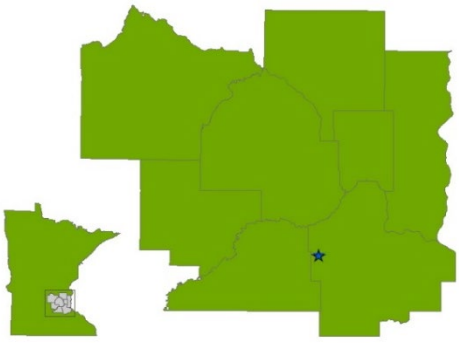
AQS Site ID : **27-037-0480**
MPCA Site ID: **480**
Address: **16750 Kenyon Ave**
City: **Lakeville**
County: **Dakota**

Location Setting: **Suburban**
Latitude: **44.7061**
Longitude: **-93.2858**
Elevation: **312 m**
Year Established: **2015**

Monitoring Parameters:

$PM_{2.5}$ FRM	$PM_{2.5}$ Continuous FEM	$PM_{2.5}$ Speciation	PM_{10}	TSP/Metals	VOCs	Carbonyls	Carbon Monoxide	Ozone	SO_2	NO_X	Meteorological Data	Other
	E						E			E	E	

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day



Site Description:

This monitoring site is located on the west side of Interstate 35, approximately one mile south of Buck Hill in Lakeville. The surrounding area is predominantly residential, with commercial and retail businesses along the interstate frontage roads. This is the second near-road monitor required in the Twin Cities to assess air pollution levels in the near-road environment. This traffic segment had an Annual Average Daily Traffic (AADT) count of approximately 87,000 vehicles per day in 2012.

Monitoring Objectives:

- Demonstrate compliance with the NO_2, CO, and $PM_{2.5}$ NAAQS.
- Support modeling and source separation by collecting meteorological data.
- Support AQI reporting and forecasting for $PM_{2.5}$, NO_2, and CO.

Planned Changes:

None

Shakopee – B.F. Pearson School

Site Information:

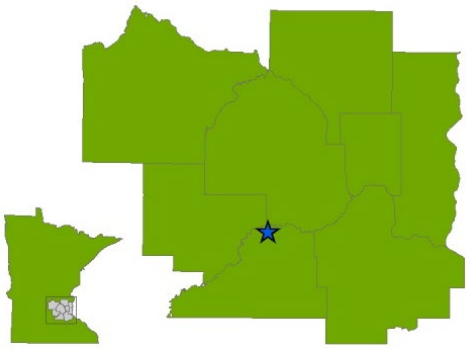
AQS Site ID : **27-139-0505**
MPCA Site ID: **505**
Address: **917 Dakota St**
City: **Shakopee**
County: **Scott**

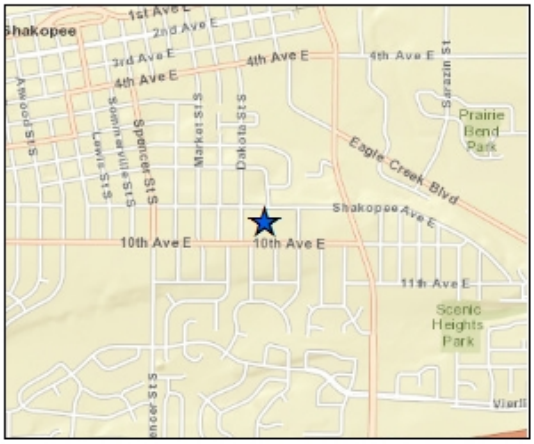
Location Setting: **Suburban**
Latitude: **44.7894**
Longitude: **-93.5125**
Year Established: **2000**

Monitoring Parameters:

$PM_{2.5}$ FRM	$PM_{2.5}$ Continuous	$PM_{2.5}$ Speciation	PM_{10}	TSP/Metals	VOCs	Carbonyls	Carbon Monoxide	Ozone	SO_2	NO_X	Meteorological Data	Other
T	A							E				

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day





Site Description:

This monitoring site is located on the roof of B.F. Pearson Elementary School in Shakopee. This location provides air quality data representative of suburban neighborhoods, which are dominated by residential areas, light commercial zones, retail zones, and roadways.

Monitoring Objectives:

- Demonstrate compliance with $PM_{2.5}$ and ozone NAAQS.
- Support AQI reporting and forecasting for $PM_{2.5}$ and ozone.

Planned Changes:

Replace the $PM_{2.5}$ FRM with $PM_{2.5}$ FEM to support AQI reporting and forecasting for $PM_{2.5}$. This change is planned for summer 2017.

St. Paul – Lexington Avenue

Site Information:

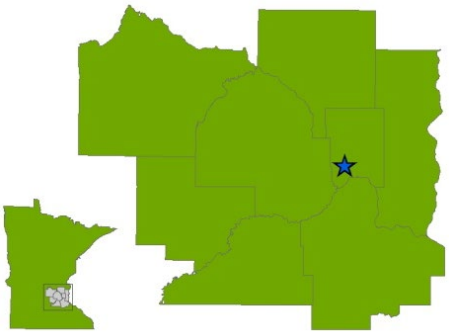
AQS Site ID: **27-123-0050**
MPCA Site ID: **861**
Address: **1088 W University**
City: **Saint Paul**
County: **Ramsey**

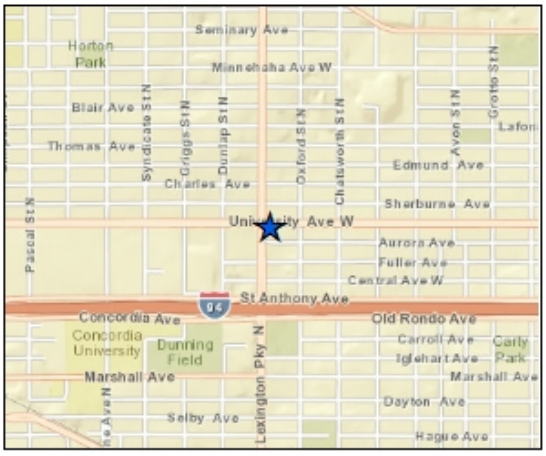
Location Setting: **Urban Center City**
Latitude: **44.9556**
Longitude: **-93.1459**
Elevation: **286 m**
Year Established: **1987**

Monitoring Parameters:

$PM_{2.5}$ FRM	$PM_{2.5}$ Continuous	$PM_{2.5}$ Speciation	PM_{10}	TSP/Metals	VOCs	Carbonyls	Carbon Monoxide	Ozone	SO_2	NO_X	Meteorological Data	Other
							E					

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day





Site Description:

This monitoring site is located near the southeast corner of University and Lexington Avenues in Saint Paul. Land use along University Avenue is predominantly commercial and retail, with some light industrial. Residential neighborhoods dominate the land use to the north and south of the University Avenue business corridor. Violations of the CO NAAQS were recorded in the mid-1990s. Minnesota currently meets the CO NAAQS but is required to continue monitoring through 2019 to meet federal regulations.

Monitoring Objectives:

- Demonstrate compliance with CO NAAQS.
- Support AQI reporting for CO.

Planned Changes

None

St. Paul – Red Rock Road

Site Information:

AQS Site ID : **27-123-0866**
MPCA Site ID: **866**
Address: **1450 Red Rock Rd**
City: **Saint Paul**
County: **Ramsey**

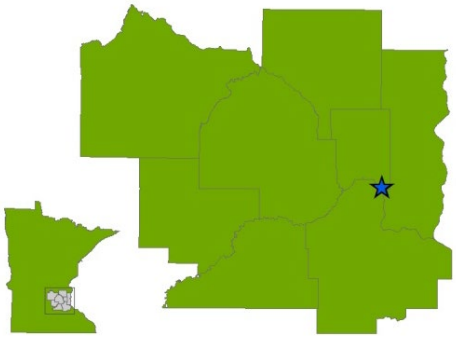
Location Setting: **Suburban**
Latitude: **44.8994**
Longitude: **-93.0171**
Elevation: **232 m**
Year Established: **1997**

Monitoring Parameters:

$PM_{2.5}$ FRM	$PM_{2.5}$ Continuous	$PM_{2.5}$ Speciation	PM_{10}*	TSP/Metals	VOCs	Carbonyls	Carbon Monoxide	Ozone	SO_2	NO_X	Meteorological Data	Other
			1/6									

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day

*Collocated



Site Description:

This monitoring site is located along Red Rock Road in Saint Paul. This area was a non-attainment area for PM_{10} in the 1990s due to high particulate emissions from area sources and roadways. The site is located in an industrialized corridor along the Mississippi River. The surrounding area contains a mix of industrial and commercial activities, including a steel recycling mill, a municipal waste sorting plant, railroad yards, and barge operations for river transport of grain, aggregate, and coal. Diesel truck traffic is heavy as materials are transported to and from the various facilities. Residential neighborhoods border this area to the east and to the southwest across the river. The nearest residential neighborhoods are approximately 1/2 mile to the east.

Monitoring Objectives:

- Demonstrate compliance with PM_{10} NAAQS.

Planned Changes:

None

St. Paul – Ramsey Health Center

Site Information:

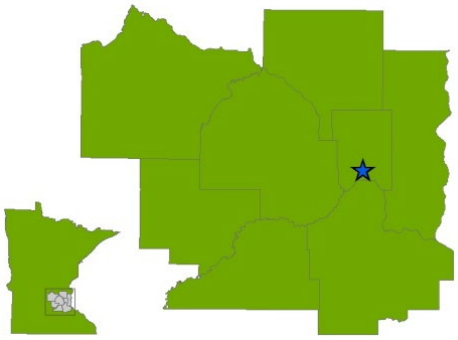
AQS Site ID: **27-123-0868**
MPCA Site ID: **868**
Address: **555 Cedar St**
City: **Saint Paul**
County: **Ramsey**

Location Setting: **Urban Center City**
Latitude: **44.9507**
Longitude: **-93.0985**
Elevation: **251 m**
Year Established: **1998**

Monitoring Parameters:

$PM_{2.5}$ FRM	$PM_{2.5}$ Continuous	$PM_{2.5}$ Speciation	PM_{10} Continuous	TSP/Metals	VOCs	Carbonyls	Carbon Monoxide	Ozone	SO_2	NO_X	Meteorological Data	Other*
1/3			E		1/6	1/6						

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day



Site Description:

This monitoring site is located at the intersection of Cedar and 10th Street on the roof of the Ramsey County Health Center in Saint Paul. The monitors are positioned on the north side of the building, approximately 60 meters south of the I-94 corridor and interchange with I-35E. The Central Corridor Light Rail Transit line, which runs along Cedar Avenue, began operating in June 2014. Redevelopment is expected in the area. The location was selected to demonstrate NAAQS compliance in areas where commercial and residential land uses are in close proximity to major roadways.

Monitoring Objectives:

- Demonstrate compliance with $PM_{2.5}$ and PM_{10} NAAQS.
- Characterize air toxics (VOCs and carbonyls).
- Support AQI reporting and forecasting for PM_{10}.

Planned Changes:

None

Saint Paul – Harding High School

Site Information:

AQS Site ID: **27-123-0871**
MPCA Site ID: **871**
Address: **1540 East 6th St**
City: **Saint Paul**
County: **Ramsey**

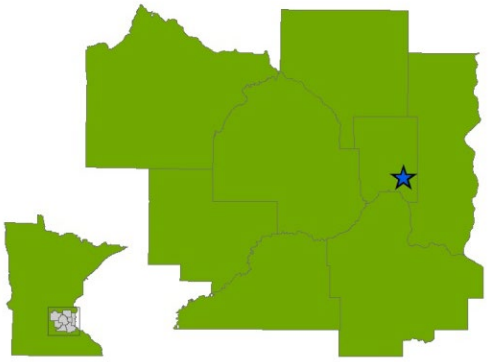
Location Setting: **Urban**
Latitude: **44.9593**
Longitude: **-93.0359**
Elevation: **296 m**
Year Established: **1998**

Monitoring Parameters:

$PM_{2.5}$ FRM*	$PM_{2.5}$ Continuous FEM *	$PM_{2.5}$ Speciation	PM_{10}	TSP/Metals	VOCs.	Carbonyls	Carbon Monoxide	Ozone	SO_2	NO_X	Meteorological Data	Other
1/3	E			1/6	1/6	1/6						

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day

*Collocated



Site Description:

This monitoring site is located on the roof of Harding High School on the east side of Saint Paul. The surrounding area is predominantly residential neighborhoods, with some commercial and retail activity. This location provides air quality data representative of urban neighborhoods, which are dominated by residential land use.

Monitoring Objectives:

- Demonstrate compliance with $PM_{2.5}$ NAAQS.
- Support AQI reporting and forecasting for $PM_{2.5}$.
- Demonstrate compliance with TSP MAAQS.
- Characterize air toxics (VOCs, carbonyls, and metals).

Planned Changes:

None

Minneapolis – Humboldt Avenue

Site Information:

AQS Site ID: **27-053-1007**
MPCA Site ID: **907**
Address: **4646 N Humboldt Ave**
City: **Minneapolis**
County: **Hennepin**

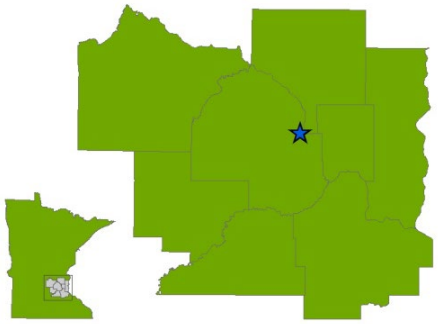
Location Setting: **Urban**
Latitude: **45.0397**
Longitude: **-93.2987**
Elevation: **263 m**
Year Established: **1966**

Monitoring Parameters:

$PM_{2.5}$ FRM	$PM_{2.5}$ Continuous	$PM_{2.5}$ Speciation	PM_{10}	TSP/Metals	VOCs	Carbonyls	Carbon Monoxide	Ozone	SO_2	NO_X	Meteorological Data	Other*
				1/6	1/6	1/6						E

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day

*PAH, ending July 1, 2017



Site Description:

This monitoring site is located on the roof of Fire Station No. 22 in North Minneapolis. The surrounding area contains a mix of land uses, including truck terminals, railroad yards, and manufacturing facilities to the west and northwest, and residential neighborhoods to the north, east, and south. This location provides air quality data representative of urban neighborhoods, which, though predominantly residential, are adjacent to or near significant industrial air emission sources.

Monitoring Objectives:

- Demonstrate compliance with TSP MAAQS.
- Characterize air toxics (VOCs, carbonyls, PAHs, and metals).

Planned Changes:

Polycyclic aromatic hydrocarbons (PAH) monitoring will end in June 2017 after being conducted for one year. More information on PAH monitoring can be found at https://www.pca.state.mn.us/air/air-monitoring-polycyclic-aromatic-hydrocarbons-urban-and-rural-sites.

Minneapolis – Lowry Avenue

Site Information:

AQS Site ID: **27-053-0909**
MPCA Site ID: **909**
Address: **3104 North Pacific Street**
City: **Minneapolis**
County: **Hennepin**

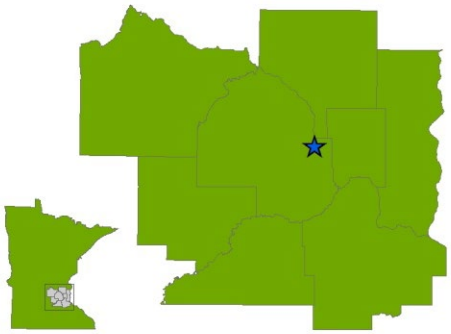
Location Setting: **Urban**
Latitude: **45.0121**
Longitude: **-93.2767**
Elevation: **249 m**
Year Established: **2013**

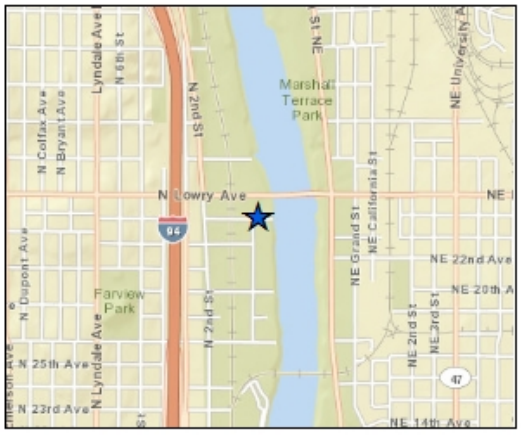
Monitoring Parameters:

$PM_{2.5}$ FRM	$PM_{2.5}$ Continuous	$PM_{2.5}$ Speciation	PM_{10} Continuous	TSP/Metals	VOCs	Carbonyls	Carbon Monoxide	Ozone	SO_2	NO_X	Meteorological Data	Other*
			E	E	E	E					E	E

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day

*PAH, beginning July 1, 2017





Site Description:

This monitoring site is located on the roof of a commercial building near the west bank of the Mississippi River, east of Interstate 94, in an industrial area of North Minneapolis. The surrounding area contains a mix of land use activities, including highway corridors, metal recycling (until August 2019), manufacturing facilities, aggregate and ready-mix concrete supply, commercial warehousing, office buildings, and retail businesses, with adjacent residential neighborhoods.

Monitoring Objectives:

- Demonstrate compliance with PM_{10} NAAQS and TSP MAAQS
- Characterize air toxics (VOCs, carbonyls, PAHs, and metals)
- Assess neighborhood exposure to air emissions.
- Support modeling and source separation by collecting meteorological data.
- Identify sources contributing to the exceedance of TSP standards.

Planned Changes:

Polycyclic aromatic hydrocarbons (PAH) monitoring will begin July 2017 and continue for one year. More information on PAH monitoring can be found at https://www.pca.state.mn.us/air/air-monitoring-polycyclic-aromatic-hydrocarbons-urban-and-rural-sites.

Minneapolis – Pacific Street

Site Information:

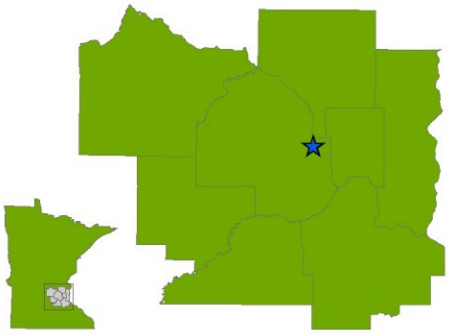
AQS Site ID: **27-053-0910**
MPCA Site ID: **910**
Address: **2710 North Pacific Street**
City: **Minneapolis**
County: **Hennepin**

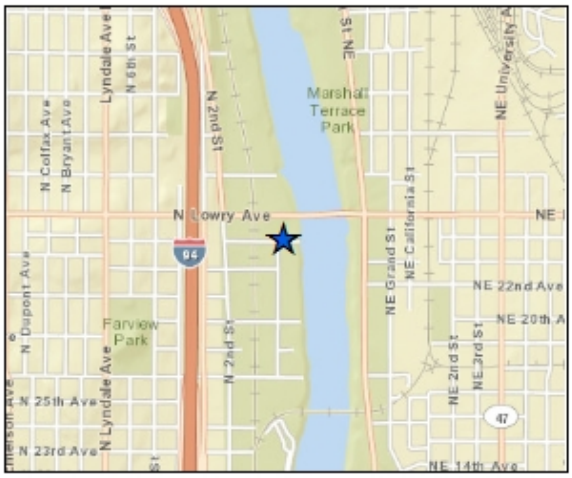
Location Setting: **Urban**
Latitude: **45.0083**
Longitude: **-93.2770**
Elevation: **249 m**
Year Established: **2015**

Monitoring Parameters:

$PM_{2.5}$ FRM	$PM_{2.5}$ Continuous	$PM_{2.5}$ Speciation	PM_{10} Continuous	TSP/Metals	VOCs	Carbonyls	Carbon Monoxide	Ozone	SO_2	NO_X	Meteorological Data	Other
			E	E								

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day





Site Description:

This monitoring site is located on the ground at a City of Minneapolis Public Works facility near the west bank of the Mississippi River, east of Interstate 94, in an industrial area of North Minneapolis. The surrounding area contains a mix of land uses including metal recycling (until August 2019), manufacturing facilities, aggregate and ready-mix concrete supply, commercial warehousing, office buildings, and retail businesses, with residential neighborhoods to the east and west.

Monitoring Objectives:

- Demonstrate compliance with PM_{10} NAAQS and TSP MAAQS.
- Identify sources contributing to the exceedance of TSP standards.

Planned Changes:

None

Minneapolis – Arts Center

Site Information:

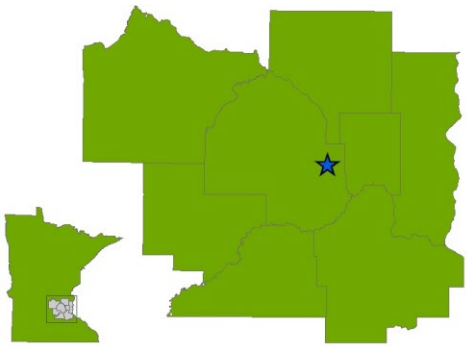
AQS Site ID: **27-053-0954**
MPCA Site ID: **954**
Address: **528 Hennepin Ave**
City: **Minneapolis**
County: **Hennepin**

Location Setting: **Urban Center City**
Latitude: **44.9790**
Longitude: **-93.2737**
Elevation: **259 m**
Year Established: **1989**

Monitoring Parameters:

$PM_{2.5}$ FRM	$PM_{2.5}$ Continuous	$PM_{2.5}$ Speciation	PM_{10}	TSP/Metals	VOCs	Carbonyls	Carbon Monoxide	Ozone	SO_2	NO_X	Meteorological Data	Other
							E		E			

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day



Site Description:

This monitoring site is located at the Cowles Center for Dance and the Performing Arts in downtown Minneapolis. This center city location is characterized by a mix of commercial and residential land use, with high traffic volume and street canyons created by tall buildings that restrict air dispersion.

Monitoring Objectives:

- Demonstrate compliance with CO and SO_2 NAAQS.
- Support AQI reporting for CO and SO_2.

Planned Changes:

None

Richfield Intermediate School

Site Information:

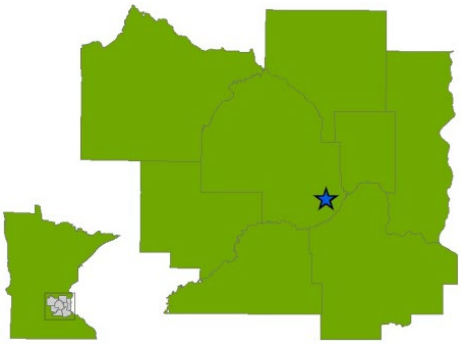
AQS Site ID: **27-053-0961**
MPCA Site ID: **961**
Address: **7020 12th Ave S**
City: **Richfield**
County: **Hennepin**

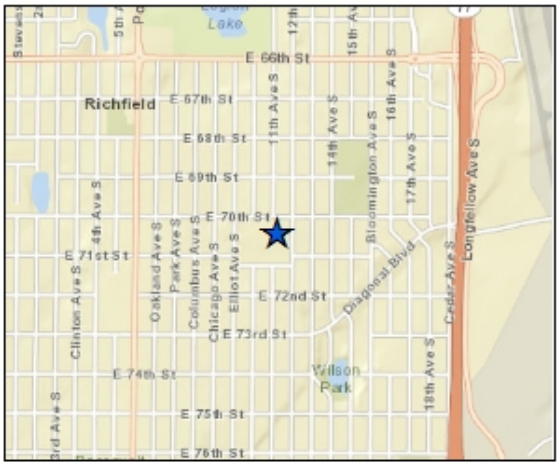
Location Setting: **Suburban**
Latitude: **44.8756**
Longitude: **-93.2588**
Elevation: **262 m**
Year Established: **1999**

Monitoring Parameters:

$PM_{2.5}$ FRM	$PM_{2.5}$ Continuous	$PM_{2.5}$ Speciation	PM_{10}	TSP/Metals	VOCs	Carbonyls	Carbon Monoxide	Ozone	SO_2	NO_X	Meteorological Data	Other
					1/6	1/6						

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day





Site Description:

This monitoring site is located on the roof of the Richfield Intermediate School in Richfield. The school is approximately one mile west of Cedar Avenue (State Highway 77) and the Minneapolis-Saint Paul International Airport. Air toxics monitoring was added to this site in 2006 at the request of the City of Richfield to address concerns regarding the impact of airport operations on air quality in the surrounding residential neighborhoods. This area is predominantly residential with commercial and retail businesses along the main corridors of Cedar Avenue, I-494, and 66th Street East (Richfield City Center).

Monitoring Objectives:

- Characterize air toxics (VOCs and carbonyls)

Planned Changes:

None

Minneapolis – Near Road I-35/I-94

Site Information:

AQS Site ID: **27-053-0962**
MPCA Site ID: **962**
Address: **1444 18th St E**
City: **Minneapolis**
County: **Hennepin**

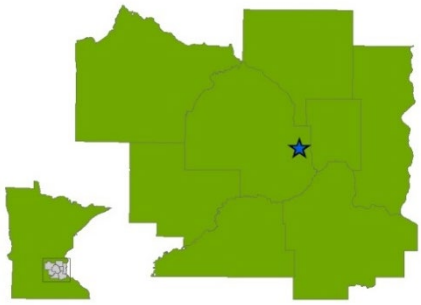
Location Setting: **Urban**
Latitude: **44.9652**
Longitude: **-93.2548**
Elevation: **259 m**
Year Established: **2013**

Monitoring Parameters:

$PM_{2.5}$ FRM	$PM_{2.5}$ FEM	$PM_{2.5}$ Speciation	PM_{10}	TSP/Metals	VOCs	Carbonyls	Carbon Monoxide	Ozone	SO_2	NO_X	Meteorological Data	Other*
	E			A	A	A	E	E		E	E	E

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day

* black carbon, ultrafine particle counter



Site Description:

This monitoring site is located along the I-94/I-35W commons near downtown Minneapolis. This area is predominantly residential, with some commercial and retail businesses nearby. It is part of the near-road monitoring network, which was established to assess air pollution levels in the near-road environment. This traffic segment had the highest Annual Average Daily Traffic (AADT) count in Minnesota in 2012, at 277,000 vehicles per day.

Monitoring Objectives:

- Demonstrate compliance with NO_2, ozone, $PM_{2.5}$, and CO NAAQS.
- Support modeling and source separation by collecting meteorological data.
- Demonstrate compliance with TSP MAAQS.
- Characterize air toxics (VOCs, carbonyls, and metals).
- Characterize black carbon and ultra-fine particles in the near-road environment.

Planned Changes:

None

Minneapolis – Andersen School

Site Information:

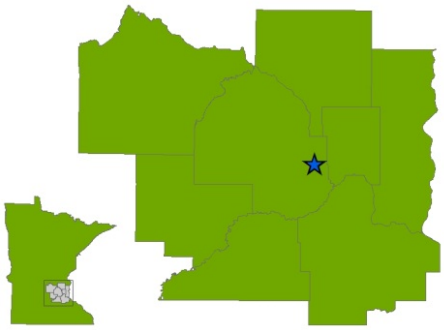
AQS Site ID: **27-053-0963**
MPCA Site ID: **963**
Address: **2727 10th Ave S**
City: **Minneapolis**
County: **Hennepin**

Location Setting: **Urban Center City**
Latitude: **44.9535**
Longitude: **-93.2583**
Elevation: **270 m**
Year Established: **2001**

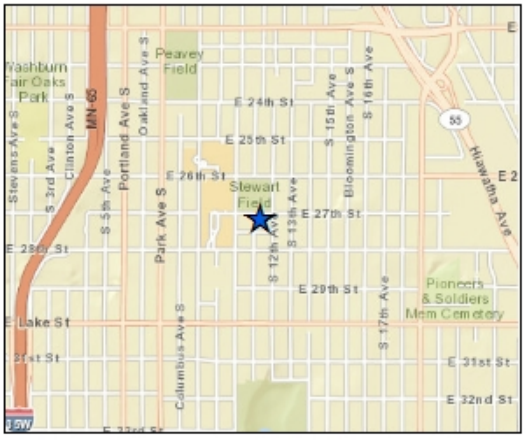
Monitoring Parameters:

$PM_{2.5}$ FRM	$PM_{2.5}$ Continuous FEM	$PM_{2.5}$ Speciation*	PM_{10}	TSP/Metals	VOCs	Carbonyls	Carbon Monoxide	Ozone	SO_2	NO_X	Meteorological Data	Other**
1/3	E	1/3		1/6	1/6	1/6						E

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day



*CSN **PAH



Site Description:

This monitoring site is located on the roof of the Hans Christian Andersen School in the Phillips Neighborhood of Minneapolis. It is approximately two miles south of downtown Minneapolis, bordered by major roadways. This location provides air quality data representative of urban neighborhoods, which are dominated by residential and commercial land use.

Monitoring Objectives:

- Demonstrate compliance with $PM_{2.5}$ NAAQS.
- Demonstrate compliance with TSP MAAQS.
- Support AQI reporting and forecasting for $PM_{2.5}$.
- Characterize air toxics (VOCs, carbonyls, PAHs, and metals).
- Characterize $PM_{2.5}$ chemical composition.

Planned Changes:

Polycyclic aromatic hydrocarbons (PAH) monitoring will occur from July 2016 to June 2018. More information on PAH monitoring can be found at https://www.pca.state.mn.us/air/air-monitoring-polycyclic-aromatic-hydrocarbons-urban-and-rural-sites.

Minneapolis – City of Lakes Building

Site Information:

AQS Site ID: **27-053-0966**
MPCA Site ID: **966**
Address: **309 2nd Ave S**
City: **Minneapolis**
County: **Hennepin**

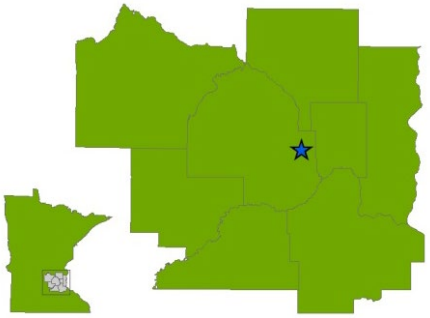
Location Setting: **Urban Center City**
Latitude: **44.9793**
Longitude: **-93.2661**
Elevation: **267 m**
Year Established: **2002**

Monitoring Parameters:

$PM_{2.5}$ FRM	$PM_{2.5}$ Continuous	$PM_{2.5}$ Speciation	PM_{10}	TSP/Metals	VOCs*	Carbonyls*	Carbon Monoxide	Ozone	SO_2	NO_X	Meteorological Data	Other
			1/6	1/6	1/6	1/6						

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day

*Collocated



Site Description:

This monitoring site is located on the roof of the City of Lakes Building, at the corner of 3rd Street and 2nd Avenue South in downtown Minneapolis. This center city location is characterized by a mix of commercial and residential land use, with high traffic volume and street canyons created by tall buildings that restrict air dispersion.

Monitoring Objectives:

- Demonstrate compliance with PM_{10} NAAQS.
- Demonstrate compliance with TSP MAAQS.
- Characterize air toxics (VOCs, carbonyls, and metals).

Planned Changes:

None

Virginia City Hall

Site Information:

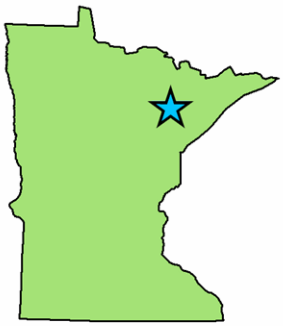
AQS Site ID: **27-137-7001**
MPCA Site ID: **1300**
Address: **327 First Street South**
City: **Virginia**
County: **St. Louis**

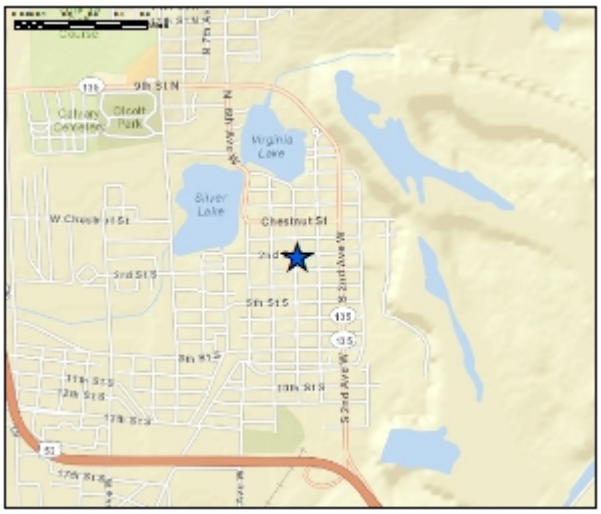
Location Setting: **Urban Center City**
Latitude: **47.5212**
Longitude: **-92.5363**
Elevation: **455 m**
Year Established: **1968**

Monitoring Parameters:

$PM_{2.5}$ FRM	$PM_{2.5}$ FEM	$PM_{2.5}$ Speciation	PM_{10}	TSP/Metals	VOCs	Carbonyls	Carbon Monoxide	Ozone	SO_2	NO_X	Meteorological Data	Other
	E		1/6	1/6								

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day





Site Description:

This monitoring site is located on the roof of the City Hall Building in Virginia, a mid-sized city surrounded by open-pit mining and iron-ore processing plants. The site is approximately one mile northeast of U.S. Highway 53 in the downtown business district. Land use in the surrounding area is a mix of residential, commercial, and industrial activities.

Monitoring Objectives:

- Demonstrate compliance with $PM_{2.5}$ and PM_{10} NAAQS.
- Demonstrate compliance with TSP MAAQS.
- Support AQI reporting and forecasting for $PM_{2.5}$.
- Characterize metals concentrations.

Planned Changes:

None

Minneapolis – Bottineau/Marshall Terrace

Site Information:

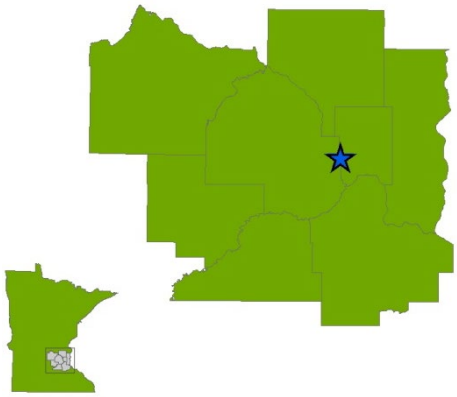
AQS Site ID: **27-053-1909**
MPCA Site ID: **1909**
Address: **2522 Marshall St NE**
City: **Minneapolis**
County: **Hennepin**

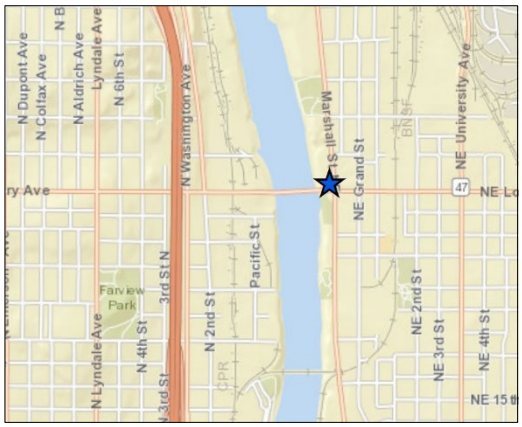
Location Setting: **Urban City Center**
Latitude: **45.013611**
Longitude: **-93.272049**
Elevation: **253 m**
Year Established: **2017**

Monitoring Parameters:

$PM_{2.5}$ FRM	$PM_{2.5}$ Continuous FEM	$PM_{2.5}$ Speciation	PM_{10}	TSP/Metals	VOCs	Carbonyls	Carbon Monoxide	Ozone	SO_2	NO_X	Meteorological Data	Other
	E			1/6	1/6	1/6						

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day





Site Description:

This monitoring site is located in the Bottineau/Marshall Terrace neighborhood. It is on the roof of the Mississippi Watershed Management Organization building near the east bank of the Mississippi River, east of Interstate 94 in an industrial area of North Minneapolis. The surrounding area contains a mix of land use activities including highway corridors, metal recycling, manufacturing facilities, aggregate and ready-mix concrete supply, commercial warehousing, office buildings, and retail businesses, with adjacent residential neighborhoods. This Community Air Monitoring Project site was chosen to assess air quality in a neighborhood impacted by a variety of commercial and mobile sources.

Monitoring Objectives:

- Assess air quality impacts from mobile sources.
- Characterize air toxics (VOCs, carbonyls, and metals).
- Support AQI reporting and forecasting for $PM_{2.5}$

Planned Changes:

Monitoring will continue through 2018 and move to another Community Air Monitoring Project location.

Detroit Lakes – FWS Wetland Management District

Site Information:

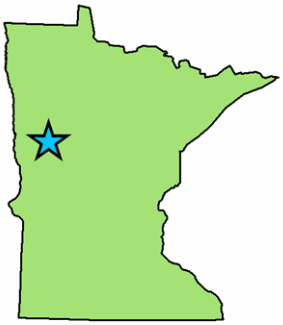
AQS Site ID: **27-005-2013**
MPCA Site ID: **2013**
Address: **26624 N Tower Rd**
City: **Detroit Lakes**
County: **Becker**

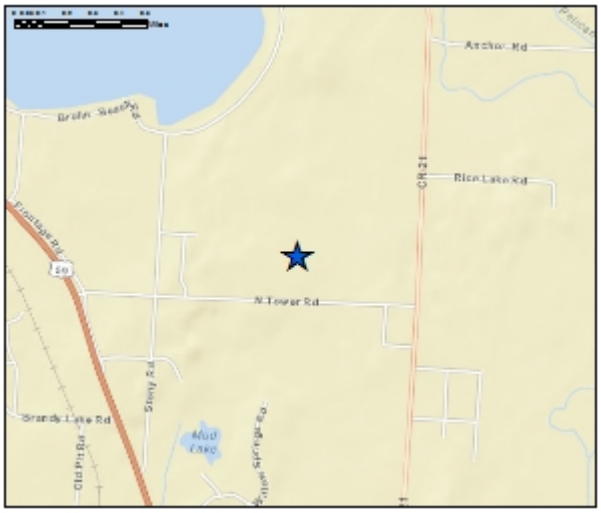
Location Setting: **Rural**
Latitude: **46.8499**
Longitude: **-95.8463**
Elevation: **425 m**
Year Established: **2004**

Monitoring Parameters:

$PM_{2.5}$ FRM	$PM_{2.5}$ Continuous FEM	$PM_{2.5}$ Speciation	PM_{10}	TSP/Metals	VOCs	Carbonyls	Carbon Monoxide	Ozone	SO_2	NO_X	Meteorological Data	Other
	E							E				

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day





Site Description:

This monitoring site is located at the U.S. Fish and Wildlife Service Wetland Management District office near Detroit Lakes in west central Minnesota. It is approximately two miles north of downtown Detroit Lakes. Land use near this site is a mix of residential and agricultural activities.

Monitoring Objectives

- Demonstrate compliance with $PM_{2.5}$ and ozone NAAQS.
- Support AQI reporting and forecasting for $PM_{2.5}$ and ozone.

Planned Changes:

None

Red Lake Nation*

Site Information:

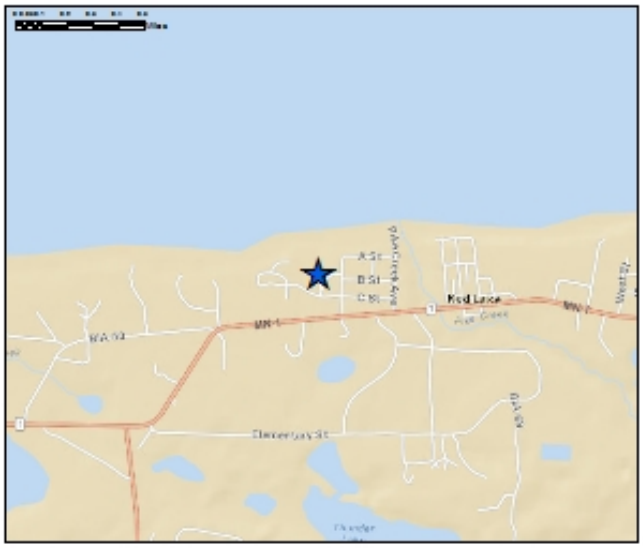
AQS Site ID: **27-007-2304**
MPCA Site ID: **2304**
Address: **24760 Hospital Drive**
City: **Red Lake**
County: **Beltrami**

Location Setting: **Rural**
Latitude: **47.8782**
Longitude: **-95.0292**
Elevation: **369 m**
Year Established: **2014**

Monitoring Parameters:

$PM_{2.5}$ FRM	$PM_{2.5}$ Continuous FEM	$PM_{2.5}$ Speciation	PM_{10}	TSP/Metals	VOCs	Carbonyls	Carbon Monoxide	Ozone	SO_2	NO_X	Meteorological Data	Other*
	E											

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day



Site Description:

This tribal monitoring site is located on the roof of the Red Lake Indian Health Service Hospital. The site is located along the south shore of Lower Red Lake. Land use surrounding the hospital is primarily residential.

Monitoring Objectives:

- Demonstrate compliance with $PM_{2.5}$ NAAQS.
- Support AQI reporting and forecasting for $PM_{2.5}$.
- Support Tribal monitoring objectives.

Planned Changes:

None

***This monitoring site is operated by the Red Lake Band of Chippewa Indians and is supported, in part, by the MPCA.**

Mille Lacs Band*

Site Information:

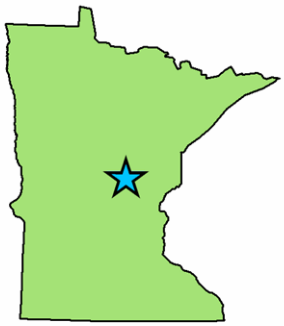
AQS Site ID: **27-095-3051**
MPCA Site ID: **3051**
Address: **HCR 67 Box 194**
City: **Mille Lacs**
County: **Mille Lacs**

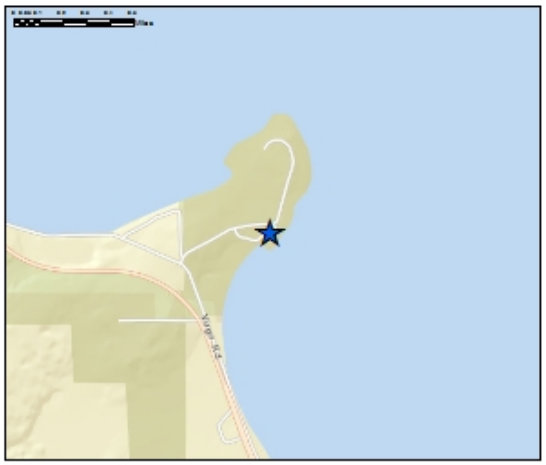
Location Setting: **Rural**
Latitude: **46.2052**
Longitude: **-93.7594**
Elevation: **393 m**
Year Established: **1997**

Monitoring Parameters:

$PM_{2.5}$ FRM	$PM_{2.5}$ Continuous	$PM_{2.5}$ Speciation	PM_{10}	TSP/Metals	VOCs	Carbonyls	Carbon Monoxide	Ozone	SO_2	NO_X	Meteorological Data	Other
								E				

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day





Site Description:

This tribal monitoring site is located one mile north of the Mille Lacs Band of Ojibwe Government Center located on the western shore of Mille Lacs Lake. This site is approximately 12 miles north of Onamia on Highway 169. Land use to the south and west of the monitoring site is a mix of residential and heavy forest cover. This site was established in 1997 to characterize and assess transport of pollutants from the Twin Cities metropolitan area, located approximately 90 miles to the southeast.

Monitoring Objectives:

- Demonstrate compliance with ozone NAAQS.
- Support AQI reporting and forecasting for ozone.
- Support Tribal monitoring objectives.

Planned Changes:

None

***This monitoring site is operated by the Mille Lacs Band of Ojibwe and is supported, in part, by the MPCA.**

Saint Cloud – Talahi School

Site Information:

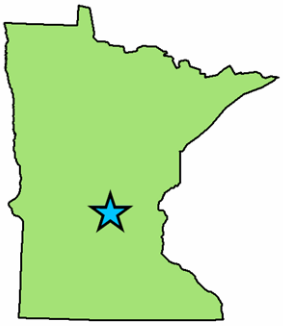
AQS Site ID: **27-145-3052**
MPCA Site ID: **3052**
Address: **1321 Michigan Ave SE**
City: **Saint Cloud**
County: **Sherburne**

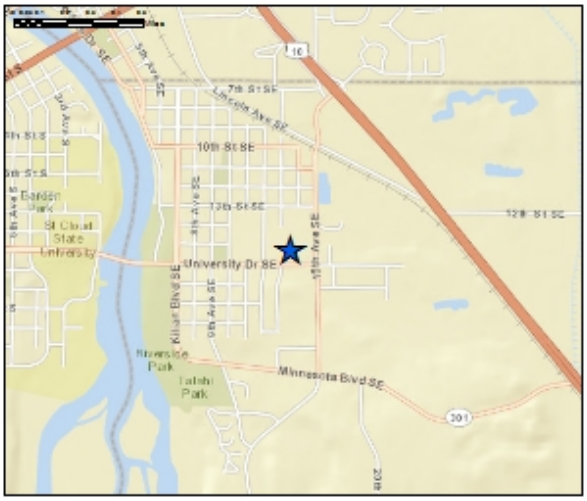
Location Setting: **Suburban**
Latitude: **45.5497**
Longitude: **-94.1335**
Elevation: **320 m**
Year Established: **1998**

Monitoring Parameters:

$PM_{2.5}$ FRM	$PM_{2.5}$ Continuous FEM	$PM_{2.5}$ Speciation	PM_{10}	TSP/Metals	VOCs	Carbonyls	Carbon Monoxide	Ozone	SO_2	NO_X	Meteorological Data	Other
	E							E				

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day





Site Description:

This monitoring site is located on the roof of the Talahi Elementary School at the corner of 15th Avenue SE and Michigan Avenue SE in Saint Cloud. The site is approximately three miles east of the Saint Cloud city center and less than one mile southwest of U.S. Highway 10. The surrounding area is predominantly residential, with commercial and retail businesses located to the north along U.S. Highway 10.

Monitoring Objectives:

- Demonstrate compliance with $PM_{2.5}$ and ozone NAAQS.
- Support AQI reporting and forecasting for $PM_{2.5}$ and ozone.

Planned Changes:

None

St. Michael Elementary School

Site Information:

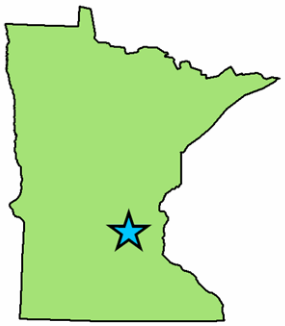
AQS Site ID: **27-171-3201**
MPCA Site ID: **3201**
Address: **101 Central Ave W**
City: **St. Michael**
County: **Wright**

Location Setting: **Suburban**
Latitude: **45.2092**
Longitude: **-93.6690**
Elevation: **288 m**
Year Established: **2003**

Monitoring Parameters:

$PM_{2.5}$ FRM	$PM_{2.5}$ Continuous FEM	$PM_{2.5}$ Speciation	PM_{10}	TSP/Metals	VOCs	Carbonyls	Carbon Monoxide	Ozone	SO_2	NO_X	Meteorological Data	Other
	E							E				

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day



Site Description:

This monitoring site is located on the roof of the St. Michael Elementary School in St. Michael. The school is located approximately two miles south of I-94, in a residential neighborhood with nearby commercial and retail businesses. This site provides representative data for areas undergoing rapid development from rural to suburban residential land use.

Monitoring Objectives:

- Demonstrate compliance with for $PM_{2.5}$ and ozone NAAQS.
- Support AQI reporting and forecasting for $PM_{2.5}$ and ozone.

Planned Changes:

None

Brainerd Lakes Regional Airport

Site Information:

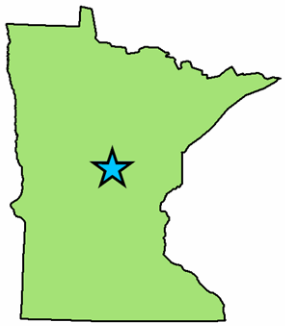
AQS Site ID: **27-035-3204**
MPCA Site ID: **3204**
Address: **16384 Airport Rd**
City: **Brainerd**
County: **Crow Wing**

Location Setting: **Rural**
Latitude: **46.3921**
Longitude: **-94.1444**
Elevation: **381 m**
Year Established: **2004**

Monitoring Parameters:

$PM_{2.5}$ FRM	$PM_{2.5}$ Continuous FEM	$PM_{2.5}$ Speciation	PM_{10}	TSP/Metals	VOCs	Carbonyls	Carbon Monoxide	Ozone	SO_2	NO_X	Meteorological Data	Other
	E							E				

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day



Site Description:

This monitoring site is located in an open field on the east side of the Brainerd Regional Airport. The airport is less than one mile northwest of State Highway 210 and about three miles northeast of the Brainerd business district. Land use surrounding the airport is primarily residential and forest cover.

Monitoring Objectives:

- Demonstrate compliance with ozone NAAQS.
- Support AQI reporting and forecasting for $PM_{2.5}$ and ozone.

Planned Changes:

None

Marshall – Southwest Minnesota Regional Airport

Site Information:

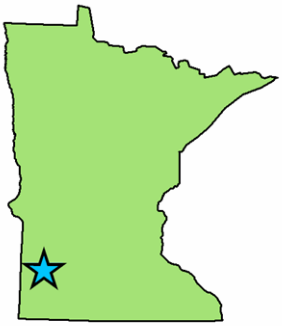
AQS Site ID: **27-083-4210**
MPCA Site ID: **4210**
Address: **West Highway 19**
City: **Marshall**
County: **Lyon**

Location Setting: **Rural**
Latitude: **44.4559**
Longitude: **-95.8363**
Elevation: **361 m**
Year Established: **2004**

Monitoring Parameters:

$PM_{2.5}$ FRM	$PM_{2.5}$ Continuous FEM	$PM_{2.5}$ Speciation	PM_{10}	TSP/Metals	VOCs	Carbonyls	Carbon Monoxide	Ozone	SO_2	NO_X	Meteorological Data	Other
	E							E				

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day



Site Description:

This monitoring site is located in an open field at the Marshall Regional Airport near Marshall in southwest Minnesota. The monitor is located approximately one mile west of the central business district. Land use surrounding the airport and the City of Marshall is predominantly agricultural, with a mix of commercial and light industrial.

Monitoring Objectives:

- Demonstrate compliance with $PM_{2.5}$ and ozone NAAQS.
- Support AQI reporting and forecasting for $PM_{2.5}$ and ozone.

Planned Changes:

None

Rochester – Ben Franklin School

Site Information:

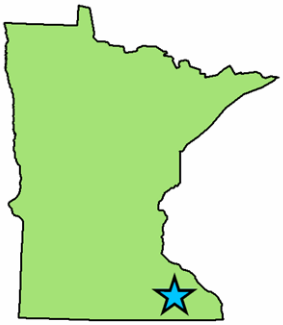
AQS Site ID: **27-109-5008**
MPCA Site ID: **5008**
Address: **1801 9th Ave SE**
City: **Rochester**
County: **Olmsted**

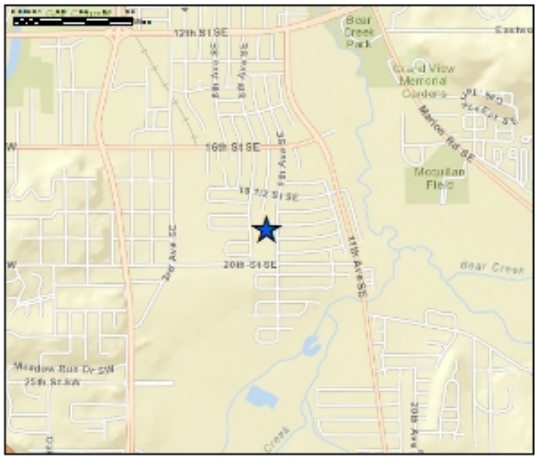
Location Setting: **Suburban**
Latitude: **43.9949**
Longitude: **-92.4504**
Elevation: **400 m**
Year Established: **1997**

Monitoring Parameters:

$PM_{2.5}$ FRM	$PM_{2.5}$ Continuous FEM	$PM_{2.5}$ Speciation	PM_{10}	TSP/Metals	VOCs	Carbonyls	Carbon Monoxide	Ozone	SO_2	NO_X	Meteorological Data	Other
1/6	E							E				

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day





Site Description:

This monitoring site is located on the roof of the Ben Franklin Elementary School in southeast Rochester. The school is located in a residential neighborhood approximately two miles south of the central business district. Some commercial and light industrial activity is located to the south and west of the site. This location provides air quality data representative of suburban neighborhoods, which are dominated by residential land use.

Monitoring Objectives:

- Demonstrate compliance with $PM_{2.5}$, ozone, and SO_2 NAAQS.
- Support AQI reporting and forecasting for $PM_{2.5}$ and ozone.

Planned Changes:

None

Stanton Air Field

Site Information:

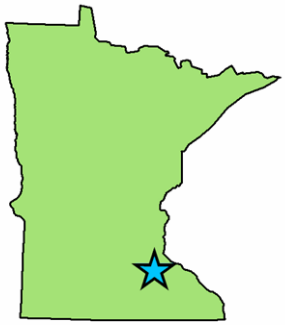
AQS Site ID: **27-049-5302**
MPCA Site ID: **5302**
Address: **1235 Highway 17**
City: **Stanton**
County: **Goodhue**

Location Setting: **Rural**
Latitude: **44.4719**
Longitude: **-93.0126**
Elevation: **300 m**
Year Established: **2003**

Monitoring Parameters:

$PM_{2.5}$ FRM	$PM_{2.5}$ FEM	$PM_{2.5}$ Speciation	PM_{10}	TSP/Metals	VOCs	Carbonyls	Carbon Monoxide	Ozone	SO_2	NO_X	Meteorological Data	Other
								E				

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day



Site Description:

This monitoring site is located at the Stanton Air Field in Goodhue County. The site is located approximately 10 miles east of Northfield and 36 miles south of Saint Paul. Land use near the airfield is predominantly agricultural.

Monitoring Objectives:

- Demonstrate compliance with ozone NAAQS.
- Support AQI reporting and forecasting for ozone.

Planned Changes:

None

Blaine – Anoka County Airport (NCore)

Site Information:

AQS Site ID: **27-003-1002**
MPCA Site ID: **6010**
NADP Site ID: **MN98**
Address: **2289 Co Rd J**
City: **Blaine**
County: **Anoka**

Location Setting: **Suburban**
Latitude: **45.1407**
Longitude: **-93.2220**
Elevation: **280 m**
Year Established: **1979**

Monitoring Parameters:

$PM_{2.5}$ FRM	$PM_{2.5}$ Continuous	$PM_{2.5}$ Speciation**	PM_{10} Continuous	$PM_{10-2.5}$	TSP/Metals[PL]	VOCs	Carbonyls	Carbon Monoxide[+]	Ozone	SO_2	NO_X[t]	Meteorological Data	Other*
1/3	E	E	E	E	E	E	E	E	E	E	E	E	E

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day

**CSN [t]Trace level NO_x, NO_y, and CO *Hg Deposition [PL]Population-oriented

Site Description:

This monitoring site is located at the Anoka County Airport in Blaine, approximately 12 miles northwest of Saint Paul. The Anoka County Airport is characterized as a reliever airport in the metropolitan air traffic system and has a low traffic volume with no commercial service. The area surrounding the airport contains a mix of residential, office parks, commercial, light industrial, and recreational use.

Monitoring Objectives:

- Demonstrate compliance with $PM_{2.5}$, PM_{10}, Pb, CO, ozone, SO_2, and NO_2 NAAQS.
- Support AQI reporting and forecasting for $PM_{2.5}$, ozone, and SO_2.
- Characterize air toxics (VOCs, carbonyls, and metals).
- Characterize $PM_{2.5}$ chemical composition.
- Characterize precipitation chemistry to track long-term spatial and temporal trends, support research, and assess the effectiveness of mercury emissions reduction programs.

Planned changes:

Assess need to continue MDN monitoring beyond 2018 and implement PAMS program.

U of M Cedar Creek Ecosystem Science Reserve

Site Information:

AQS Site ID: **27-003-1001**
MPCA Site ID: **6012**
NADP Site ID: **MN01**
Address: **2660 Fawn Rd**
City: **East Bethel**
County: **Anoka**

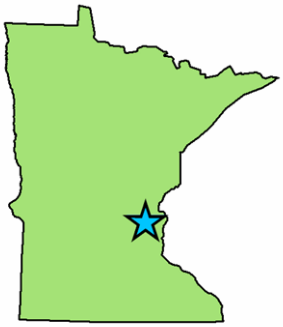
Location Setting: **Rural**
Latitude: **45.4018**
Longitude: **-93.2031**
Elevation: **280 m**
Year Established: **1979**

Monitoring Parameters:

$PM_{2.5}$ FRM	$PM_{2.5}$ Continuous	$PM_{2.5}$ Speciation	PM_{10}	TSP/Metals	VOCs	Carbonyls	Carbon Monoxide	Ozone	SO_2	NO_X	Meteorological Data	Other*
								E				E

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day

*Acid Deposition



Site Description:

This monitoring site is located at the University of Minnesota Cedar Creek Ecosystem Science Reserve near East Bethel, approximately 30 miles north of the Twin Cities. Cedar Creek is one of 26 Long Term Ecological Research Sites in the country. It consists of 5400 acres of wooded uplands, abandoned fields, lowland wooded swamps, and open fens and marshes. Land use surrounding Cedar Creek is rapidly being developed from agricultural to large-lot residential and commercial use.

Monitoring Objectives:

- Demonstrate compliance with ozone NAAQS.
- Support AQI forecasting and reporting for ozone.
- Characterize precipitation chemistry to track long-term spatial and temporal trends, support research, and assess the effectiveness of State and Federal SO_2 emissions reduction programs.
- Demonstrate compliance with the Minnesota Wet Sulfate Deposition Standard (Minn. R. 7005.4010 to 7005.4050).

Planned Changes:

None

St. Croix Watershed Research Station

Site Information:

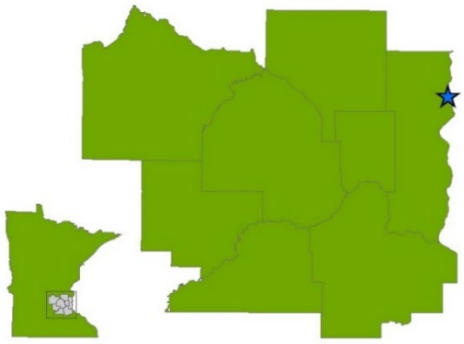
AQS Site ID: **27-163-6016**
MPCA Site ID: **6016**
Address: **St. Croix Trail N**
City: **Marine on St. Croix**
County: **Washington**

Location Setting: **Rural**
Latitude: **45.1680**
Longitude: **-92.7651**
Elevation: **221 m**
Year Established: **2012**

Monitoring Parameters:

$PM_{2.5}$ FRM	$PM_{2.5}$ Continuous	$PM_{2.5}$ Speciation	PM_{10}	TSP/Metals	VOCs	Carbonyls	Carbon Monoxide	Ozone	SO_2	NO_X	Meteorological Data	Other
								E				

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day



Site Description:

This site is located at the Science Museum of Minnesota's St. Croix Watershed Research Station. The St. Croix Watershed Research station is located 2 miles south of Marine on St. Croix, Minnesota, approximately 35 miles from St. Paul. Land use surrounding the station is a mix of agricultural and residential.

Monitoring Objectives:

- Demonstrate compliance with ozone NAAQS.
- Support AQI reporting and forecasting for ozone.

Planned Changes:

None

Ely – Fernberg Road

Site Information:

AQS Site ID: **27-075-0005**
MPCA Site ID: **7001**
NADP Site ID: **MN18**
IMPROVE Site ID: **BOWA1**
Address: **Fernberg Rd**
City: **Ely**

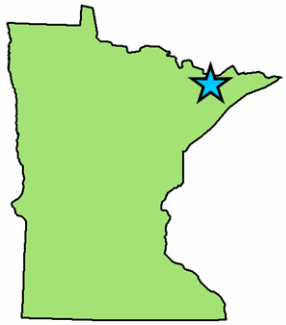
County: **Lake**
Location Setting: **Rural**
Latitude: **47.9466**
Longitude: **-91.4956**
Elevation: **528 m**
Year Established: **1977**

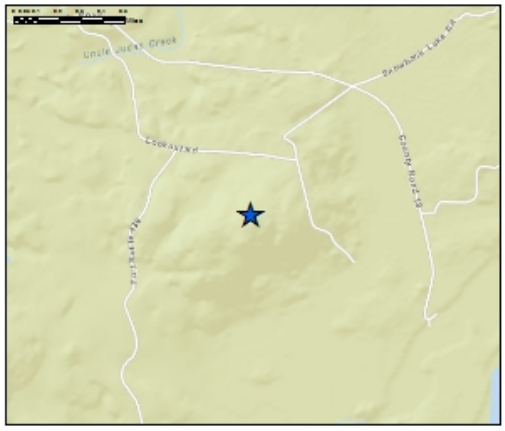
Monitoring Parameters:

$PM_{2.5}$ FRM	$PM_{2.5}$ Continuous FEM	$PM_{2.5}$ Speciation**	PM_{10}	TSP/Metals	VOCs	Carbonyls	Carbon Monoxide	Ozone	SO_2	NO_X	Meteorological Data	Other*
	E	1/6						E				E

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day

*Acid and Hg Deposition **IMPROVE





Site Description:

This monitoring site is located in a remote hilltop clearing approximately 19 miles east of Ely, adjacent to the Boundary Waters Canoe Area Wilderness. Land use surrounding this site is managed forests, recreation, and wilderness. This site is operated and maintained by the Superior National Forest, with support from the MPCA.

Monitoring Objectives:

- Demonstrate compliance with ozone and $PM_{2.5}$ NAAQS.
- Support AQI reporting and forecasting for $PM_{2.5}$ and ozone.
- Characterize precipitation chemistry to track long-term spatial and temporal trends, support research, and assess effectiveness of State and Federal SO_2 and mercury emissions reduction programs.
- Demonstrate compliance with the Minnesota Wet Sulfate Deposition Standard (Minn. R. 7005.4010 to 7005.4050).
- Characterize fine particle chemistry to quantify existing conditions, track trends, and develop plans to protect visibility in Class 1 wilderness areas.

Planned Changes:

None

Fond du Lac Band*

Site Information:

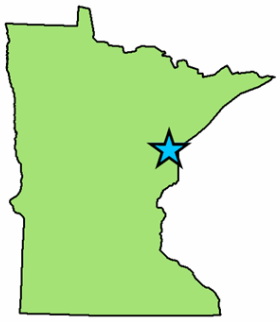
AQS Site ID: **27-017-7417**
MPCA Site ID: **7417**
Address: **28 University Rd**
City: **Cloquet**
County: **Carlton**

Location Setting: **Rural**
Latitude: **46.1737**
Longitude: **-92.5117**
Elevation: **433 m**
Year Established: **2015**

Monitoring Parameters:

$PM_{2.5}$ FRM	$PM_{2.5}$ Continuous FEM	$PM_{2.5}$ Speciation	PM_{10}	TSP/Metals	VOCs	Carbonyls	Carbon Monoxide	Ozone	SO_2	NO_X	Meteorological Data	Other
	E							E				

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day



Site Description:

This tribal monitoring station is located at the Fond du Lac Resource Management and Tribal Court Building, approximately two miles west of Cloquet. The Fond du Lac Environmental Program relocated their long-term air monitoring site to this new location in April 2015. Land use in the surrounding area includes a Tribal government campus, community center, and school. Low-density residential neighborhoods and undeveloped forest lands surround the Tribal campus to the south, west, and north. The Cloquet Carleton County Airport is located to the southeast of the campus. The city of Cloquet is approximately two miles to the east, and is the home of several large forest products industries.

Monitoring Objectives:

- Demonstrate compliance with ozone and $PM_{2.5}$ NAAQS.
- Support AQI reporting and forecasting for ozone and $PM_{2.5}$.
- Support Tribal monitoring objectives.

Planned Changes:

None

***This monitoring site is operated by the Fond du Lac Band of Lake Superior Chippewa and is supported, in part, by the MPCA.**

Duluth – Oneota Street

Site Information:

AQS Site ID: **27-137-0032**
MPCA Site ID: **7545**
Address: **Oneota St & 37th Ave W**
City: **Duluth**
County: **St. Louis**

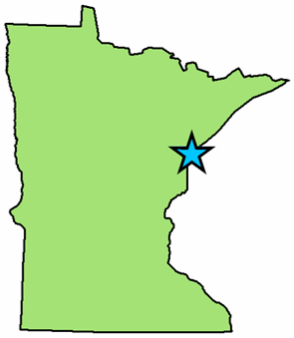
Location Setting: **Urban Center City**
Latitude: **46.7516**
Longitude: **-92.1413**
Elevation: **193 m**
Year Established: **1985**

Monitoring Parameters:

$PM_{2.5}$ FRM	$PM_{2.5}$ Continuous	$PM_{2.5}$ Speciation	PM_{10}*	TSP/Metals	VOCs	Carbonyls	Carbon Monoxide	Ozone	SO_2	NO_X	Meteorological Data	Other
			1/6									

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day

*Collocated



Site Description:

This monitoring site is located in west central Duluth, between I-35 and the Duluth-Superior Harbor. This site was established to monitor fugitive emissions from a variety of facilities and harbor operations that handle and ship materials including taconite pellets, aggregate, and coal. Other air emissions sources in the harbor area include scrap metal yards, railroad yards, wastewater treatment, power generation, and the I-35 corridor. Commercial land use changes to residential neighborhoods approximately 400 meters northwest of the site.

Monitoring Objectives:

- Demonstrate compliance with PM_{10} NAAQS.

Planned Changes:

None

Duluth – Michigan Street

Site Information:

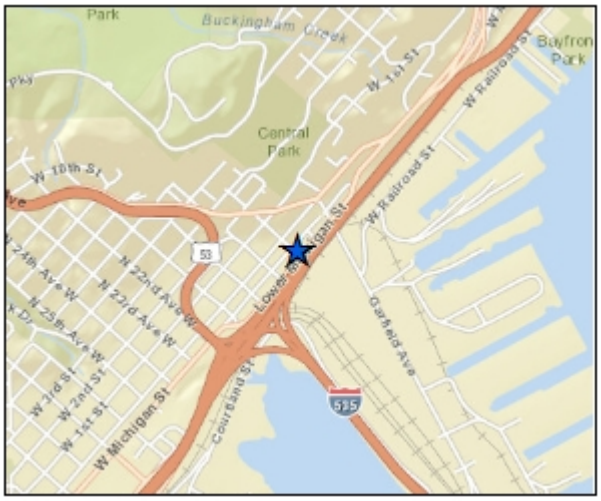
AQS Site ID: **27-137-7549**
MPCA Site ID: **7549**
Address: **1532 W Michigan St**
City: **Duluth**
County: **St. Louis**

Location Setting: **Urban Center City**
Latitude: **46.7694**
Longitude: **-92.1194**
Elevation: **204 m**
Year Established: **1994**

Monitoring Parameters:

$PM_{2.5}$ FRM	$PM_{2.5}$ Continuous	$PM_{2.5}$ Speciation	PM_{10}	TSP/Metals	VOCs	Carbonyls	Carbon Monoxide	Ozone	SO_2	NO_X	Meteorological Data	Other
				1/6	1/6	1/6						

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day



Site Description:

This monitoring site is located in central Duluth along I-35 and the Duluth-Superior Harbor. This site was established to characterize air toxics from a variety of emissions sources along the I-35 corridor and Duluth-Superior Harbor. Residential neighborhoods located along the hillside are within two blocks of the monitoring site.

Monitoring Objectives:

- Demonstrate compliance with TSP MAAQS.
- Characterize air toxics (VOCs, carbonyls, and metals).

Planned Changes:

None

Duluth – U of M

Site Information:

AQS Site ID: **27-137-7550**
MPCA Site ID: **7550**
Address: **1202 East University Circle**
City: **Duluth**
County: **St. Louis**

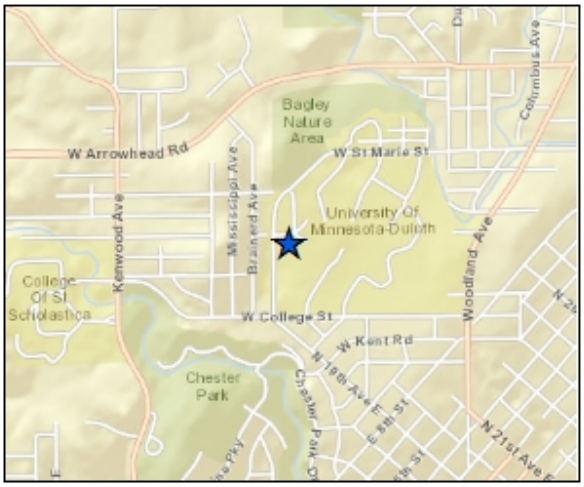
Location Setting: **Suburban**
Latitude: **46.8182**
Longitude: **-92.0894**
Elevation: **351 m**
Year Established: **1998**

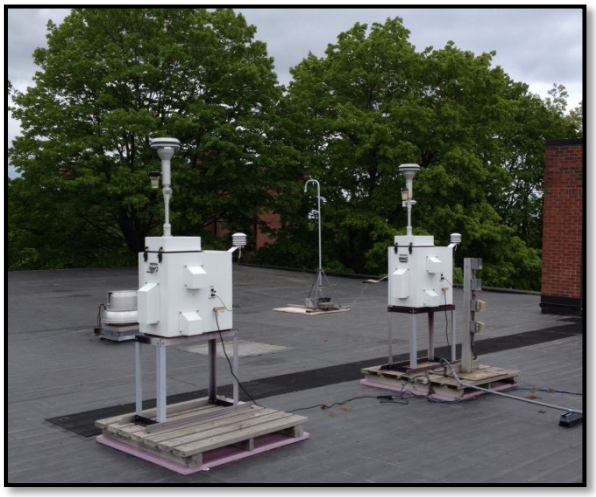
Monitoring Parameters:

$PM_{2.5}$ FRM*	$PM_{2.5}$ Continuous	$PM_{2.5}$ Speciation	PM_{10}	TSP/Metals	VOCs	Carbonyls	Carbon Monoxide	Ozone	SO_2	NO_X	Meteorological Data	Other
1/3								E				

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day

*Collocated





Site Description:

This monitoring site is located on the roof of the WDSE television studios in northern Duluth, on the University of Minnesota - Duluth campus. The site is less than one mile west of Woodland Avenue, 500 meters south of Saint Marie Street, and 500 meters north of College Street. The area surrounding the campus is predominantly residential, with some commercial and retail businesses. WSDE was selected as a site representative of urban neighborhoods that are located at higher elevations in Duluth.

Monitoring Objectives:

- Demonstrate compliance with $PM_{2.5}$ and ozone NAAQS.
- Support AQI reporting and forecasting for ozone.

Planned Changes:

None

Duluth – Laura MacArthur School

Site Information:

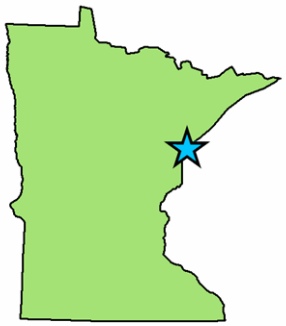
AQS Site ID: **27-137-7554**
MPCA Site ID: **7554**
Address: **720 N Central Ave**
City: **Duluth**
County: **St. Louis**

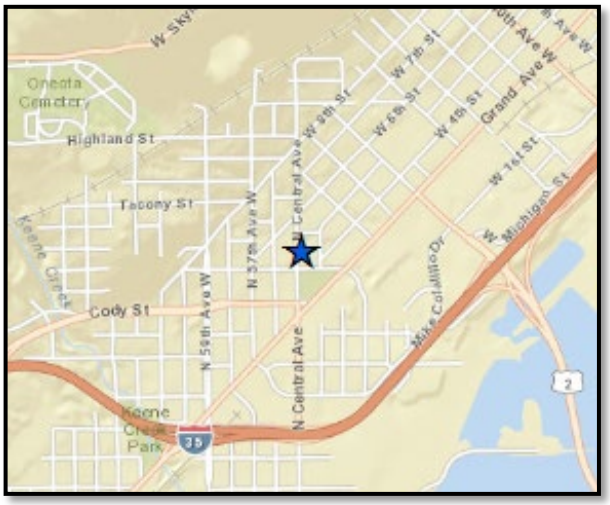
Location Setting: **Suburban**
Latitude: **46.7437**
Longitude: **-92.1660**
Elevation: **197 m**
Year Established: **2012**

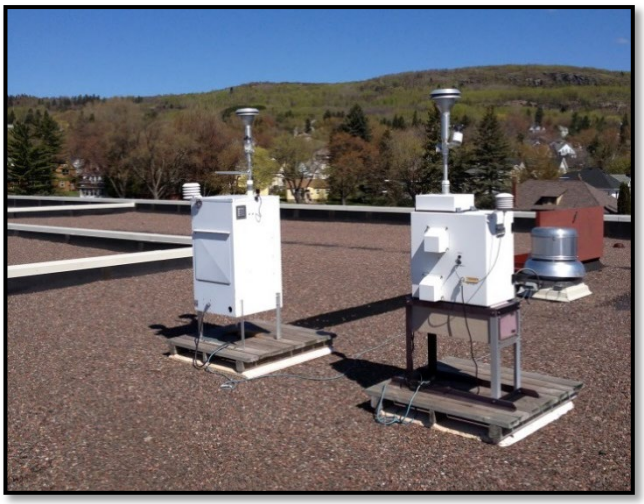
Monitoring Parameters:

$PM_{2.5}$ FRM*	$PM_{2.5}$ Continuous FEM	$PM_{2.5}$ Speciation	PM_{10}	TSP/Metals	VOCs	Carbonyls	Carbon Monoxide	Ozone	SO_2	NO_X	Meteorological Data	Other
1/3	E											

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day







Site Description:

This monitoring site is located on the roof of the Laura MacArthur elementary school in west central Duluth. It is located in a neighborhood with mixed commercial and residential land use, approximately ½ mile north of the I-35 corridor and the industrial area bordering the Duluth-Superior Harbor.

Monitoring Objectives:

- Demonstrate compliance with $PM_{2.5}$ NAAQS.
- Support AQI reporting and forecasting for $PM_{2.5}$.

Planned Changes:

None

Duluth – Waseca Road

Site Information:

AQS Site ID: **27-137-7555**
MPCA Site ID: **7555**
Address: **Waseca Industrial Rd**
City: **Duluth**
County: **St. Louis**

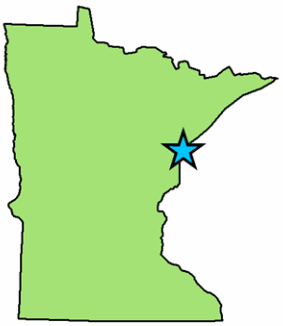
Location Setting: **Urban Center City**
Latitude: **46.7306**
Longitude: **-92.1634**
Elevation: **194 m**
Year Established: **2001**

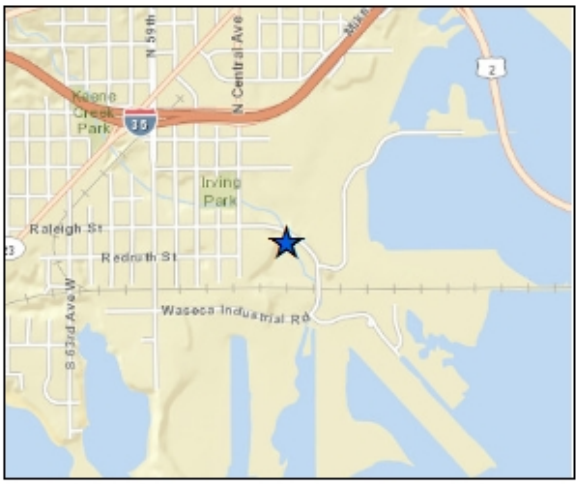
Monitoring Parameters:

$PM_{2.5}$ FRM	$PM_{2.5}$ Continuous	$PM_{2.5}$ Speciation	PM_{10}	TSP/Metals*	VOCs	Carbonyls	Carbon Monoxide	Ozone	SO_2	NO_X	Meteorological Data	Other
				1/6								

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day

*Collocated





Site Description:

This monitoring site is located in western Duluth, between a residential neighborhood and several facilities along the Duluth-Superior Harbor. This site was established to monitor fugitive emissions from a variety of facilities that handle and ship materials including aggregate, bentonite clay, and coal. Other air emissions sources in this area include a paper mill and power plant. Residential neighborhoods are located approximately 400 meters west of the site.

Monitoring Objectives:

- Demonstrate compliance with TSP MAAQS.
- Characterize metals.

Planned Changes:

None

Grand Portage Band*

Site Information:

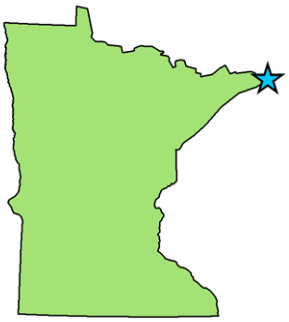
AQS Site ID: **27-031-7810**
MPCA Site ID: **7810**
Address: **27 Store Rd**
City: **Grand Portage**
County: **Cook**

Location Setting: **Rural**
Latitude: **47.9701**
Longitude: **-89.6910**
Elevation: **125 m**
Year Established: **2005**

Monitoring Parameters:

$PM_{2.5}$ FRM	$PM_{2.5}$ FEM Continuous	$PM_{2.5}$ Speciation	PM_{10}	TSP/Metals	VOCs	Carbonyls	Carbon Monoxide	Ozone	SO_2	NO_X	Meteorological Data	Other
	E											

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day



Site Description:

This Tribal monitoring site is located at the Grand Portage Band offices in Grand Portage in northeastern Minnesota. This site is less than one mile south of U.S. Highway 61 and less than one mile north of the Lake Superior shoreline. A small residential neighborhood surrounds the monitor. Land use outside of the Grand Portage community is undeveloped forests.

Monitoring Objectives:

- Support AQI reporting and forecasting for $PM_{2.5}$.
- Support Tribal monitoring objectives.

Planned Changes:

None

***This monitoring site is operated by the Grand Portage Band of Lake Superior Chippewa and is supported, in part, by the MPCA.**

Great River Bluffs State Park

Site Information:

AQS Site ID: **27-169-9000**
IMPROVE Site ID: **GRRI1**
Address: **43605 Kipp Drive**
City: **Winona**
County: **Winona**

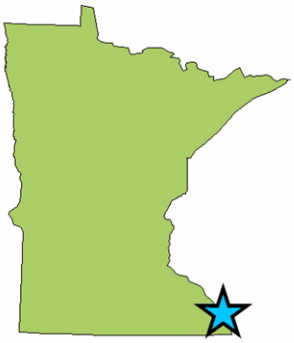
Location Setting: **Rural**
Latitude: **43.9373**
Longitude: **-91.4052**
Elevation: **370 m**
Year Established: **2002**

Monitoring Parameters:

$PM_{2.5}$ FRM	$PM_{2.5}$ Continuous	$PM_{2.5}$ Speciation**	PM_{10}	TSP/Metals	VOCs	Carbonyls	Carbon Monoxide	Ozone	SO_2	NO_X	Meteorological Data	Other
		1/3										

E = Existing, A = Proposed to Add, T = Proposed to Terminate
Sampling Frequency: 1/1 = Everyday, 1/3 = 1-in-3 day, 1/6 = 1-in-6 day

**IMPROVE



Site Description:

This regional-scale monitoring site is located at Great River Bluffs State Park, which runs along the Mississippi River in southeast Minnesota. Land uses surrounding the 3000-acre state park are primarily agriculture and managed forests. The site is operated by park personnel, with support from MPCA, under an interagency agreement.

Monitoring Objectives:

- Characterize fine particle chemistry to quantify existing conditions, track trends, and develop plans to protect visibility in Class 1 wilderness areas.

Planned Changes:

None