

FORT MILL SCHOOL DISTRICT

Perimeter Air Quality Monitoring Program
Flint Hill Elementary School

Monthly Perimeter Air Monitoring Report

June 1 – 30, 2026

Prepared by:

Citadel Environmental Health & Safety, Inc.

Prepared for:

Fort Mill School District

1.0 PURPOSE

This report presents a summary of continuous perimeter air quality monitoring data collected at Flint Hill Elementary School for the period of June 1 through June 30, 2026. The monitoring is conducted under the Community Air Monitoring Plan (CAMP) established for the Fort Mill School District in coordination with Citadel Environmental Health and Safety, Inc. (Citadel EHS).

The purpose of the perimeter air quality monitoring program is to provide ongoing, real-time assessment of ambient air quality in the vicinity of the school and nearby industrial operations. Data are evaluated against the tiered threshold framework defined in the CAMP to determine whether observed conditions warrant internal review, district notification, or coordinated response.

2.0 MONITORING OVERVIEW

Two continuous air monitoring stations are positioned along the perimeter of Flint Hill Elementary School to capture ambient air quality conditions from both the upwind and downwind directions relative to the adjacent Silfab Solar manufacturing facility.

2.1 Monitor Locations

NE Monitor (Downwind): Positioned on the northeast side of the school property, between the school and the Silfab facility. Based on the prevailing west-southwest (WSW) wind direction, this monitor is downwind of the school and upwind of the facility and is positioned to detect any emissions in close proximity to the school.

SW Monitor (Upwind): Positioned on the southwest side of the school property, upwind of both the school and the Silfab facility under prevailing wind conditions. This monitor captures baseline ambient air quality and serves as a reference point for comparison with the downwind station.

2.2 Monitored Parameters

Both stations continuously measure the following parameters at 15-minute intervals: Particulate Matter (PM_{2.5} and PM₁₀), Methane (CH₄), Volatile Organic Compounds (VOCs), as well as meteorological data including wind speed, wind direction, temperature, relative humidity, and barometric pressure.

3.0 MONITORING FRAMEWORK

The CAMP defines a tiered response framework with three escalating threshold levels for each monitored parameter. Exceedance of a threshold on a 15-minute rolling average triggers the corresponding response protocol.

Table 1. CAMP Threshold Summary

Parameter	Notification (15-min, NE only)	Alert (15-min, NE&SW)	Action (15-min, NE&SW)	NAAQS (24-hr, NE&SW)
PM _{2.5} (µg/m ³)	30	60	—	35
PM ₁₀ (µg/m ³)	40	80	—	150
Methane (ppm)	3	7	10	—
VOCs (ppm)	0.25	0.50	5.00	—

Notification Level: Internal Citadel EHS review; no external notification required. **Alert Level:** District notification required per CAMP Section 6.2. **Action Level:** Emergency coordination between Citadel EHS, the district, and relevant agencies.

4.0 SCOPE OF WORK

No facility incidents were reported to Citadel EHS during the June 2026 monitoring period. The exceedance data presented in Section 5.0 are evaluated in the context of meteorological conditions, directional analysis, and regional air quality patterns.

5.0 DATA ANALYSIS

The following section presents all 15-minute rolling average readings that exceeded CAMP notification or alert thresholds during the reporting period. Each exceedance event is presented with corresponding data from both the NE (downwind) and SW (upwind) monitors, along with wind direction observations and contextual notes.

5.1 PM2.5 Exceedances

The NE monitor recorded one PM2.5 Notification Level event during the reporting period. On June 11, two readings briefly exceeded the 30 $\mu\text{g}/\text{m}^3$ threshold (peak 42.8 $\mu\text{g}/\text{m}^3$) between 20:45 and 21:00. The SW monitor recorded significantly higher concentrations during the same period, with readings reaching alert level. This event occurred during the evening when school was not in session and is described further in the alert-level summary below.

The SW monitor recorded no PM2.5 Notification Level-only events during the reporting period. All PM2.5 exceedances at the SW monitor reached alert level and are summarized in the tables below.

Overall, PM2.5 Notification Level events were minimal during June and did not indicate impacts attributable to site activities.

Alert Level events at both monitors are summarized below. No exceedances over the NAAQS Action level occurred during the month.

Table 2. NE Monitor (Downwind) — PM2.5 Alert Level Events

Date	Time Range	Peak ($\mu\text{g}/\text{m}^3$)	Duration	Level	Notes
Jun 24	22:00 – 23:30	193.6	~1.8 hrs	Alert	Both monitors elevated; SW peaked higher earlier (325.0 at 21:45). Wind SW/SSW, low speed (0.4–0.5 m/s). Evening; school not in session (summer break).

Table 3. SW Monitor (Upwind) — PM2.5 Alert Level Events

Date	Time Range	Peak ($\mu\text{g}/\text{m}^3$)	Duration	Level	Notes
Jun 11	20:30 – 21:30	161.9	~1.2 hrs	Alert	SW peak far exceeded NE (42.8). Source south/southwest of both monitors. Wind SSW, low speed (0.7–0.9 m/s). Evening; school not in session.
Jun 24	21:00 – 23:00	325.0	~2.2 hrs	Alert	Highest PM2.5 reading of the reporting period. SW peaked before NE, indicating a migration of particulates moving northeast through the monitoring area. Wind SW/SSW, low speed. Evening; school not in session (summer break).

5.2 PM10 Exceedances

PM10 exceedances generally coincided with the PM2.5 events described above, as expected given that PM2.5 is a subset of PM10.

The NE monitor recorded six PM10 Notification Level events during the reporting period. These events occurred on June 11, June 18, June 26, June 27, June 28, and June 29. All were brief, consisting of one or two isolated readings that were not sustained. The June 11 event coincided with the PM2.5 exceedance described in Section 5.1. The remaining events were single-reading spikes that did not indicate a sustained or localized pattern. Overall, the Notification Level events were consistent with transient conditions and did not indicate impacts attributable to site activities.

The SW monitor recorded two PM10 Notification Level events during the reporting period, on June 3 and June 26. Both consisted of single isolated readings and were not sustained.

Overall, the Notification Level events were consistent with regional background conditions and did not indicate impacts attributable to site activities.

The tables below summarize the Alert Level events at both monitors. No exceedances over the NAAQS Action level occurred during the month.

Table 4. NE Monitor (Downwind) — PM10 Alert Level Events

Date	Time Range	Peak ($\mu\text{g}/\text{m}^3$)	Duration	Level	Notes
Jun 24	22:00 – 23:30	214.5	~1.8 hrs	Alert	Highest PM10 of reporting period. Both monitors elevated. Concurrent with PM2.5 alert-level event. SW peaked at 339.7 $\mu\text{g}/\text{m}^3$.

Table 5. SW Monitor (Upwind) — PM10 Alert Level Events

Date	Time Range	Peak ($\mu\text{g}/\text{m}^3$)	Duration	Level	Notes
Jun 11	20:30 – 21:30	168.5	~1.2 hrs	Alert	Concurrent with PM2.5 alert event. SW far exceeded NE (49.6). Source south/southwest of both monitors.
Jun 17	12:45	111.2	Single	Alert	SW only; NE reading was 10.5. Single isolated spike. Wind SSE. Not sustained.
Jun 24	21:00 – 23:00	339.7	~2.2 hrs	Alert	Highest PM10 reading of the entire month. Concurrent with PM2.5 alert event.
Jun 25	09:15 – 10:30	84.2	~0.8 hrs	Alert	SW only; NE readings were below thresholds. Morning, isolated spike with shifting winds (SSW to SSE). Not sustained.

5.3 Methane and VOC Exceedances

No methane or VOC readings exceeded CAMP thresholds at either monitor during the June 2026 reporting period. The NE monitor recorded a maximum methane reading of 1.42 ppm, and the SW monitor recorded a maximum of 2.08 ppm; both remained well below the 3 ppm notification threshold. All VOC readings were at or near 0.00 ppm at both stations (NE max: 0.04 ppm; SW max: 0.01 ppm), well below the 0.25 ppm notification threshold.

5.4 24-Hour Rolling Averages

The 24-hour rolling averages for all parameters remained below their respective National Ambient Air Quality Standards (NAAQS) throughout the reporting period at both monitors. The highest 24-hour PM2.5 average at the SW monitor was 19.71 $\mu\text{g}/\text{m}^3$ on June 24 (well below the 35 $\mu\text{g}/\text{m}^3$ standard), and the highest PM10 average was 26.80 $\mu\text{g}/\text{m}^3$ at the NE monitor on June 28 (well below the 150 $\mu\text{g}/\text{m}^3$ standard). The short-term fluctuations captured in the 15-minute data did not translate into sustained air quality conditions of regulatory concern.

Table 6. NE Monitor — Daily Averages (June 1–30)

Date	CH4 (ppm)	VOC (ppm)	PM2.5 ($\mu\text{g}/\text{m}^3$)	PM10 ($\mu\text{g}/\text{m}^3$)	Temp ($^{\circ}\text{C}$)	RH (%)
Jun 1	0.80	0.00	5.95	11.61	25.4	71.3
Jun 2	0.88	0.00	5.14	11.15	20.6	72.5
Jun 3	0.89	0.00	3.44	7.57	22.7	55.5
Jun 4	0.91	0.00	4.38	8.62	25.0	55.2
Jun 5	0.89	0.00	5.75	9.64	26.4	55.5
Jun 6	0.79	0.00	9.02	12.76	26.6	59.8
Jun 7	0.72	0.00	8.82	12.27	28.0	60.5
Jun 8	0.66	0.00	9.64	14.16	30.1	60.0

Date	CH4 (ppm)	VOC (ppm)	PM2.5 (µg/m³)	PM10 (µg/m³)	Temp (°C)	RH (%)
Jun 9	0.69	0.00	15.76	22.21	28.0	72.0
Jun 10	0.68	0.00	11.95	15.98	28.3	74.1
Jun 11	0.60	0.00	14.75	19.41	31.5	62.3
Jun 12	0.51	0.00	14.87	19.15	33.3	57.4
Jun 13	0.52	0.00	6.27	10.31	32.7	54.9
Jun 14	0.63	0.00	7.70	11.64	30.9	64.0
Jun 15	0.59	0.00	3.26	8.20	29.9	57.3
Jun 16	0.75	0.00	2.59	6.82	25.7	54.0
Jun 17	0.70	0.00	2.98	6.19	28.4	59.3
Jun 18	0.62	0.00	6.97	14.34	29.1	70.5
Jun 19	0.64	0.00	2.12	6.43	28.3	72.1
Jun 20	0.71	0.00	2.64	7.05	27.3	56.9
Jun 21	0.78	0.00	5.13	10.08	28.7	61.3
Jun 22	0.64	0.00	7.74	12.10	29.9	65.9
Jun 23	0.61	0.00	4.88	8.99	29.3	62.4
Jun 24	0.73	0.00	12.46	17.27	26.2	52.6
Jun 25	0.83	0.00	4.47	8.39	27.1	58.3
Jun 26	0.75	0.00	7.01	12.24	26.4	78.1
Jun 27	0.70	0.00	11.90	21.13	27.9	79.6
Jun 28	0.76	0.00	11.92	26.80	27.3	85.9
Jun 29	0.65	0.00	7.26	19.12	30.1	69.0
Jun 30	0.67	0.00	14.89	20.42	31.1	65.5
Action/ Exceedance Limits	10 (15-min avg.)	5.00 (15- min avg.)	35	150	n/a	n/a

Table 7. SW Monitor — Daily Averages (June 1–30)

Date	CH4 (ppm)	VOC (ppm)	PM2.5 (µg/m³)	PM10 (µg/m³)	Temp (°C)	RH (%)
Jun 1	1.43	0.00	5.73	10.81	25.4	68.1
Jun 2	1.31	0.00	4.84	10.44	21.2	66.2
Jun 3	1.41	0.00	3.51	7.58	22.5	53.1
Jun 4	1.58	0.00	3.98	8.09	25.1	52.2
Jun 5	1.64	0.00	4.79	8.65	26.2	54.9
Jun 6	1.55	0.00	6.23	10.04	26.7	58.2
Jun 7	1.55	0.00	5.89	9.64	28.1	59.1

Date	CH4 (ppm)	VOC (ppm)	PM2.5 (µg/m³)	PM10 (µg/m³)	Temp (°C)	RH (%)
Jun 8	1.55	0.00	6.62	11.01	30.2	58.3
Jun 9	1.41	0.00	10.28	15.40	28.2	68.2
Jun 10	1.45	0.00	7.35	11.19	28.7	70.8
Jun 11	1.53	0.00	13.32	17.82	31.9	59.6
Jun 12	1.50	0.00	8.65	12.52	33.2	55.6
Jun 13	1.46	0.00	4.88	8.67	33.3	51.0
Jun 14	1.42	0.00	5.45	8.89	31.0	61.3
Jun 15	1.36	0.00	3.16	6.86	29.9	54.2
Jun 16	1.33	0.00	2.60	6.52	26.1	51.9
Jun 17	1.48	0.00	3.24	7.53	28.6	57.2
Jun 18	1.47	0.00	7.59	14.03	29.4	67.1
Jun 19	1.45	0.00	2.02	5.24	28.5	65.8
Jun 20	1.45	0.00	2.60	7.57	27.3	54.3
Jun 21	1.61	0.00	3.63	8.64	28.9	58.8
Jun 22	1.54	0.00	5.83	10.53	30.1	63.3
Jun 23	1.47	0.00	4.21	7.68	29.3	59.1
Jun 24	1.44	0.00	19.71	23.72	26.6	48.4
Jun 25	1.62	0.00	3.98	9.73	27.4	55.7
Jun 26	1.55	0.00	5.74	10.59	26.8	74.3
Jun 27	1.57	0.00	8.47	15.89	28.1	76.2
Jun 28	1.60	0.00	8.25	18.77	27.4	81.8
Jun 29	1.62	0.00	5.30	12.96	30.8	63.9
Jun 30	1.63	0.00	8.56	13.68	31.6	62.3
Action/ Exceedance Limits	10 (15-min avg.)	5.00 (15- min avg.)	35	150	n/a	n/a

6.0 OBSERVATIONS AND CONCLUSIONS

The June 2026 monitoring period was characterized by a relatively low number of exceedance events compared to earlier reporting periods. PM2.5 and PM10 were the only parameters to exceed CAMP thresholds. No methane or VOC exceedances were observed at either station. The following observations summarize the key findings:

The June 24 evening event was the most significant of the reporting period. Both monitors recorded alert-level PM2.5 and PM10 concentrations between approximately 21:00 and 23:30. The SW (upwind) monitor peaked first and higher, with PM2.5 reaching 325.0 µg/m³ and PM10 reaching 339.7 µg/m³ at 21:45. The NE (downwind) monitor peaked approximately 45 minutes later at PM2.5 of 193.6 µg/m³ and PM10 of 214.5 µg/m³ at 22:30. Wind was consistently from the southwest at low

speed (0.4–0.6 m/s), and the time-lagged progression from SW to NE suggests a migration of particulates moving northeast through the monitoring area from a source to the south or southwest. Despite the very high 15-minute peaks, the 24-hour averages for both monitors remained well below NAAQS standards. The event occurred during evening hours when school was not in session (summer break).

The June 11 evening event produced the second-highest readings of the month at the SW (upwind) monitor, with PM_{2.5} reaching 161.9 µg/m³ and PM₁₀ reaching 168.5 µg/m³. The NE monitor recorded significantly lower concentrations during the same period (PM_{2.5}: 42.8, PM₁₀: 49.6). Wind was from the south-southwest at low speed (0.7–0.9 m/s), placing the source south or southwest of both monitors. This pattern does not indicate a source of emissions originating from the Silfab facility.

The majority of exceedance events occurred during evening hours when school was not in session, and June falls within the Fort Mill School District's summer break period. The events on June 11 and June 24 both occurred after 20:00 under low-wind, south-southwesterly conditions, consistent with regional particulate transport or localized sources south of the monitoring area.

Several isolated single-reading PM₁₀ exceedances at the NE monitor (June 18, 26, 27, 28, 29) were notification-level only, brief, and not sustained. These are consistent with transient conditions such as localized dust generation and do not indicate a persistent air quality concern.

All 24-hour rolling averages for all parameters remained below NAAQS action levels throughout the reporting period at both monitors (Tables 6 and 7). While alert-level 15-minute readings were recorded on June 11 and June 24, these short-term fluctuations did not produce sustained daily concentrations of regulatory concern.

Based on the actions and thresholds established in the CAMP, the alert-level exceedances identified during this period warranted district notification per CAMP Section 6.2. No exceedances reached the Action Level, which would require emergency coordination between Citadel EHS, the district, and relevant agencies.

7.0 LIMITATIONS

The data presented in this report reflect ambient air conditions measured at two fixed monitoring locations along the school perimeter. While the dual-station configuration provides directional context, it does not capture conditions at every point on or near the campus. Readings are influenced by meteorological factors, including wind speed and direction, temperature, and atmospheric stability, which can vary over short distances and timeframes.

Fifteen-minute rolling averages are used for threshold comparison as defined in the CAMP. Short-duration exceedances (single 15-minute readings) may reflect transient conditions and do not necessarily indicate sustained exposure. The 24-hour rolling averages provide a complementary measure for comparison against federal NAAQS standards.

This report is based on data as received from the monitoring instruments. Citadel EHS performs routine quality assurance and quality control procedures; however, instrument calibration, sensor drift, or data transmission interruptions may occasionally affect individual readings.

8.0 SIGNATURES

Nalinna Rasu

8/17/2026

Prepared By

Date

Julie Wojnowski

8/17/2026

Reviewed By

Date