



ENVIRONMENTAL RESOURCES MANAGEMENT (ERM)

BELLA VISTA TRAFALGAR ROAD FIRE – PHASE I REMEDIAL ACTION

Daily Summary

Bella Vista, Arkansas

May 20, 2019

Project #111327

1.0 Introduction

Environmental Resources Management (ERM) requested that CTEH conduct air monitoring in the community surrounding the Trafalgar Road Fire located in Bella Vista, Arkansas during the Phase I Remedial Action. CTEH arrived on-site on May 15, 2019 and began air monitoring operations. Activities were comprised of real-time air monitoring.

This report summarizes air monitoring data collected from May 19, 2019 07:00 CDT to May 20, 2019 07:00 CDT.

2.0 Air Monitoring and Sampling Methods

CTEH developed and implemented an Air Monitoring and Sampling, Noise Monitoring, and Hazard Communication Plan (SAP) to document and quantify the release of fugitive emissions (if any) produced by the fire. All instrumentation was calibrated at least once per day or per manufacturer's recommendations. Target analytes were measured as carbon monoxide (CO), nitrogen dioxide (NO₂), 2.5-micron particulate matter (PM_{2.5}), sulfur dioxide (SO₂), and volatile organic compounds (VOCs) using handheld instruments such as RAE Systems MultiRAEs and TSI SidePak™ AM520 Aerosol Monitors.

Hand-held air monitoring consisted of roaming air monitoring in the surrounding community. Additionally, fixed monitoring locations were established for periodic visitation by field personnel to track trends in air quality (if any). All hand-held air monitoring was conducted in the breathing zone.

3.0 Air Monitoring Results

Figures 1 – 6 in Attachment A depicts the site location and hand-held monitoring locations for this reporting period.

Table 1 summarizes the results for hand-held air monitoring readings and **Table 2** summarizes hand-held air monitoring results by their respecting fixed real-time location (FRT).

Table 1: Community Monitoring Hand-Held Real-Time Air Monitoring Results

Location	Analyte	Instrument	# of Readings	# of Detections	Detection Range
Community Monitoring	CO	MultiRAE	248	6	3 – 14 ppm
	NO ₂	MultiRAE	22	0	< 0.1 ppm
	PM _{2.5}	AM520	247	247	0.002 – 1.359 mg/m ³
	PM _{2.5}	DustTrak	2	2	0.012 – 0.07 mg/m ³
	SO ₂	MultiRAE	22	0	< 0.1 ppm
	Sound Level	SLM	3	3	63.7 – 66.4 dB(A)
	VOCs	MultiRAE	247	5	0.1 – 0.7 ppm

¹Maximum detections preceded by the “<” symbol are considered non-detections below the limit of detection (LoD) value to the right.

Table 2: Fixed Monitoring Location Air Monitoring Results

Location Code	Analyte	Instrument	# of Readings	# of Detections	Average of Detections	Detection Range
FRT-001	CO	MultiRAE	11	0	-	< 1 ppm
	PM _{2.5}	AM520	11	11	0.027 mg/m ³	0.003 - 0.077 mg/m ³
	VOCs	MultiRAE	7	0	-	< 0.1 ppm
FRT-002	CO	MultiRAE	10	0	-	< 1 ppm
	PM _{2.5}	AM520	10	10	0.006 mg/m ³	0.003 - 0.012 mg/m ³
	VOCs	MultiRAE	10	0	-	< 0.1 ppm
FRT-003	CO	MultiRAE	13	0	-	< 1 ppm
	NO ₂	MultiRAE	3	0	-	< 0.1 ppm
	PM _{2.5}	AM520	13	13	0.024 mg/m ³	0.004 - 0.088 mg/m ³
	SO ₂	MultiRAE	3	0	-	< 0.1 ppm
FRT-004	VOCs	MultiRAE	13	0	-	< 0.1 ppm
	CO	MultiRAE	10	0	-	< 1 ppm
	NO ₂	MultiRAE	1	0	-	< 0.1 ppm
	PM _{2.5}	AM520	10	10	0.05 mg/m ³	0.003 - 0.303 mg/m ³
FRT-005	SO ₂	MultiRAE	1	0	-	< 0.1 ppm
	VOCs	MultiRAE	9	0	-	< 0.1 ppm
	CO	MultiRAE	10	0	-	< 1 ppm
FRT-006	PM _{2.5}	AM520	10	10	0.014 mg/m ³	0.004 - 0.03 mg/m ³
	VOCs	MultiRAE	10	0	-	< 0.1 ppm
	CO	MultiRAE	8	0	-	< 1 ppm
FRT-006	PM _{2.5}	AM520	8	8	0.01 mg/m ³	0.003 - 0.027 mg/m ³
	VOCs	MultiRAE	8	0	-	< 0.1 ppm
FRT-007	CO	MultiRAE	8	0	-	< 1 ppm
	NO ₂	MultiRAE	1	0	-	< 0.1 ppm
	PM _{2.5}	AM520	9	9	0.03 mg/m ³	0.003 - 0.124 mg/m ³

Location Code	Analyte	Instrument	# of Readings	# of Detections	Average of Detections	Detection Range
FRT-008	SO ₂	MultiRAE	1	0	-	< 0.1 ppm
	VOCs	MultiRAE	8	0	-	< 0.1 ppm
	CO	MultiRAE	7	0	-	< 1 ppm
	NO ₂	MultiRAE	1	0	-	< 0.1 ppm
	PM2.5	AM520	7	7	0.052 mg/m ³	0.002 - 0.154 mg/m ³
	SO ₂	MultiRAE	1	0	-	< 0.1 ppm
FRT-009	VOCs	MultiRAE	7	0	-	< 0.1 ppm
	CO	MultiRAE	9	0	-	< 1 ppm
	NO ₂	MultiRAE	2	0	-	< 0.1 ppm
	PM2.5	AM520	9	9	0.052 mg/m ³	0.003 - 0.205 mg/m ³
	SO ₂	MultiRAE	2	0	-	< 0.1 ppm
FRT-010	VOCs	MultiRAE	9	0	-	< 0.1 ppm
	CO	MultiRAE	11	4	9.5 ppm	3 – 14 ppm
	NO ₂	MultiRAE	3	0	-	< 0.1 ppm
	PM2.5	AM520	11	11	0.384 mg/m ³	0.006 – 1.359 mg/m ³
	SO ₂	MultiRAE	3	0	-	< 0.1 ppm
FRT-011	VOCs	MultiRAE	11	4	0.375 ppm	0.1 – 0.7 ppm
	CO	MultiRAE	9	1	5 ppm	5 ppm
	NO ₂	MultiRAE	3	0	-	< 0.1 ppm
	PM2.5	AM520	9	9	0.077 mg/m ³	0.003 - 0.462 mg/m ³
	SO ₂	MultiRAE	3	0	-	< 0.1 ppm
FRT-012	VOCs	MultiRAE	9	0	-	< 0.1 ppm
	CO	MultiRAE	10	0	-	< 1 ppm
	NO ₂	MultiRAE	5	0	-	< 0.1 ppm
	PM2.5	AM520	10	10	0.007 mg/m ³	0.003 - 0.016 mg/m ³
	SO ₂	MultiRAE	5	0	-	< 0.1 ppm
FRT-013	VOCs	MultiRAE	10	0	-	< 0.1 ppm
	CO	MultiRAE	9	0	-	< 1 ppm
	PM2.5	AM520	10	10	0.007 mg/m ³	0.002 - 0.02 mg/m ³
FRT-014	VOCS	MultiRAE	9	0	-	< 0.1 ppm
	CO	MultiRAE	10	0	-	< 1 ppm
	PM2.5	AM520	10	10	0.007 mg/m ³	0.003 - 0.016 mg/m ³
FRT-015	VOCS	MultiRAE	10	0	-	< 0.1 ppm
	CO	MultiRAE	10	0	-	< 1 ppm
	PM2.5	AM520	9	9	0.01 mg/m ³	0.003 - 0.033 mg/m ³
	VOCS	MultiRAE	11	0	-	< 0.1 ppm

¹Maximum detections preceded by the “<” symbol are considered non-detections below the limit of detection (LoD) value to the right.

² Particulate matter averages are provided for additional context. Due to the uneven temporal distribution of particulate matter monitoring data at these locations, averages may be biased and are not directly comparable to National Ambient Air Quality Standards (NAAQS).

The data collected during this reporting period suggest that under certain conditions, smoke constituents may exceed levels such as those described in the SAP, and thus, actions may be required when these events are sustained.

4.0 Weather Conditions

Figure 8 in **Attachment B** contains a wind rose depicting wind speed and direction for this reporting period.

Attachment A

CTEH Air Sampling and Monitoring Locations

Figure 1: Incident Location

Bella Vista Refuse Fire

0 500 1,000 2,000 Feet



Project: 111327

Client: ERM

City: Bella Vista, AR

County: Benton

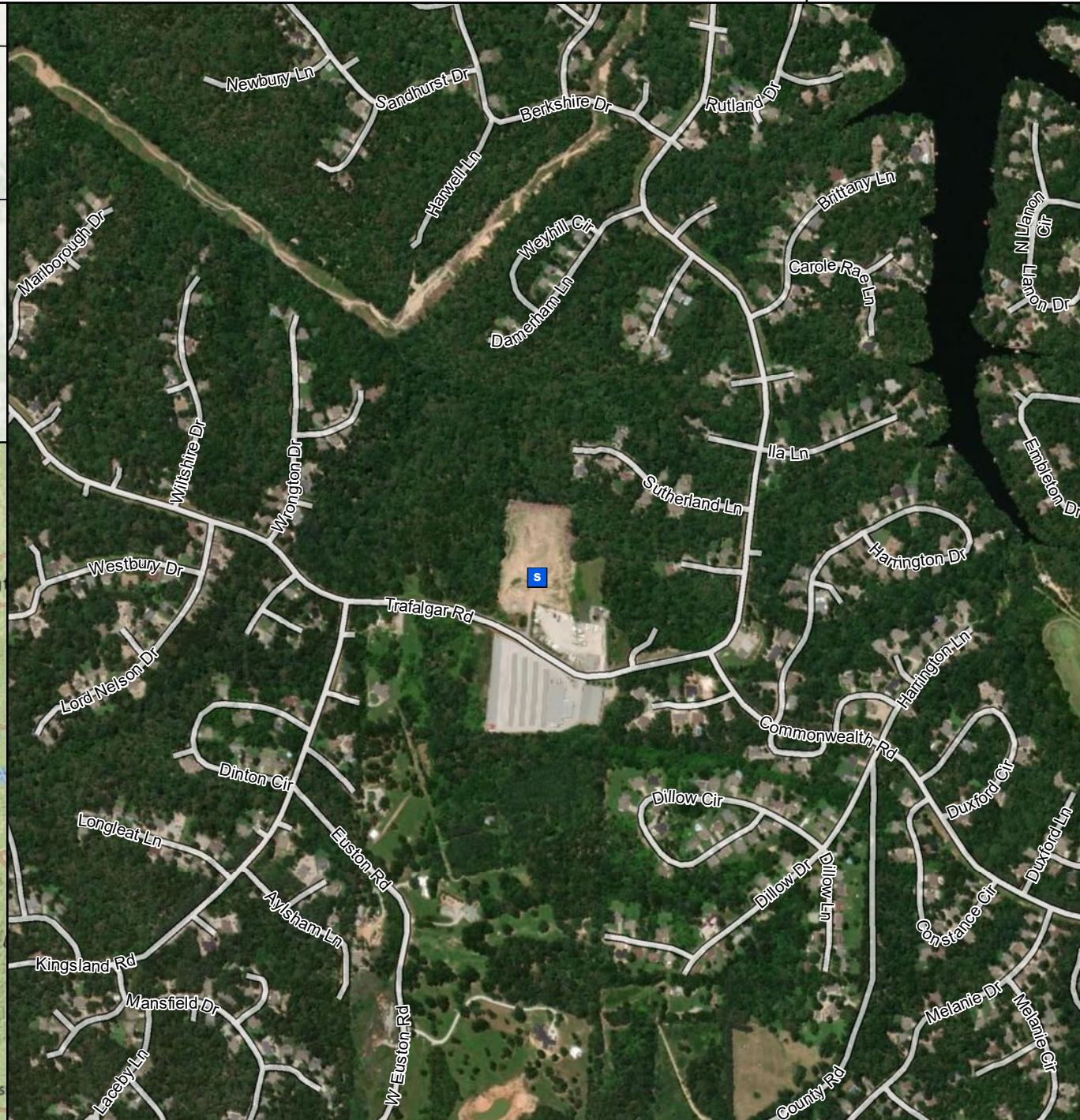
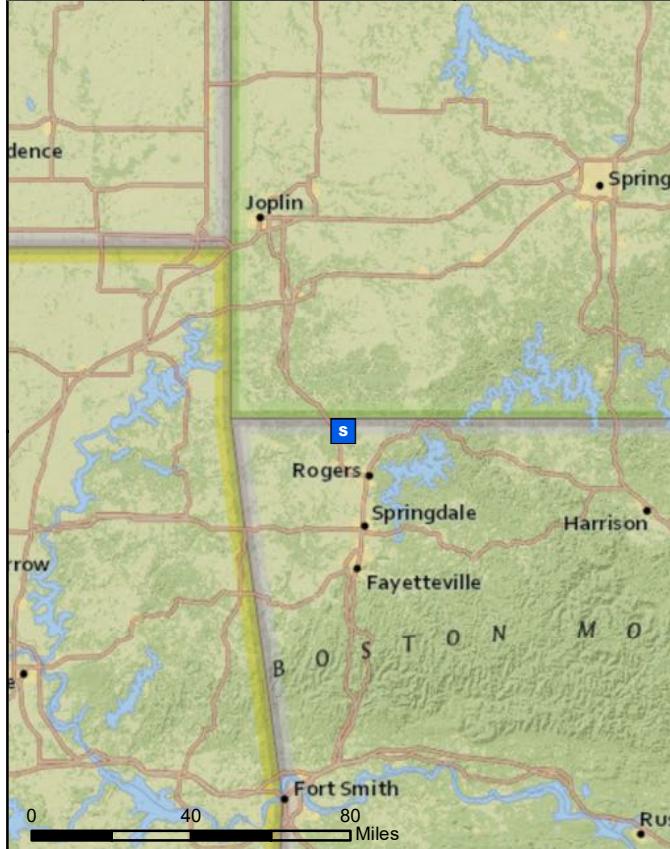


Figure 2: Hand-Held Real-Time Air Monitoring Locations

Bella Vista Trafalgar Road Fire

0 500 1,000 Feet



Project: 111327

Client: ERM

City: Bella Vista, AR

County: Benton

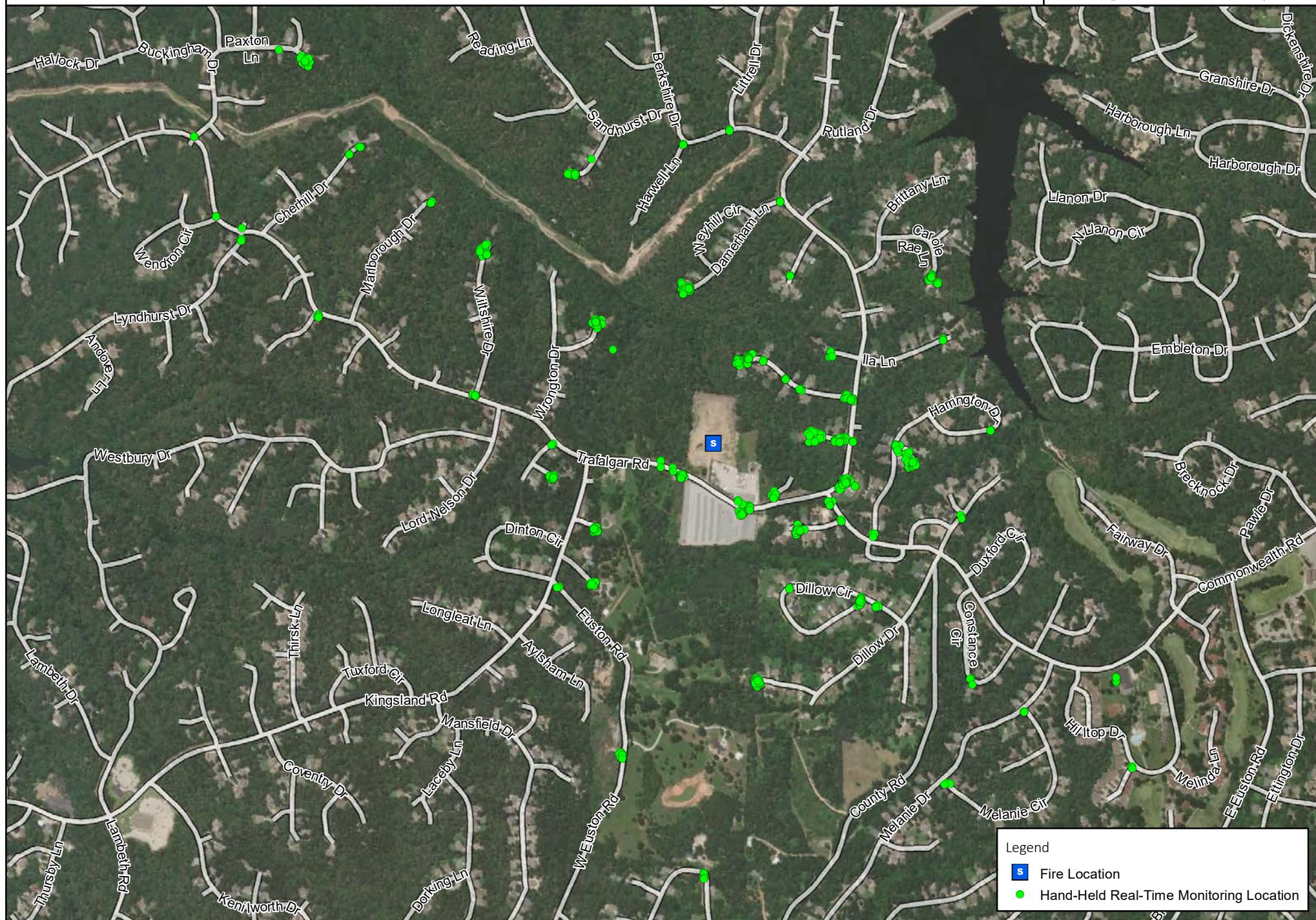


Figure 3: Real-Time Air Monitoring Locations (PM_{2.5})

Bella Vista Trafalgar Road Fire

 0 500 1,000 Feet

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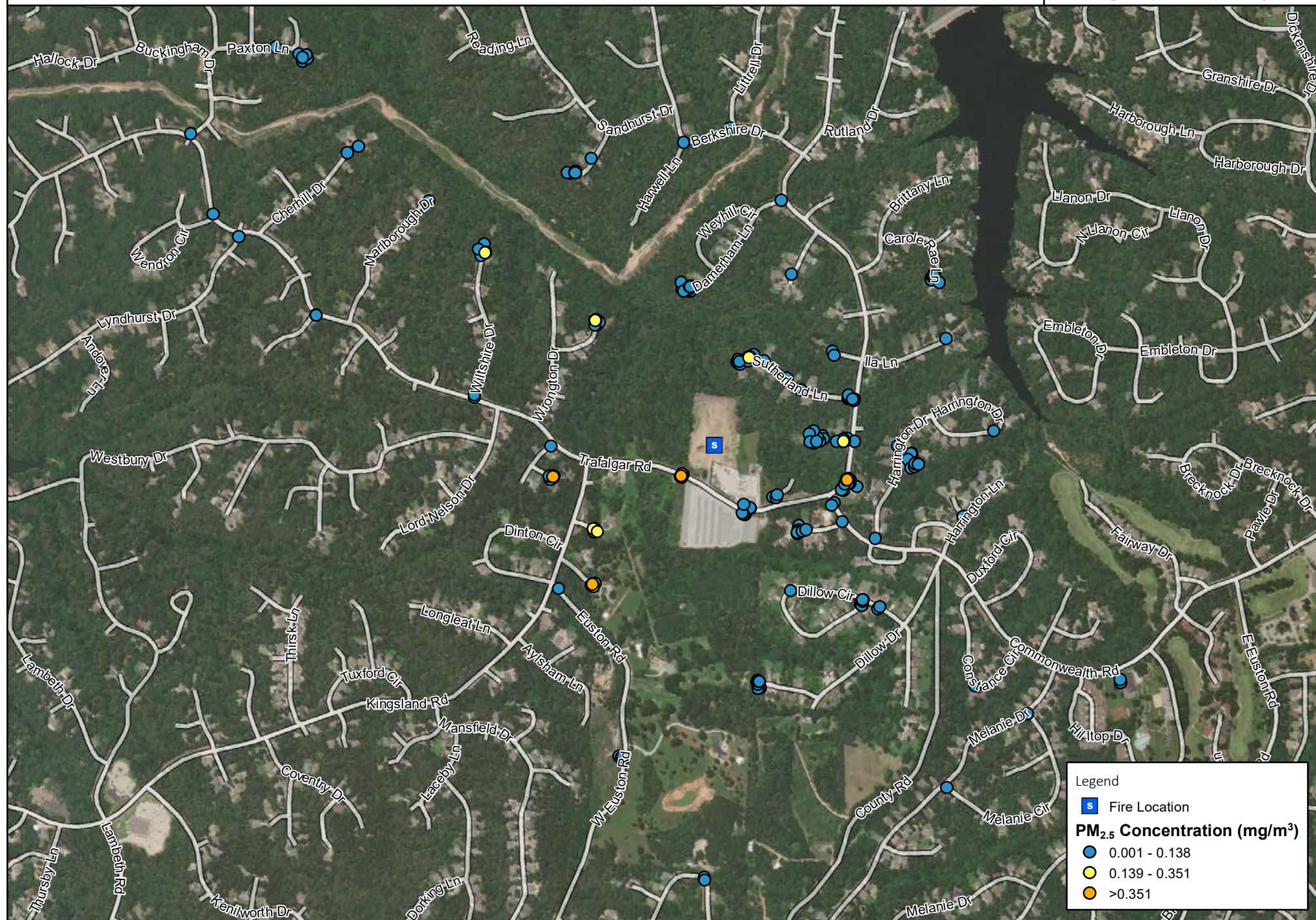


Figure 4: Real-Time Air Monitoring Locations (CO)

Bella Vista Trafalgar Road Fire

0 500 1,000 Feet



Project: 111327

Client: ERM

City: Bella Vista, AR

County: Benton

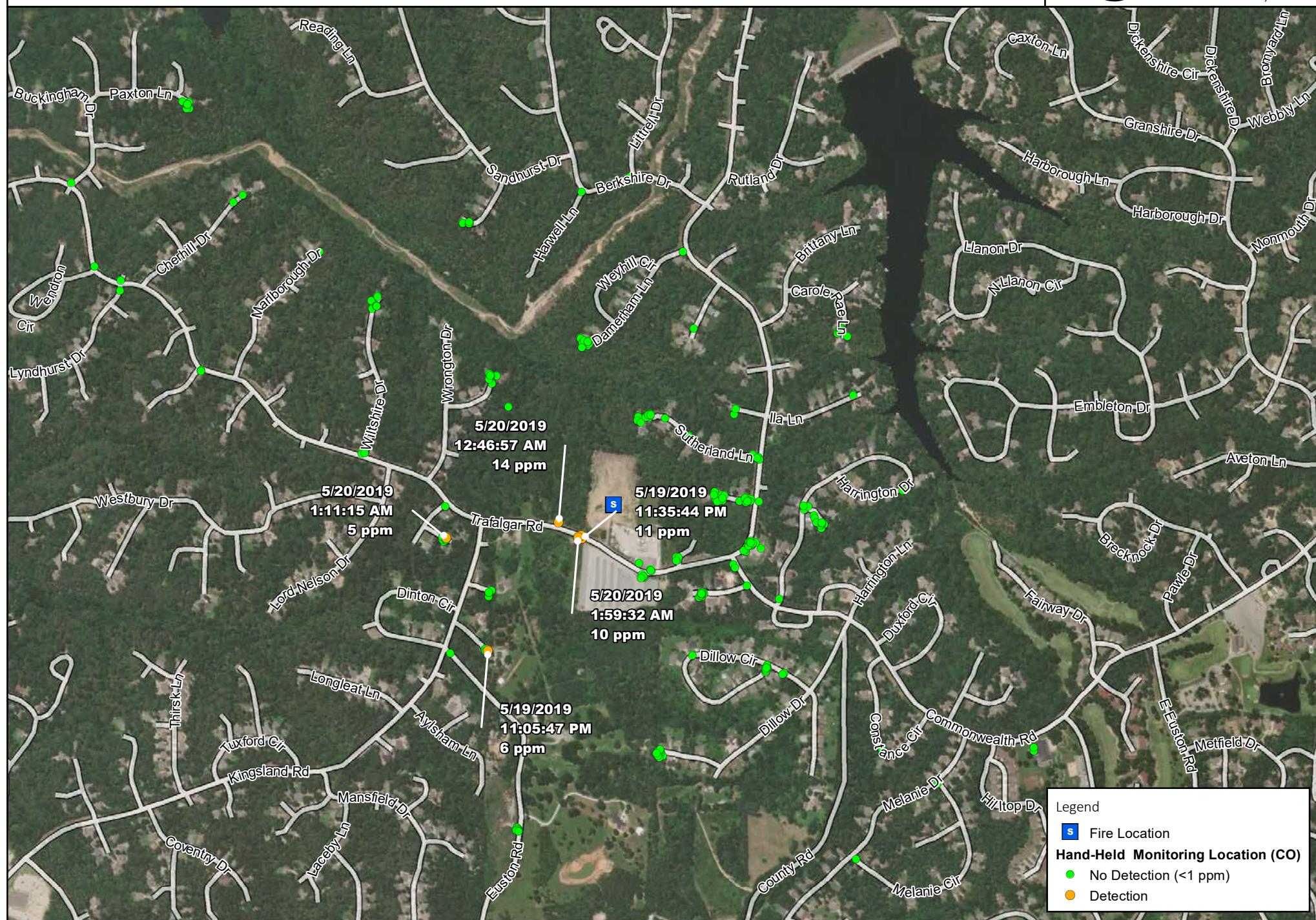


Figure 5: Real-Time Air Monitoring Locations (VOCs)

Bella Vista Trafalgar Road Fire

0 500 1,000 Feet



Project: 111327

Client: ERM

City: Bella Vista, AR

County: Benton

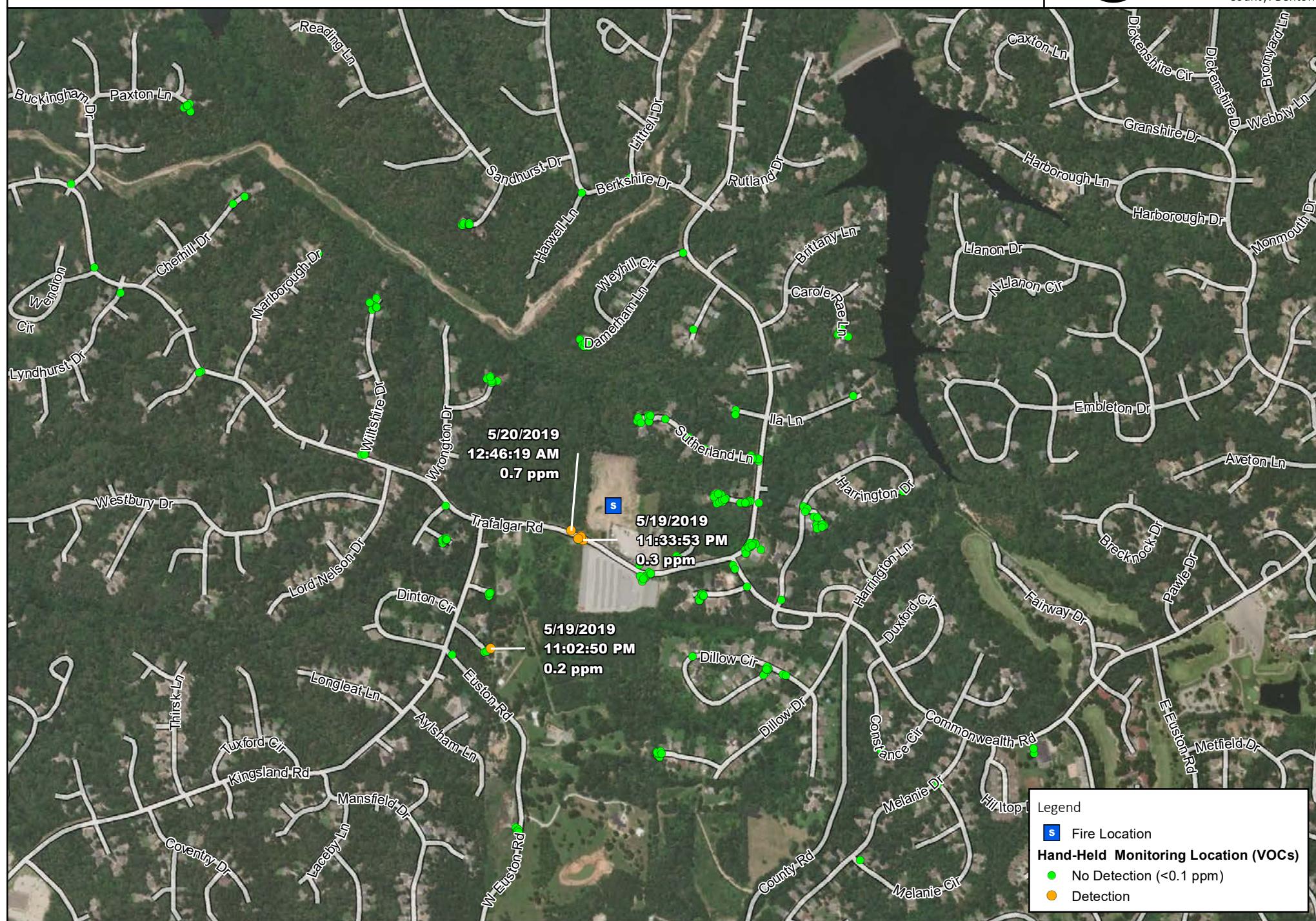


Figure 6: Fixed Hand-Held Real-Time Air Monitoring Locations

Bella Vista Trafalgar Road Fire

0 500 1,000 Feet

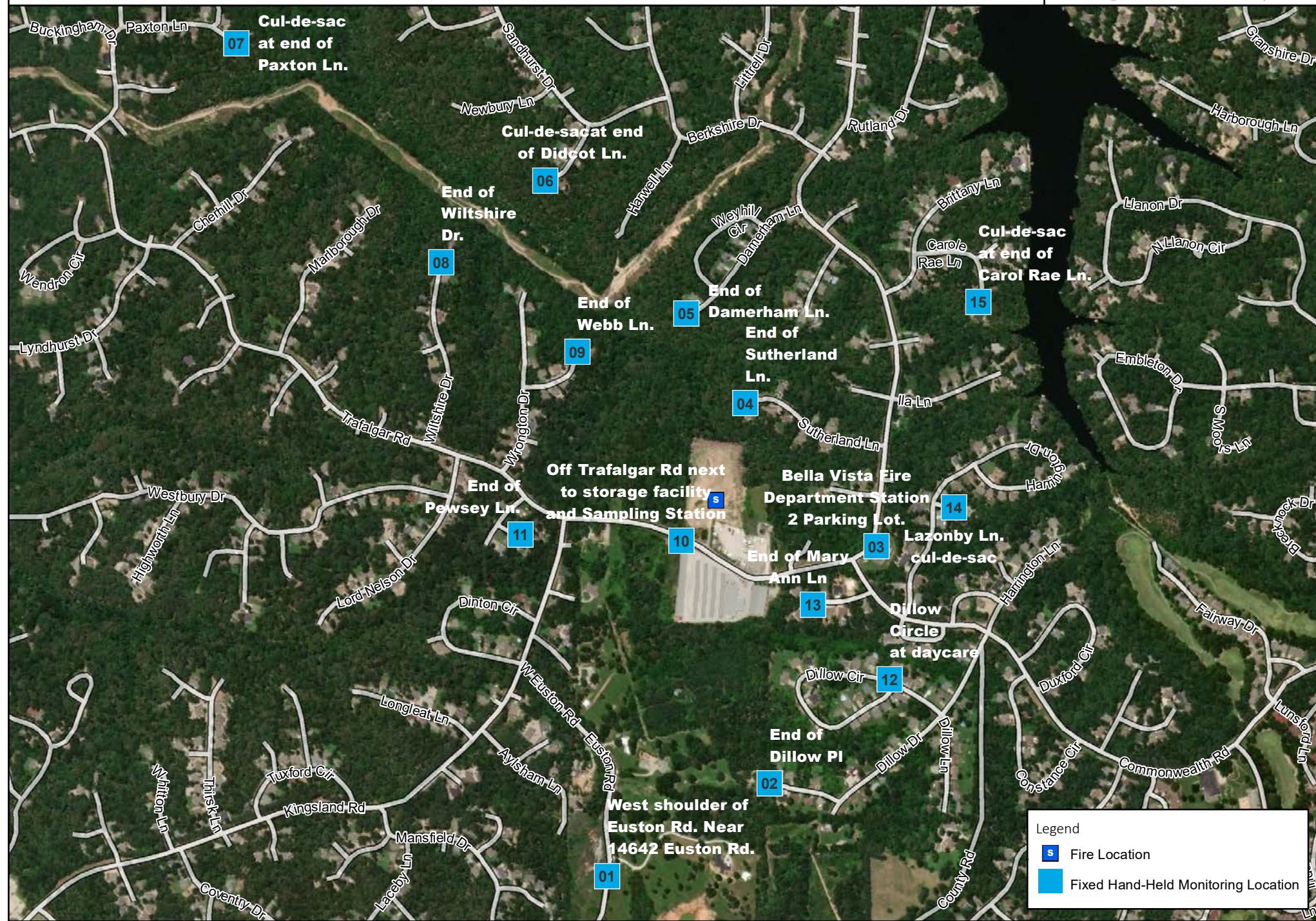


Project: 111327

Client: ERM

City: Bella Vista, AR

County: Benton



Attachment B

Meteorological Conditions

Project #111327
May 19, 2019 07:00 to May 20, 2019 07:00

0.1 - 2.2 mph
2.2 - 4.3 mph
4.3 - 6.5 mph
6.5 - 8.6 mph
8.6 - 10.7 mph

