



THE SCIENCE OF READYSM

ENVIRONMENTAL RESOURCES MANAGEMENT (ERM)

BELLA VISTA TRAFALGAR ROAD FIRE – PHASE I REMEDIAL ACTION

Daily Summary

Bella Vista, Arkansas

May 25, 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 25, 2019 07:00 CDT to May 26, 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	242	0	< 1 ppm
	NO ₂	MultiRAE	38	0	< 0.1 ppm
	PM _{2.5}	AM520	223	223	0.006 – 0.08 mg/m ³
	PM _{2.5}	DustTrak	20	20	0.014 – 0.11 mg/m ³
	SO ₂	MultiRAE	38	0	< 0.1 ppm
	Sound Level	SLM	11	11	66.9 – 71.2 db(A)
	VOCs	MultiRAE	242	0	< 0.1 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
AS-005	CO	MultiRAE	1	0	-	< 1 ppm
	CO	MultiRAE	12	0	-	< 1 ppm
	NO ₂	MultiRAE	1	0	-	< 0.1 ppm
	PM2.5	AM520	11	11	0.023 mg/m ³	0.006 - 0.044 mg/m ³
	SO ₂	MultiRAE	1	0	-	< 0.1 ppm
	VOCs	MultiRAE	11	0	-	< 0.1 ppm
	CO	MultiRAE	11	0	-	< 1 ppm
FRT-001	NO ₂	MultiRAE	2	0	-	< 0.1 ppm
	PM2.5	AM520	11	11	0.022 mg/m ³	0.008 - 0.04 mg/m ³
	SO ₂	MultiRAE	2	0	-	< 0.1 ppm
	VOCs	MultiRAE	11	0	-	< 0.1 ppm
	CO	MultiRAE	15	0	-	< 1 ppm
FRT-002	NO ₂	MultiRAE	1	0	-	< 0.1 ppm
	PM2.5	AM520	11	11	0.023 mg/m ³	0.009 - 0.039 mg/m ³
	SO ₂	MultiRAE	2	0	-	< 0.1 ppm
	VOCs	MultiRAE	11	0	-	< 0.1 ppm
	CO	MultiRAE	15	0	-	< 1 ppm
FRT-003	NO ₂	MultiRAE	1	0	-	< 0.1 ppm
	PM2.5	AM520	15	15	0.023 mg/m ³	0.009 - 0.039 mg/m ³
	SO ₂	MultiRAE	1	0	-	< 0.1 ppm
	VOCs	MultiRAE	15	0	-	< 0.1 ppm
	CO	MultiRAE	13	0	-	< 1 ppm
FRT-004	NO ₂	MultiRAE	2	0	-	< 0.1 ppm
	PM2.5	AM520	13	13	0.034 mg/m ³	0.009 - 0.064 mg/m ³
	SO ₂	MultiRAE	2	0	-	< 0.1 ppm
	VOCs	MultiRAE	13	0	-	< 0.1 ppm
	CO	MultiRAE	10	0	-	< 1 ppm
FRT-005	NO ₂	MultiRAE	3	0	-	< 0.1 ppm
	PM2.5	AM520	11	11	0.029 mg/m ³	0.006 - 0.051 mg/m ³
	SO ₂	MultiRAE	3	0	-	< 0.1 ppm
	VOCs	MultiRAE	11	0	-	< 0.1 ppm

Location Code	Analyte	Instrument	# of Readings	# of Detections	Average of Detections	Detection Range
FRT-006	CO	MultiRAE	12	0	-	< 1 ppm
	NO ₂	MultiRAE	2	0	-	< 0.1 ppm
	PM2.5	AM520	12	12	0.023 mg/m ³	0.007 - 0.04 mg/m ³
	SO ₂	MultiRAE	2	0	-	< 0.1 ppm
	VOCs	MultiRAE	12	0	-	< 0.1 ppm
FRT-007	CO	MultiRAE	11	0	-	< 1 ppm
	NO ₂	MultiRAE	1	0	-	< 0.1 ppm
	PM2.5	AM520	11	11	0.023 mg/m ³	0.01 - 0.036 mg/m ³
	SO ₂	MultiRAE	1	0	-	< 0.1 ppm
	VOCs	MultiRAE	11	0	-	< 0.1 ppm
FRT-008	CO	MultiRAE	10	0	-	< 1 ppm
	NO ₂	MultiRAE	1	0	-	< 0.1 ppm
	PM2.5	AM520	9	9	0.026 mg/m ³	0.001 - 0.068 mg/m ³
	SO ₂	MultiRAE	1	0	-	< 0.1 ppm
	VOCs	MultiRAE	9	0	-	< 0.1 ppm
FRT-009	CO	MultiRAE	10	0	-	< 1 ppm
	NO ₂	MultiRAE	1	0	-	< 0.1 ppm
	PM2.5	AM520	11	11	0.031 mg/m ³	0.011 - 0.071 mg/m ³
	SO ₂	MultiRAE	1	0	-	< 0.1 ppm
	VOCs	MultiRAE	11	0	-	< 0.1 ppm
FRT-010	CO	MultiRAE	10	0	-	< 1 ppm
	NO ₂	MultiRAE	1	0	-	< 0.1 ppm
	PM2.5	AM520	11	11	0.025 mg/m ³	0.008 – 0.045 mg/m ³
	SO ₂	MultiRAE	1	0	-	< 0.1 ppm
	VOCs	MultiRAE	11	0	-	< 0.1 ppm
FRT-011	CO	MultiRAE	11	0	-	< 1 ppm
	NO ₂	MultiRAE	1	0	-	< 0.1 ppm
	PM2.5	AM520	11	11	0.022 mg/m ³	0.008 - 0.036 mg/m ³
	SO ₂	MultiRAE	1	0	-	< 0.1 ppm
	VOCs	MultiRAE	11	0	-	< 0.1 ppm
FRT-012	CO	MultiRAE	10	0	-	< 1 ppm
	NO ₂	MultiRAE	2	0	-	< 0.1 ppm
	PM2.5	AM520	10	10	0.021 mg/m ³	0.007 - 0.036 mg/m ³
	SO ₂	MultiRAE	2	0	-	< 0.1 ppm
	VOCs	MultiRAE	11	0	-	< 0.1 ppm

Location Code	Analyte	Instrument	# of Readings	# of Detections	Average of Detections	Detection Range
FRT-013	CO	MultiRAE	11	0	-	< 1 ppm
	NO ₂	MultiRAE	1	0	-	< 0.1 ppm
	PM2.5	AM520	11	11	0.022 mg/m ³	0.008 - 0.039 mg/m ³
	SO ₂	MultiRAE	1	0	-	< 0.1 ppm
	VOCs	MultiRAE	11	0	-	< 0.1 ppm
FRT-014	CO	MultiRAE	12	0	-	< 1 ppm
	NO ₂	MultiRAE	1	0	-	< 0.1 ppm
	PM2.5	AM520	12	12	0.022 mg/m ³	0.007 - 0.032 mg/m ³
	SO ₂	MultiRAE	1	0	-	< 0.1 ppm
	VOCs	MultiRAE	11	0	-	< 0.1 ppm
FRT-015	CO	MultiRAE	10	0	-	< 1 ppm
	NO ₂	MultiRAE	2	0	-	< 0.1 ppm
	PM2.5	AM520	10	10	0.021 mg/m ³	0.008 - 0.04 mg/m ³
	SO ₂	MultiRAE	2	0	-	< 0.1 ppm
	VOCs	MultiRAE	10	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).

4.0 Weather Conditions

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

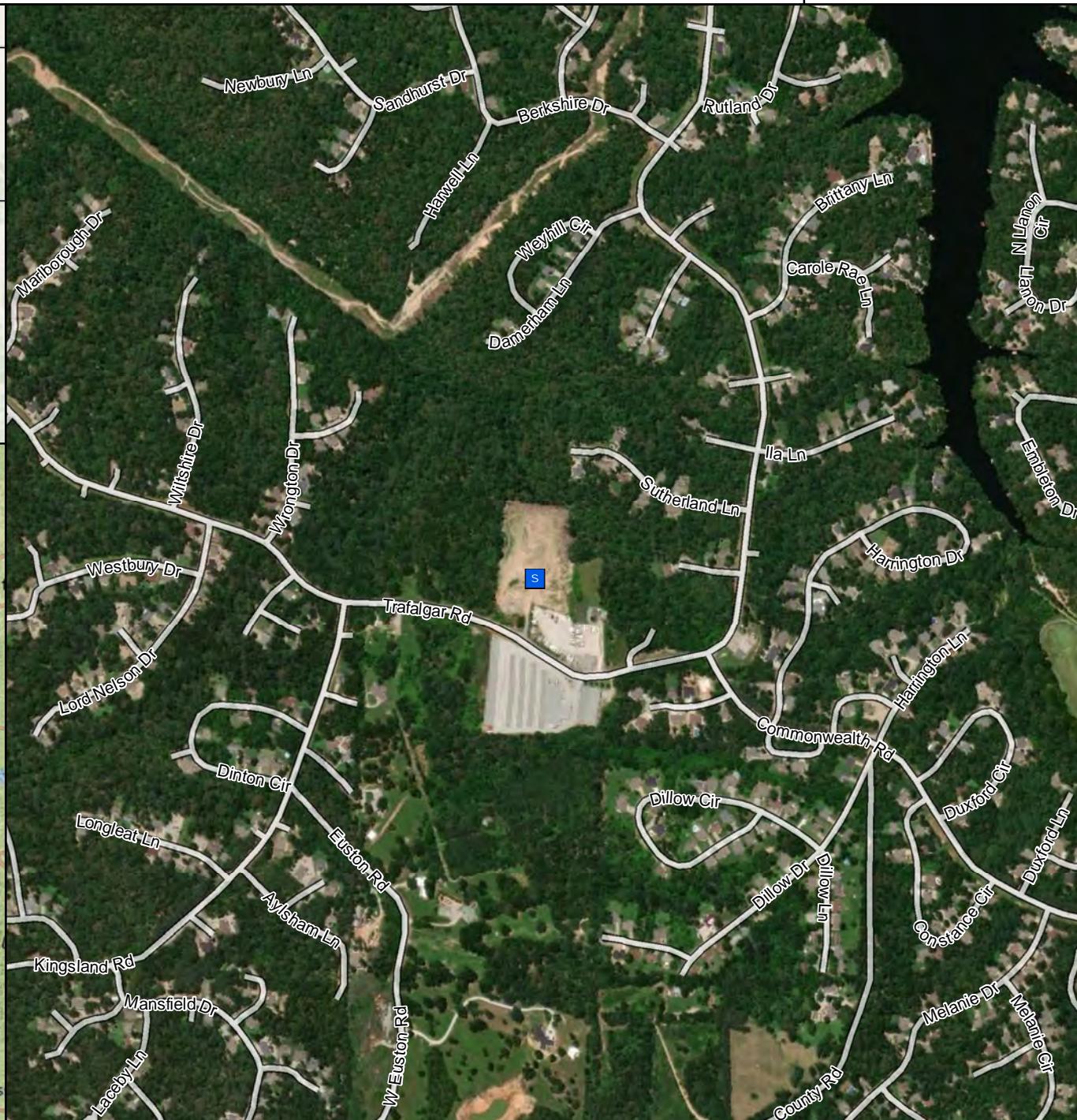
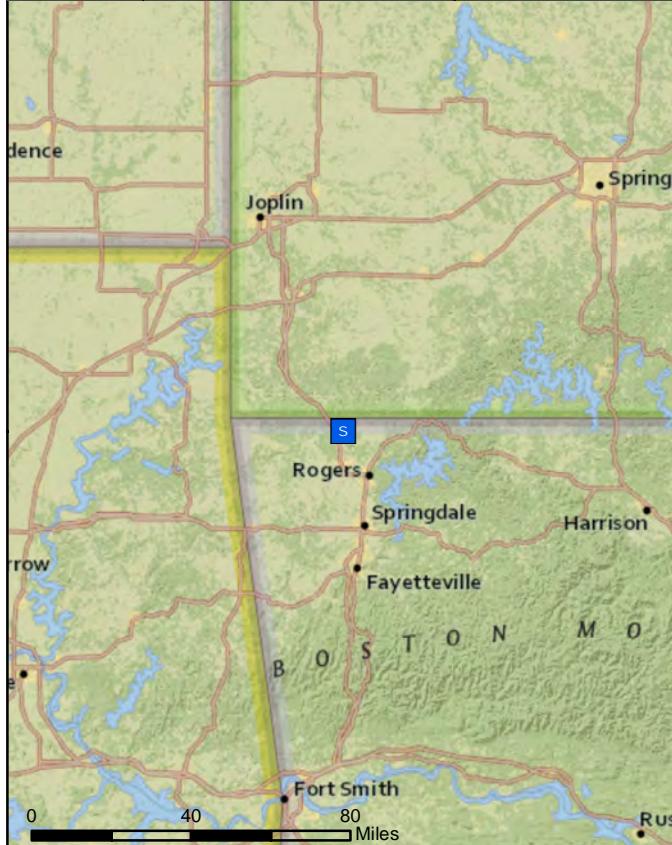


Figure 2: Hand-Held Real-Time Air Monitoring Locations

Bella Vista Trafalgar Road Fire

0 500 1,000
Feet

Project: 111327

Client: ERM

City: Bella Vista, AR

County: Benton

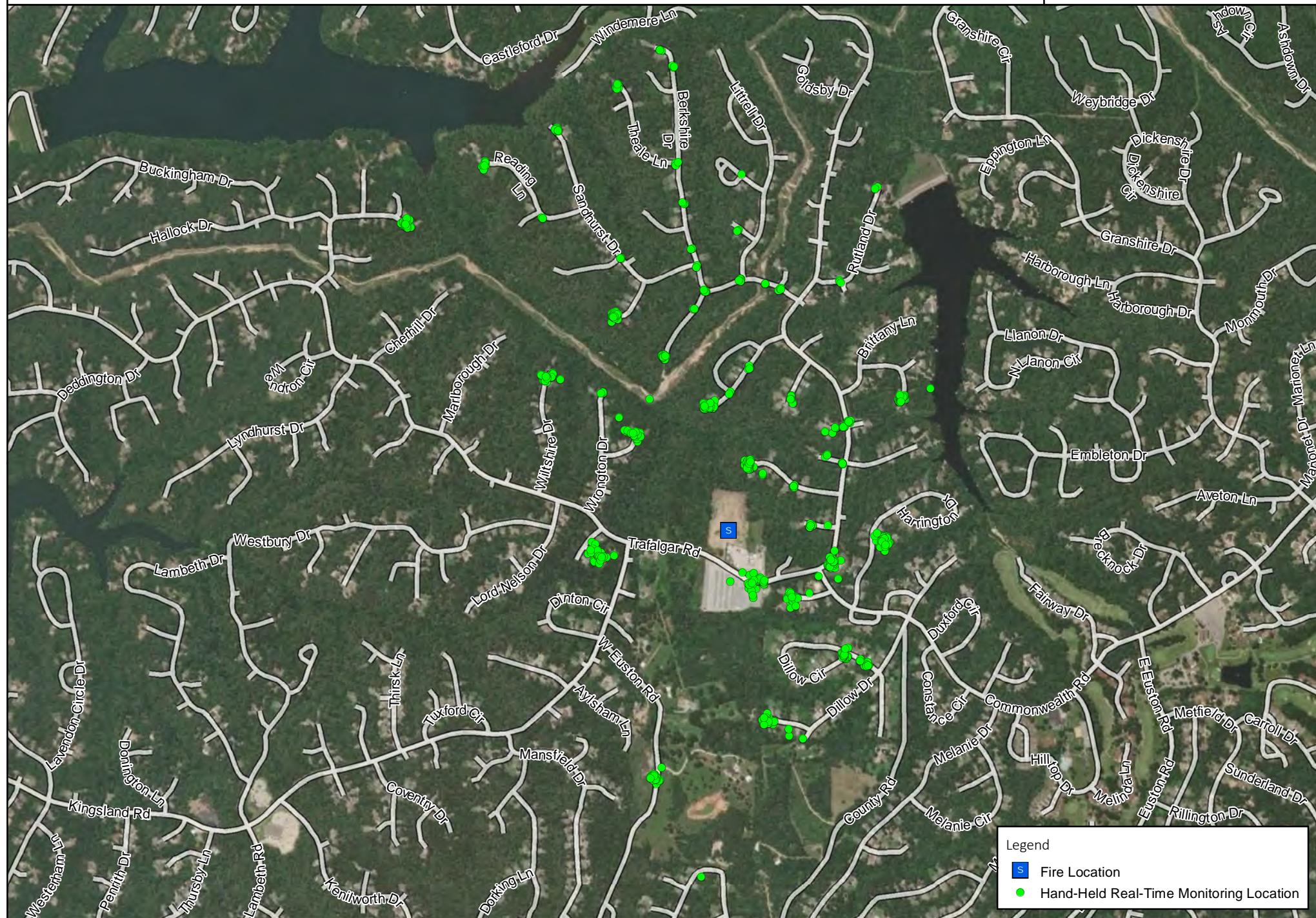


Figure 3: Real-Time Air Monitoring Locations (PM_{2.5})

Bella Vista Trafalgar Road Fire

0 500 1,000
Feet

Project: 111327

Client: ERM

City: Bella Vista, AR

County: Benton

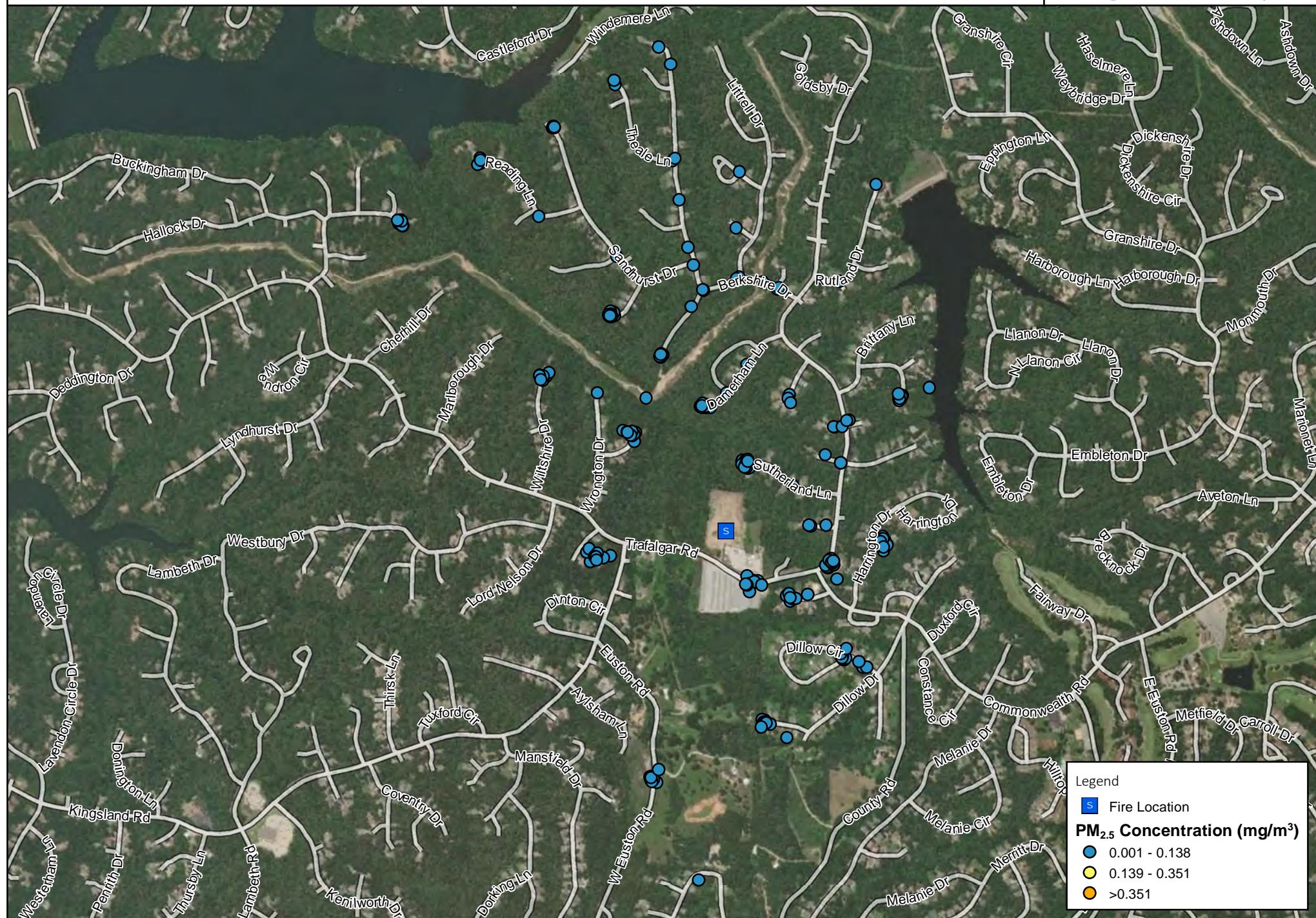


Figure 4: Real-Time Air Monitoring Locations (CO)

Bella Vista Trafalgar Road Fire

0 500 1,000 Feet



Project: 111327

Client: ERM

City: Bella Vista, AR

County: Benton

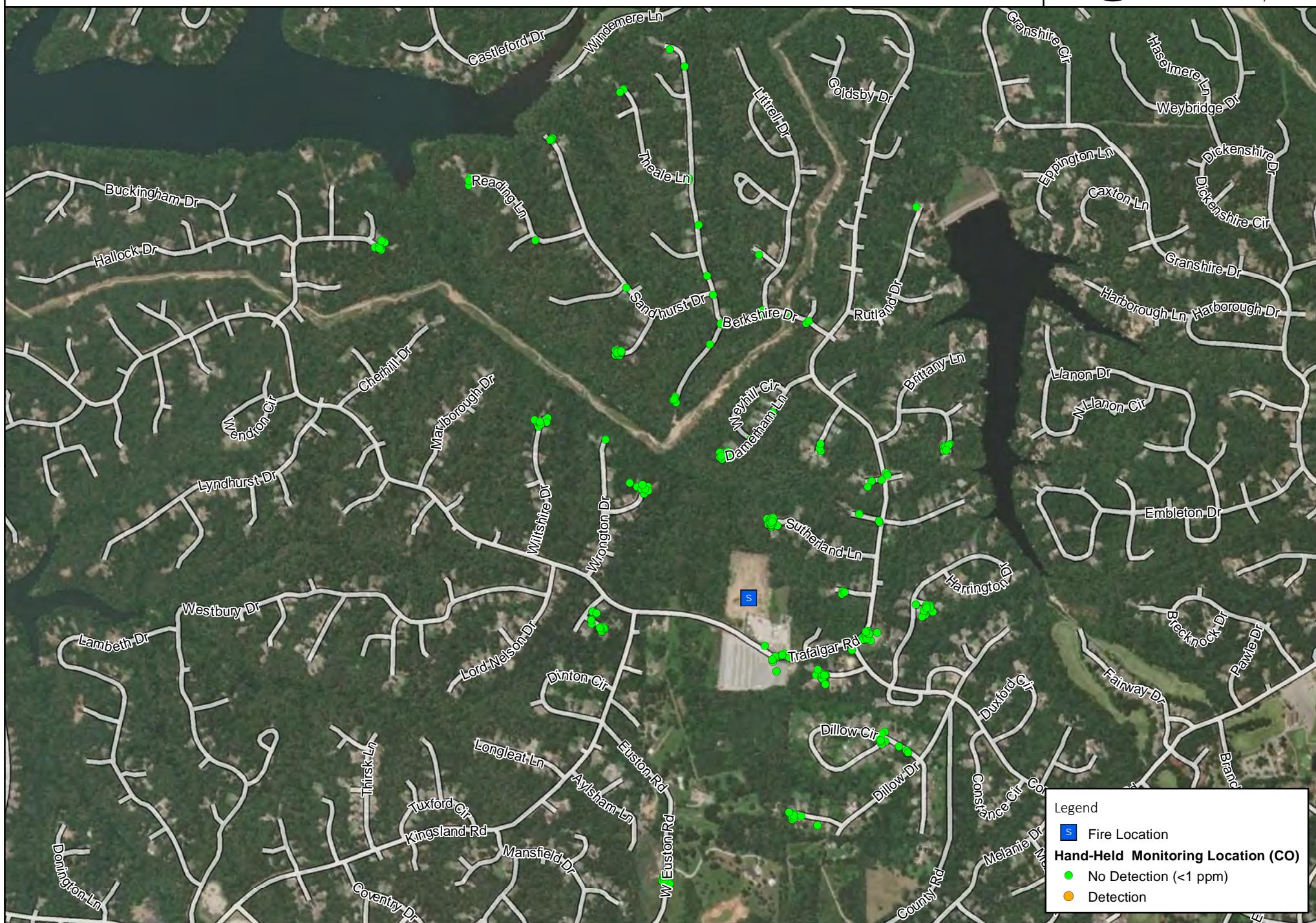


Figure 5: Real-Time Air Monitoring Locations (VOCs)

Bella Vista Trafalgar Road Fire

0 500 1,000 Feet



Project: 111327

Client: ERM

City: Bella Vista, AR

County: Benton

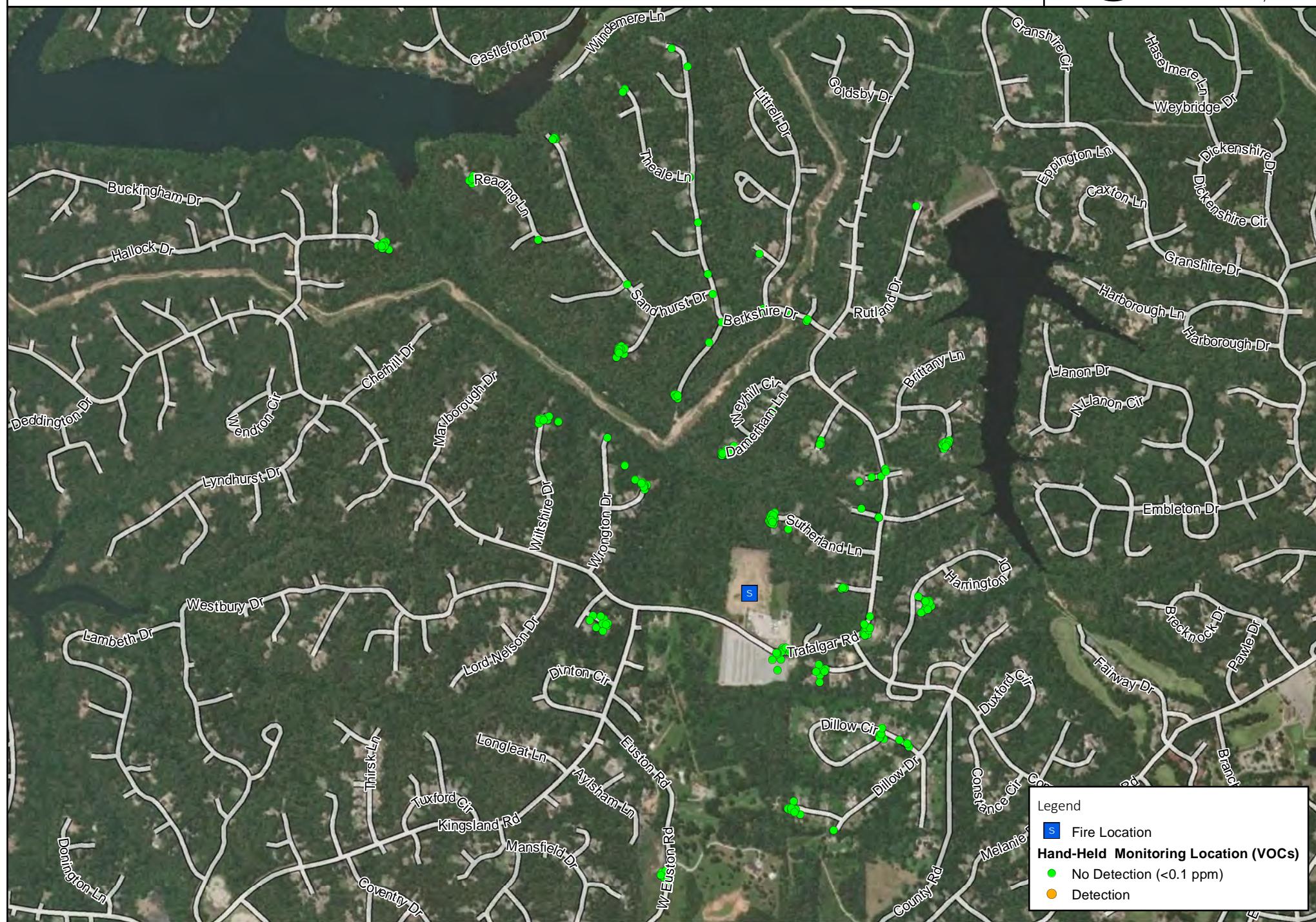


Figure 6: Fixed Hand-Held Real-Time Air Monitoring Locations

Bella Vista Trafalgar Road Fire

0 500 1,000 Feet

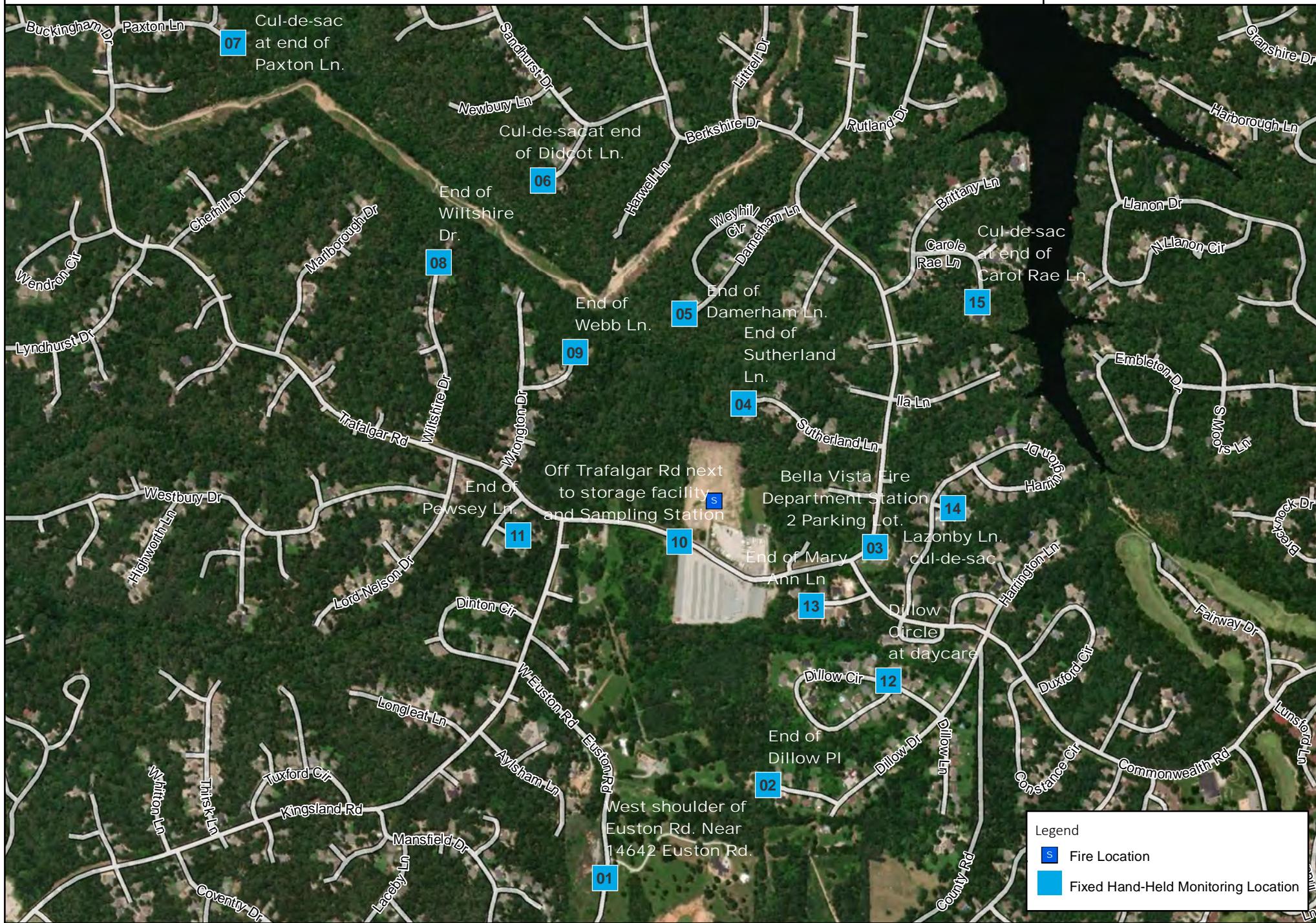


Project: 111327

Client: ERM

City: Bella Vista, AR

County: Benton



Attachment B

Meteorological Conditions

Project #111327
May 25, 2019 07:00 to May 26, 2019 07:00

N

- 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

