



MEMORANDUM REPORT

DATE: August 20, 2024

TO: Board of Commissioners of the Los Altos Hills County Fire District

FROM: Black Mountain-Purissima Project Team,
A Harmon, Field Manager
Eugenia Woods, Programs, Planning and Grants Manager

SUBJECT: Black Mountain-Purissima Evacuation Route Project Final Reports

RECOMMENDATION: Receive Black Mountain-Purissima Evacuation Route Project Final Reports

BACKGROUND

The Los Altos Hills County Fire District (LAHCFD) 2023-2027 Strategic Plan ([LAHCFD Strategic Plan - Los Altos Hills County Fire District](#)) emphasizes the importance of prevention, protection, and community resiliency. As outlined in Strategic Goal “1. Prevention, Protection, Resiliency” the District is committed to funding, developing, and maintaining programs that protect life and property while enhancing safety to build a resilient community. A key initiative under this goal is the Evacuation Route Hardening program.

The Integrated Hazardous Fuel Reduction (IHFR) programs, identified in the LAHCFD Chart of Services ([ChartOfServices-SP2023-27_V15.pdf \(lahcfd.org\)](#)), include Community-Focused Evacuation Route Hardening projects. These programs are grounded in fire science, the LAHCFD Community Wildfire Protection Plan (CWPP) Annex 4, and the District’s annual budget allocations. The IHFR projects aim to improve community resiliency, educate residents, and mitigate fire hazards.

In alignment with LAHCFD Strategic Plan Goals, the District has identified fire risk areas and initiated collaborative efforts with regional partners, including the Santa Clara County FireSafe Council and the Santa Clara County Central Fire Protection District (County Fire or Fire Department). These projects focus on reducing hazardous roadside vegetation along major transportation corridors such as Page Mill Road Moody/EI Monte Roads, Altamont Road, Arastradero Road, Robleda/Burke Roads, and now, the Black Mountain-Purissima Road Project. The primary objective of these evacuation routes and road hardening projects is to enhance life safety and



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minimize property loss during wildfires by ensuring safer egress and ingress for both evacuees and emergency responders.

Situated within the northern area of the District, the Black Mountain-Purissima evacuation route project was prioritized because it will serve as an alternate route for a surrounding portion of the Los Altos Hills community to evacuate and help to avoid traffic congestion in an emergency, making it critical for both egress and ingress. Additionally, the public may need to utilize this route for emergency evacuation on foot during a wildfire.

Information about this project, and other District projects can be found on the Department website at <https://www.lahcfd.org/community-projects/>.

DISCUSSION

The Black Mountain-Purissima project has been executed with hazardous fuel reduction treatment using a comprehensive strategy to enhance both immediate safety and long-term community resilience. By addressing hazardous vegetation along the route, the project markedly improves emergency access, facilitating more effective navigation of these critical roadways by residents and first responders, particularly during emergencies such as wildfires. Efforts concentrated on improving visibility at roadway and driveway intersections, as well as at blind corners. In accordance with the Town of Los Altos Hills Municipal Code Title 10, Chapter 1, Article 5, Section 1.507(f)(12), which mandates that "all shrubs and plants shall be pruned to a height not to exceed three (3) feet above the road level at its nearest point in an area bounded by the center line of intersecting roads or easements for vehicular access, public or private, and a straight line joining points on such center lines eighty (80) feet distant from their intersection (see figure). All side limbs of trees in such areas shall be pruned to a height of not less than six (6) feet above the road surface," the project ensured compliance by systematically addressing overgrown vegetation at these critical locations to maintain an unobstructed view of approaching traffic. As a result, the treated areas are both visually appealing and offer significantly improved visibility for travelers.

Beyond immediate safety concerns, the project plays a crucial role in protecting the local ecosystem. By carefully managing vegetation, the Black Mountain-Purissima project supports the preservation of wildlife habitats, balancing the needs of fire prevention with environmental stewardship. This project also safeguards critical infrastructure, such as power lines and communication networks, which are vital during emergencies and must be protected from potential fire damage.

Another key aspect of the Black Mountain-Purissima project is its support for recreational activities. The areas treated include access points to popular trails, ensuring these paths remain accessible and safe for both everyday use and emergency



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evacuations. By proactively managing the landscape, the District can prevent more severe, costly damage in the future, leading to long-term cost savings for both the community and the District.

The Black Mountain-Purissima project underscores the significance of regional collaboration by bringing together key partners, including the Santa Clara County FireSafe Council, which served as the project manager and a primary collaborator, Town of Los Altos Hills and District residents. This partnership not only enhanced the project's effectiveness but also fostered a shared sense of responsibility among stakeholders, strengthening the community's overall response to wildfire threats. The Santa Clara County FireSafe Council Final Report for the Black Mountain-Purissima Evacuation Route project, provided as Attachment 1, along with the summary of project costs, highlights the project's success in achieving its primary goal: reducing hazardous fuel to ensure a safer evacuation route. The project has significantly improved community safety by effectively mitigating fire risks along these crucial evacuation corridors.

In addition to physical improvements, the Black Mountain-Purissima project served as a platform for increasing public awareness and education on project details and fire safety. By engaging the community through mailing content, community webinars, and individual meetings with residents, the District is promoting a culture of preparedness and resilience, encouraging residents to take an active role in protecting their homes and properties.

Overall, the Black Mountain-Purissima project exemplifies a commitment to sustainable land management practices that prioritize the safety of residents, the protection of property, and the preservation of the natural environment. Through careful planning and execution, the District is ensuring that these critical evacuation routes are not only safer and more efficient but also contribute to the long-term wellbeing of the entire community.



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QUANTITATIVE RESULTS and EXPENSES

The production volume and distance of treatment provide valuable insights into the scope and scale of the work performed.

PROJECT WORK TRACKER							
Black Mountain - Purissima							
Total Weeks Worked	Total Days Worked	Treatment Dates	Totals for the Treated Area Per Day		Acreage Information Totals		
			Linear Mileage Treated	Linear Footage Treated	Average Depth Treated	Total Square Footage Treated	Total Acreage Treated
1	1	Monday, March 18, 2024	1.22	6440.55	10.00	64405.50	1.48
	2	Tuesday, March 19, 2024	1.36	7191.38	15.00	107870.70	2.48
	3	Wednesday, March 20, 2024	1.66	8775.83	15.00	131637.45	3.02
	4	Quality Control Work					
			4.24	22407.76	<- Weekly Totals ->	303913.65	6.98
2							
			0.00	0.00	<- Weekly Totals ->	0.00	0.00
3							
			0.00	0.00	<- Weekly Totals ->	0.00	0.00
4							
			0.00	0.00	<- Weekly Totals ->	0.00	0.00
			4.24	22407.76		303913.65	6.98
			0.21	7469.25		75978.41	2.33

Costs directly associated with the Black Mountain-Purissima Evacuation Route Project include:

Black Mountain-Purissima Evacuation Route				
Project Cost Breakdown				
Service Description	Contractor	Completed	Amount	Notes
IHFR Project Management	SCC FireSafe Council	March	8,948.15	
Personnel Mileage	SCC FireSafe Council	February	97.82	
Project Supplies	SCC FireSafe Council	February	122.28	
Project Supplies Reimbursement (LAHCFD)				
Traffic Control Plan	Bay Area Traffic Solutions	Dec. 2023	560.00	
Traffic Control Contractor	City Rise	March	17,189.76	
Fuel Reduction	Denali	March	61,376.00	
Biological Survey	S2S Environmental	March	5,294.24	
Postcard, Cover Letters, & ROE Mailers	Folger Graphics	Jan	816.05	
Pre-Project UAS Flyover/Data	Jackson Ricketts	Jan	4,550.00	
Post-Project UAS Flyover/Data	Jackson Ricketts	April	2,900.00	
Total Project Cost			101,854.30	

Successes

- Efficient deployment of Unmanned Aircraft Systems (UAS) for image telemetry. “JACKSONS DRONES” was engaged to deliver aerial imagery, delineate treatment areas, and provide quantitative assessments of hazardous fuel reduction. (Attachment 2)
- With support from County Counsel, the project team achieved CEQA compliance by filing a Notice of Exemption (NOE) with the Office of the Santa Clara County Clerk and the State Clearing House. This process informed the public of the proposed mitigation work, allowed for public feedback, and provided time to address any concerns before project initiation. No concerns were raised, and the project proceeded as scheduled.
- The Black Mountain-Purissima Evacuation Route project enhanced and refined the staff’s expertise, contributing to the improvement of future evacuation road projects. Upcoming initiatives will prioritize increased community input to better inform the design of future evacuation routes.

Community Outreach

The LAHCFD staff actively promoted the Black Mountain-Purissima Evacuation Route project and other District programs through a variety of outreach activities:

1. **Direct Mail:** Letters were sent to all property owners along the project route, inviting them to inquire about and participate in the vegetation management efforts.
2. **On-Site Engagement:** Staff conducted on-site visits, engaging with residents directly through door-to-door outreach. They provided information about the project, requested Rights of Entry (ROE), and promoted other District programs.
3. **Public Notices:** Sandwich board signs were strategically placed at key entry points to the project area two weeks prior to commencement, alerting hikers, bikers, and motorists about the upcoming work.
4. **Community Interactions:** Staff engaged in spontaneous interactions with the community, using these opportunities to educate residents about the project and other District services.
5. **Interactive Webinar:** An interactive community webinar was hosted, allowing residents to attend, learn about the project, and ask questions directly to project staff.

Throughout these outreach efforts, the staff received recognition and gratitude from the community and partner agencies for the project’s contribution to public safety.

Insights & Lessons Learned

- The newly implemented best practice requires the project lead and FSC project manager to review the project and anticipated traffic control concerns with the traffic control field crew supervisor prior to the project's commencement. This process has proven effective in minimizing coordination issues related to traffic control and safety.
- In certain situations, it is beneficial to leave larger logs on the ground in stable positions where they are unlikely to roll downhill. These larger pieces do not pose the same fire risk as smaller, more flammable materials, as they have a lower ignition potential. Their decomposition serves important ecological functions, including recycling nutrients back into the soil, which supports plant growth, and providing habitat for amphibians, small reptiles, and other small creatures essential to the local food web in natural areas and wildland-urban interfaces.
- Daily briefings with field operation crews are crucial. Once a project gains momentum, it is essential to pause and review the scope of work, safety procedures, and daily objectives to ensure alignment and maintain safety and efficiency.
- Trash accumulation is an unfortunate reality of any project. However, removal is both healing and beautifying for the area. A special thanks goes to the Town of Los Altos Hills maintenance department for facilitating access to disposal options, with a significant portion of the discarded materials being recycled.

Note of Appreciation:

The District extends sincere appreciation to the LAHCFD Board of Commissioners, the Fire Department, the Town of Los Altos Hills, the Santa Clara County FireSafe Council, County Roads & Airports, and all contractors, crews, and traffic control personnel for their dedicated support and contributions to the success of the La Paloma project. Due to the collaboration and coordination between LAHCFD and its partners, the Black Mountain-Purissima Evacuation Route project was successfully completed, delivering a strategic and high-priority public safety benefit to the community in the event of a wildfire or emergency.



Santa Clara County FireSafe Council

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FINAL REPORT **Black Mountain - Purissima Evacuation Route**

April 15, 2024

Introduction:

The Black Mountain Road - Purissima Road Evacuation Route Project in Los Altos Hills, California, provides an important route of egress route for a significant portion of the Western area of the Los Altos Hills Community in the event of a wildfire evacuation. To secure the integrity of this route, Los Altos Hills County Fire District and Santa Clara County FireSafe Council propose a roadside treatment of hazardous fuels.

Cooperators:

There were multiple agencies, contractors, property owners, and organizations that contributed to the project; Santa Clara County Fire Safe Council, Los Altos Hills County Fire District, S2S (Surf to Snow), Denali Tree Service, BATS/City Rise Safety, the County of Santa Clara, Caltrans, and the Town of Los Altos Hills to name a few.

Goals For This Project:

1. Trim woody vegetation and weed whip grasses and weeds adjacent to the road.
2. Remove dead or dying woody debris of less than 8 inches DBH.
3. Reduce ladder fuels around larger trees.
4. Remove dead, diseased, or damaged trees smaller than 8" DBH posing a hazard.
5. At street corners where vegetation is thick and blocks visibility, trim and remove to meet standards of shrubs less than 3 feet high and trees limbed up to at least 6 feet above ground. Per Los Altos Hills Municipal Code Title 10-Zoning, "shrubs and plants shall be pruned to a height not to exceed three (3') feet above the road level at its nearest point in an area bounded by the center line of intersecting roads or easements for vehicular access, public or private and a straight line joining points on such center lines eighty (80') feet distant from their intersection. All side limbs of trees in such an area shall be pruned to a height of not less than six (6') feet above the road surface."



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Project Site:

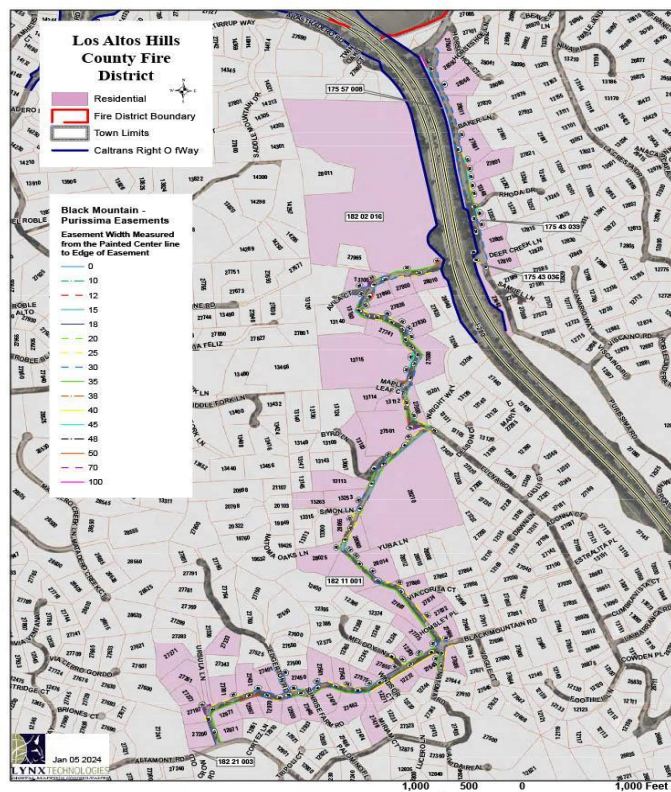
This evacuation route project treated four roads along the evacuation Route. These include Black Mountain Road, Natoma Road, Elena Road, and Purissima Road.

The South-Western end of the project is located at the intersection of Black Mountain Road & Altamont Road (37.366180, -122.158790) and the North-Eastern end of the project is located at the intersection of Purissima Road & Arastradero Road (37.386986, -122.152411).

The length of the project is approximate:

1. The Black Mountain Road portion is 0.05 linear miles, which equates to 1 mile when accounting for treatment on both sides of the road.
2. The Natoma Road portion is 0.06 linear miles, which equates to 1.2 miles when accounting for treatment on both sides of the road.
3. The Elena Road portion is 0.06 linear miles, which equates to 1.2 mile when accounting for treatment on both sides of the road.
4. The Purissima Road portion is 0.04 linear miles, which equates to 0.8 miles when accounting for treatment on both sides of the road.

Black Mountain-Purissima Evacuation Route Project Map





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Permissions:

One of the biggest challenges in these types of projects is getting permission to treat the properties. During the planning of the project, we conducted an extensive public outreach effort to get the permissions needed. It included mailers, newspaper articles, door-to-door visits, and a social media campaign. We were able to include 3 of the 101 parcels involved. Prior to the project, LAHCFD staff conducted a survey of the area to identify key parcels within the project scope. SCCFSC's timeframe for ROE forms to be returned was 14 days with a due date of April 1st, 2024. LAHCFD Staff went out to conduct door knocking 2 weeks prior to the project start date.

Biological Precautions:

As with all our projects, protecting the biodiversity of the area is a high priority. A Biological Survey was conducted on March 8, 2024, by S2S (Surf to Snow), 10 days before the project started. The biologist identified and flagged wood rat nests, active bird nests, and any habitat within the treatable area. The biological review was completed within the nesting season. Heritage trees were identified during the field verification stage and were not included in the work plan. Finally, a buffer of 25 feet was implemented along stream beds and seasonal waterways.

Project Duration:

The project started on Monday, March 18TH, 2024 and was completed on Wednesday, March 21ST, 2024. A total of 4 days - 3 Days of work, and 1 day of quality control. We did not encounter any red flag days or any rain days.

Jurisdictions And Funders Involved:

Santa Clara County Fire Safe Council, Los Altos Hills County Fire District, Santa Clara County, Caltrans, and Town of Los Altos Hills.

Contractors Selected:

S2S (Surf to Snow), was selected for this project due to availability and competitiveness of the bid.

Denali Tree Service was selected due to their availability, familiarity with evacuation route projects within SCCFSC, commitment to self and public safety, and ability to complete the project within the requested time frame.



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BATS/City Rise Safety provided a traffic control plan and provided four flaggers and traffic control for project duration.

Project Photos

Before

After





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By The Numbers:

- Area treated – 3.02 miles total area treated for both sides were treated during this project. Most of which were treated 15 to 30 feet from the edge of the road unless marked for riparian area. On ROE properties treatment extended 30-50 feet from the edge of the road if needed. The daily average was 1.06 miles per day.
- Acres treated = 10.33 acres with an average of 3.44 acres treated per day.
- No poison oak was treated during this project.
- 3 days of treatment and 1 day of quality control was conducted by Denali Tree Service.

We overcame many challenges to complete this critical part of growing the evacuation route and vegetation treatment system in Santa Clara County. This project also supports goals in the LAHCFD CWPP annex as well as the overall Community Wildfire Protection Plan.

We would like to acknowledge the contribution made by Denali Tree Service, S2S (Surf to Snow), and BATS/City Rise Safety. All entities were committed to assisting Santa Clara County Fire Safe Council with the project from start to finish.

Bats/City Rise Safety provided four traffic control personnel every day to make sure that the work could be done in a safe manner. Black Mountain Road, Natoma Road, Elena Road, and Purissima Road are commuter roads with multiple driveways, high bike and foot traffic routes; the fourth traffic control personnel was necessary for the safety of the tree crews, SCCFSC staff, LAHCFD staff, general traffic, and bicyclists in the Los Altos Hills area. Denali Tree Service provided a translator each day to ensure maximum communication



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capabilities to provide complete safety coverage for the crews working and additional personnel on site. I'm happy to report, with BATS/City Rise Safety, traffic control coverage and the safe working practices of Denali Tree Service, we were able to finish the project with no reported injuries or incident reports. In addition to that, Los Altos Hills County Fire District granted permission for the project crew to use their parcel for a staging area.

Safety briefings were held by the safety officers, Zaid Ortiz each morning before start of work to discuss traffic control, personal protective equipment (PPE), local emergency services, environmental hazards, and weather conditions.

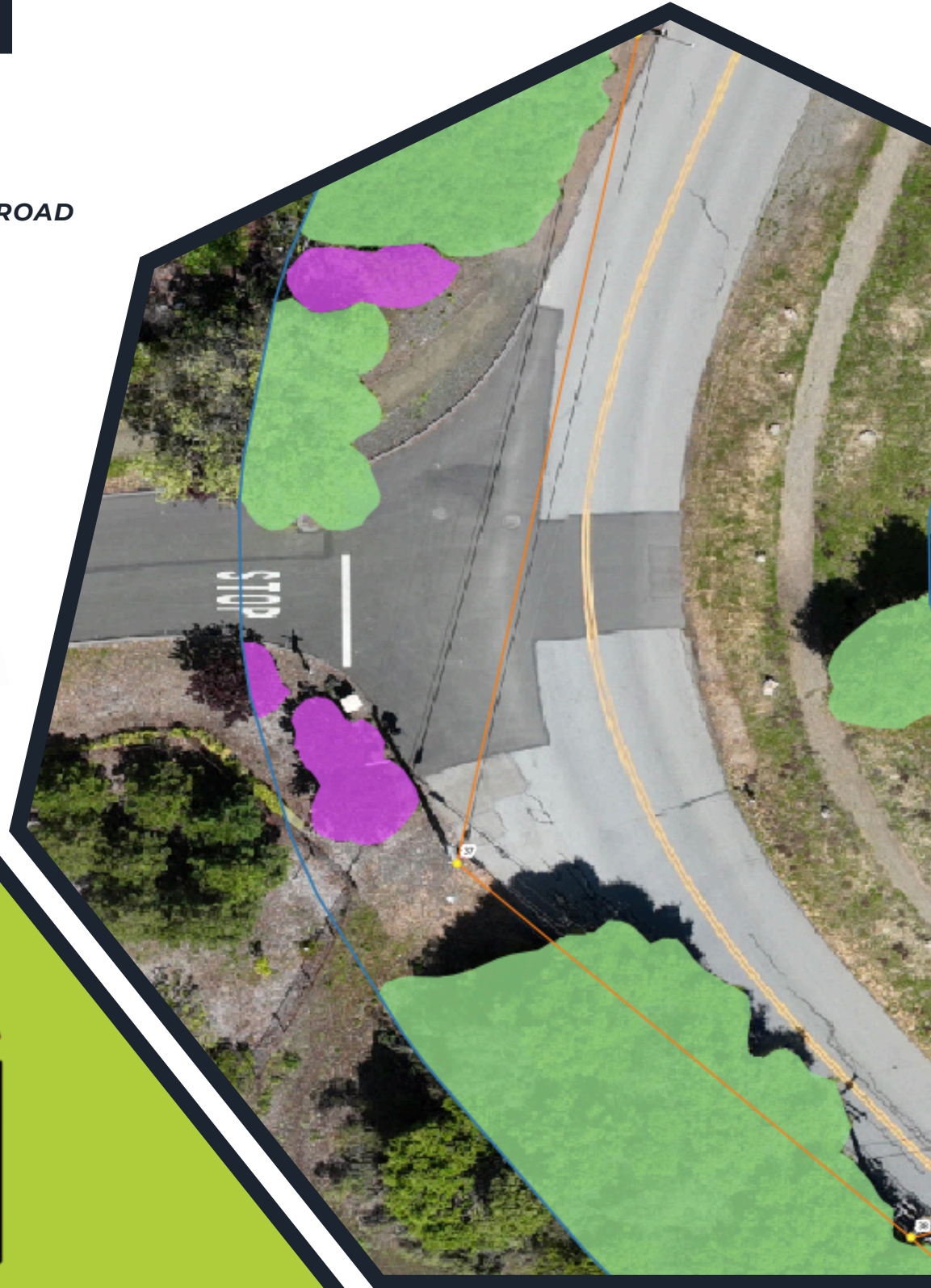
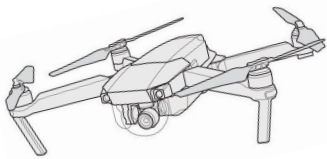
We would like to thank all the cooperators and property owners for all their support. If you have any questions or concerns, please feel free to direct them to:

Zaid Ortiz – Project Manager
e-mail: zortiz@sccfiresafe.org
Phone: (408) 679-5307

Amanda Brenner-Cannon – Program
Director
e-mail: abrennercannon@sccfiresafe.org

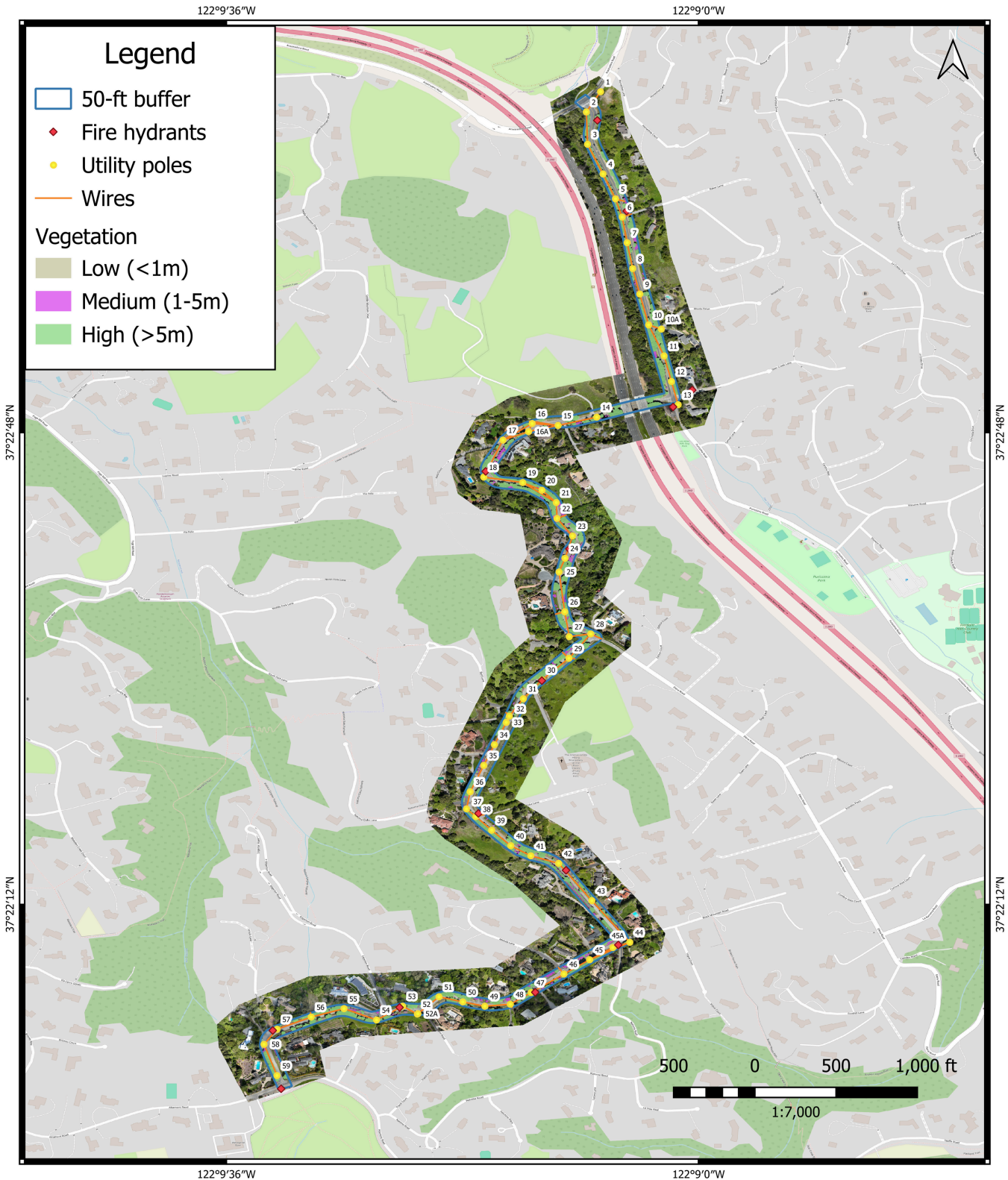
ADVANCED REPORT

**PURISSIMA ROAD
ELENA ROAD
NATOMA ROAD
BLACK MOUNTAIN ROAD**

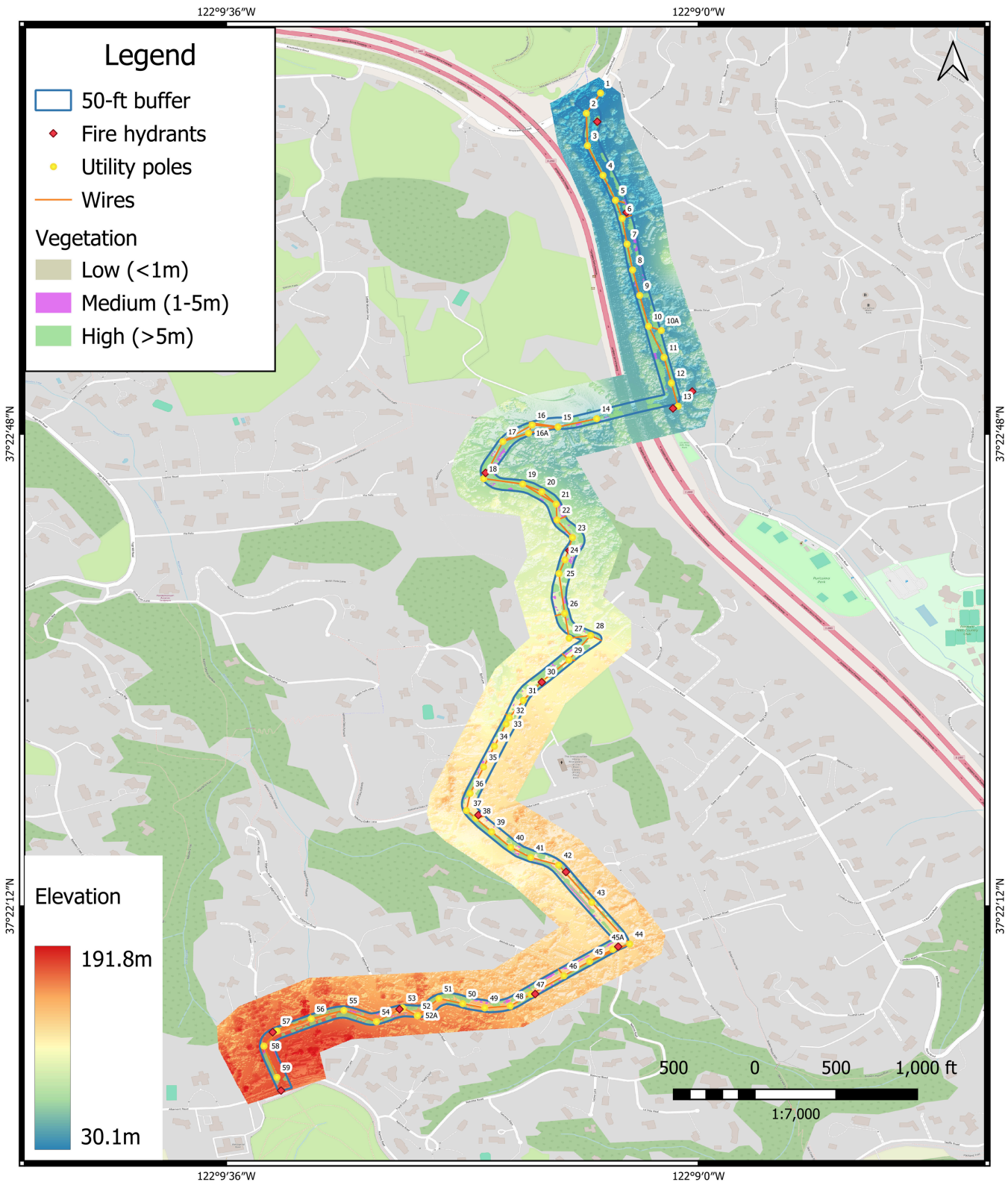


APRIL 2024

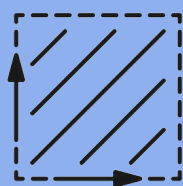
OVERVIEW



OVERVIEW



OVERVIEW



125 acres



2.13 mi



April 2024



4,210 images



63x

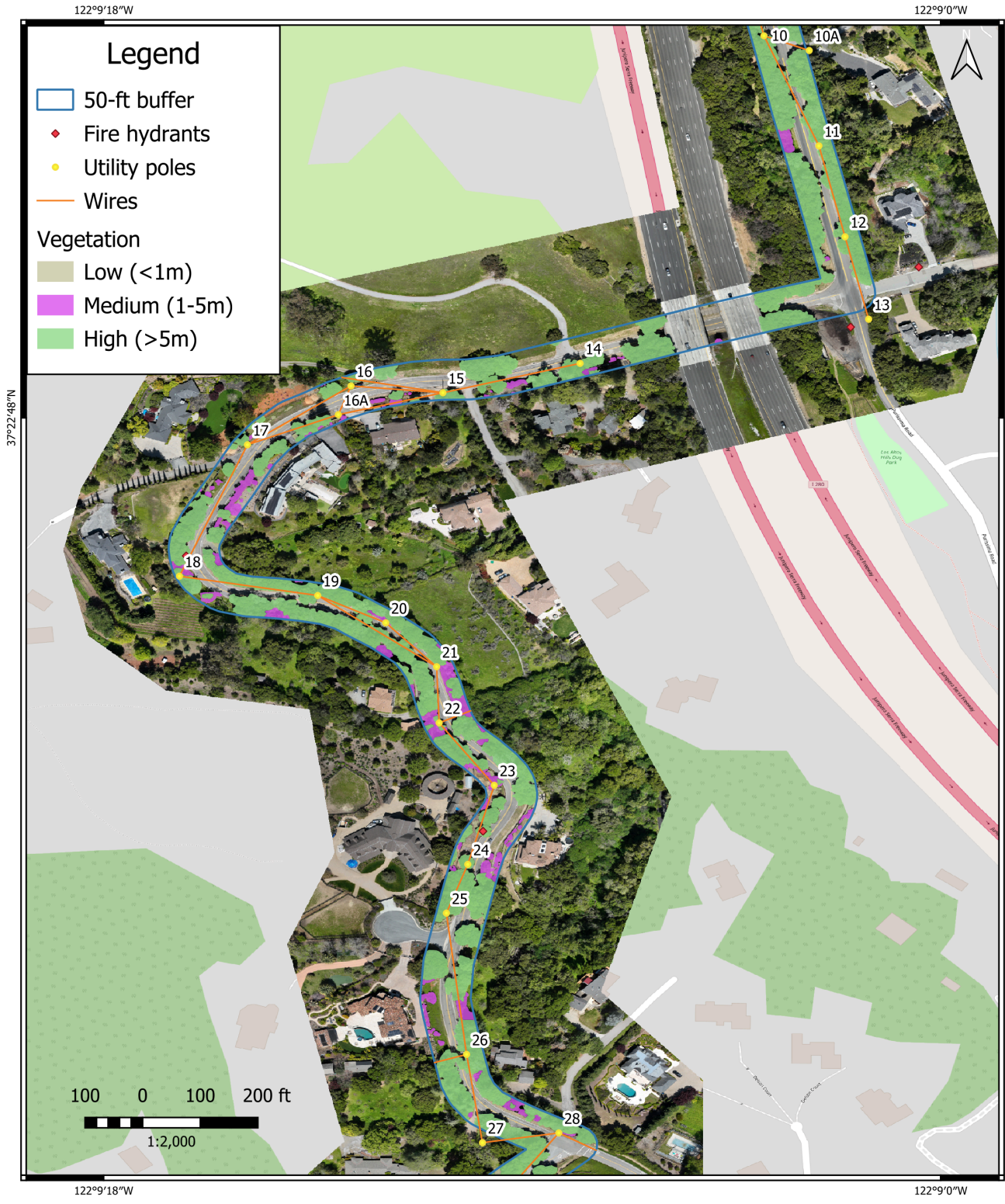


Health status
analysed

APRIL 2024 - PURISSIMA ROAD



APRIL 2024 - PURISSIMA RD - ELENA RD



APRIL 2024 - NATOMA ROAD



APRIL 2024 - BLACK MOUNTAIN ROAD



APRIL 2024 - BLACK MOUNTAIN ROAD

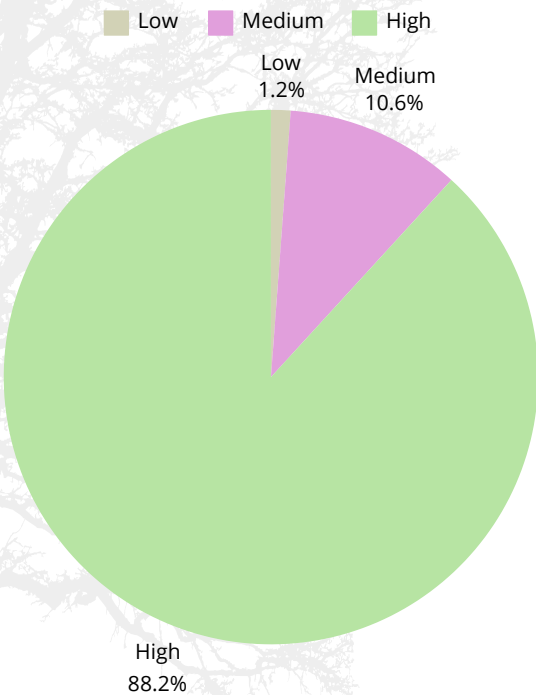


VEGETATION METRICS

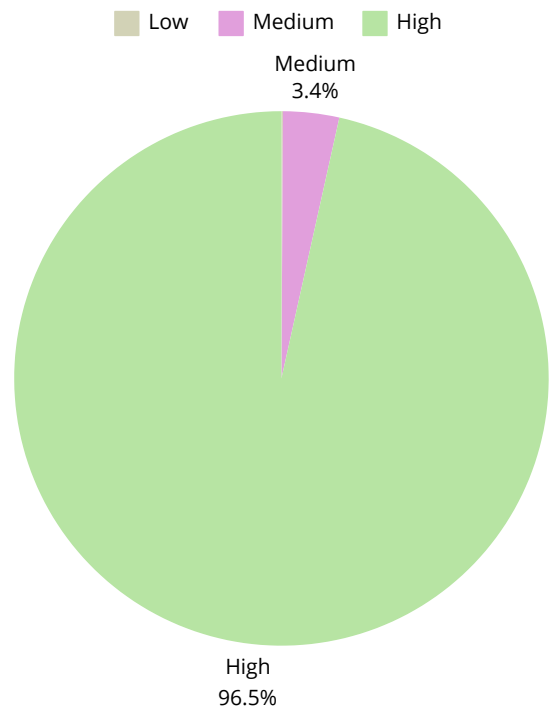
April '24

Vegetation height	Area, acres	Volume, cubic yards
Low (up to 1 m)	0.13	611
Medium (1-5 m)	1.17	23,396
High (more than 5 m)	9.72	666,821

Vegetation area, %

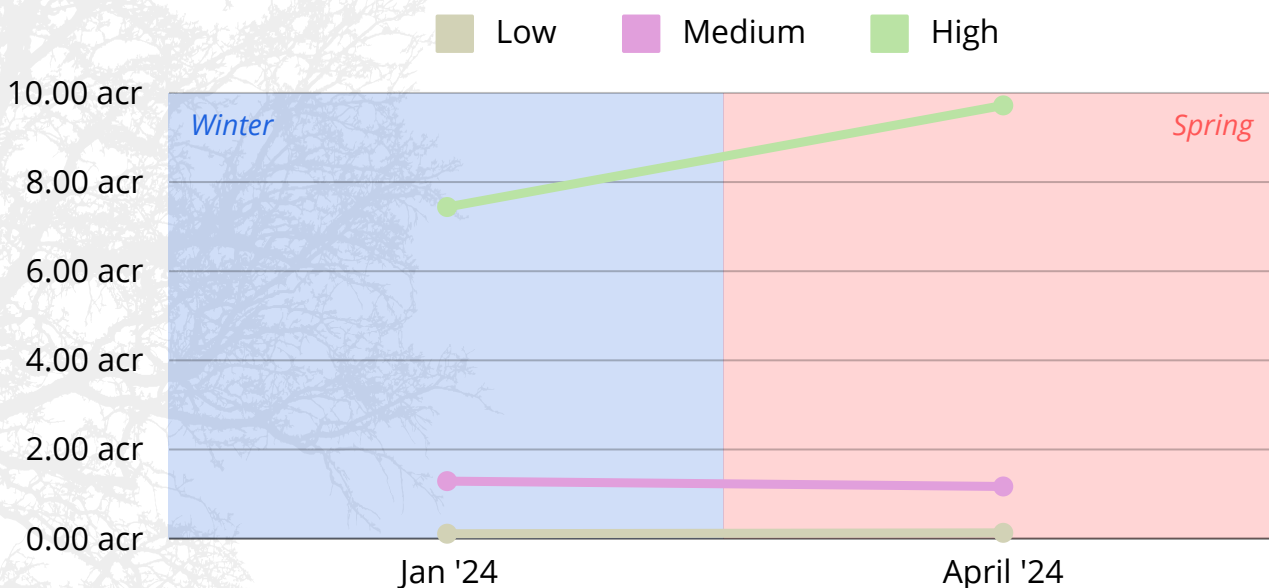


Vegetation volume, %



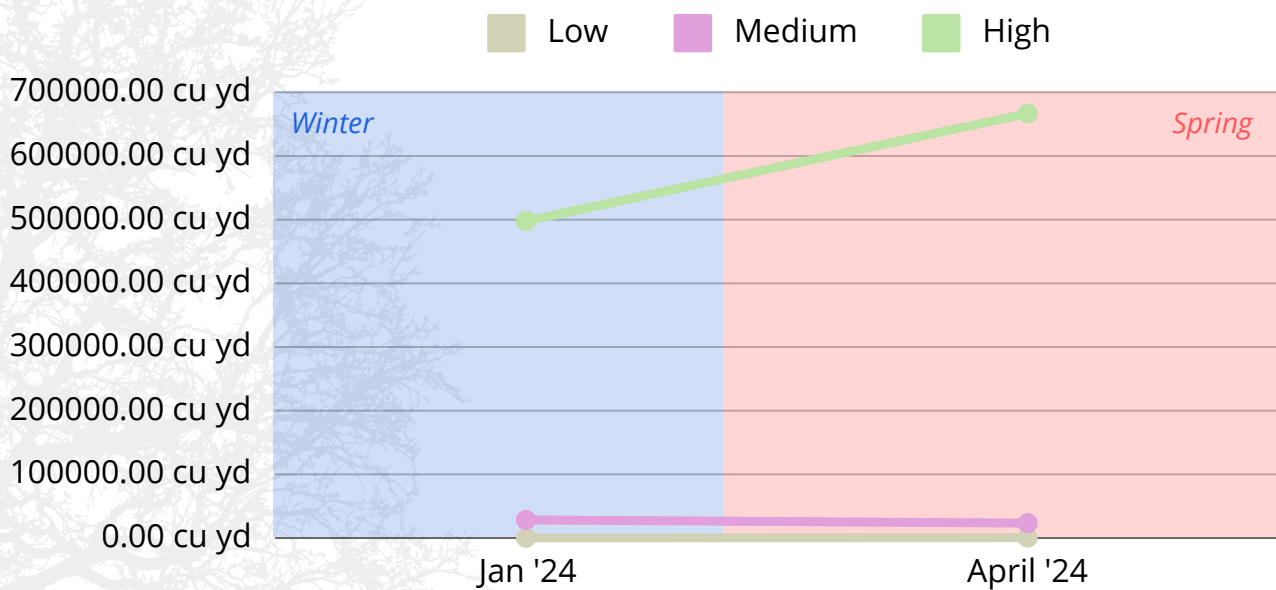
VEGETATION METRICS

Vegetation height \ Area (acres)	Jan 2024	April 2024
Low (up to 1 m)	0.11	0.13
Medium (1-5 m)	1.29	1.17
High (more than 5 m)	7.44	9.72



VEGETATION METRICS

Vegetation height \ Volume (cubic yards)	Jan 2024	April 2024
Low (up to 1 m)	339	611
Medium (1-5 m)	28,462	23,396
High (more than 5 m)	497,731	666,821



VEGETATION HEALTH STATUS (NDVI INDEX)

14%



Unhealthy or
diseased

64%



Moderately
healthy

22%



Very healthy

