

Report Prepared by David Goldemberg
Bay Area Vipassana Center Project
9201 El Matador Drive, Gilroy, California
Santa Clara County

This Wildfire Risk report prepared as requested by the County of Santa Clara for the “Bay Area Vipassana Center” proposed project located at 9201 El Matador Drive in Gilroy, California.

The County of Santa Clara asked that the following areas be addressed:

“Wildfire: A report from a Fire Protection professional is needed to assess whether the project would exacerbate wildfire risks, require the installation of associated infrastructure, that may exacerbate fire risk, and provide information as to how the project will reduce fire hazard risks.”

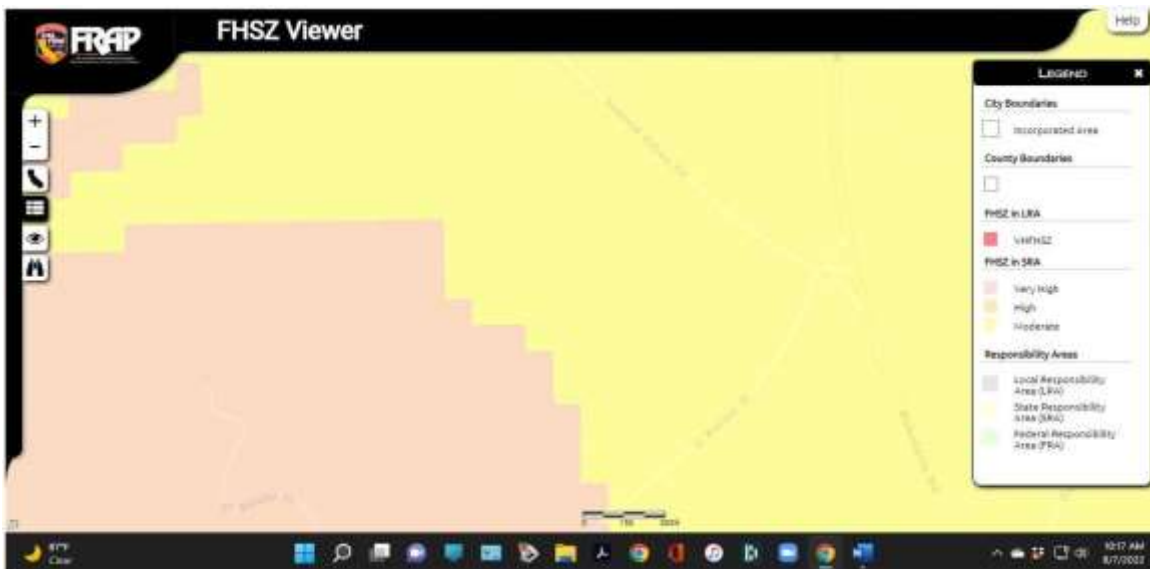
Executive Summary

The subject property has been assessed for risk of wildfire. The area of development has been designed with adequate water infrastructure to prevent and fight fire, and this infrastructure will add a firefighting resource which is not currently available in the vicinity. Further mitigations are needed to create CalFire recommended defensible space areas around buildings. (Appendix 1)

Wildfire Risk Assessment

The California Department of Forestry and Fire Protection's Fire and Resource Assessment Program (FRAP) assesses Wildfire Risk throughout the State of California. This science-based program rates areas in Zones called Fire Hazard Severity Zones (FHSZ), with a Very High rating having the highest level of danger regarding potential spread of a fire. The CAL FIRE FRAP website map shown below, reflects that the lower portion of the site is in a “Moderate” zone, while portions of the upper part of the site are in the Very High Zone. This is consistent with my own observations.

CAL FIRE FRAP Website: <https://frap.fire.ca.gov/>



I have reviewed the Project Preliminary Site Grading Plan – Site Layout (“Site Map”) which details the location of structures to be constructed on this project site and includes other pertinent details such as the location of a water supply and hydrants to be installed. Additionally, I reviewed the Project Defensible Space Site Plan. (Appendix 1)

I performed a Site visit of the project on August 6, 2022, and walked the lower portion of the project site where all of the buildings are proposed to be located. I did not walk the upper portion of the project but could easily see a good portion of that area including noting the general slope, and fuel loading in that area. The only infrastructure I am aware of that is planned for in the upper portion of the property would be the addition of a 97,000-gallon water tank. This tank will have sufficient clearance around it to ensure protection from a wildfire.

The project site plan shows the location of the planned 97,000-gallon water tank that would supply a network of 4 fire hydrants located throughout the site. It is my understanding that this Site Map “Preliminary Grading Plan – Site Layout” regarding the water system has received at least preliminary review and approval by the appropriate Santa Clara County staff I am in concurrence with how this water supply and hydrant system is laid out from a Firefighter’s safety perspective. Applicable building codes will ensure that the water pressure in the proposed system will meet or exceed fire protection requirements.

As this proposed project is in a rural area that does not currently have a water hydrant system available for firefighting purposes, the addition of this water tank and on-site hydrants is important for multiple reasons. The proposed water supply and hydrants will give responding firefighters an important source of water to combat wildland fires should they start either within the site or if a fire were to encroach from outside the complex threatening the site itself. This system will also provide an important supply of water for firefighters to have in combating a wildland fire in the general vicinity of the project and thus can help to protect neighboring properties. The water supply will also be available to support suppression of any structure fires should they occur on or near the site.

When evaluating a project that is proposed to take place in the “Wildland Urban Intermix” (WUI), I rely on a combination of factors including existing laws, industry standards, as well as my own very strong and practical experience as a Wildland Firefighter and Manager that I achieved during my 35-Year Career with the California Department of Forestry and Fire Protection (CAL FIRE), during which I

responded to literally thousands of Wildland fires. I was the Incident Commander (IC) on hundreds of incidents, many of which were quite dynamic incidents. As such, I have personally observed what can take place during a wildfire emergency when “best practices” are not followed in preparing for eventual wildland fires, especially in the WUI. This site is in a WUI area and appropriate planning which recognizes the risks has taken place by the project design team.

This report addresses areas to prevent a Wildfire from starting within the site.. This report also will point to measures to be taken to slow the spread of a fire to limit the risk of the fire escaping from the proposed Bay Area Vipassana Center site onto any neighboring properties.

As part of my research of this site, I conducted a review of the CAL FIRE Defensible Space regulations which are contained in the California Public Resources (PRC) Code 4291. The intent of the CAL FIRE Defensible Space is two-fold. First, if a fire starts inside of a structure, keeping that fire from spreading to the Wildland. Second, if a Wildfire is encroaching upon a structure, increasing the likelihood that the structure would not ignite.

Taking into account these straightforward and reasonably simple measures would thus create a safer Wildland Urban Intermix (WUI) community that benefits the owner of a property as well as their neighbors around their property. The end goal is to protect human life and reduce property loss.

It is important to recognize some facts about how Wildfires can start, and the factors that affect how they burn. In doing so, we can then address actual measures that should be taken to mitigate the risk of a Wildland fire starting in the first place, and should a fire start within the project area, how to keep it from spreading.

It is a well-known fact in the Wildland fire community that approximately 95% of Wildland fires are human-caused. The causes of these fires vary quite from accidental to non-intended causes driven by a lack of knowledge or in some cases a lack of common sense, as well as equipment failures such as fires from power lines. Arson can be a factor, but this constitutes a very small percentage of fire incidents (less than 5%,) and generally even lower in areas such as this project.

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There are Roads/Driveway on three sides of the project:

Redwood Retreat Road runs along the NE side and there is a cleared area across from the project that might have been previously used for agricultural purposes.



El Matador Drive runs along the SE side, and there is initially another cleared area that appears to be used for agricultural purposes, perhaps grazing



There is a wide well maintained private driveway that runs along the NW side, and has an open green belt. Each of these three road areas presents a limited amount of risk, thus does not cause any major concern from a Wildfire perspective.



There is no road along the SW side of the project. This is the area where the terrain becomes quite steep, and there is a large amount of fuels (“fuel loading”) present going up that hillside.



A review of the Defensible Space Site Plan that the applicant provided was consistent with what I personally observed during my Site Visit. The plan provided both written information, as well as an overall drawing showing the location of all planned buildings on the site, and how Defensible Space Zoning considerations will be applied for Zones, 0, 1, and 2. The Defensible Space Site Plan thus presents a very good overview of the project from the Defensible Space perspective.

The Defensible Space Site Plan identifies existing species of trees including a limited number of Olive and Pine trees, but the predominant species on the project site are the Oak trees in an Oak Woodland area adjacent to the proposed area of development on the property.

There is one area of the Defensible Space Site Plan that reflects the confluence of the outer Zone 2 areas between the lower and upper portions of the project. This is the small section of land between the lower Female Accommodations and Kitchen buildings, and the upper Male Accommodation and Meditation buildings.

Appendix 1 of this report regarding Defensible Space clearly identifies this portion of the project between the two sets of buildings. While this area is relatively small in size, it does contain a fairly dense area of vegetation. I observed at least one dead tree, dead limbs in the trees, and low overhanging branches

Any dead trees, dead limbs should be removed from this area, and the low overhanging branches should be limbed up to lessen the chance of fire spreading from the ground fuels such as dry grass up into the trees themselves.

The following two photos taken in this area show examples of the need to do so.



Appendix 1 of this report also reflects that the Defensible Space area on the SW side of the property near the Meditation Buildings which covers the portion of the property on the uphill side of those buildings.

Having these Defensible Space areas clearly identified allows for Reduced Fuel Zone efforts to take place thus provide for additional fire protection to prevent a fire originating from a building from spreading into the wildland, as well as to prevent a fire coming out of the wildland from encroaching and burning a building.

The following CAL FIRE chart explains this in simple & easy to understand terms.



Defensible Space is your property's front line defense against wildfire. Creating and maintaining defensible space around your home can dramatically increase your home's chance of surviving a wildfire and improves the safety of firefighters defending your property. 100 feet of defensible space is required by law.*



*For more information on creating defensible space and legal requirements, visit READYFORWILDFIRE.ORG

TWO ZONES MAKE UP THE REQUIRED 100 FEET OF DEFENSIBLE SPACE:

ZONE 1: 30 feet of Lean, Clean & Green

- 1 Remove all dead plants, grass and weeds
- 2 Remove dead or dry leaves and pine needles from your yard, roof and rain gutters
- 3 Keep tree branches 10 feet away from your chimney and other trees

ZONE 2: 30-100 feet of Reduced Fuel

- 4 Cut or mow annual grass down to a maximum height of 4 inches
- 5 Create horizontal spacing between shrubs and trees
- 6 Create vertical spacing between grass, shrubs and trees

Use Equipment Properly to Keep from Sparking a Wildfire

- 7 Mow before 10 a.m., and never on a hot or windy day. String trimmers are a safer option (vs. lawnmowers) for clearing vegetation.



VERTICAL SPACING

Large trees do not have to be cut and removed as long as all of the plants beneath them are removed. This eliminates a vertical "fire ladder."



HORIZONTAL SPACING

Create horizontal and vertical spacing between plants; the amount of spacing will depend on how steep the slope is and the size of the plants.

The Defensible Space Site Plan (Appendix 1) also includes what is termed as Zone 0. The plan notes that while this is currently not required by law, science has proven it to be the most important of all the defensible space zones. While this is not yet law, there is a pending California State Board of Forestry ruling that is due to go into effect as of January 1, 2023 which is designed to provide for a 5 foot clearance of all flammable vegetation around all structures, and provide for other measures as well. Once in effect, this will be an important addition to the Public Resources Code 4291 which specifies "Defensible Space" requirements. The Project Team was being proactive in recognizing the need to include this important Zone 0 as part of their Defensible Space Site Plan.

I am including the following language taken directly from the Defensible Space Site Plan as part of my report so as to reference it clearly in my recommendations.

CAL FIRE Defensible Space Zones:

Zone 0: Ember Resistant Zone –

Extends 5 feet from buildings, structures, decks, etc.

1. The ember-resistant zone is currently not required by law, but science has proven it to be the most important of all the defensible space zones. This zone includes the area under and around all attached decks, and requires the most stringent wildfire fuel reduction. The ember-resistant zone is designed to keep fire or embers from igniting materials that can spread the fire to your home. The following provides guidance for this zone, which may change based on the regulation developed by the Board of Forestry and Fire Protection.

- Use hardscape like gravel, pavers, concrete and other noncombustible mulch materials. No combustible bark or mulch;
- Remove all dead and dying weeds, grass, plants, shrubs, trees, branches and vegetative debris (leaves, needles, cones, bark, etc.); Check roofs, gutters, decks, porches, stairways, etc.;
- Remove all branches within 10 feet of any chimney or stovepipe outlet;
- Limit plants in this area to low growing, nonwoody, properly watered and maintained plants;
- Limit combustible items (outdoor furniture, planters, etc.) on top of decks;
- Relocate firewood and lumber to Zone 2;
- Replace combustible fencing, gates, and arbors attach to the home with noncombustible alternatives;
- Consider relocating garbage and recycling containers outside this zone;
- Consider relocating boats, RVs, vehicles and other combustible items outside this zone.

Zone 1: Lean, Clean and Green Zone

Extends 30 feet from buildings, structures, decks, etc. or to your property line.

- Remove all dead plants, grass and weeds (vegetation);
- Remove dead or dry leaves and pine needles from your yard, roof and rain gutters;

- Remove branches that hang over your roof and keep dead branches 10 feet away from your chimney;
- Trim trees regularly to keep branches a minimum of 10 feet from other trees;
- Relocate wood piles to Zone 2;
- Remove or prune flammable plants and shrubs near windows;
- Remove vegetation and items that could catch fire from around and under decks, balconies and stairs;
- Create a separation between trees, shrubs and items that could catch fire, such as patio furniture, wood piles, swing sets, etc.

Zone 2: Reduce Fuel Zone

Extends from 30 feet to 100 feet out from buildings, structures, decks, etc. or to your property line.

- Cut or mow annual grass down to a maximum height of 4 inches;
- Create horizontal space between shrubs and trees; (See diagram)
- Create vertical space between grass, shrubs and trees; (See diagram)
- Remove fallen leaves, needles, twigs, bark, cones, and small branches. However, they may be permitted to a depth of 3 inches;
- All exposed wood piles must have a minimum of 10 feet of clearance down to bare mineral soil, in all directions.

Interior Roadways: To be constructed with appropriate clearances per Public Resources Code 4290. In addition, I recommend an additional 10' clearance of flammable vegetation in the form of reduced Fuel Zone on either side of the roadway. This Reduced Fuel Zone would be according to PRC 4291. Thus no additional trees would need to be removed.

This extra 10' of clearance on either side of the roadway provides less chance of a fire starting along the roadways, and if a fire were to start in those areas, it would be easier to control. A 15' vertical clearance needs to be maintained in order to ensure that fire apparatus can drive along the roads without any obstructions.

The reduction in fuels along the roadways also significantly reduces fire intensity in the case of a fire coming through the area while people are trying to escape. This will provide for a higher degree of safety for the people on the site itself, including both employees and members of the public who travel to this site.

Power Line Considerations:

There is an existing power line (Distribution Line) that runs across the project site in the lower part of the property along Redwood Retreat Road. This power line may serve other properties in the area. The project design team intends to have this line converted to an underground line, which would mitigate a potential fire coming from an above ground energized line. This measure is certainly better from a Wildfire perspective.

There is also a major power line (Transmission Line) that crosses the very top of the property above the planned Water Tank. I believe that these lines are PG & E owned, and they thus have a responsibility to conduct proper clearing practices per Public Resource Code 4293.

Shown below is a photo of one of the power poles along Redwood Retreat Road.



In closing, I would like to express that I hope this report has been beneficial to the County of Santa Clara and the Project Management Team as well. Almost all of us have seen the results of the numerous deadly fires that have taken place in California in the last several years, as well as many others in the Western States.

Taking some simple steps such as outlined in this report will go a long way to preventing fires, and should a fire start, lessening its impact. There is of course no certainty that all fires will be prevented, nor that all fires will remain small as there are simply too many variables that are difficult to predict. However, considering that the subject property has remained undeveloped for a number of years and no fuel reduction or maintenance has taken place before the current owners purchased it, it is my professional judgement that the addition of the proposed fire prevention infrastructure will make this property and the surrounding neighborhood safer from wildfire than it is today.

CAL FIRE Defensible Space Zones:

- Zone 0: Ember Resistant Zone** - Extends 5 feet from buildings, structures, decks, etc.
- The ember-resistant zone is currently not required by law, but science has proven it to be the most important of all the defensible space zones. This zone includes the area under and around all attached decks, and requires the most stringent wildfire fuel reduction. The ember-resistant zone is designed to keep fire or embers from igniting materials that can spread the fire to your home. The following provides guidance for this zone, which may change based on the regulation developed by the Board of Forestry and Fire Protection.
 - Use hardscape like gravel, pavers, concrete and other noncombustible mulch materials. No combustible bark or mulch
 - Remove all dead and dying weeds, grass, plants, shrubs, trees, branches and vegetative debris (leaves, needles, cones, bark, etc.). Check your roofs, gutters, decks, porches, stairways, etc.
 - Remove all branches within 10 feet of any chimney or stovepipe outlet
 - Limit plants in this area to low growing, nonwoody, properly watered and maintained plants
 - Limit combustible items (outdoor furniture, planters, etc.) on top of decks
 - Relocate firewood and lumber to Zone 2
 - Replace combustible fencing, gates, and arbors attach to the home with noncombustible alternatives
 - Consider relocating garbage and recycling containers outside this zone
 - Consider relocating boats, RVs, vehicles and other combustible items outside this zone

- Zone 1: Lean, Clean and Green Zone** - Extends 30 feet from buildings, structures, decks, etc. or to your property line
- Remove all dead plants, grass and weeds (vegetation).
 - Remove dead or dry leaves and pine needles from your yard, roof and rain gutters.
 - Remove branches that hang over your roof and keep dead branches 10 feet away from your chimney.
 - Trim trees regularly to keep branches a minimum of 10 feet from other trees.
 - Relocate wood piles to Zone 2.
 - Remove or prune flammable plants and shrubs near windows.
 - Remove vegetation and items that could catch fire from around and under decks, balconies and stairs.
 - Create a separation between trees, shrubs and items that could catch fire, such as patio furniture, wood piles, swing sets, etc.

- Zone 2: Reduce Fuel Zone** - Extends from 30 feet to 100 feet out from buildings, structures, decks, etc. or to your property line
- Cut or mow annual grass down to a maximum height of 4 inches.
 - Create horizontal space between shrubs and trees. (See diagram)
 - Create vertical space between grass, shrubs and trees. (See diagram)
 - Remove fallen leaves, needles, twigs, bark, cones, and small branches. However, they may be permitted to a depth of 3 inches.
 - All exposed wood piles must have a minimum of 10 feet of clearance, down to bare mineral soil, in all directions.

Applicant/Owner:

Bay Area Vipassana Center
c/o Sandeep Nayyar
530 Lawrence Expressway #365
Sunnyvale, CA 94085
210.859.1305
sandeep.nayyar@dharma.org

Engineer:

David L. Faria, PE 92432
MH Engineering
16075 Vineyard Blvd.
Morgan Hill, CA 95037
408.779.7381
davidf@mhengineering.com

Project Information:

APN 756-30-024
Present Use: Vacant
Proposed Use: Camps and Retreats
Present Zoning: HS-sr
Proposed Zoning: HS-sr
Sanitary Sewer: Proposed Septic
Gas and Electric: PG&E
Water: Existing well
Telephone: As Shown
Existing Improvements: 54.59 ac
Area:

Boundary Note: Property lines shown on this plan are based on record data and boundary monumentation measured to date.

Flood Zone: The property lies wholly in Zone D, areas in which flood hazards are undetermined, but possible, per FEMA Firm Panel 06085C0618H, effective May 18, 2009.

Basis of Bearings: The bearings shown on this map are based on the centerline of Redwood Retreat Road as found monumented and recorded as South 67° 34' 00" East, on that Parcel Map thereof recorded in Book 578 of Maps at Page 4, Santa Clara County Records.

Benchmark: Elevations shown on this plan are based GPS. (NAVD88)

Tree Note: No trees are to be removed except 1 dead valley oak.

Grading Area of Disturbance = 377,144 SF

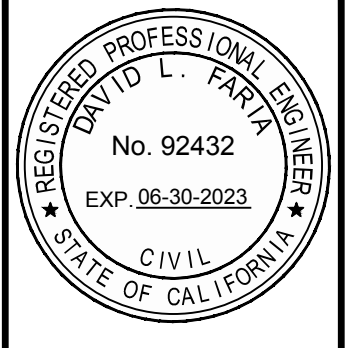
- Fire Notes:**
- This property is located within a Very High Wildland Urban Interface Area (WUI). Defensible space protection measures shall be in place prior to building final.
 - All driveways and access roads to meet County Standard SD2.
 - All driveways, access roads, and parking lots to be made of an all weather surface capable of supporting 75,000 pounds and have a maximum slope of 16%.
 - All driveways to have a minimum inside turning radius of 50 feet.
 - All fire hydrants shall be standard hydrants. Four hydrants provided.
 - Structures will install an NFPA 13 fire sprinkler system as a deferred submittal.
 - All structures to have a minimum 30 foot setback from the centerline of the access road.

APPENDIX 1

Floor Area	
Meditation Building	12,800 SF
Kitchen/Dining Building	6,300 SF
Administration Building	2,100 SF
Caretaker's Residence	1,340 SF
Participant/Volunteer Accommodations (10)	26,000 SF
Instructor's Accommodations	2,130 SF
Maintenance Building	2,050 SF
Cart Storage (2)	540 SF
Total Floor Area	53,260 SF

LEGEND

- (ex building)
- (ex pavement)
- Proposed Structure
- Proposed Pavement
- Proposed Concrete
- Defensible Space Zone 1
- Defensible Space Zone 2
- (O) Existing Contour
- (O) Proposed Contour



MH engineering Co.
16075 Vineyard Boulevard
Morgan Hill, CA 95037

Defensible Space Site Plan
9201 El Matador Dr - APN 756-30-024

DATE: 5/15/2022
SCALE: 1" = 60'
DRAWN BY: DF
CHECKED BY: DF
JOB NO: 218051
SHEET 1
OF 1

