

Emerald Isle Fire Hazard Assessment

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**Prepared by Vern Losh
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PREFACE

This assessment was requested by the Applicant of the Emerald Isle application for a site located in the Fountain Grove area of Santa Rosa California. The assessment is intended to have three fundamental applications, as follows:

First, it provides a background of the proposed development project from a fire perspective including location, fire history, and weather.

Second, it will outline the current building construction standards required by state and local building and fire codes.

Third, it will provide information based on a site visit and review of project description, site plan, and the vegetation management and maintenance report.

The information compiled for this report was gathered from a literature review, professional journals, on-line information, periodicals, the author's library, a site visit, and interviews of fire service experts.

PROPOSED DEVELOPMENT

The Emerald Isle development is located in the Fountain Grove area of Santa Rosa that was established in 1972. The Fountain Grove Golf and Country Club, the Fountain Grove Lake, residential development and a community care facility surround the proposed site.

The proposed site is located in the northeastern part of the City in an area designated by the City Council as a "Wildland Urban Interface Fire Area" (WUI). This designation was adopted February 24, 2009 based on the recommendation of the City of Santa Rosa's Fire Chief. The City's fire ordinance requires that all development comply with certain sections of the Public Resources Code, Government Code and other local requirements for more fire resilient construction materials. Approximately 30% of Santa Rosa is located in Santa Rosa's WUI zone.

FIRE HISTORY

The most significant fire on record in the area of Emerald Isle was the Tubbs Fire of October 2017. Another fire in the area was the Hanley Fire in September of 1964. The Tubbs Fire burned almost 56,000 acres from Calistoga to the area of Coffee Park in Santa Rosa. Like most significant fires in Sonoma County the Tubbs and Hanley fires occurred during the fall and were reportedly driven by hot, dry north and east winds.

WEATHER

The weather in Sonoma County is typical of a Mediterranean type climate. This climate includes long hot summers with minimal amounts of moisture. This climate provides ideal conditions for wildland fires. There is an average of 29 days per year where the temperatures exceed 90 degrees. This is typically in late summer and early fall.

BUILDING CONSTRUCTION

There has been a dramatic change in building standards in the last 10 to 15 years for construction in Wildland Urban Interface (WUI) areas of California. These changes have been a direct result of findings from several major fires in the State. The changes have been incorporated into the building and fire codes on a local and state level.

All construction for the Emerald Isle development will comply with all current building standards as adopted by the State of California and the City of Santa Rosa for WUI areas. This includes but not limited to: interior fire sprinklers, ignition-resistant building materials, protected vents and gutters, enclosed roof eaves and roof eave soffits, fire resistive doors and windows, and ignition-resistant decking material.

New construction using code approved ignition-resistant materials and sealed eaves with reduced ladder fuels and cleared defensible space survived better than new construction in areas with less restrictive building codes in many of the recent fires in California.

FIRE HAZARDS OF SANTA ROSA

The fire threat in Santa Rosa can be largely attributed to the climate, vegetation types (fuel), and topography. Fire hazard reduction can be accomplished by reducing the amount and types of fuel in a given area.

Far and away the most dangerous of the fuel types are those dominated by brush or shrubs. Shrubs and/or brush fuels have similar characteristics. These plants will burn rapidly with high intensities under severe burning conditions. Fires late in the growing season (fall) have the greatest intensities and spread rates under strong winds and when the live fuel moistures are at their lowest. From the flames come burning embers, which can ignite homes and other vegetation. All of these factors results in a setting where aggressive defensible space clearing requirements are necessary.

Properties with greater fire hazards will require more clearing. Clearing requirements will be greater for those lands with steeper terrain, larger and denser fuels, and fuels that burn with great intensity.

DISCUSSION CONCLUSION

After extensive review of all available documents and testimony of Santa Rosa Fire officials it is the conclusion of the author that the Emerald Isle project does not substantially increase the risk of wild fire to the site or the community of Fountain Grove. Further as will be indicated by the submitted plans and documents the project will meet all current building codes, fire codes, and vegetation management practices as required by the City Fire Marshal and the State of California. The codes required in the high fire severity zones of the WUI areas of the city provide for construction requirements that are significantly resilient to wildland fires.

While there are no guaranties during catastrophic fire-storm situations, construction meeting current State and Local fire and building codes will dramatically increase the survivability of all buildings constructed in the WUI areas of the City.

The construction components for this application will meet or exceed all fire and building codes. The components will allow for fire safe structural hardening in the wildland interface, full fire sprinklers, meet all water fire flow requirements and provide an approved defensible space plan. (Attached)

The California Fire Code requires that we develop an overall emergency preparedness plan that will be reviewed and approved by the Santa Rosa Fire Department. As part of that plan we will provide information on but not limited to emergency evacuation procedures, emergency notification tools, shelter in place procedures, road network routes for evacuations, car pool options, and shelter locations out of the immediate area for residents.

We will include the emergency site evacuation information as part of our overall emergency planning and preparedness plan for the property. The emergency preparedness plan will be drafted, then reviewed and approved by the City of Santa Rosa Fire Department as required by section 403.10.1 of the 2016 California Fire Code.

Our emergency and evacuation information provided to new tenants will include:

1. A list of local emergency alert notification tools such as EAS, SoCoAlert, and Nixle.
2. Typical public radio stations that would broadcast updated emergency information.
3. Maps showing the primary road networks available to evacuate from the site.
4. Internet resources for emergency preparedness including Santa Rosa Fire Department, American Red Cross, Ready, Set, Go, Ready for Wildfire, etc.
5. Anything else deemed prudent by the City of Santa Rosa's Fire Department.



Vern Losh, Principal

Vern Losh and Associates

REFERENCES

City of Santa Rosa Local Hazard Mitigation Plan

Fire Safe Sonoma

Sonoma County Community Wildfire Protection Plan

Living with Fire in Sonoma County, Fire Safe Sonoma

California Chaparral Institute

U.S. Forest Service database

UC Cooperative Extension, Pyro-phytic vs. Fire Resistive Plants, 1998

Wildland Urban Interface Fuel Risk Assessment: City of Santa Rosa, California, Fire Management Concepts Inc. 2004

Lake County Community Wildfire Protection Plan

Internet Resources

City of Santa Rosa (Fire, Planning, Building)	https://srcity.org/393/Fire
Ready, Set, Go	http://www.wildlandfirersg.org
Ready For Wildfire	http://www.readyforwildfire.org
California Code of Regulations	www.leginfo.ca.gov/calaw
Cal-Fire (CDF)	http://www.fire.ca.gov
California State Fire Council	www.firesafecouncil.org
Code Development and Fire Safe Planning	www.osfm.fire.ca.gov/regulations
Federal Emergency Management Agency	www.fma.gov
National Wildfire Coordinating Group	www.nwcg.gov
U. S. Fire Administration	www.usfa.fema.us/fire
Wildland Fire Lessons Learned Center	www.wildfirelessons.net
Wildland/Urban Interface Fire Assessment	www.wildfirelessons.net

VEGETATION MANAGEMENT AND MAINTENANCE REPORT

SCOPE OF WORK:

THE VEGETATION MANAGEMENT AND MAINTENANCE REPORT WILL BE PREPARED BY THE LANDSCAPE ARCHITECT FOR THE PROJECT, AND WILL BE SUBMITTED TO THE CITY OF OAKMONT FOR REVIEW AND APPROVAL. THE REPORT WILL BE PREPARED IN ACCORDANCE WITH THE CITY OF OAKMONT'S VEGETATION MANAGEMENT AND MAINTENANCE REPORTING REQUIREMENTS.

ZONE I. 0-50 FOOT DESIRABLE SPACE ZONE:

A. THE VEGETATION MANAGEMENT AND MAINTENANCE REPORT WILL BE PREPARED BY THE LANDSCAPE ARCHITECT FOR THE PROJECT, AND WILL BE SUBMITTED TO THE CITY OF OAKMONT FOR REVIEW AND APPROVAL. THE REPORT WILL BE PREPARED IN ACCORDANCE WITH THE CITY OF OAKMONT'S VEGETATION MANAGEMENT AND MAINTENANCE REPORTING REQUIREMENTS.

ZONE II. 50-100 FOOT DESIRABLE SPACE ZONE:

A. THE VEGETATION MANAGEMENT AND MAINTENANCE REPORT WILL BE PREPARED BY THE LANDSCAPE ARCHITECT FOR THE PROJECT, AND WILL BE SUBMITTED TO THE CITY OF OAKMONT FOR REVIEW AND APPROVAL. THE REPORT WILL BE PREPARED IN ACCORDANCE WITH THE CITY OF OAKMONT'S VEGETATION MANAGEMENT AND MAINTENANCE REPORTING REQUIREMENTS.

ZONE III. 100-150 FOOT DESIRABLE SPACE ZONE:

A. THE VEGETATION MANAGEMENT AND MAINTENANCE REPORT WILL BE PREPARED BY THE LANDSCAPE ARCHITECT FOR THE PROJECT, AND WILL BE SUBMITTED TO THE CITY OF OAKMONT FOR REVIEW AND APPROVAL. THE REPORT WILL BE PREPARED IN ACCORDANCE WITH THE CITY OF OAKMONT'S VEGETATION MANAGEMENT AND MAINTENANCE REPORTING REQUIREMENTS.

ZONE IV. 150-200 FOOT DESIRABLE SPACE ZONE:

A. THE VEGETATION MANAGEMENT AND MAINTENANCE REPORT WILL BE PREPARED BY THE LANDSCAPE ARCHITECT FOR THE PROJECT, AND WILL BE SUBMITTED TO THE CITY OF OAKMONT FOR REVIEW AND APPROVAL. THE REPORT WILL BE PREPARED IN ACCORDANCE WITH THE CITY OF OAKMONT'S VEGETATION MANAGEMENT AND MAINTENANCE REPORTING REQUIREMENTS.

ZONE V. 200-250 FOOT DESIRABLE SPACE ZONE:

A. THE VEGETATION MANAGEMENT AND MAINTENANCE REPORT WILL BE PREPARED BY THE LANDSCAPE ARCHITECT FOR THE PROJECT, AND WILL BE SUBMITTED TO THE CITY OF OAKMONT FOR REVIEW AND APPROVAL. THE REPORT WILL BE PREPARED IN ACCORDANCE WITH THE CITY OF OAKMONT'S VEGETATION MANAGEMENT AND MAINTENANCE REPORTING REQUIREMENTS.

ZONE VI. 250-300 FOOT DESIRABLE SPACE ZONE:

A. THE VEGETATION MANAGEMENT AND MAINTENANCE REPORT WILL BE PREPARED BY THE LANDSCAPE ARCHITECT FOR THE PROJECT, AND WILL BE SUBMITTED TO THE CITY OF OAKMONT FOR REVIEW AND APPROVAL. THE REPORT WILL BE PREPARED IN ACCORDANCE WITH THE CITY OF OAKMONT'S VEGETATION MANAGEMENT AND MAINTENANCE REPORTING REQUIREMENTS.

ZONE VII. 300-350 FOOT DESIRABLE SPACE ZONE:

A. THE VEGETATION MANAGEMENT AND MAINTENANCE REPORT WILL BE PREPARED BY THE LANDSCAPE ARCHITECT FOR THE PROJECT, AND WILL BE SUBMITTED TO THE CITY OF OAKMONT FOR REVIEW AND APPROVAL. THE REPORT WILL BE PREPARED IN ACCORDANCE WITH THE CITY OF OAKMONT'S VEGETATION MANAGEMENT AND MAINTENANCE REPORTING REQUIREMENTS.

ZONE VIII. 350-400 FOOT DESIRABLE SPACE ZONE:

A. THE VEGETATION MANAGEMENT AND MAINTENANCE REPORT WILL BE PREPARED BY THE LANDSCAPE ARCHITECT FOR THE PROJECT, AND WILL BE SUBMITTED TO THE CITY OF OAKMONT FOR REVIEW AND APPROVAL. THE REPORT WILL BE PREPARED IN ACCORDANCE WITH THE CITY OF OAKMONT'S VEGETATION MANAGEMENT AND MAINTENANCE REPORTING REQUIREMENTS.

ZONE IX. 400-450 FOOT DESIRABLE SPACE ZONE:

A. THE VEGETATION MANAGEMENT AND MAINTENANCE REPORT WILL BE PREPARED BY THE LANDSCAPE ARCHITECT FOR THE PROJECT, AND WILL BE SUBMITTED TO THE CITY OF OAKMONT FOR REVIEW AND APPROVAL. THE REPORT WILL BE PREPARED IN ACCORDANCE WITH THE CITY OF OAKMONT'S VEGETATION MANAGEMENT AND MAINTENANCE REPORTING REQUIREMENTS.

