Appendix A:
Risk Assessment Data

This Community Wildfire Protection Plan (CWPP) was developed by the Hollydale/Canyon/Terrace Fire Safe Council with guidance and support from Fire Safe Sonoma, the County of Sonoma, and the California Department of Forestry and Fire Protection. This CWPP supplements the Sonoma County Community Wildfire Protection Plan.

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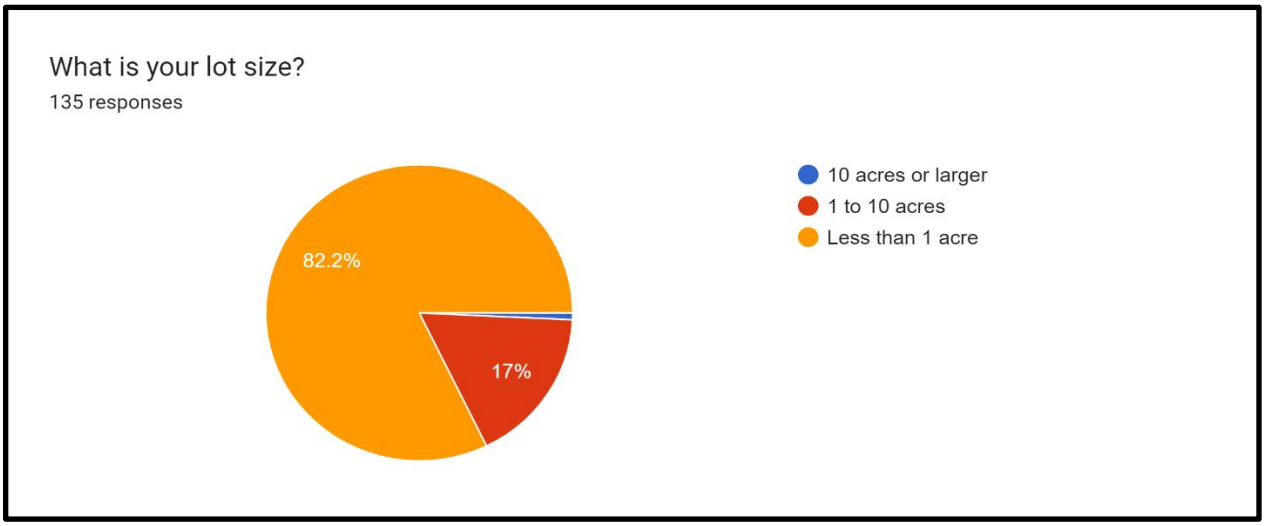
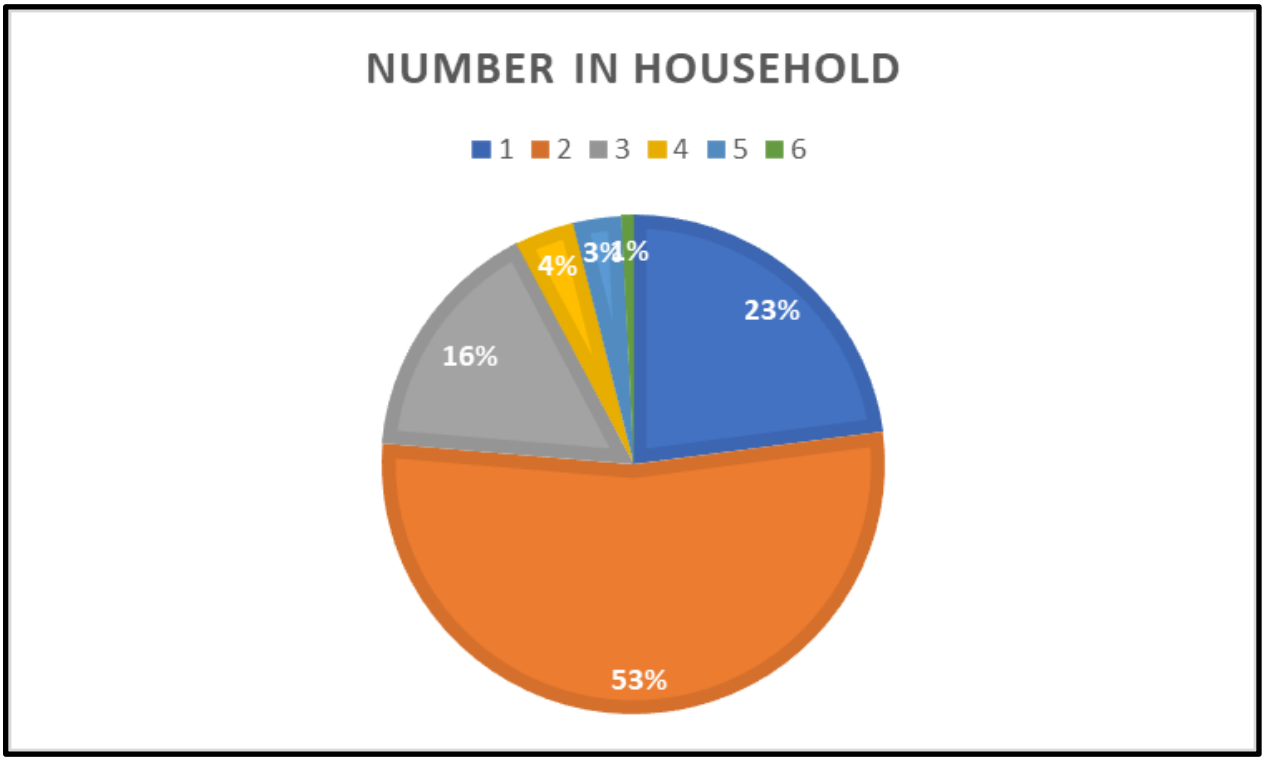
COMMUNITY SURVEY RESULTS

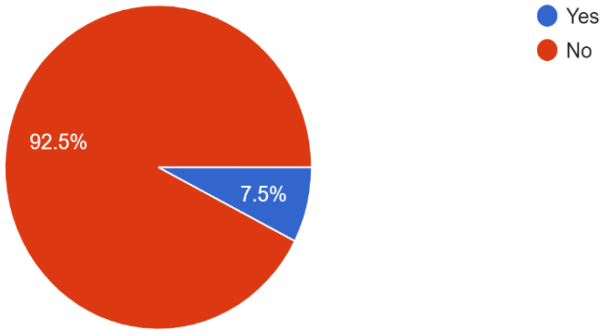
The following graphs represent survey responses for the entire Hollydale/Canyon/Terrace community.

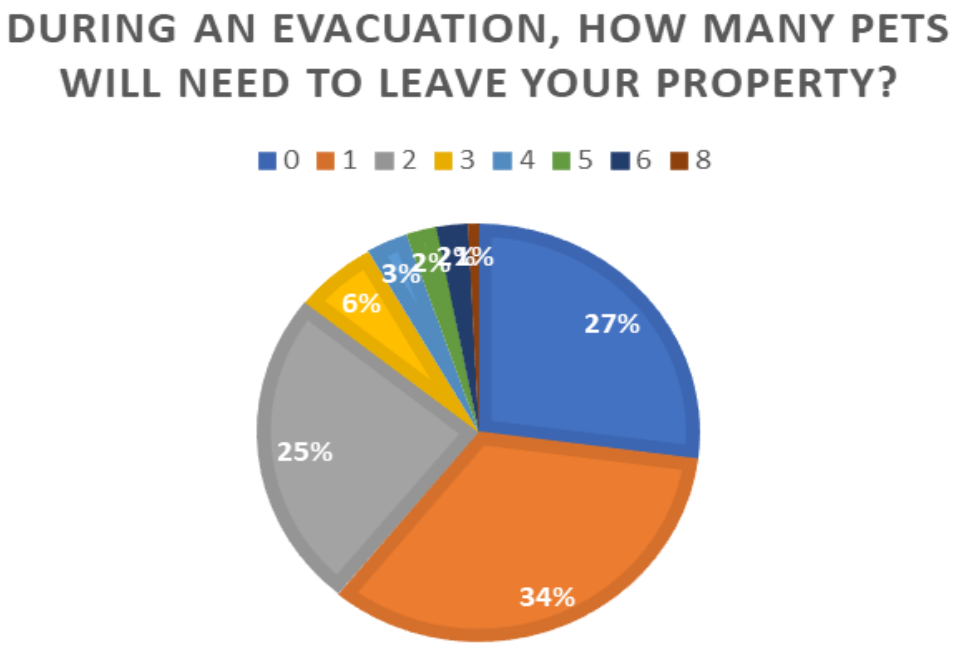




Are there disabled or elderly people on your property who will need assistance during a community emergency (including those registered with PG&E as Medical Baseline Customers)?

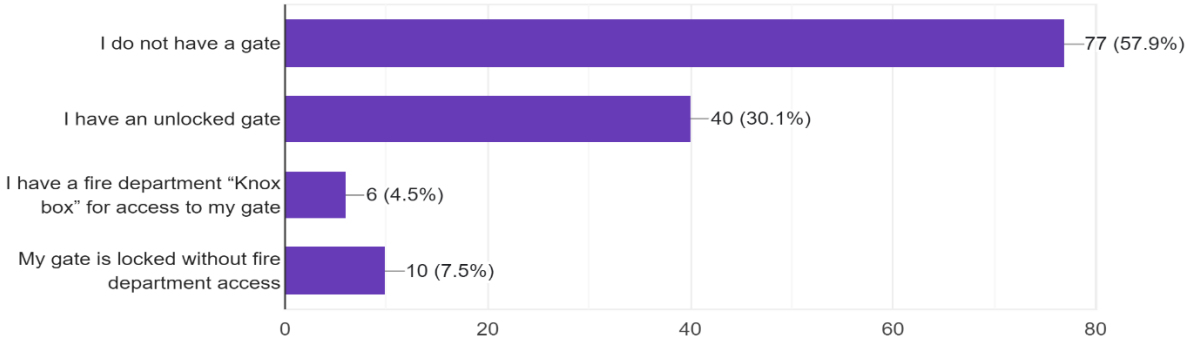
133 responses





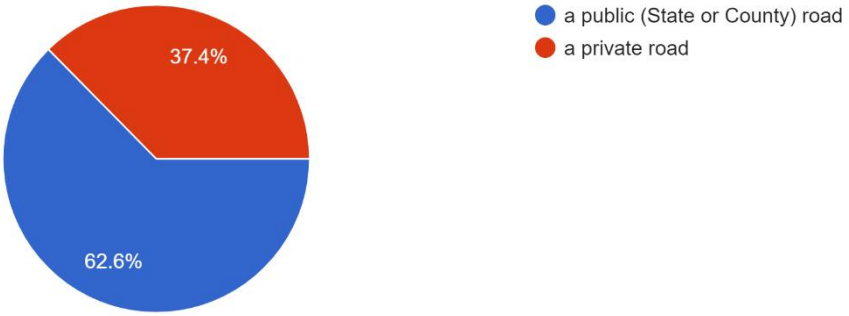
Regarding gates, which applies to your property (check one)?

133 responses



The road I live on (my driveway connects to) is (check one)?:

131 responses

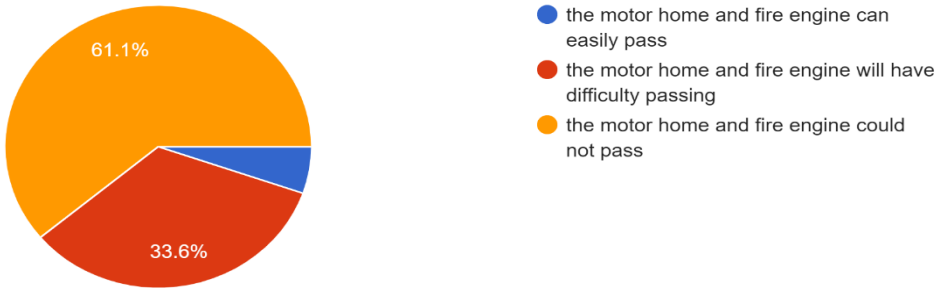


The road I live on...

130 responses

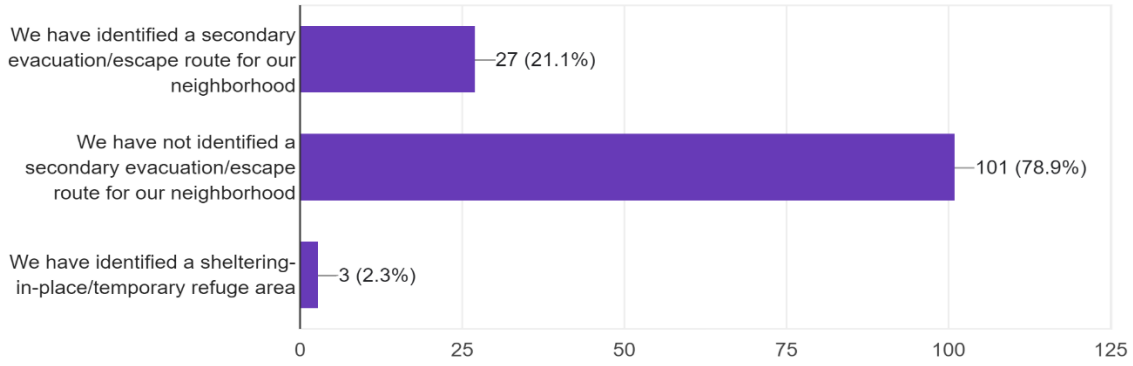
If a motor home and fire engine were traveling on my road in opposite directions (pick one):

131 responses



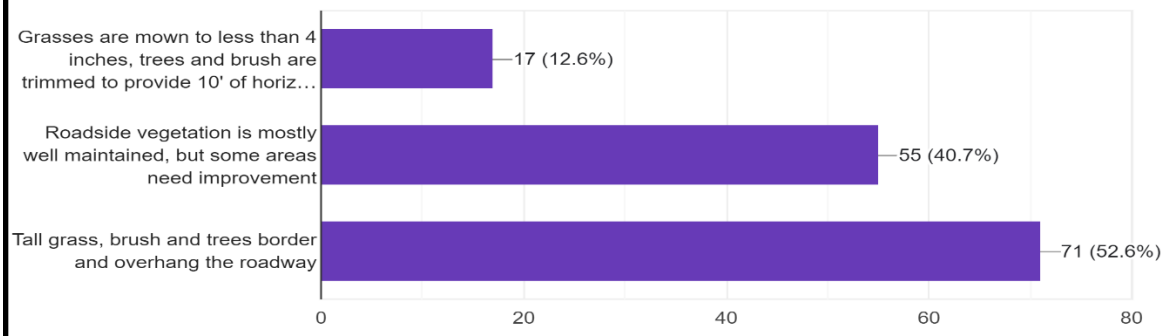
With regard to the neighbors who share your road, please select one or more of the following that best describes your conditions.

128 responses



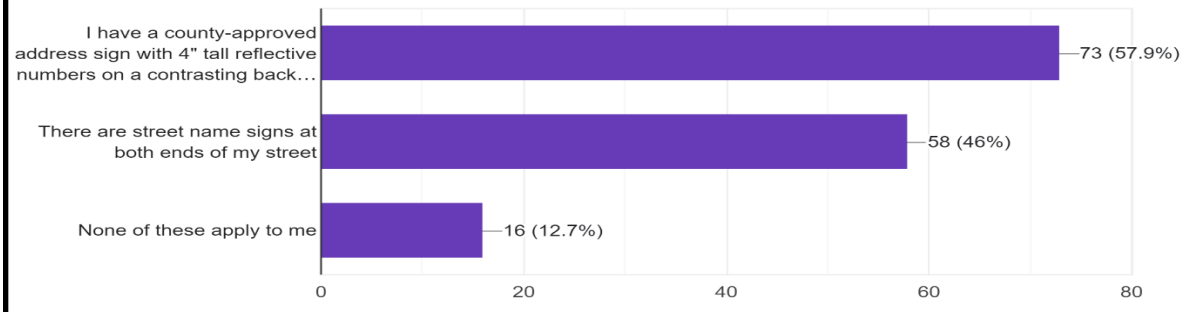
With regard to the VEGETATION along your road, please select the best description from the choices below.

135 responses



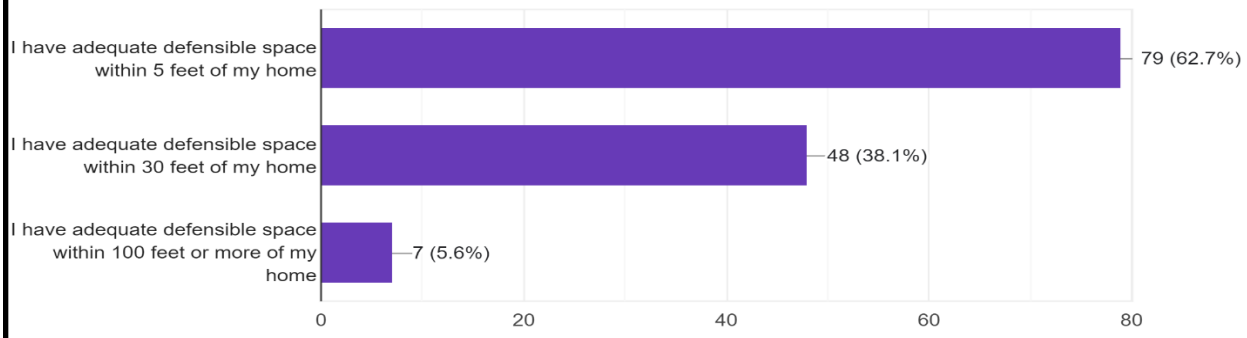
Select what is true regarding SIGNAGE for your property and neighborhood:

126 responses



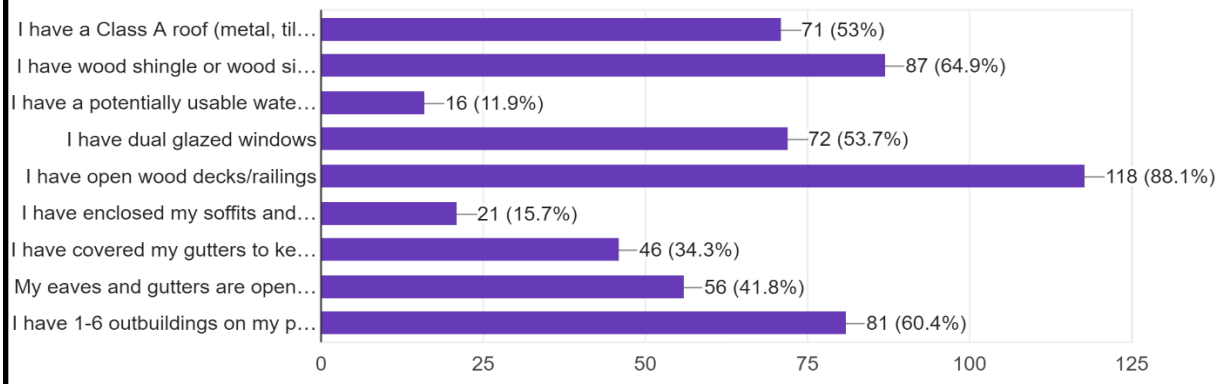
Pick one of the following that best describes your home's DEFENSIBLE SPACE, meaning that within the stated distance from your home there is not significant fuel.

126 responses



HOME HARDENING is an important part of fire preparation. With regard to your home, select those items that are true:

134 responses



COMMUNITY WILDFIRE RISK ASSESSMENTS

USING 2007 FRAP DATA

HOLLYDALE/CANYON/TERRACE OVERALL PLAN AREA RISK ANALYSIS USING 2007 FRAP DATA

IGNITION RISK AND HAZARD ASSESSMENT OVERVIEW FOR Hollydale/Canyon/Terrace

FACTORS	RATING
IGNITION RISK ASSESSMENT	
CONTRIBUTING RISK FACTORS	
History of Lightning	Low
Camping Activities	Moderate
High Level of visitors/activities	Moderate
Understory receptive to ignition	Moderate
Thick brush and trees	High
Unmaintained Powerline Corridors	Moderate
High fuel loads	High
High Winds	Moderate
History of fire ignitions	Low
Add other risk factor	Choose
Add other risk factor	Choose
Add other risk factor	Choose
Add other risk factor	Choose

Final Scores

Summary Rating[1]

Summary Rating / Score 110

Hazard Category	Score
Low Hazard	< 41
Moderate Hazard	41-60
High Hazard	61-75
Very High Hazard	76+

[1] Summary rating for Ignition Risk Assessment is a judgment call determined by planning committee.

FACTORS	RATING	
HAZARD ASSESSMENT		
ACCESS		
Ingress/Egress	Moderate	3
Width of Primary Road	Moderate	3
Passibility	Inadequate	5
Secondary Road Terminus	Inadequate	5
Primary Slope	Moderate	3
Street Signs	Moderate	3
Address Signage	Inadequate	5
Roadside Vegetation	Inadequate	5
Narrow Secondary	Inadequate	5
Secondary Paved	Moderate	3
Secondary Road Slope	Moderate	3
Unrated Bridges	Adequate	1
Wooden Bridges	Adequate	0
Gates	Adequate	1
BUILT ENVIRONMENT		
2007 Standards	Inadequate	5
Roofing Materials	Inadequate	10
Siding Materials	Inadequate	3
Unenclosed Features	Inadequate	5
UTILITIES		
Utility Ignition Risk	Moderate	3
Lot Size	Inadequate	5
Defensible Space	Moderate	3
FIRE PROTECTION		
Water Source	Moderate	5
Fire Protection	Adequate	3
FIRE BEHAVIOR		
Fire Hazard Safety Zone	Moderate	3
Slope	Steep	7
Aspect	Extreme	10
Fuels	Extreme	5
Fire Behavior	Extreme	10

Use this chart to consider which projects might be tackled, and how. Some Green colored risks could potentially be tackled by neighborhood groups for little or no cost. The risks in the yellow category may need considerable planning and perhaps funding, but are modifiable. The Orange risks are physical features or infrastructure that are not easily modified. Risks in this area will be better modified by education and planning.

Risks that can probably be modified	Mitigation Strategies Include:	
Access		
Gates	Evacuation Planning, install "Knox Keys"	Adequate
Roadside vegetation	Fuels Management, education, funding	Inadequate
Signage		
Street	Education, outreach, funding	Moderate
House	Education, outreach, funding	Inadequate
Home Hardening/Construction		
Roofing	Education, outreach, retrofit, funding	Inadequate
Siding	Education, outreach, retrofit, funding	Inadequate
Unenclosed Features	Education, outreach, retrofit, funding	Inadequate
Defensible Space		
Defensible Space	Education, outreach, funding, inspections	Moderate
Risks that possibly can be modified	**Mitigation Strategies Include:**	
Access: Bridges		
Unrated Bridges	Evacuation Planning, modification	Adequate
Wood Bridges	Evacuation Planning, modification	Adequate
Water and Fuels		
Water Sources	Develop further sources.	Moderate
Fire Behavior (stragegic fuel breaks)	Planning, funding, education, outreach	Extreme
Fuels Density (fuels modification)	Planning, funding, education, outreach	Extreme
Risks that cannot likely be modified	**Mitigation Strategies Include:**	
ACCESS		
Primary Roads out	Evacuation Planning	Moderate
Primary Road width	Evacuation Planning	Moderate
Primary Road Slope	Evacuation Planning	Moderate
Secondary width	Evacuation Planning	Inadequate
Secondary Terminus	Evacuation Planning	Inadequate
Secondary Slope	Evacuation Planning	Moderate
Secondary Surface	Evacuation Planning	Moderate
Utilities		
Underground	Education, outreach, report issues	Moderate
Fire Behavior		
Fire Hazard Severity Zones	Education, outreach, planning	Moderate
Slope	Education, outreach, planning	Steep
Predominant Aspect	Education, outreach, planning	Extreme

HOLLYDALE SUB-PLAN AREA RISK ANALYSIS USING 2007 FRAP DATA

IGNITION RISK AND HAZARD ASSESSMENT OVERVIEW FOR Hollydale

FACTORS	RATING
IGNITION RISK ASSESSMENT	
CONTRIBUTING RISK FACTORS	
History of Lightning	Low
Camping Activities	Modera
High Level of visitors/activities	High
Understory receptive to ignition	Modera
Thick brush and trees	Modera
Unmaintained Powerline Corridors	Modera
High fuel loads	Modera
High Winds	Modera
History of fire ignitions	Modera
Wood burning stoves	High
Outdoor fire pits and grills	High
Propane Tanks	High
Add other risk factor	Choose

Final Scores

Summary Rating[1]

Summary Rating / Score 94

Hazard Category	Score
Low Hazard	<41
Moderate Hazard	41-60
High Hazard	61-75
Very High Hazard	76+

[1] Summary rating for Ignition Risk Assessment is a judgment call determined by planning committee.

FACTORS	RATING	
HAZARD ASSESSMENT		
ACCESS		
Ingress/Egress	Moderate	3
Width of Primary Road	Inadequate	5
Passibility	Moderate	3
Secondary Road Terminus	Adequate	1
Primary Slope	Adequate	1
Street Signs	Moderate	3
Address Signage	Inadequate	5
Roadside Vegetation	Inadequate	5
Narrow Secondary	Inadequate	5
Secondary Paved	Moderate	3
Secondary Road Slope	Adequate	1
Unrated Bridges	Adequate	1
Wooden Bridges	Adequate	0
Gates	Adequate	0
BUILT ENVIRONMENT		
2007 Standards	Inadequate	5
Roofing Materials	Inadequate	10
Siding Materials	Inadequate	3
Unenclosed Features	Inadequate	5
UTILITIES		
Utility Ignition Risk	Moderate	3
Lot Size	Inadequate	5
Defensible Space	Moderate	3
FIRE PROTECTION		
Water Source	Adequate	2
Fire Protection	Adequate	3
FIRE BEHAVIOR		
Fire Hazard Safety Zone	High	5
Slope	Slight	4
Aspect	Very High	7
Fuels	High	3
Fire Behavior	Extreme	10

Use this chart to consider which projects might be tackled, and how. Some Green colored risks could potentially be tackled by neighborhood groups for little or no cost. The risks in the yellow category may need considerable planning and perhaps funding, but are modifiable. The Orange risks are physical features or infrastructure that are not easily modified. Risks in this area will be better modified by education and planning.

Risks that can probably be modified	Mitigation Strategies Include:	
Access		
Gates	Evacuation Planning, install "Knox Keys"	Adequate
Roadside vegetation	Fuels Management, education, funding	Inadequate
Signage		
Street	Education, outreach, funding	Moderate
House	Education, outreach, funding	Inadequate
Home Hardening/Construction		
Roofing	Education, outreach, retrofit, funding	Inadequate
Siding	Education, outreach, retrofit, funding	Inadequate
Unenclosed Features	Education, outreach, retrofit, funding	Inadequate
Defensible Space		
Defensible Space	Education, outreach, funding, inspections	Moderate
Risks that possibly can be modified	**Mitigation Strategies Include:**	
Access: Bridges		
Unrated Bridges	Evacuation Planning, modification	Adequate
Wood Bridges	Evacuation Planning, modification	Adequate
Water and Fuels		
Water Sources	Develop further sources.	Adequate
Fire Behavior (stragegic fuel breaks)	Planning, funding, education, outreach	High
Fuels Density (fuels modification)	Planning, funding, education, outreach	Extreme
Risks that cannot likely be modified	**Mitigation Strategies Include:**	
ACCESS		
Primary Roads out	Evacuation Planning	Moderate
Primary Road width	Evacuation Planning	Inadequate
Primary Road Slope	Evacuation Planning	Adequate
Secondary width	Evacuation Planning	Inadequate
Secondary Terminus	Evacuation Planning	Adequate
Secondary Slope	Evacuation Planning	Adequate
Secondary Surface	Evacuation Planning	Moderate
Utilities		
Underground	Education, outreach, report issues	Moderate
Fire Behavior		
Fire Hazard Severity Zones	Education, outreach, planning	High
Slope	Education, outreach, planning	Slight
Predominant Aspect	Education, outreach, planning	Very High

CANYON SUB-PLAN AREA RISK ANALYSIS USING 2007 FRAP DATA

IGNITION RISK AND HAZARD ASSESSMENT OVERVIEW FOR Canyon

FACTORS	RATING
IGNITION RISK ASSESSMENT	
CONTRIBUTING RISK FACTORS	
History of Lightning	Low
Camping Activities	No
High Level of visitors/activities	Low
Understory receptive to ignition	Modera
Thick brush and trees	High
Unmaintained Powerline Corridors	Modera
High fuel loads	High
High Winds	High
History of fire ignitions	Low
Add other risk factor	Choose
Add other risk factor	Choose
Add other risk factor	Choose
Add other risk factor	Choose

FACTORS	RATING	
HAZARD ASSESSMENT		
ACCESS		
Ingress/Egress	Adequate	1
Width of Primary Road	Inadequate	5
Passibility	Moderate	3
Secondary Road Terminus	Adequate	1
Primary Slope	Moderate	3
Street Signs	Moderate	3
Address Signage	Moderate	3
Roadside Vegetation	Inadequate	5
Narrow Secondary	Inadequate	5
Secondary Paved	Adequate	1
Secondary Road Slope	Moderate	3
Unrated Bridges		0
Wooden Bridges	Adequate	0
Gates	Inadequate	5
BUILT ENVIRONMENT		
2007 Standards	Inadequate	5
Roofing Materials	Adequate	1
Siding Materials	Inadequate	3
Unenclosed Features	Inadequate	5
UTILITIES		
Utility Ignition Risk	Moderate	3
Lot Size	Moderate	3
Defensible Space	Moderate	3
FIRE PROTECTION		
Water Source	Adequate	2
Fire Protection	Adequate	3
FIRE BEHAVIOR		
Fire Hazard Safety Zone	High	5
Slope	Very Steep	10
Aspect	Extreme	10
Fuels	Extreme	5
Fire Behavior	Extreme	10

Final Scores

Summary Rating[1]

Summary Rating / Score 92

Hazard Category	Score
Low Hazard	<41
Moderate Hazard	41-60
High Hazard	61-75
Very High Hazard	76+

[1] Summary rating for Ignition Risk Assessment is a judgment call determined by planning committee.

Use this chart to consider which projects might be tackled, and how. Some Green colored risks could potentially be tackled by neighborhood groups for little or no cost. The risks in the yellow category may need considerable planning and perhaps funding, but are modifiable. The Orange risks are physical features or infrastructure that are not easily modified. Risks in this area will be better modified by education and planning.

Risks that can probably be modified	Mitigation Strategies Include:	
Access		
Gates	Evacuation Planning, install "Knox Keys"	Inadequate
Roadside vegetation	Fuels Management, education, funding	Inadequate
Signage		
Street	Education, outreach, funding	Moderate
House	Education, outreach, funding	Moderate
Home Hardening/Construction		
Roofing	Education, outreach, retrofit, funding	Adequate
Siding	Education, outreach, retrofit, funding	Inadequate
Unenclosed Features	Education, outreach, retrofit, funding	Inadequate
Defensible Space		
Defensible Space	Education, outreach, funding, inspections	Moderate
Risks that possibly can be modified	**Mitigation Strategies Include:**	
Access: Bridges		
Unrated Bridges	Evacuation Planning, modification	
Wood Bridges	Evacuation Planning, modification	Adequate
Water and Fuels		
Water Sources	Develop further sources.	Adequate
Fire Behavior (stragegic fuel breaks)	Planning, funding, education, outreach	Extreme
Fuels Density (fuels modification)	Planning, funding, education, outreach	Extreme
Risks that cannot likely be modified	**Mitigation Strategies Include:**	
ACCESS		
Primary Roads out	Evacuation Planning	Adequate
Primary Road width	Evacuation Planning	Inadequate
Primary Road Slope	Evacuation Planning	Moderate
Secondary width	Evacuation Planning	Inadequate
Secondary Terminus	Evacuation Planning	Adequate
Secondary Slope	Evacuation Planning	Moderate
Secondary Surface	Evacuation Planning	Adequate
Utilities		
Underground	Education, outreach, report issues	Moderate
Fire Behavior		
Fire Hazard Severity Zones	Education, outreach, planning	High
Slope	Education, outreach, planning	Very Steep
Predominant Aspect	Education, outreach, planning	Extreme

TERRACE SUB-PLAN AREA RISK ANALYSIS USING 2007 FRAP DATA

IGNITION RISK AND HAZARD ASSESSMENT OVERVIEW FOR Terrace

FACTORS	RATING
IGNITION RISK ASSESSMENT	
CONTRIBUTING RISK FACTORS	
History of Lightning	Low
Camping Activities	Low
High Level of visitors/activities	High
Understory receptive to ignition	Modera
Thick brush and trees	High
Unmaintained Powerline Corridors	Modera
High fuel loads	Modera
High Winds	Modera
History of fire ignitions	Low
Wood burning stoves	High
Outdoor fire pits and grills	Modera
Propane tanks	High
Add other risk factor	Choose

Final Scores

Summary Rating[1]

Summary Rating / Score 109

Hazard Category	Score
Low Hazard	<41
Moderate Hazard	41-60
High Hazard	61-75
Very High Hazard	76+

[1] Summary rating for Ignition Risk Assessment is a judgment call determined by planning committee.

FACTORS	RATING	
HAZARD ASSESSMENT		
ACCESS		
Ingress/Egress	Inadequate	5
Width of Primary Road	Inadequate	5
Passibility	Inadequate	5
Secondary Road Terminus	Inadequate	5
Primary Slope	Moderate	3
Street Signs	Moderate	3
Address Signage	Inadequate	5
Roadside Vegetation	Inadequate	5
Narrow Secondary	Inadequate	5
Secondary Paved	Moderate	3
Secondary Road Slope	Moderate	3
Unrated Bridges		0
Wooden Bridges	Adequate	0
Gates	Adequate	0
BUILT ENVIRONMENT		
2007 Standards	Inadequate	5
Roofing Materials	Inadequate	10
Siding Materials	Inadequate	3
Unenclosed Features	Inadequate	5
UTILITIES		
Utility Ignition Risk	Moderate	3
Lot Size	Inadequate	5
Defensible Space	Moderate	3
FIRE PROTECTION		
Water Source	Adequate	2
Fire Protection	Adequate	3
FIRE BEHAVIOR		
Fire Hazard Safety Zone	High	5
Slope	Very Steep	10
Aspect	Very High	7
Fuels	Extreme	5
Fire Behavior	Extreme	10

Use this chart to consider which projects might be tackled, and how. Some Green colored risks could potentially be tackled by neighborhood groups for little or no cost. The risks in the yellow category may need considerable planning and perhaps funding, but are modifiable. The Orange risks are physical features or infrastructure that are not easily modified. Risks in this area will be better modified by education and planning.

Risks that can probably be modified	Mitigation Strategies Include:	
Access		
Gates	Evacuation Planning, install "Knox Keys"	Adequate
Roadside vegetation	Fuels Management, education, funding	Inadequate
Signage		
Street	Education, outreach, funding	Moderate
House	Education, outreach, funding	Inadequate
Home Hardening/Construction		
Roofing	Education, outreach, retrofit, funding	Inadequate
Siding	Education, outreach, retrofit, funding	Inadequate
Unenclosed Features	Education, outreach, retrofit, funding	Inadequate
Defensible Space		
Defensible Space	Education, outreach, funding, inspections	Moderate
Risks that possibly can be modified	**Mitigation Strategies Include:**	
Access: Bridges		
Unrated Bridges	Evacuation Planning, modification	
Wood Bridges	Evacuation Planning, modification	Adequate
Water and Fuels		
Water Sources	Develop further sources.	Adequate
Fire Behavior (stragegic fuel breaks)	Planning, funding, education, outreach	Extreme
Fuels Density (fuels modification)	Planning, funding, education, outreach	Extreme
Risks that cannot likely be modified	**Mitigation Strategies Include:**	
ACCESS		
Primary Roads out	Evacuation Planning	Inadequate
Primary Road width	Evacuation Planning	Inadequate
Primary Road Slope	Evacuation Planning	Moderate
Secondary width	Evacuation Planning	Inadequate
Secondary Terminus	Evacuation Planning	Inadequate
Secondary Slope	Evacuation Planning	Moderate
Secondary Surface	Evacuation Planning	Moderate
Utilities		
Underground	Education, outreach, report issues	Moderate
Fire Behavior		
Fire Hazard Severity Zones	Education, outreach, planning	High
Slope	Education, outreach, planning	Very Steep
Predominant Aspect	Education, outreach, planning	Very High

COMMUNITY WILDFIRE RISK ASSESSMENTS

USING 2022 FRAP DATA

(*Note that this data was run in January of 2023).

HOLLYDALE SUB-PLAN AREA RISK ANALYSIS USING 2007 FRAP DATA

IGNITION RISK AND HAZARD ASSESSMENT OVERVIEW FOR HCT w/ 2023 FSZ Data

FACTORS	RATING
IGNITION RISK ASSESSMENT	
CONTRIBUTING RISK FACTORS	
History of Lightning	Low
Camping Activities	Moderate
High Level of visitors/activities	Moderate
Understory receptive to ignition	Moderate
Thick brush and trees	High
Unmaintained Powerline Corridors	Moderate
High fuel loads	High
High Winds	Moderate
History of fire ignitions	Low
Add other risk factor	Choose
Add other risk factor	Choose
Add other risk factor	Choose
Add other risk factor	Choose

Final Scores

Summary Rating[1]

Summary Rating / Score 123

Hazard Category	Score
Low Hazard	< 41
Moderate Hazard	41-60
High Hazard	61-75
Very High Hazard	76+

[1] Summary rating for Ignition Risk Assessment is a judgment call determined by planning committee.

FACTORS	RATING	
HAZARD ASSESSMENT		
ACCESS		
Ingress/Egress	Moderate	3
Width of Primary Road	Moderate	3
Passibility	Inadequate	5
Secondary Road Terminus	Inadequate	5
Primary Slope	Moderate	3
Street Signs	Moderate	3
Address Signage	Inadequate	5
Roadside Vegetation	Inadequate	5
Narrow Secondary	Inadequate	5
Secondary Paved	Moderate	3
Secondary Road Slope	Moderate	3
Unrated Bridges	Moderate	5
Wooden Bridges	Inadequate	5
Gates	Inadequate	5
BUILT ENVIRONMENT		
2007 Standards	Inadequate	5
Roofing Materials	Inadequate	10
Siding Materials	Inadequate	3
Unenclosed Features	Inadequate	5
UTILITIES		
Utility Ignition Risk	Moderate	3
Lot Size	Inadequate	5
Defensible Space	Moderate	3
FIRE PROTECTION		
Water Source	Moderate	5
Fire Protection	Adequate	3
FIRE BEHAVIOR		
Fire Hazard Safety Zone	Very High	7
Slope	Steep	7
Aspect	Extreme	10
Fuels	Extreme	5
Fire Behavior	Extreme	10

Risks that can probably be modified	Mitigation Strategies Include:	
Access		
Gates	Evacuation Planning, install "Knox Keys"	Inadequate
Roadside vegetation	Fuels Management, education, funding	Inadequate
Signage		
Street	Education, outreach, funding	Moderate
House	Education, outreach, funding	Inadequate
Home Hardening/Construction		
Roofing	Education, outreach, retrofit, funding	Inadequate
Siding	Education, outreach, retrofit, funding	Inadequate
Unenclosed Features	Education, outreach, retrofit, funding	Inadequate
Defensible Space		
Defensible Space	Education, outreach, funding, inspections	Moderate
Risks that possibly can be modified	**Mitigation Strategies Include:**	
Access: Bridges		
Unrated Bridges	Evacuation Planning, modification	Moderate
Wood Bridges	Evacuation Planning, modification	Inadequate
Water and Fuels		
Water Sources	Develop further sources.	Moderate
Fire Behavior (stragegic fuel breaks)	Planning, funding, education, outreach	Extreme
Fuels Density (fuels modification)	Planning, funding, education, outreach	Extreme
Risks that cannot likely be modified	**Mitigation Strategies Include:**	
ACCESS		
Primary Roads out	Evacuation Planning	Moderate
Primary Road width	Evacuation Planning	Moderate
Primary Road Slope	Evacuation Planning	Moderate
Secondary width	Evacuation Planning	Inadequate
Secondary Terminus	Evacuation Planning	Inadequate
Secondary Slope	Evacuation Planning	Moderate
Secondary Surface	Evacuation Planning	Moderate
Utilities		
Underground	Education, outreach, report issues	Moderate
Fire Behavior		
Fire Hazard Severity Zones	Education, outreach, planning	Very High
Slope	Education, outreach, planning	Steep
Predominant Aspect	Education, outreach, planning	Extreme

HOLLYDALE SUB-PLAN AREA RISK ANALYSIS USING 2022 FRAP DATA

IGNITION RISK AND HAZARD ASSESSMENT OVERVIEW FOR Hollydale w/ 2023 FHSZ Data

FACTORS	RATING
IGNITION RISK ASSESSMENT	
CONTRIBUTING RISK FACTORS	
History of Lightning	Low
Camping Activities	Modera
High Level of visitors/activities	High
Understory receptive to ignition	Modera
Thick brush and trees	Modera
Unmaintained Powerline Corridors	Modera
High fuel loads	Modera
High Winds	Modera
History of fire ignitions	Modera
Wood burning stoves	High
Outdoor fire pits and grills	High
Propane Tanks	High
Add other risk factor	Choose

Final Scores

Summary Rating[1]

Summary Rating / Score 94

Hazard Category	Score
Low Hazard	< 41
Moderate Hazard	41-60
High Hazard	61-75
Very High Hazard	76+

[1] Summary rating for Ignition Risk Assessment is a judgment call determined by planning committee.

FACTORS	RATING	
HAZARD ASSESSMENT		
ACCESS		
Ingress/Egress	Moderate	3
Width of Primary Road	Inadequate	5
Passibility	Moderate	3
Secondary Road Terminus	Adequate	1
Primary Slope	Adequate	1
Street Signs	Moderate	3
Address Signage	Inadequate	5
Roadside Vegetation	Inadequate	5
Narrow Secondary	Inadequate	5
Secondary Paved	Moderate	3
Secondary Road Slope	Adequate	1
Unrated Bridges	Adequate	1
Wooden Bridges	Adequate	0
Gates	Adequate	0
BUILT ENVIRONMENT		
2007 Standards	Inadequate	5
Roofing Materials	Inadequate	10
Siding Materials	Inadequate	3
Unenclosed Features	Inadequate	5
UTILITIES		
Utility Ignition Risk	Moderate	3
Lot Size	Inadequate	5
Defensible Space	Moderate	3
FIRE PROTECTION		
Water Source	Adequate	2
Fire Protection	Adequate	3
FIRE BEHAVIOR		
Fire Hazard Safety Zone	High	5
Slope	Slight	4
Aspect	Very High	7
Fuels	High	3
Fire Behavior	Extreme	10

Risks that can probably be modified	Mitigation Strategies Include:	
Access		
Gates	Evacuation Planning, install "Knox Keys"	Adequate
Roadside vegetation	Fuels Management, education, funding	Inadequate
Signage		
Street	Education, outreach, funding	Moderate
House	Education, outreach, funding	Inadequate
Home Hardening/Construction		
Roofing	Education, outreach, retrofit, funding	Inadequate
Siding	Education, outreach, retrofit, funding	Inadequate
Unenclosed Features	Education, outreach, retrofit, funding	Inadequate
Defensible Space		
Defensible Space	Education, outreach, funding, inspections	Moderate
Risks that possibly can be modified	**Mitigation Strategies Include:**	
Access: Bridges		
Unrated Bridges	Evacuation Planning, modification	Adequate
Wood Bridges	Evacuation Planning, modification	Adequate
Water and Fuels		
Water Sources	Develop further sources.	Adequate
Fire Behavior (stragegic fuel breaks)	Planning, funding, education, outreach	High
Fuels Density (fuels modification)	Planning, funding, education, outreach	Extreme
Risks that cannot likely be modified	**Mitigation Strategies Include:**	
ACCESS		
Primary Roads out	Evacuation Planning	Moderate
Primary Road width	Evacuation Planning	Inadequate
Primary Road Slope	Evacuation Planning	Adequate
Secondary width	Evacuation Planning	Inadequate
Secondary Terminus	Evacuation Planning	Adequate
Secondary Slope	Evacuation Planning	Adequate
Secondary Surface	Evacuation Planning	Moderate
Utilities		
Underground	Education, outreach, report issues	Moderate
Fire Behavior		
Fire Hazard Severity Zones	Education, outreach, planning	High
Slope	Education, outreach, planning	Slight
Predominant Aspect	Education, outreach, planning	Very High

CANYON SUB-PLAN AREA RISK ANALYSIS USING 2022 FRAP DATA

IGNITION RISK AND HAZARD ASSESSMENT OVERVIEW FOR Canyon w/2023 FHSZ Data

FACTORS	RATING
IGNITION RISK ASSESSMENT	
CONTRIBUTING RISK FACTORS	
History of Lightning	Low
Camping Activities	No
High Level of visitors/activities	Low
Understory receptive to ignition	Modera
Thick brush and trees	High
Unmaintained Powerline Corridors	Modera
High fuel loads	High
High Winds	High
History of fire ignitions	Low
Add other risk factor	Choose
Add other risk factor	Choose
Add other risk factor	Choose
Add other risk factor	Choose

FACTORS	RATING	
HAZARD ASSESSMENT		
ACCESS		
Ingress/Egress	Adequate	1
Width of Primary Road	Inadequate	5
Passibility	Moderate	3
Secondary Road Terminus	Adequate	1
Primary Slope	Moderate	3
Street Signs	Moderate	3
Address Signage	Moderate	3
Roadside Vegetation	Inadequate	5
Narrow Secondary	Inadequate	5
Secondary Paved	Adequate	1
Secondary Road Slope	Moderate	3
Unrated Bridges		0
Wooden Bridges	Adequate	0
Gates	Inadequate	5
BUILT ENVIRONMENT		
2007 Standards	Inadequate	5
Roofing Materials	Adequate	1
Siding Materials	Inadequate	3
Unenclosed Features	Inadequate	5
UTILITIES		
Utility Ignition Risk	Moderate	3
Lot Size	Moderate	3
Defensible Space	Moderate	3
FIRE PROTECTION		
Water Source	Adequate	2
Fire Protection	Adequate	3
FIRE BEHAVIOR		
Fire Hazard Safety Zone	High	5
Slope	Very Steep	10
Aspect	Extreme	10
Fuels	Extreme	5
Fire Behavior	Extreme	10

Final Scores

Summary Rating[1]

Summary Rating / Score 92

Hazard Category	Score
Low Hazard	< 41
Moderate Hazard	41-60
High Hazard	61-75
Very High Hazard	76+

[1] Summary rating for Ignition Risk Assessment is a judgment call determined by planning committee.

Risks that can probably be modified	Mitigation Strategies Include:	
Access		
Gates	Evacuation Planning, install "Knox Keys"	Inadequate
Roadside vegetation	Fuels Management, education, funding	Inadequate
Signage		
Street	Education, outreach, funding	Moderate
House	Education, outreach, funding	Moderate
Home Hardening/Construction		
Roofing	Education, outreach, retrofit, funding	Adequate
Siding	Education, outreach, retrofit, funding	Inadequate
Unenclosed Features	Education, outreach, retrofit, funding	Inadequate
Defensible Space		
Defensible Space	Education, outreach, funding, inspections	Moderate
Risks that possibly can be modified	**Mitigation Strategies Include:**	
Access: Bridges		
Unrated Bridges	Evacuation Planning, modification	
Wood Bridges	Evacuation Planning, modification	Adequate
Water and Fuels		
Water Sources	Develop further sources.	Adequate
Fire Behavior (stragegic fuel breaks)	Planning, funding, education, outreach	Extreme
Fuels Density (fuels modification)	Planning, funding, education, outreach	Extreme
Risks that cannot likely be modified	**Mitigation Strategies Include:**	
ACCESS		
Primary Roads out	Evacuation Planning	Adequate
Primary Road width	Evacuation Planning	Inadequate
Primary Road Slope	Evacuation Planning	Moderate
Secondary width	Evacuation Planning	Inadequate
Secondary Terminus	Evacuation Planning	Adequate
Secondary Slope	Evacuation Planning	Moderate
Secondary Surface	Evacuation Planning	Adequate
Utilities		
Underground	Education, outreach, report issues	Moderate
Fire Behavior		
Fire Hazard Severity Zones	Education, outreach, planning	High
Slope	Education, outreach, planning	Very Steep
Predominant Aspect	Education, outreach, planning	Extreme

TERRACE SUB-PLAN AREA RISK ANALYSIS USING 2022 FRAP DATA

IGNITION RISK AND HAZARD ASSESSMENT OVERVIEW FOR Terrace w/2023 FHSZ Data

FACTORS	RATING
IGNITION RISK ASSESSMENT	
CONTRIBUTING RISK FACTORS	
History of Lightning	Low
Camping Activities	Low
High Level of visitors/activities	High
Understory receptive to ignition	Modera
Thick brush and trees	High
Unmaintained Powerline Corridors	Modera
High fuel loads	Modera
High Winds	Modera
History of fire ignitions	Low
Wood burning stoves	High
Outdoor fire pits and grills	Modera
Propane tanks	High
Add other risk factor	Choose

Final Scores

Summary Rating[1]

Summary Rating / Score 109

Hazard Category	Score
Low Hazard	< 41
Moderate Hazard	41-60
High Hazard	61-75
Very High Hazard	76+

[1] Summary rating for Ignition Risk Assessment is a judgment call determined by planning committee.

FACTORS	RATING	
HAZARD ASSESSMENT		
ACCESS		
Ingress/Egress	Inadequate	5
Width of Primary Road	Inadequate	5
Passibility	Inadequate	5
Secondary Road Terminus	Inadequate	5
Primary Slope	Moderate	3
Street Signs	Moderate	3
Address Signage	Inadequate	5
Roadside Vegetation	Inadequate	5
Narrow Secondary	Inadequate	5
Secondary Paved	Moderate	3
Secondary Road Slope	Moderate	3
Unrated Bridges		0
Wooden Bridges	Adequate	0
Gates	Adequate	0
BUILT ENVIRONMENT		
2007 Standards	Inadequate	5
Roofing Materials	Inadequate	10
Siding Materials	Inadequate	3
Unenclosed Features	Inadequate	5
UTILITIES		
Utility Ignition Risk	Moderate	3
Lot Size	Inadequate	5
Defensible Space	Moderate	3
FIRE PROTECTION		
Water Source	Adequate	2
Fire Protection	Adequate	3
FIRE BEHAVIOR		
Fire Hazard Safety Zone	High	5
Slope	Very Steep	10
Aspect	Very High	7
Fuels	Extreme	5
Fire Behavior	Extreme	10

Risks that can probably be modified	Mitigation Strategies Include:	
Access		
Gates	Evacuation Planning, install "Knox Keys"	Adequate
Roadside vegetation	Fuels Management, education, funding	Inadequate
Signage		
Street	Education, outreach, funding	Moderate
House	Education, outreach, funding	Inadequate
Home Hardening/Construction		
Roofing	Education, outreach, retrofit, funding	Inadequate
Siding	Education, outreach, retrofit, funding	Inadequate
Unenclosed Features	Education, outreach, retrofit, funding	Inadequate
Defensible Space		
Defensible Space	Education, outreach, funding, inspections	Moderate
Risks that possibly can be modified	**Mitigation Strategies Include:**	
Access: Bridges		
Unrated Bridges	Evacuation Planning, modification	
Wood Bridges	Evacuation Planning, modification	Adequate
Water and Fuels		
Water Sources	Develop further sources.	Adequate
Fire Behavior (stragegic fuel breaks)	Planning, funding, education, outreach	Extreme
Fuels Density (fuels modification)	Planning, funding, education, outreach	Extreme
Risks that cannot likely be modified	**Mitigation Strategies Include:**	
ACCESS		
Primary Roads out	Evacuation Planning	Inadequate
Primary Road width	Evacuation Planning	Inadequate
Primary Road Slope	Evacuation Planning	Moderate
Secondary width	Evacuation Planning	Inadequate
Secondary Terminus	Evacuation Planning	Inadequate
Secondary Slope	Evacuation Planning	Moderate
Secondary Surface	Evacuation Planning	Moderate
Utilities		
Underground	Education, outreach, report issues	Moderate
Fire Behavior		
Fire Hazard Severity Zones	Education, outreach, planning	High
Slope	Education, outreach, planning	Very Steep
Predominant Aspect	Education, outreach, planning	Very High

Appendix B:
Community Wildfire Protection Plan

FOR THE HOLLYDALE/CANYON/TERRACE COMMUNITIES

This Community Wildfire Protection Plan (CWPP) was developed by the Hollydale/Canyon/Terrace Fire Safe Council with guidance and support from Fire Safe Sonoma, the County of Sonoma, and the California Department of Forestry and Fire Protection. This CWPP supplements the Sonoma County Community Wildfire Protection Plan.

DISCLAIMER

Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the authors and do not necessarily reflect the view(s) of any governmental agency, organization, corporation or individual with which the authors may be affiliated.

This publication is designed to provide accurate and authoritative information regarding the subject matter covered. This Community Wildfire Prevention Plan (the Plan) is a work in progress. Various changes are anticipated throughout the Plan over the next several years.

Readers are urged to consult with their own agencies having jurisdiction regarding the use or implementation of this Plan, as well as their own legal counsel on matters of concern.

While the publisher and authors have used their best efforts in preparing this Plan, they make no representations or warranties with respect to the accuracy or completeness of the contents and specifically disclaim any implied warranties of merchantability or fitness for a particular purpose. No warranty may be created or extended by receiving this publication. The advice and strategies contained herein may not be suitable for your specific situation. The publisher, sponsors and authors shall not be liable for any loss of profit or any other damages, including but not limited to, special incidental and/or consequential damages.

This CWPP is not to be construed as indicative of project “activity” as defined under the “Community Guide to the California Environmental Quality Act, Chapter Three, Projects Subject to CEQA.” Any actual project activities undertaken that meet this definition of project activity and are undertaken by the CWPP participants or agencies listed shall meet local, state, and federal environmental compliance requirements.

Because this CWPP does not legally commit any public agency to a specific course of action or conduct and thus, is not a project subject to CEQA or NEPA. However, if and once grant funding is received from state or federal agencies and prior to work performed pursuant to the Sonoma County CWPP or a local CWPP, or prior to issuance of discretionary permits or other entitlements by any public agencies to which CEQA or NEPA may apply, the lead agency must consider whether the proposed activity is a project under CEQA or NEPA. If the lead agency determines the proposed activity is a project subject to CEQA or NEPA, the lead agency must perform environmental review pursuant to CEQA or NEPA.

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GENERAL RECOMMENDATIONS

The partnership that exists between the listed organizations and citizens in this CWPP will help the communities of Hollydale/Canyon/Terrace to reduce hazardous vegetative fuels that could ignite residences and commercial facilities during a wildfire, reduce the risk of structural ignition, supply evacuation planning, and improve wildfire preparedness through education and outreach in these areas.

In collaboration with community members, county, and state government agencies, and local and state fire officials, this CWPP establishes and prioritizes wildfire risk reduction projects that have been developed to address the most significant risks identified in the Community Risk Assessment. This project list is a living document and will be periodically updated in the future to reflect progress and changing priorities.

The actions and recommendations to reduce the risk of wildfire in the plan area are based on the findings from the risk analysis observations. Prioritized recommendations focus on the home first to reduce structural ignitability and work their way out into the three home ignition zones based on the potential fire threat to homes, and threats to natural resources from a fire occurring from an individual parcel. Areas that have been identified as immediate concerns are the ability for vehicles to pass on roadways simultaneously; long roads with one way in and one way out; a lack of address numbers; the lack of fire-safe roofs and siding; unenclosed features, such as decks; and roadside vegetation.

PRIORITY RATINGS

Projects have been categorized as follows:

- **H:** High Priority
- **M:** Medium Priority
- **L:** Low Priority

PROJECT CATEGORIES

Projects have been categorized as follows:

1. Access / Evacuation
2. Structural Ignition / Structural Hardening
3. Defensible Space / Fuels Reduction
4. Education & Outreach

Access/Evacuation

Projects in this area should include roadside vegetation removal, improved address signage, and general education about early notifications and evacuations, evacuating with pets, projects to assist those requiring assistance evacuating, and roadside fuels reduction projects (duplicated in fuels reduction).

PROJECT	PARTNERS	POTENTIAL FUNDING SOURCES	PRIORITY	YEAR
Provide residents with free address signage to increase visibility for first responders.	Sonoma County Fire District; CAL FIRE; Fire Safe Sonoma	County of Sonoma Community Investment funds; Rebuild North Bay; CAL FIRE's Fire Prevention grant funds; Federal grant programs such as FEMA Fire Prevention grant program; in-kind contributions from supporting agencies and organizations	**H**	1
Coordinate with County Transportation and Public Works to update street signage. Additional street signage to indicate which roads are dead-end.	Sonoma County Transportation and Public Works; Sonoma County Fire District; Fire Safe Sonoma	County of Sonoma Community Investment funds; Rebuild North Bay Community RiseUp Community Impact Grants; CAL FIRE's Fire Prevention grant funds; Federal grant programs such as FEMA Fire Prevention grant program; in-kind contributions from supporting agencies and organizations.	**TBD**	TBD

PROJECT	PARTNERS	POTENTIAL FUNDING SOURCES	PRIORITY	YEAR
Create a community General Mobile Radio Service (GMRS) network in coordination with outside communities.	Sonoma County Department of Emergency Management; Sonoma County Fire Chiefs Association; Sonoma County Sheriff's Department; California Office of Emergency Services; California Public Utilities Commission; Emergency medical services, Sonoma County Governmental Services.		**H**	1-2
Create resilient community broadband networks (hardening existing infrastructure and creating new long-term solutions).	Same as above		**H**	1-2

PROJECT	PARTNERS	POTENTIAL FUNDING SOURCES	PRIORITY	YEAR
Expand alternative community notification solutions during emergencies (e.g., manual bell ringing, horn honking, megaphone).	Sonoma County Fire District; Sonoma County Sheriff's Department;.Fire Safe Sonoma.	California Fire Safe Council; County of Sonoma Community Investment funds; Rebuild North Bay Community RiseUp Community Impact Grants; CAL FIRE's Fire Prevention grant funds; Federal grant programs such as FEMA Fire Prevention grant program; in-kind contributions from supporting agencies and organizations.	**H**	1
Map primary and secondary evacuation routes, including Community Evacuation meetings with Public Works and Sheriff's Department and work exploring/creating new or other means of in/egress for our footprint, including designated emergency vehicle routes.	Sonoma; County Transportation and Public Works; Sonoma County Fire District; Sonoma County Sheriff's Department; Fire Safe Sonoma	California Fire Safe Council; County of Sonoma Community Investment funds; Rebuild North Bay Community RiseUp Community Impact Grants; CAL FIRE's Fire Prevention grant funds; Federal grant programs such as FEMA Fire Prevention grant program; in-kind contributions from supporting agencies and organizations.	**H**	1
In collaboration with communities, CAL FIRE, Fire Districts, Public Works and Transportation, and Open Space, identify new/existing routes that have been unmaintained which could be restored for alternative emergency access routes, including footpaths.	Sonoma County Ag + Open Space; Sonoma;County Transportation and Public Works; CAL FIRE; Sonoma County Fire District; Conservation Corps of the North Bay; Sonoma County Sheriff's Department; Fire Safe Sonoma.	California Fire Safe Council; County of Sonoma Community Investment funds; Rebuild North Bay Community RiseUp Community Impact Grants; CAL FIRE's Fire Prevention grant funds; Federal grant programs such as FEMA Fire Prevention grant program; in-kind contributions from supporting agencies and organizations.	**H**	1-3

PROJECT	PARTNERS	POTENTIAL FUNDING SOURCES	PRIORITY	YEAR
Restore roadway conditions (i.e., paving, etc.) wherever necessary.	Sonoma County Transportation and Public Works, CAL FIRE,		**L**	3
Clear and expand a bottleneck Terrace hairpin turn to allow easier fire-truck access.	Sonoma County Transportation and Public Works		**H**	1

Structural Hardening

Projects in this topical area should include structural hardening and retrofit resources for low-income and at-risk populations as well as funding incentives.

PROJECT	PARTNERS	POTENTIAL FUNDING SOURCES	PRIORITY	YEAR
Seek out additional funding for home hardening incentive projects with a focus on roof.	SoCo Adapts, local businesses, insurance companies, etc.		**H**	1

Defensible Space/Fuels Reduction

Based on the information gathered, projects in this topical area should include roadside fuel reduction projects, community fuel breaks, information about power lines, and defensible space resources, especially for low-income and at-risk populations as well as funding incentives.

PROJECT	PARTNERS	POTENTIAL FUNDING SOURCES	PRIORITY	YEAR
Conduct outreach to obtain landowner permissions to remove or cut back the vegetation.	Sonoma County Ag + Open Space; Sonoma County Transportation and Public Works; CAL FIRE; Sonoma County Fire District; Conservation Corps of the North Bay; Sonoma County Sheriff's Department; Fire Safe Sonoma.	California Fire Safe Council; County of Sonoma Community Investment funds; Rebuild North Bay Community RiseUp Community Impact Grants; Federal grant programs such as FEMA Fire Prevention grant program; in-kind contributions from supporting agencies and organizations.	**H**	1
Engage with homeowners to extend treatments onto their private land beyond the road right-of-way, to achieve the desired 100' off centerline treatment.	Same as above	Same as above	**H**	1
Consolidate information into a management plan (map, photos, landowner permission, description of work to be done). Identify the most urgent sites to treat.	Same as above	Same as above	**H**	1

PROJECT	PARTNERS	POTENTIAL FUNDING SOURCES	PRIORITY	YEAR
Continue roadside vegetation management with annual inspection and evaluation with suitable management, perhaps including goats.	Same as above	Same as above	**H**	1
Address issues related to large lots, absentee owners, real and potential fuel breaks by providing support to large acreage landowners in planning and implementing forest treatments that will reduce wildfire risk. Include educational workshops to engage new landowners, as well as meetings to track progress of active landowners	Sonoma County Ag + Open Space; CAL FIRE; Sonoma County Fire District; Conservation Corps of the North Bay; Fire Safe Sonoma; Gold Ridge RCD; Department of Fish and Wildlife	CAL FIRE's Forest Health Grants or Fire Prevention Program; California Fire Safe Council; County of Sonoma Community Investment funds; Rebuild North Bay Community RiseUp Community Impact Grants; Federal grant programs such as FEMA Fire Prevention grant program; in-kind contributions from supporting agencies and organizations.	**M**	3
Assist landowners in applying for assistance to programs like LandSmart Forest Management Planning, EQIP, CFIP and NBFIP.	Same as above	Same as above	**M**	3

PROJECT	PARTNERS	POTENTIAL FUNDING SOURCES	PRIORITY	YEAR
Establish best practices to manage vegetation within each community identified on a map (hand crews here, mastication there, coordinated chipping with projects, etc.).	Occidental Arts and Ecology Center; Sonoma County Ag + Open Space; Sonoma County Fire District; Fire Safe Sonoma; Gold Ridge RCD; Safer West County	CAL FIRE's Forest Health Grants or Fire Prevention Program; California Fire Safe Council; County of Sonoma Community Investment funds; Rebuild North Bay Community RiseUp Federal grant programs such as FEMA Fire Prevention grant program; in-kind contributions from supporting agencies and organizations	**M**	1-2
Establish best practices to maintain managed vegetation long term. Includes cost-effective solutions in coordination with outside entities, as well as community-based initiatives (chipping, prescribed burns, tool rental program, livestock grazing, etc.).	Same as above	Same as above	**M**	2-3
Fire Council participation in FireSafe Sonoma to find current grants availability **Decide on, develop, and make future grant applications**	Fire Safe Sonoma; Gold Ridge RCD; Safer West County		**M**	1-5

PROJECT	PARTNERS	POTENTIAL FUNDING SOURCES	PRIORITY	YEAR
Prescribed burning	Fire starters; Fire Forward; Occidental Arts and Ecology Center; Sonoma County Ag + Open Space; CAL FIRE; Conservation Corps of the North Bay; Sonoma County Fire District; Fire Safe Sonoma; Gold Ridge RCD; Safer West County		**L**	3
Focus on thinning hillside areas above Esther and hillside, on the Hamle property between Canyon and Woodside, and in community-owned parkland areas (Upper Ice box, variously through the Terrace area).			**M**	2
Reach out to Summer Home Park on a fuels reduction program between Terrace Dr. and SHP Road.	Establish contact with Summerhome FireWise council		**M**	1-2

Education and Outreach

Projects in this topical area should include outreach and education projects focusing on wildfire preparedness and evacuations, information to community residents about what home improvements or modifications they should make to structures to reduce ignitability, and information about defensible space and resilient landscaping.

PROJECT	PARTNERS	POTENTIAL FUNDING SOURCES	PRIORITY	YEAR
Offer quarterly educational meetings related to community needs (home hardening, various product-related presentations, SoCo Adapts policies, etc.).	County of Sonoma, Fire Safe Sonoma, Sonoma County Fire District		**M**	1
Distribute annual survey questionnaires related to proposed projects, concerns, etc.	County of Sonoma, Fire Safe Sonoma, Sonoma County Fire District		**M**	1-3
Schedule meetings to update and coordinate projects.			**H**	1
Create and distribute a community contact and email distribution list. (Revise current email list adding new members to Mailchimp).			**H**	1

Establish a long-term structure for the HCT Fire Safe Council, including fiscal responsibilities and administration.	Fire Safe Sonoma, Safer West County		**H**	1
Document the existing structure and procedures in a shared location.	Fire Safe Sonoma, Safer West County		**H**	1
Look for other grant sources aside from SoCo Adapts.	Fire Safe Sonoma, CAL FIRE, Sonoma County Ag + Open Space		**H**	1
Contact CAL FIRE about installing fire boxes with hoses at high priority areas with a Fire hydrant	Fire Safe Sonoma, Sonoma County Fire District, CAL FIRE		**H**	1
Contact experts on maintaining healthy forest practices and share those with the community.	Occidental Arts and Ecology Center, Fire Safe Sonoma,		**M**	2
Develop a workforce for continuing land maintenance.	Americorps, Conservation Corps of the North Bay		**L**	3

Appendix D:
Sonoma County Wildfire Risk Index

This Community Wildfire Protection Plan (CWPP) was developed by the Hollydale/Canyon/Terrace Fire Safe Council with guidance and support from Fire Safe Sonoma, the County of Sonoma, and the California Department of Forestry and Fire Protection. This CWPP supplements the Sonoma County Community Wildfire Protection Plan.

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DATA INPUTS 2

Wildfire Hazard Index 2

Wildfire Hazard Index within 1 Mile Buffer: 2

Ember Load Index: 2

Ember Load Index within 1 Mile: 3

Structure Density (count): 3

Structure Density within 1 Mile: 3

Road Network Rank 3

CALCULATING WILDFIRE RISK 3

WHAT IS THE WILDFIRE RISK INDEX?

The Sonoma County Wildfire Risk Index was developed in cooperation with input from subject-matter experts, Sonoma County staff, Fire Safe Sonoma, the Sonoma County CWPP Steering Committee, and the project team (Tukman Geospatial and Digital Mapping Solutions).

Wildfire Risk Index (WRI) is a model that predicts relative wildfire risk. Higher index values represent a higher relative risk of wildfire. For the Wildfire Risk Analysis, the county's landmass was divided into 100-acre hexagons. Conditions will vary significantly across the area of each polygon—it is entirely possible that areas of relatively low risk could exist within a polygon whose overall risk is high. For parcel level analysis, "ground truthing" to verify data and conditions will be necessary. The value of the WRI is to identify overall trends, which then can be used to suggest the need for and nature of measures that can be taken to reduce risk.

The WRI should be viewed as a high-level analysis and is not appropriate for parcel-level detail.

HOW THE WRI IS CALCULATED

Many different factors contribute to wildfires. The Risk Index inputs were curated from the best available data sources for Sonoma County.

Wildfire Hazard Index

The Wildfire Hazard Index (WHI) (as opposed to this risk index) took into consideration predicted flame length, transmission line location, suppression difficulty, and fire weather potential. In 2020, as part of Sonoma County's Multi-jurisdictional Hazard Mitigation planning, a Wildfire Hazard Index was developed to quantify the relative wildfire hazard within Sonoma County.

A deeper discussion on the inputs and how it was developed can be found here: https://sonoma-county-cwpp-hub-site-sonomacounty.hub.arcgis.com/apps/sonoma-county-wildfire-hazard-index/explore

Ember Load Index

Developed by Pyrologix, the ember load index is based on surface and canopy fuel characteristics, climate, and topography, and incorporates downwind ember travel. The index also incorporates burn probability.

The model can only estimate embers created by trees and brush—wildland fuels. To date, a good model of embers produced by burning structures is not available. In urban areas, the embers produced by burning buildings will have the potential to influence fire spread, yet this value is not represented in this model.

The Ember Load Index can help identify priority areas where hardening buildings may be needed to resist ignition, yet recent fire behavior indicates that it is important for all Sonoma County residents

to consider undertaking structure hardening, regardless of the ember load risk. More information regarding the Ember Load Index can be found here:
http://pyrologix.com/reports/Contemporary-Wildfire-Hazard-Across-California.pdf

Structure Density

The structure density is a count of all structures found within each 100-acre hexagon. The counts were then classed into five quantiles and assigned a number from 1 through 5. Hexagons with no structures were assigned 0 (zero).

Road Network Rank

These values are based on road density, number of roads into and out of a community, and speed limits. The road network rank was developed by Kevin Lacefield of Sonoma County's ISD for a preliminary evacuation analysis (completed in 2019). New evacuation analyses are under development for the County. As they are developed, new data may be integrated into the CWPP Risk Index. Note that the road network rank does not impact an individual property's or project's compliance with Sonoma County Fire Safe Standards (Chapter 13, Section V) or Board of Forestry Fire Safe Regulations, because the road network rank provides a high-level analysis of the aforementioned data inputs, whereas the local standards and state regulations govern site-specific perimeters and access.

DATA INPUTS

The following are inputs used to inform the Sonoma County Wildfire Risk Index:

Wildfire Hazard Index

The Sonoma County Wildfire Hazard Index (WHI) is a compilation of predicted flame length, potential fire weather, and other factors. The average WHI in each 100-acre hexagon in Sonoma County are classed here into five categories: 1 is low hazard, 2 is moderate hazard, 3 is high hazard, 4 is very high hazard, and 5 is extreme hazard.

Wildfire Hazard Index within 1 Mile Buffer:

The average WHI within 1 mile of each 100-acre hexagon is classed the same way the WHI data is classed and is designed to estimate how hazardous surrounding areas are.

Ember Load Index:

Developed by Pyrologix for the entire state, this layer was included to help quantify where embers from wildland fuels (see above) would accumulate. The lower the value, less accumulated embers and a lower burn probability are expected. The higher the value, more accumulated embers and a higher burn probability are expected. This layer is classed into five categories: 1 (brown) is low, 2 (orangish) is moderate, 3 (yellow/orange) is high, 4 (teal) is very high, and 5 (dark teal) is extreme.

Ember Load Index within 1 Mile:

Similar to the 1-mile buffer used for the WHI, the average Ember Load Index within 1 mile of any 100-acre hexagon in Sonoma County was calculated. Again, the idea is to help characterize the surrounding areas of any 100-acre hexagon in the county.

Structure Density (count):

These classes represent the following number of structures found within the 100-acre hexagon: A ranking of 0 represents no structures are present; a ranking of 2 represents 1–3 structures; a ranking of 3 represents 4–10 structures; a ranking of 4 represents 11–37 structures; and a ranking of 5 represents over 38 structures are present in the given area.

Structure Density within 1 Mile:

Like the WHI and the Ember Load Index, the number of structures within a 1-mile radius of each 100-acre hexagon was also averaged. This was done to quantify the structure density surrounding any given location within the county. The average structure counts are classed in a similar way.

Road Network Rank

Lastly, a Road Network Rank developed by Sonoma County's GIS department is included wherein street network data was analyzed to quantify the street accessibility within the county. Accessibility is thus measured on a scale of one to five, with one being the most accessible and five being the least accessible.

CALCULATING WILDFIRE RISK

Relative wildfire risk was calculated by simply adding up all nine inputs. Each was classed from 1–5 for a total range of 1–35. No hexagons got a 1 ranking (lowest is 5) and none got a 45 ranking (highest is 32).
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