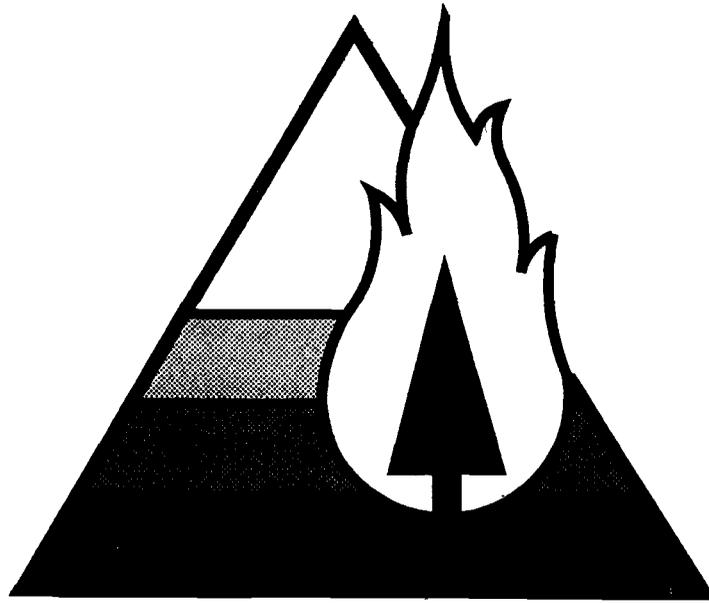


FIRE RISK RATING

**FOR EXISTING AND PLANNED
WILDLAND RESIDENTIAL INTERFACE
DEVELOPMENTS IN MONTANA**



MONTANA DEPARTMENT OF STATE LANDS

MARCH 1993

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INTRODUCTION

The risk rating system for existing developments is a planning tool for fire prevention. It assesses the potential wildfire hazards faced by wildland residential developments.

The system allows prevention planners to assess areas for risk, rank them according to their risk score, and then set priorities for prevention resources and actions. It organizes physical site information such as road access, topography, fuels, construction and water sources so that the planner can easily review all the information at once.

The Montana Department of State Lands (DSL) developed this rating system for its staff and cooperators to use. The risk rating system can help anyone conducting or planning fire prevention activities in existing wildland/residential interface areas.

Using the risk rating system also logically benefits all prevention planners by increasing their familiarity with hazardous locations and the values at risk within their fire protection areas.

DSL continues to develop ways to minimize destruction from wildfire while using public funds most efficiently. The risk rating system adapts existing knowledge, from agencies well experienced with the interface fire problem, to this end.

CHAPTER I - FIRE RISK RATING FOR EXISTING DEVELOPMENTS

HOW TO USE THE RISK RATING SYSTEM FOR EXISTING DEVELOPMENTS

Prevention planners can evaluate wildland and rural areas that have enough permanent, seasonal, recreational or commercial habitation to pose a fire hazard or risk. Logical applications might include rural subdivisions, scattered residential developments, camps, lodges and resorts.

The rating area can be as large or small as deemed necessary. However, a rating area should meet two criteria:

- It should be one relatively homogenous development that has distinct site factors. For example, the Many Lakes subdivision may make a logical rating area, but the entire Flathead Valley would not. Part of a subdivision may constitute a logical rating area if it is somehow different from the rest of the subdivision.
- It should be large enough to take into account the surrounding fuels, topography, nearby risks, etc., that will affect fire occurrence.

Always assess separate subdivisions individually. If you have any doubts about what to make a rating area, err on the small side. In the risk rating system, if you assess smaller areas, you will still have useful information; if you rate larger areas, your rating may be inaccurate, meaningless or, worse, misleading.

CHAPTER I - FIRE RISK RATING FOR EXISTING DEVELOPMENTS

PART I INSTRUCTIONS FOR COLLECTING AREA INFORMATION

To collect the necessary information, you will need Form A - Data Collection Form for Existing Developments, (Appendix A), Form B - Residential Tally Sheet, (Appendix B), a 100-foot tape measure, a clinometer or Abney level, a compass, area maps, a vehicle and these instructions.

The item numbers in these instructions correspond with the items on Form A - Data Collection Form.

1. Enter the number of primary access roads in the rating area. These must:
 - lead into or out of the rating area;
 - have two, twelve-foot traffic lanes, paved or gravel;
 - be able to be negotiated by structural fire equipment;
 - be maintained; and
 - be open year-round, not controlled access.

If there are no roads that meet all of these conditions, enter zero.

2. Enter the number of alternative access roads in the rating area. These are roads which enter or leave the rating area, but do not meet the conditions for primary access roads.

They must:

 - lead into or out of the rating area;
 - be able to be used by two-wheel drive vehicles as a substitute entry or exit road for the rating area.
3. Enter the width of the road surface, including any serviceable shoulders, on the primary access roads. Do not include turn-outs.
4. Enter the grade (%) of the steepest part of road within the rating area. Include secondary roads as well as primary and alternative access roads. Secondary roads are roads which leave a primary access road to reach homes, buildings, recreational sites, etc. that lie away from the primary road. Driveways over 600 feet are also considered secondary roads.

CHAPTER I - FIRE RISK RATING FOR EXISTING DEVELOPMENTS

5. Check the blank that matches the narrowest secondary road endings in the area. Include driveways longer than 600 feet as secondary roads. If the rating area has only one road, check the blank that describes how that road ends. Loop roads are those which return to a primary access road.
6. Check the blank which applies to the lightest capacity bridge on a primary access road within the rating area. Thirty-eight ton (statutory limit) bridges should be considered 40 ton bridges.
7. Check the blank which applies to the lightest capacity bridge on a secondary road in the rating area. Thirty-eight ton (statutory limit) bridges should be considered 40 ton bridges.
8. Check the blank which indicates the predominant slope (%) within and directly adjacent to the part of the rating area where the homes are.
9. Check the blank which indicates the predominant aspect of the rating area. This can be determined from a topographical map and/or site visit. To facilitate accurate aspect representation, the form asks for ranges by compass azimuth.
10. Check one or more blanks to indicate topographic features in and around the area that would contribute to erratic or extreme fire behavior. The features are listed from least dangerous to most dangerous. If you check more than one, circle the one that is most dangerous/farthest down the list.
11. Check the blank which most closely indicates the predominant fuels conditions in the rating area.
12. Check the blanks which indicate sources of risk in or immediately adjacent to the rating area. Check all present.
13. Check the blank which indicates the worst maintained electrical utilities R.O.W. in the rating area.
14. After actually counting, enter the number of homes in the rating area. An efficient method would be to conduct this count and the spacing and landscaping information (items 14-17) at the same time. Use Form B - Residential Tally Sheet (Appendix B) for tallying this information, then transfer the total to item 14, Form A.

CHAPTER I - FIRE RISK RATING FOR EXISTING DEVELOPMENTS

15. Enter the number of homes that have composition, metal, or tile roofs or other fire resistant roofing (as defined on page 17). Do not include homes with wood shake or shingle roofs. Tally on Form B, then transfer the total to item 15, Form A.
16. Enter the number of homes which have one or more of: unenclosed balconies, decks, eaves, stilts or cantilevered construction. Do not count any of these that have been thoroughly enclosed. Tally on Form B, then transfer the total to item 16, Form A.
17. Visually estimate how far apart the homes are spaced. Check the blank which most nearly describes the distance between the majority of homes in the rating area. Tally on Form B, then transfer the total to item 17, Form A.
18. Tally the number of homes which meet or exceed the fire resistant landscaping guidelines in Appendix F. Tally on Form B, then transfer the total to item 18, Form A.
19. If there are hydrants in the rating area, check "yes."
20. If there are hydrants in the rating area, measure the distance between them. Enter that spacing. If no standard spacing exists, enter an average spacing.
21. If there are hydrants in the rating area, indicate whether they are of 500 gallon per minute or greater capacity by checking either the "yes" or "no." To get this information, you can test the flow or check with the rural fire district, the water company or the county.
22. Check the blank which most closely indicates what draft sources exist and are accessible in the rating area.
23. Check the blank which most closely indicates how close a reliable helicopter dip spot is to the rating area.
24. Indicate whether the rating area is covered by a Rural Fire District (RFD), Fire Service Area (FSA), or municipal fire department by checking either "yes" or "no." Do not include a Volunteer Fire Company unless it has been formed as part of one of the groups above, or by a county governing body or an incorporated town.

CHAPTER I - FIRE RISK RATING FOR EXISTING DEVELOPMENTS

25. Check the blank which indicates the response time from the nearest fire organization to the rating area. Get the response time from the chief officer. If that fire organization is a Volunteer Fire Company, that is not part of a Rural Fire District, Fee Service Area or municipality, write "VFC" in the blank.
26. Indicate whether the rating area has a way to contact homeowners, such as a homeowners association, civic club, development office, etc., by checking either "yes" or "no."
27. If you checked "yes" for item 26, check the blank which most closely describes the group.
28. Using statistics for the most recent 10 year period, indicate the average number of fires per thousand acres in and around the rating area. Follow either method of calculation below.

Example: Size of ABC Gulch Rating Area = 1280 acres
 Number of fires, 1977-1987 = 2

$$\frac{2 \text{ Fires}}{1280 \text{ Acres}} = .00156$$

1280 Acres

x 1000 Conversion Factor

$$= 1.56 \text{ Fires/1000 Ac./10 Yrs.}$$

$$\frac{2 \text{ Fires}}{1280 \text{ Acres}} = \frac{x \text{ Fires}}{1000 \text{ Acres}}$$

1280 Acres

1000 Acres

$$2000 = 1280x$$

$$200 = 128x$$

$$1.56 = x$$

$$= 1.56 \text{ fires/1000 Ac./10 Yrs.}$$

PART II INSTRUCTIONS FOR RATING

To actually rate the area, you will need the filled-in Form A - Data Collection Form (Appendix A), Form C - Rating Form (Appendix C), and these instructions.

Using the information on Form A, score each item on Form C by circling the number on Form C that corresponds to the answer you gave on Form A.

For Item 10, circle the number for the most dangerous feature in the area.

For Item 12, count the number of risks in the area and circle that number.

For Item 15, divide the number of homes with fire resistant roofing by the total number of homes in the area.

For Item 16, divide the number of homes with unenclosed balconies, decks, eaves, stilts, etc. by the total number of homes in the area.

For Item 18, divide the number of homes that have fire resistant landscaping by the total number of homes in the area.

Total the numbers circled on Form C - Rating Form and enter that total in the "total score" space.

Apply the following classifications to the totaled score.

Fire Risk Ratings

<u>Score</u>	<u>Classification</u>
< = 110	low risk - low priority
111-135	moderate risk - moderate priority
136-150	high risk - high priority
151-170	very high risk - very high priority
> = 171	extreme risk - extreme priority

Rating areas should also be ranked within these classifications. For example, two separate rating areas with scores of 136 and 150 would both be classified as "high" risk and priority. However, the area with the 150 score would logically pose the higher risk and the higher priority.

The system provides a basic ranking system, which may be expanded using locally significant criteria, such as relative fire costs or cost per acre protected. We encourage all users to consider local factors which will help them clarify priorities.

CHAPTER II - FIRE RISK RATING FOR PLANNED DEVELOPMENTS

INTRODUCTION

As with the risk rating system for existing developments the risk rating system for planned developments is a planning tool for fire prevention. It assesses the potential wildfire hazards faced by developments planned in the Wildland Residential Interface.

The risk rating for planned developments allows prevention planners to assess areas for risk, so that they may communicate the potential hazards to community planners, local government officials and developers prior to final platting or construction. Like the risk rating system for existing developments; it organizes physical site information such as planned road access, topography, fuels, planned construction, and water sources so that the planner can easily review all the information at once.

Both risk rating systems logically benefits the prevention planner by increasing their familiarity with hazardous locations and the values at risk within their fire protection areas.

CHAPTER II - FIRE RISK RATING FOR PLANNED DEVELOPMENTS

HOW TO USE THE RISK RATING SYSTEM FOR PLANNED DEVELOPMENTS

Prevention planners can assess proposed developments in wildland and rural areas which may pose a fire hazard or risk. Logical applications might include planned rural subdivisions, camps, lodges and resorts.

The rating area can be as large or small as deemed necessary. However, a rating area should meet these criteria:

1. It should be one development represented by a single plat, that has distinct site factors. For example: separate subdivisions, phases or plats covered under one Planned Unit Development, Neighborhood Plan, Overall Development Plan or similar document should be evaluated individually. A single development may be rated in separate parts if those portions are somehow unique.
2. It should be large enough to take into account the surrounding fuels, topography, nearby risks, etc., that will affect fire occurrence or impact.

Always rate separate projects individually. If you have doubts about what to make a separate rating area, err on the small side. In the risk rating system, if you choose to break a single development into smaller areas, you will still have useful information. However, excessively large areas may produce inaccurate, meaningless or misleading information.

CHAPTER II - FIRE RISK RATING FOR PLANNED DEVELOPMENTS

PART I INSTRUCTIONS FOR COLLECTING AREA INFORMATION

To collect the necessary information you will need a copy of the project's preliminary plat, Form A - Data Collection Form for Planned Developments, (Appendix D), a topographic map of the project area and these instructions. Though some projects can be evaluated from the office, your evaluation will likely include a site visit. During that site visit you will need a 100-foot tape measure, a Clinometer or Abney level, and a compass.

The items in these instructions correspond with the items on Form A - Data Collection Form. All required information can be obtained by examining the preliminary plat, discussing the project with a community planner or the developer and by visiting the site.

1. Enter the number of primary access roads which will serve the proposed development. Primary access roads usually lead into the development from a highway, county road or arterial. These must:
 - lead into or out of the proposed development (see plat);
 - have two, twelve-foot traffic lanes, paved or gravel (see plat);
 - be able to be negotiated by structural fire equipment (consider maximum grade and curve radius);
 - be maintained; and
 - be open year-round, not controlled access.

If there are no roads that meet all of these conditions, enter zero.

2. Enter the number of alternative access roads which will serve the development. These are roads which enter or leave the rating area, but do not meet the conditions for primary access roads (may be platted or existing). They must:
 - lead into or out of the proposed development (see plat);
 - be able to be used by two-wheel drive vehicles as a substitute entry or exit road for the rating area.
3. Enter the width of the planned road surface, including any serviceable shoulders on the primary access roads. Do not include turn-outs.

CHAPTER II - FIRE RISK RATING FOR PLANNED DEVELOPMENTS

4. Enter the grade (%) of the steepest part of any road planned within the rating area. Include secondary roads as well as primary and alternative access roads. Secondary roads are those which leave an access road to reach homes, buildings, recreational sites, etc. that lie away from the access road. Driveways over 600 feet are also considered secondary roads.
5. Check the blank that matches the most limiting secondary road endings planned for the area. Include driveways longer than 600 feet as secondary roads. If the project planned only has one road, check the blank that describes how that road ends. Loop roads are those which return to a primary access road.
6. Check the blank which applies to the lightest capacity bridge on a primary access road serving the planned development. Thirty-eight ton (statutory limit) bridges should be considered 40 ton bridges.
7. Check the blank which applies to the lightest capacity bridge on a secondary road within the planned development. Thirty-eight ton (statutory limit) bridges should be considered 40 ton bridges.
8. Check the blank which indicates the predominant slope (%) within and directly adjacent to the part of the rating area where dwellings will be constructed. This can be determined from a topographical map and/or site visit.
9. Check the blank which indicates the predominant aspect of the rating area. This can be determined from a topographical map and/or site visit. To facilitate accurate aspect representation, the form asks for ranges by compass azimuth.
10. Check one or more blanks to indicate topographic features in and around the area that would contribute to fire behavior which would threaten the proposed development or contribute to erratic or extreme fire behavior.
11. Check the blank which most closely indicates the predominant fuels conditions in and around the rating area.
12. Check the blanks which indicate sources of risk which exist or are likely to exist in or immediately adjacent to the rating area. Check all present.
13. Check the blank which indicates how electrical utilities will be installed and maintained in the rating area. For small developments, you may want to consider the utility installations offsite instead.

CHAPTER II - FIRE RISK RATING FOR PLANNED DEVELOPMENTS

14. Enter the number of homes planned for the development at full build-out. If the number of homes are not indicated on the plat, use the number of lots platted.
15. Enter the number of homes that will have composition, metal, tile roofs or other fire resistant roofing. Do not include homes with wood shake or shingle roofs. This information may require consultation with the developer or planner. If this information can not be obtained, make an assumption or enter multiple options.
16. Measure or estimate how far apart the homes will be spaced. Check the blank which most nearly describes the distance between the homes in the rating area. If the preliminary plat does not include proposed building sites, place the building site near the center of the lot.
17. Indicate whether the dwellings will meet or exceed the fire resistant landscaping guidelines in Appendix F. This information will likely require consultation with the developer or planner. The fire prevention planner should not assume adequate defensible space unless it is clearly addressed in developer's covenants or attached as a condition of approval to the preliminary plat. The rating can be completed assuming adequate defensible space if the prevention planner feels confident that the developer has taken measures, or will be required, to take measures to incorporate adequate defensible space.
18. Indicate whether the project design has incorporated greenbelts and/or fuelbreaks to protect the planned development, existing neighboring developments and/or the adjacent wildlands.
19. If fire hydrants are planned for the project, check "yes".
20. If hydrants are planned for the rating area, measure or otherwise ascertain the spacing between them. Enter that spacing. If no standard spacing exists, enter an average spacing. You may have to consult the planner, developer or local fire department to collect this information.
21. If hydrants are planned for the rating area, determine whether their placement meets with the approval or desire of the local fire department. You will have to consult with the local fire department to collect this information.
22. If hydrants are planned for the project, indicate whether they are of 500 gallon-per-minute or greater capacity by checking either "yes" or "no". To get this information, check with the project engineer or the water company.

CHAPTER II - FIRE RISK RATING FOR PLANNED DEVELOPMENTS

- 23. Check the blank which most closely indicates what draft sources exist and are accessible in the rating area or are planned for the development.
- 24. Check the blank which most closely indicates how close a reliable helicopter dip spot will be to the planned development.
- 25. Indicate whether the planned development is or will be protected by a Rural Fire District (RFD), Fire Service Area (FSA), or municipal fire department by checking "yes" or "no". Do not include a volunteer fire company unless it has been formed as part of the groups above, or by a county governing body or an incorporated town. Obtain this information from the county or city governing body and fire district officers.
- 26. If the planned development is or will be protected by a fire department, check the blank which indicates the response time from the nearest fire station. Get the response time from the chief officer. If that fire organization is a Volunteer Fire Company, that is not part of a Rural Fire District, Fire Service Area or municipality write "VFC" in the blank.
- 27. Indicate whether the planned development will have a way to contact homeowners, such as a homeowner's association, civic club, developer's office, etc., by checking either "yes" or "no". This information can be obtained by examining the developer's covenants or consulting the developer.
- 28. If you checked yes" for item 25, check the blank which most closely describes the group.
- 29. Using statistics for the most recent 10 year period, indicate the average number of fires per thousand acres in and around the rating area. Follow either method of calculation below.

Example: Size of Piney Woods Condos Rating area = 1280 acres
 Number of Fires, 1982-1992 = 2

$\frac{2 \text{ Fires}}{1280 \text{ Acres}} = .00156$ <p>x 1000 Conversion Factor</p> $= 1.56 \text{ Fires}/1000 \text{ Ac.}/10 \text{ Yrs.}$	$\frac{2 \text{ Fires}}{1280 \text{ Acres}} = \frac{x \text{ Fires}}{1000 \text{ Acres}}$ $2000 = 1280x$ $200 = 128x$ $1.56 = x$ $= 1.56 \text{ fires}/1000 \text{ Ac.}/10 \text{ Yrs.}$
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CHAPTER II - FIRE RISK RATING FOR PLANNED DEVELOPMENTS

PART II INSTRUCTIONS FOR RATING

To actually rate the area, you will need the filled-in Form A - Data Collection Form (Appendix D), Form B - Rating Form (Appendix E), and these instructions.

Using the information on Form A, score each item on Form B by circling the number on Form B that corresponds to the answer you gave on Form A.

For Item 10, circle the number for the most dangerous feature in the area.

For Item 12, count the number of risk sources in the area and circle that number.

For Item 15, divide the number of dwellings planned with fire resistant roofing by the total number of dwellings planned.

For Item 17, divide the number of dwellings planned to meet the fire resistant landscaping guidelines by the total number of dwellings planned.

Total the numbers circled on Form B - Rating form and enter that total in the "Total Score" space.

Apply the following classifications to the totaled score.

Fire Risk Ratings for Planned Developments

<u>Score</u>	<u>Classification</u>
< = 101	Low Risk
102-124	Moderate Risk
125-139	High Risk
140-158	Very High Risk
> = 159	Extreme Risk

The system provides a basic ranking system, which may be expanded using locally significant criteria, such as relative fire costs or cost per acre protected. We encourage all users to consider local factors which will help them clarify their evaluation.

DEFINITION OF TERMS

Alternative Access Route: A road that two-wheel drive vehicles can use as a substitute exit or entry road for the rating area.

Draft Source: A readily available source of water from which a person can draw water into a pump through a non-collapsible suction hose.

Fire Hazard: A fuel complex defined by kind, arrangement, volume, condition and location that forms a special threat of ignition or presents a suppression difficulty.

Fire Prevention: Activities to reduce the number of fires that start, including public education, law enforcement, and methods of engineering.

Fire Resistant Landscaping: Reducing or replacing flammable vegetation from around a building, thereby reducing the building's possible exposure to radiant heat. Flammable vegetation may be replaced with:

- ivy;
- green lawn;
- decorative stone;
- gardens that are kept damp;
- individually spaced green shrubs, of species that burn poorly;
- individually spaced and pruned trees, of species that burn poorly;
- other non-flammable or fire resistant materials.

Fire Resistant Roofing: Composition, metal, tile, concrete, slate rock, asphalt or fiberglass roofing that is classed A, B or C in the Uniform Building Code (UBC) Standard 32.7.

Fire Risk: The chance of a fire starting because there is a causative agent; the causative agent itself.

Fire Service Area (FSA): An area with legally defined boundaries, in which money is raised for fire protection by fees levied annually on structures rather than by a tax on land. To create a fire service area: at least 30 homeowners (or 51% if there are less than 30) in the proposed area must sign a petition for it; the county commissioners must hold a public hearing; and the county commissioners must pass a resolution creating the fire service area unless 50% of the homeowners protest.

Flow Testing: Using a gauge or visual inspection to measure a hydrant's capacity in gallons of water per minute.

DEFINITION OF TERMS

Fuel Type: An association of fuels that have common, similar or equivalent fire behavior or resistance to control.

Helicopter Dip Spot: An accessible water source large enough for helicopters to be able to fill external water buckets.

Hydrant: A discharge pipe with a valve and fittings at which water can be drawn for the purpose of fighting fires.

Loop Road: A secondary road which leaves a primary access road, circumscribes a given area, and then returns to the primary access road.

Pre-suppression: Activities that fire organizations conduct before a fire to make it easier to suppress the fire later on. Includes recruiting, training, planning, and getting and organizing equipment and supplies.

Primary Access Road: A main entry and exit road serving a rating area. Usually the road(s) that leads into the rating area from a highway, county road or major arterial. Must have an all-weather road surface (paved or gravel), have two twelve-foot traffic lanes, be maintained, and open year-around.

Rating Area: A rural or wildland area with enough permanent, seasonal, recreational or commercial development to pose a fire hazard or risk. Development should be relatively homogenous within the area and different enough from neighboring areas to be distinguished from them. The area should be large enough to take into account the surrounding fuels, topography, etc. that will affect fire occurrence.

Road Surface: The part of the road designed to carry vehicles, including the driving lanes, parking lanes, and any shoulders that can safely support vehicles. The road surface does not include turnouts, turnarounds, cleared but unsurfaced right-of-way, etc.

Rural Fire District (RFD): A district with legally defined boundaries, in which money is raised for fire protection by a tax on land and any improvements on it. To create a rural fire district: 50% or more of the landowners in the proposed district must sign a petition for it; the county commissioners must hold a public hearing; the county commissioners must approve the district. Once an RFD exists, the county commissioners appoint a board of trustees who either form a district fire company or contract with others to protect the RFD.

Secondary Road: A road which leaves a primary access road to reach homes, buildings, recreational sites, etc. that lie away from the primary road. Treat driveways over 600 feet as secondary roads.

DEFINITION OF TERMS

Statutory Limit: Load limits on bridges, enacted and regulated by statute. Usually 38 tons.

Volunteer Fire Company (VFC): A firefighting organization of up to 28 members that trains firefighters, acquires and houses firefighting apparatus, and fights fires. Usually, VFCs protect an area that is unincorporated and not legally defined, and are responsible for raising their own money. However, incorporated towns, rural fire districts, and county governing bodies can also form fire organizations which they call volunteer fire companies.

Wildland/Residential Interface: The area where homes, other buildings, or other human development meet or are scattered among wildland vegetation.

SOURCE LIST

The concepts and criteria that the risk rating system uses were drawn from these sources, and from DSL Fire Bureau experience. The list also provides further reading about fire risks in the wildland/residential interface.

California Department of Forestry, 1980. Fire Safe Guides for Residential Development in California. Sacramento, CA.

Colorado State Forest Service, 1974. Model Wildfire Hazard Area Control Regulations. Ft. Collins, CO.

Colorado State Forest Service. Wildfire Safety Guidelines for Subdivisions and Developments. Ft. Collins, CO.

Fisher, William C. and Brooks, David J., Safeguarding Montana's Homes: Lessons from the Pattee Canyon Fire. Western Wildlands, Missoula, MT., Summer 1977.

Montana Department of State Lands, 1992. Fire Protection Standards for Wildland Development in Montana. Missoula, MT.

National Fire Protection Association, 1985. Homes and Camps in Forest Areas 1985. NFPA Publication 224.

New Jersey Department of Environmental Protection, Division of Parks and Forestry, Bureau of Forest Fire Management. Miscellaneous correspondence during 1988. Trenton, NJ.

USDA Forest Service, Fire Safety Considerations for Developments in Forested Areas.

**APPENDIX A - FORM A
RISK RATING OF EXISTING DEVELOPMENT
FIELD DATA COLLECTION FORM**

**EXISTING DEVELOPMENT
FORM A - FIELD DATA COLLECTION FORM
(Rev. 3/93)**

RATING AREA: _____ **DATE:** _____ **RATED BY:** _____

- 1) **NUMBER OF PRIMARY ACCESS ROADS** _____
- 2) **NUMBER OF ALTERNATIVE ACCESS ROUTES** _____
- 3) **WIDTH OF ROAD SURFACE + SHOULDER ON PRIMARY ACCESS ROADS** _____
- 4) **MAXIMUM ROAD GRADE IN THE AREA (PRIMARY, ALT., SECONDARY)** _____
- 5) **SECONDARY ROADS END AS:**
 - Loops or > 90' Diameter Cul de Sacs** _____
 - 70-90' Diameter Cul de Sacs** _____
 - < 70' Diameter Cul de Sacs** _____
 - Dead Ends - No Cul de Sac** _____
- 6) **BRIDGES ON PRIMARY ACCESS ROADS ARE:**
 - > 40 Ton Capacity** _____
 - 20-40 Ton Capacity** _____
 - < 20 Ton Capacity** _____
 - No Bridges** _____
- 7) **BRIDGES ON SECONDARY ROADS ARE:**
 - 20-40 Ton Capacity** _____
 - < 20 Ton Capacity** _____
 - No Bridges** _____

8) PREDOMINANT SLOPE IN AND AROUND THE INHABITED AREA IS:

0 - 10%

11 - 20%

21 - 30%

> 30%

9) PREDOMINANT ASPECT IS:

North (316 degrees through 45 degrees)

East (46 degrees through 135 degrees)

Level

West (226 degrees through 315 degrees)

South (136 degrees through 225 degrees)

10) DANGEROUS TOPOGRAPHIC FEATURES PRESENT ARE:

None

Adjacent Steep Slopes

Draws/Ravines

Chimneys, Canyons, Saddles

11) PREDOMINANT FUEL TYPE IS:

Grass will be the main fuel type in the rating area around more than 90% of existing structures.

Low brush fields, or open timber stands will exist in the rating area around more than 10% of existing structures.

Dense timber stands or high brush fields will exist in the rating area around more than 10% of existing structures.

Slash and/or bugkilled timber stands will exist in rating area and won't be removed by development or dense stands of lodgepole pine trees will remain around more than 10% of existing structures.

12) RISKS PRESENT ARE:

Campgrounds/Campsites/Picnic Grounds _____

Children (playgrounds, schools, etc.) _____

Commercial Businesses _____

Debris Burning _____

Domestic Wood Heat _____

Farming/Ranching _____

Mills _____

Mines _____

Powerlines _____

Railroads _____

**Recreation Sites (gun clubs, 4x4/motorbike areas,
kegger sites, etc.)** _____

Travel Routes (highways, etc.) _____

Other(s) - Describe each _____

13) WORST-CASE ELECTRICAL SERVICE IS:

**All utilities in the existing development rating area are
underground.** _____

**Rating area utilities will include underground and/or well maintained
above ground powerlines with cleared rights-of-way. Trees
or improvements which could blow over into powerlines do not
exist or are properly maintained.** _____

**Rating area utilities include above ground powerlines. Fuel
build-up is present in existing rights-of-way, or
improvements exist which could blow over onto powerlines.** _____

14) HOW MANY HOMES ARE IN THE RATING AREA? _____

15) HOW MANY HOMES HAVE FIRE RESISTANT ROOFING? _____

- 16) **HOW MANY HOMES HAVE UNENCLOSED BALCONIES, DECKS, EAVES, STILTS, CANTILEVERED CONSTRUCTION, ETC.?** _____
- 17) **HOMES ARE SPACED:**
- > 100' Apart _____
 - 60-100' _____
 - < 60' Apart _____
- 18) **HOW MANY HOMES MEET THE FIRE-RESISTANT LANDSCAPING GUIDELINES (See Appendix F)** _____
- 19) **ARE HYDRANTS AVAILABLE?** Yes _____
No _____
- 20) **IF YES, AT WHAT SPACING?** _____
- 21) **IF YES, ARE THEY 500(+) GPM?** Yes _____
No _____
- 22) **DRAFT SOURCES ARE:**
- Accessible By Hoselay _____
 - Within 5 Miles Via Primary Access Roads _____
 - Available, But Need To Be Developed _____
 - Distant or Unavailable _____
- 23) **HELICOPTER DIP SPOTS ARE:**
- Under 2 minute turnaround (< 1 mi.) _____
 - Within 2-5 minute turnaround (1-2 mi.) _____
 - Within 6 minute turnaround (3 mi.) _____
 - Distant or Unavailable _____
- 24) **IS RATING AREA IN A RURAL FIRE DISTRICT, FIRE SERVICE AREA OR MUNICIPAL FIRE DEPARTMENT?** Yes _____
No _____
- 25) **FIRE DEPARTMENT RESPONSE:**
- Fire dept. can respond w/in 5 minutes - VFC? _____
 - Fire dept. can respond in 6-15 minutes - VFC? _____
 - Fire dept. can respond in 16-30 minutes - VFC? _____

26) IS THERE A WAY TO CONTACT HOMEOWNERS?

Yes _____

No _____

27) IF YES, WHAT TYPE OF GROUP(S)?

Formal, Well Organized Group

Informal, Loosely Organized Group

Multiple Groups

28) AVERAGE NUMBER OF FIRES/1000 AC./10 YEARS

**APPENDIX B - FORM B
RESIDENTIAL TALLY SHEET**

FORM B - RESIDENTIAL TALLY SHEET

RATING AREA _____

1 Total No. Residences	2 No. with Fire Resistant Roof	3 No. with Unenclosed Features	4 60' to Next Residence	5 60'-100' to next Residence	6 100' to Next Residence	7 Meets Landscaping Req. (Appendix F)

DOT OR LINE TALLY EACH ITEM.

- 1) TALLY TOTAL NUMBER OF RESIDENCES IN RATING AREA.
- 2) TALLY NUMBER OF RESIDENCES WITH FIRE RESISTANT ROOFING (COMPOSITE, METAL, TILE) NO WOOD SHAKES OR SHINGLES.
- 3) TALLY NUMBER OF RESIDENCES WITH OVERHANGING FEATURES WHICH ARE NOT ENCLOSED UNDERNEATH DECK OR FLOOR LEVEL (BALCONIES, DECKS, STILTS, ETC.)
- 4) TALLY NUMBER OF RESIDENCES WHICH HAVE LESS THAN 60 FEET BETWEEN THEM AND THE NEAREST ADJACENT RESIDENCE.
- 5) TALLY THE NUMBER OF RESIDENCES WHICH HAVE 60' - 100' BETWEEN THEM AND THE NEAREST ADJACENT RESIDENCE.
- 6) TALLY THE NUMBER OF RESIDENCES WITH 100' BETWEEN THEM AND THE NEAREST ADJACENT RESIDENCE.
- 7) TALLY THE NUMBER OF RESIDENCES THAT MEET THE FIRE RESISTANT LANDSCAPING STANDARDS FOR THEIR LOCATION.

APPENDIX B

**APPENDIX C - FORM C
RISK RATING OF EXISTING DEVELOPMENT
RATINGS FORM**

**EXISTING DEVELOPMENT
FORM C - RATING FORM
(Rev. 3/93)**

RATING AREA: _____ **DATE:** _____ **RATED BY:** _____

ROADS

ROAD ACCESS - Items 1 and 2

- Multiple primary access roads = 0
- Two primary access roads = 1
- One primary + one alternative access road = 2
- One-way in/out = 3
- No primary access roads = 4

ROAD SURFACE WIDTH, PRIMARY ACCESS ROUTES - Item 3

- > 28' Road Surface + Shoulder = 1
- 28' Road Surface + Shoulder = 2
- 16 - < 28' Road Surface + Shoulder = 3
- < 16' Road Surface + Shoulder = 4

MAXIMUM ROAD GRADE - Item 4

- 0-5% = 1
- 6-8% = 2
- > 8 - 10% = 3
- > 10% = 4

SECONDARY ROAD ENDINGS - Item 5

- Loops or > 90' Diameter Cul de Sacs = 1
- Cul de Sac Diameter 70-90' = 2
- Cul de Sac Diameter <70' = 3
- Dead Ends - No Cul de Sac = 4

BRIDGES - Items 6 and 7

- No Bridges = 1
- 40 Ton(+) limit on access bridges = 2
- 20-39 Ton limit on all access bridges = 3
- < 20 Ton limit any access bridge = 4

TOPOGRAPHY

SLOPE - Item 8

- 0-10% = 2
- 11-20% = 4
- 21-30% = 6
- > 30% = 8

ASPECT - Item 9

- North (315 degrees through 45 degrees) = 0
- East (46 degrees through 135 degrees) = 1
- Level = 2
- West (226 degrees through 315 degrees) = 3
- South (136 degrees through 225 degrees) = 4

MOST DANGEROUS FEATURE - Item 10

- None = 2
- Adjacent Steep Slopes = 4
- Draws/Ravines = 6
- Chimneys, Canyons, Saddles = 8

FUELS

FUEL TYPE - Item 11

- Grass around >90% of structures = 5
- Low brush field, or open timber around >10% of structures = 10
- Dense conifer or brush field exist around >10% of structures = 15
- Slash, bugkill, dense lodgepole pine exist around >10% of structures = 20

RISK SOURCES - total from Item 12

- 0-4 Risk Sources Present = 5
- 5-8 Risk Sources Present = 10
- 9-12 Risk Sources Present = 15
- 13+ Risk Sources Present = 20

ELECTRICAL UTILITIES - Item 13

- All Underground = 0
- Above Ground/Underground Combination (Well Maintained) = 10
- Above Ground (Poorly Maintained) = 20

HOMES

ROOF MATERIAL - Item 15

- 90-100% of homes have metal, composition, tile or other fire resistant roofing = 5
- 80-89% of homes have metal, composition, tile or other fire resistant roofing = 10
- 75-79% of homes have metal, composition, tile or other fire resistant roofing = 15
- < 75% of homes have metal, composition, tile or other fire resistant roofing = 20

UNENCLOSED BALCONIES, DECKS, EAVES, STILTS, ETC. - Item 16

- < 10% of homes have unenclosed balconies, decks, eaves, stilts, etc. = 1
- 10-20% of homes have unenclosed balconies, decks, eaves, stilts, etc. = 2
- 21-25% of homes have unenclosed balconies, decks, eaves, stilts, etc. = 3
- > 25% of homes have unenclosed balconies, decks, eaves, stilts, etc. = 5

DENSITY OF HOMES - Item 17

- (For 0-30% slope)
 - > 100' between homes = 1
 - 60-100' between homes = 3
 - < 60' between homes = 5
- (For 31-50% slope)
 - > 100' between homes = 2
 - 60-100' between homes = 4
 - < 60' between homes = 6

LANDSCAPING - Item 18

- 76-100% homes meet the fire-resistant landscaping guidelines in the Appendix F = 2
- 51-75% homes meet the fire-resistant landscaping guidelines in the Appendix F = 4
- 26-50% homes meet the fire-resistant landscaping guidelines in the Appendix F = 6
- 0-25% homes meet the fire-resistant landscaping guidelines in the Appendix F = 9

WATER SUPPLY

HYDRANTS - Items 19, 20 and 21

- 500 GPM hydrants available on < 660' spacing = 2
- 500 GPM hydrants available = 4
- < 500 GPM hydrants available = 6
- No hydrants = 8

DRAFT SOURCES - Item 22

- Accessible Sources Available Within Hose Lay Distance = 2
- Draft Sources Available Within 5 mi. via primary access roads = 4
- Draft Sources Require Development = 6
- Draft Sources Unavailable = 8

HELICOPTER DIP SPOTS - Item 23

- Under 2 min. turnaround (<1 mi.) = 1
- Within 2-5 min. turnaround (1-2 mi.) = 2
- Within 6 min. turnaround (3 mi.) = 3
- Beyond 6 min. turnaround or Unavailable = 4

STRUCTURAL FIRE PROTECTION - Items 24 and 25

- <= 5 min. from fire department = 5; if VFC = 10
- 6-15 min. from fire department = 10; if VFC = 15
- 16-30 min. from fire department = 15; if VFC = 20
- No RFD, FSA, municipal fire district or VFC? = 20

HOMEOWNER CONTACT - Items 26 and 27

- Central contact - formal/well organized group (e.g., a homeowners assoc.) = 5
- Less central contact - an informal/loosely organized group (e.g., a civic club or development office) = 10
- Multiple groups - different contacts representing different parts of the community = 15
- No organized contacts = 20

FIRE OCCURRENCE - Item 28

- .00-.10 Fires/1000 ac./10 yr. = 5
- .11-.20 Fires/1000 ac./10 yr. = 10
- .21-.40 Fires/1000 ac./10 yr. = 15
- .40+ Fires/1000 ac./10 yr. = 20

TOTAL SCORE

<= 110	low risk - low priority
111-135	moderate risk - moderate priority
136-150	high risk - high priority
151-170	very high risk - very high priority
>= 171	extreme risk - extreme priority

APPENDIX D - FORM A
RISK RATING OF PLANNED DEVELOPMENT
FIELD DATA COLLECTION FORM

**RISK RATING PLANNED DEVELOPMENT
FORM A - DATA COLLECTION FORM
(Rev. 3/93)**

RATING AREA: _____ **DATE:** _____ **RATED BY:** _____

1) NUMBER OF PRIMARY ACCESS ROADS _____

2) NUMBER OF ALTERNATIVE ACCESS ROUTES _____

3) WIDTH OF ROAD SURFACE + SHOULDER ON PRIMARY ACCESS ROADS _____

4) MAXIMUM ROAD GRADE IN THE AREA (PRIMARY, ALT., SECONDARY) _____

5) SECONDARY ROADS END AS:

Loops or 90' + Diameter Cul de Sacs _____

70-89' Diameter Cul de Sacs or Hammerhead "T" (40' Min.) _____

< 70' Diameter Cul de Sacs _____

Dead Ends - No Cul de Sac _____

6) BRIDGES ON PRIMARY ACCESS ROADS ARE:

> 40 Ton Capacity _____

20-40 Ton Capacity _____

< 20 Ton Capacity _____

No Bridges _____

7) BRIDGES ON SECONDARY ROADS ARE:

20-40 Ton Capacity _____

< 20 Ton Capacity _____

No Bridges _____

8) PREDOMINANT SLOPE IN AND AROUND THE INHABITED AREA IS:

0 - 10%

11 - 20%

21 - 30%

> 30%

9) PREDOMINANT ASPECT IS:

North (316 degrees through 45 degrees)

East (46 degrees through 135 degrees)

Level

West (226 degrees through 315 degrees)

South (136 degrees through 225 degrees)

10) DANGEROUS TOPOGRAPHIC FEATURES PRESENT ARE:

None

Adjacent Steep Slopes

Draws/Ravines

Chimneys, Canyons, Saddles

11) PREDOMINANT FUEL TYPE IS:

Grass will be the main fuel type in the rating area around more than 90% of planned structures.

Low brush fields, or open timber stands will exist in the rating area around more than 10% of planned structures.

Dense timber stands or high brush fields will exist in the rating area around more than 10% of planned structures.

Slash and/or bugkilled timber stands will exist in rating area and won't be removed by development or dense stands of lodgepole pine trees will remain around more than 10% of planned structures.

12) RISKS PRESENT ARE:

Campgrounds/Campsites/Picnic Grounds

Children (playgrounds, schools, etc.)

Commercial Businesses

Debris Burning

Domestic Wood Heat

Farming/Ranching

Mills

Mines

Powerlines

Railroads

Recreation Sites (gun clubs, 4x4/motorbike areas, kegger sites, etc.)

Travel Routes (highways, etc.)

Other(s) - Describe each

13) WORST-CASE ELECTRICAL SERVICE IS:

All utilities planned for development or existing in rating area are underground.

Rating area utilities will include well maintained above ground powerlines with cleared rights-of-way. Trees or improvements which could blow over into powerlines do not exist or are properly maintained.

Rating area utilities include above ground powerlines. Fuel build-up is present in existing/planned rights-of-way, or improvements exist which could blow over onto powerlines.

- 14) HOW MANY HOMES ARE PLANNED FOR THE DEVELOPMENT? _____
- 15) HOW MANY HOMES WILL HAVE FIRE RESISTANT ROOFING? _____
- 16) HOMES ARE SPACED:
- > 100' Apart _____
 - 60 - 100' Apart _____
 - < 60' Apart _____
- 17) HOW MANY HOMES WILL MEET THE FIRE-RESISTANT LANDSCAPING GUIDELINES (See Appendix F) _____
- 18) DOES THE PROJECT DESIGN INCORPORATE GREENBELTS OR FUEL BREAKS? Yes _____
No _____
- 19) WILL HYDRANTS BE AVAILABLE? Yes _____
No _____
- 20) IF YES, AT WHAT SPACING? _____
- 21) IF YES, ARE THE HYDRANTS PLACED AS DESIRED BY THE FIRE DEPARTMENT? Yes _____
No _____
- 22) IF HYDRANTS PLANNED, ARE THEY 500(+) GPM? Yes _____
No _____
- 23) DRAFT SOURCES ARE:
- Accessible By Hoselay _____
 - Within 5 Miles Via Primary Access Roads _____
 - Available, But Need To Be Developed _____
 - Distant or Unavailable _____

24) HELICOPTER DIP SPOTS ARE:

Under 2 minute turnaround (< 1 mi.)

Within 2-5 Minute turnaround (1-2 mi.)

Within 6 minute turnaround (3 mi.)

Distant or Unavailable

25) IS RATING AREA IN A RURAL FIRE DISTRICT, FIRE SERVICE AREA OR MUNICIPAL FIRE DEPARTMENT?

Yes _____

No _____

26) Fire Dept. can respond w/in 5 minutes - VFC?

Fire Dept. can respond in 6-15 minutes - VFC?

Fire dept. can respond in 16-30 minutes - VFC?

27) WILL THERE BE A WAY TO CONTACT HOMEOWNERS?

Yes _____

No _____

28) IF YES, WHAT TYPE OF GROUP(S)?

Formal, Well Organized Group

Informal, Loosely Organized Group

Multiple Groups

29) AVERAGE NUMBER OF FIRES/1000 AC./10 YEARS

APPENDIX E - FORM B
RISK RATING OF PLANNED DEVELOPMENT
RATINGS FORM

**RISK RATING OF PLANNED DEVELOPMENT
FORM B - RATING FORM
(Rev. 3/93)**

RATING AREA: _____ **DATE:** _____ **RATED BY:** _____

ROADS

ROAD ACCESS - Items 1 and 2

- Multiple primary access roads = 0
- Two primary access roads = 1
- One primary + one alternative access road = 2
- One-way in/out = 3
- No primary access roads = 4

ROAD SURFACE WIDTH, PRIMARY ACCESS ROUTES - Item 3

- > 28' Road Surface + Shoulder = 1
- 28' Road Surface + Shoulder = 2
- 16 - < 28' Road Surface + Shoulder = 3
- < 16' Road Surface + Shoulder = 4

MAXIMUM ROAD GRADE - Item 4

- 0-5% = 1
- 6-8% = 2
- > 8-10% = 3
- > 10% = 4

SECONDARY ROAD ENDINGS - Item 5

- Loops or 90'+ Diameter Cul de Sacs = 1
- Cul de Sac Diameter 70-89' or Hammerhead "T" (40' Min.) = 2
- Cul de Sac Diameter < 70' = 3
- Dead Ends - No Cul de Sac = 4

BRIDGES - Items 6 and 7

- No Bridges = 0
- 40 Ton (+) limit on access bridges = 1
- 20-39 Ton limit on all access bridges = 2
- < 20 Ton limit any access bridge = 4

TOPOGRAPHY

SLOPE - Item 8

- 0-10% = 2
- 11-20% = 4
- 21-30% = 6
- > 30% = 8

ASPECT - Item 9

- North (315 degrees through 45 degrees) = 0
- East (46 degrees through 135 degrees) = 1
- Level = 2
- West (226 degrees through 315 degrees) = 3
- South (136 degrees through 225 degrees) = 4

MOST DANGEROUS FEATURE - Item 10

- None = 2
- Adjacent Steep Slopes = 4
- Draws/Ravines = 6
- Chimneys, Canyons, Saddles = 8

FUELS

FUEL TYPE - Item 11

- Grass around >90% of structure = 5
- Low brush field, or open timber around >10% of structure = 10
- Dense conifer or brush field exist around >10% of structures = 15
- Slash, bugkill, dense lodgepole pine exist around >10% of structures = 20

RISK SOURCES - Total from Item 12

- 0 - 4 Risk Sources Present = 0
- 5 - 8 Risk Sources Present = 5
- 9 -12 Risk Sources Present = 7
- 13+ Risk Sources Present = 10

ELECTRICAL UTILITIES - Item 13

- All Underground = 0
- Above Ground/Underground Combination (Well Maintained) = 5
- Above Ground (Poorly Maintained) = 10

STRUCTURES

ROOF MATERIAL - Item 14 AND 15

- 90-100% of homes have metal, composition, tile or other fire resistant roofing = 0
- 80-89% of homes have metal, composition, tile or other fire resistant roofing = 5
- 75-79% of homes have metal, composition, tile or other fire resistant roofing = 7
- < 75% of homes have metal, composition, tile or other fire resistant roofing = 10

DENSITY OF HOMES - Item 16

- (For 0-30% slope)
 - > 100' between homes = 0
 - 60-100' between homes = 4
 - < 60' between homes = 8
- (For 31-50% slope)
 - > 100' between homes = 2
 - 60-100' between homes = 6
 - < 60' between homes = 10

LANDSCAPING - Item 14 and 17

- 76-100% homes meet the fire-resistant landscaping guidelines in Appendix F = 5
- 51-75% homes meet the fire-resistant landscaping guidelines in Appendix F = 10
- 26-50% homes meet the fire-resistant landscaping guidelines in Appendix F = 15
- 0-25% homes meet the fire-resistant landscaping guidelines in Appendix F = 20

GREENBELTS AND FUELBREAKS - Item 18

- Project design incorporates greenbelts and/or fuel breaks = 0
- Project design does not incorporate greenbelts and/or fuel breaks = 10

WATER SUPPLY

HYDRANTS - Items 19, 20, 21 and 22

- 500 GPM hydrants available on < 660' spacing placed as desired by FD = 0
- 500 GPM hydrants available on < 660' spacing = 2
- 500 GPM hydrants available = 4
- < 500 GPM hydrants available = 6
- No hydrants = 8

DRAFT SOURCES - Item 23

- Accessible Sources Available Within Hoselay Distance = 2
- Draft Sources Available Within 5 mi. via primary access roads = 4
- Draft Sources Require Development = 6
- Draft Sources Unavailable = 8

HELICOPTER DIP SPOTS - Item 24

- Under 2 min. turnaround (<1 mi.) = 1
- Within 2-5 min. turnaround (1-2 mi.) = 2
- Within 6 min. turnaround (3 mi.) = 3
- Beyond 6 min. turnaround or unavailable = 4

STRUCTURAL FIRE PROTECTION - Items 25 and 26

- < = 5 min. from fire department = 5; if VFC = 10
- 6-15 min. from fire department = 10; if VFC = 15
- 16-30 min. from fire department = 15; if VFC = 20
- No RFD, FSA, municipal fire district or VFC? = 20

HOMEOWNER CONTACT - Items 27 and 28

- **Central contact - formal/well organized group (e.g., a homeowners assoc.)** = 5
- **Less central contact - an informal/loosely organized group (e.g., a civic club or development office)** = 10
- **Multiple groups - different contacts representing different parts of the community** = 15
- **No organized contacts** = 20

FIRE OCCURRENCE - Item 29

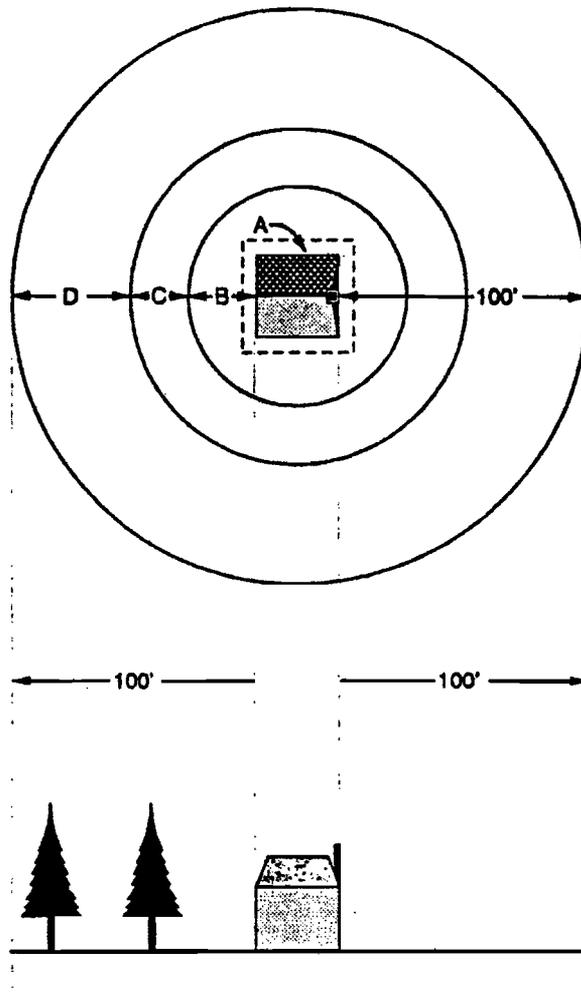
- **.00-.10 Fires/1000 ac./10 yr.** = 5
- **.11-.20 Fires/1000 ac./10 yr.** = 10
- **.21-.40 Fires/1000 ac./10 yr.** = 15
- **.40+ Fires/1000 ac./10 yr.** = 20

TOTAL SCORE

< = 101	low risk - low priority
102 - 124	moderate risk - moderate priority
125 - 139	high risk - high priority
140 - 158	very high risk - very high priority
> = 159	extreme risk - extreme priority

APPENDIX F - LANDSCAPING GUIDELINES

VEGETATION REDUCTION STANDARDS 0% TO 10% SLOPE



A = THE FIRST 3 FEET OF B

- Maintain an area of non-combustible material - flowers, plants, concrete, gravel, mineral soil etc..

B = 10 FEET

- Remove all trees and downed woody fuels.

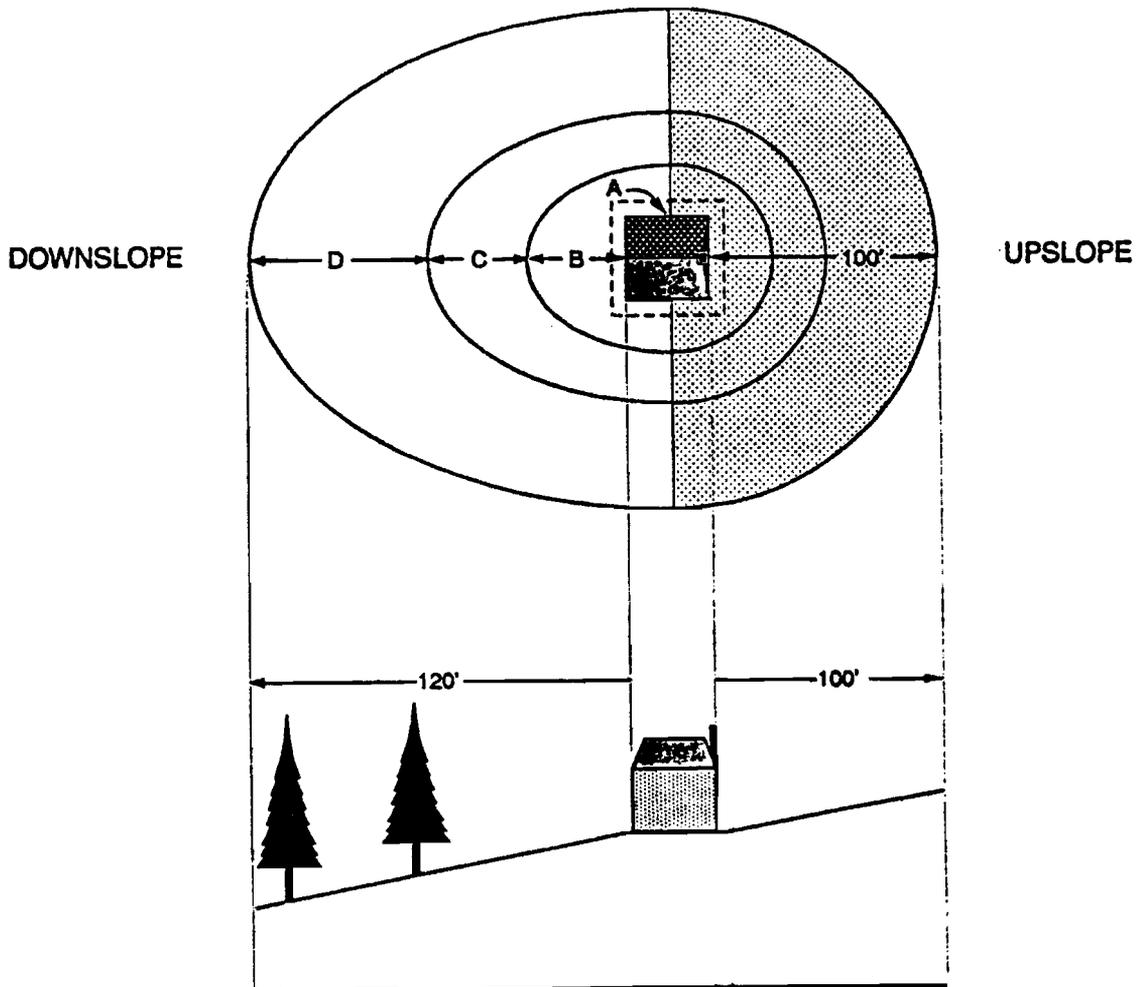
C = 20 FEET

- Thin trees out to 10 feet between their crowns.
- Prune the limbs of all remaining trees to 15 feet or one third the total height whichever is less.
- Maintain surface vegetation at 3 inches or less.
- Remove all downed wood fuels.

D = 70 FEET

- Thin trees out to 10 feet between their crowns
- Prune the limbs of all remaining trees to 15 feet or one third the total height whichever is less.
- Maintain surface vegetation at 12 inches or less.
- Remove all downed woody fuels more than 3 inches in diameter.

VEGETATION REDUCTION STANDARDS 10% TO 20% SLOPE



The shaded areas (up-slope) of B, C, D remain a constant distant of 10' 20' and 70' respectively. The shaded area begins from the mid-section of a structure. The unshaded areas (down-slope) of B, C, and D increase with slope as detailed below:

A = THE FIRST 3 FEET OF B

- Maintain an area of non-combustible material - flowers, plants, concrete, gravel, mineral soil etc..

B = 15 FEET

- Remove all trees and downed woody fuels.

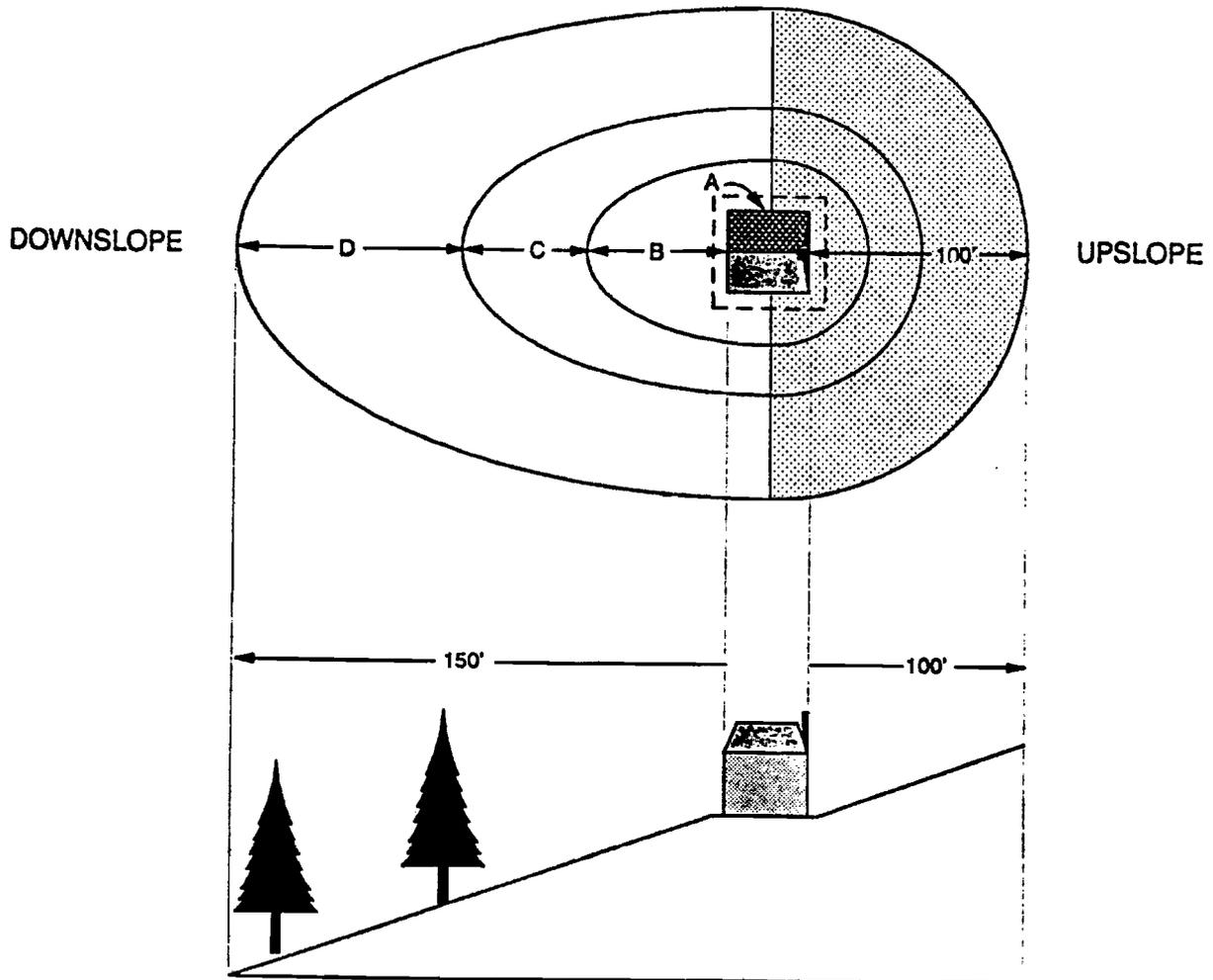
C = 25 FEET

- Thin trees out to 10 feet between their crowns.
- Prune the limbs of all remaining trees to 15 feet or one third total height whichever is less.
- Maintain surface vegetation at 3 inches or less.
- Remove all downed wood fuels.

D = 80 FEET

- Thin trees out to 10 feet between their crowns
- Prune the limbs of all remaining trees to 15 feet or one third total height whichever is less.
- Maintain surface vegetation at 12 inches or less.
- Remove all downed woody fuels more than 3 inches in diameter.

VEGETATION REDUCTION STANDARDS 20% TO 30% SLOPE



The shaded areas (up-slope) of B, C, D remain a constant distant of 10' 20' and 70' respectively. The shaded area begins from the mid-section of a structure. The unshaded areas (down-slope) of B, C, and D increase with slope as detailed below:

A - THE FIRST 3 FEET OF B

- Maintain an area of non-combustible material - flowers, plants, concrete, gravel, mineral soil etc..

B - 20 FEET

- Remove all trees and downed woody fuels.

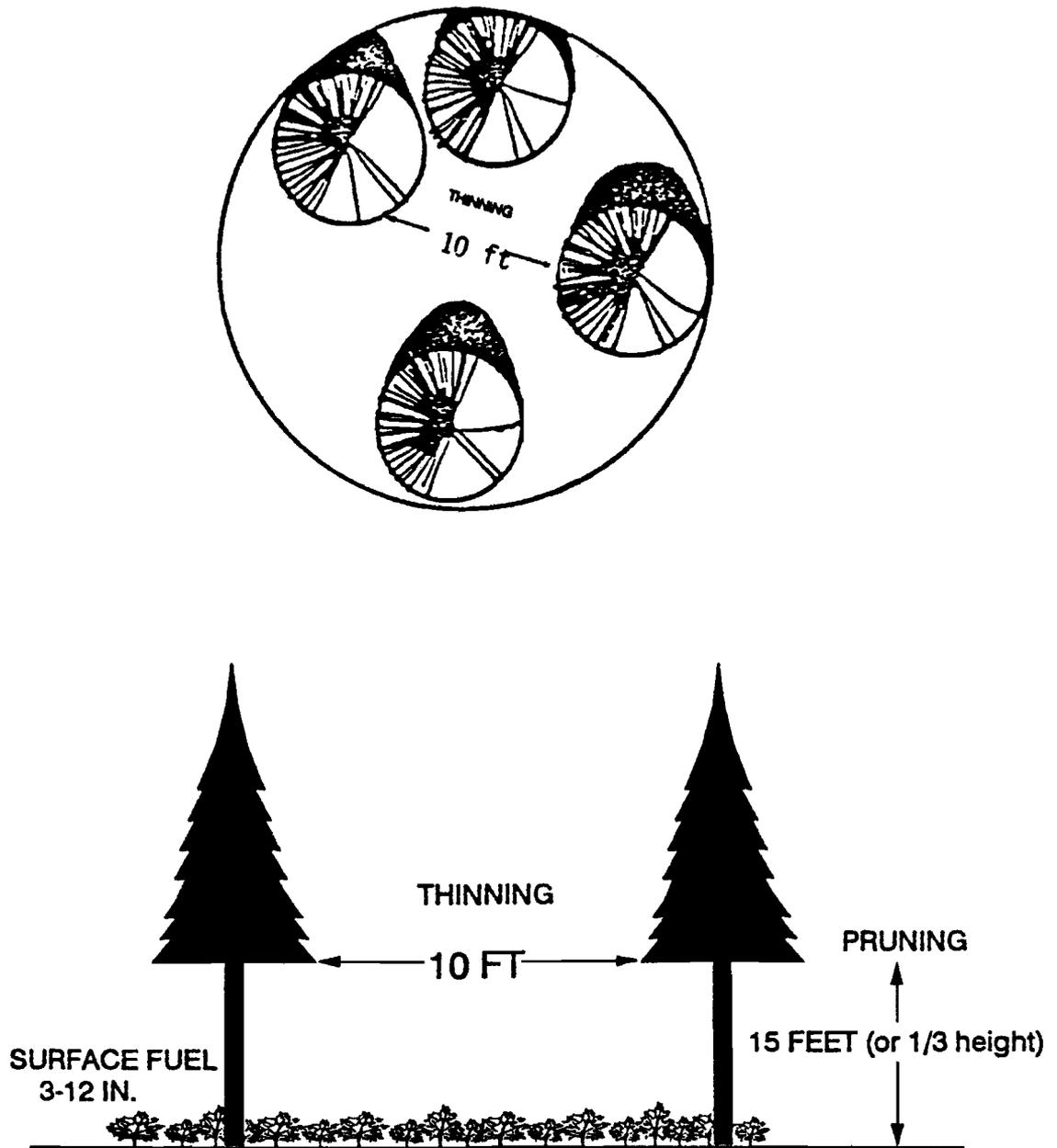
C - 30 FEET

- Thin trees out to 10 feet between their crowns.
- Prune the limbs of all remaining trees to 15 feet or one third total height whatever is less.
- Maintain surface vegetation at 3 inches or less.
- Remove all downed wood fuels.

D - 100 FEET

- Thin trees out to 10 feet between their crowns
- Maintain surface vegetation at 12 inches or less.
- Remove all downed woody fuels more than 3 inches in diameter.

VEGETATION REDUCTION STANDARDS THINNING AND PRUNING GUIDE



In areas where vegetation modification is prescribed use the following guidelines:

- A. **THINNING**
 - Thin trees out to 10 feet between their crowns.
- B. **PRUNING**
 - Prune the limbs of all remaining trees to 15 feet or one third total height whichever is less.
- C. **SURFACE VEGETATION**
 - Maintain surface vegetation at 3" to 12" as detailed.