

PROMONTORY
WILDLAND FIRE PROGRAM

January 16, 2001

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I. PROJECT SETTING

The proposed Promontory Subdivision is comprised of approximately 6,380 acres of gentle to moderate rolling and mountainous terrain. As shown on the vicinity map on page 2, the project site is located east of US 40 in the Snyderville Basin between Interstate 80 and SR 248. The property has been historically used for agricultural grazing.

Currently, the nearest fire station is the Burns Fire Station near Kimball Junction.

Ultimately, the closest fire station will be located within the overall project boundary near the center of the project on the western edge. Over half of the project has slopes under 25%. The prevailing aspect is slightly more Westerly followed by East, South and North respectively. There are greater than nine critical fire weather days per year for the project area.

The property is generally of an open, perennial grass/sagebrush vegetation type. Clumps of aspen and scrub oak are interspersed within the sagebrush grass in higher elevation areas of northern exposure and at the north end of the project, with some widely dispersed groupings of aspen and scrub oak in the center and southern portions of the project.

II. POTENTIAL WILD FIRE IMPACTS

The wildfire hazard rating is intended to provide the developer and prospective homeowner with an indication of the severity of threat to the subdivision from wild fire. The criteria used to determine the severity of risk is as follows:

WILDFIRE HAZARD SEVERITY SCALE					
Rating	Slope	Aspect	Weather	Response	Vegetation
1	<10	N	<1	<15	Pinyon, Juniper
2	20	E	3	30	Grass, Sage
3	30	Level	5	45	Hardwoods
4	45	W	7	60	Mountain Brush
5	>65	S	>9	>60	Conifers

Ratings: Moderate (5-11); High (12-18); Extreme (19-25)

According to the wild fire hazard severity scale shown above, the property was analyzed using mapping information from aerial photography and topography. From conducting a property analysis relative to the fire hazard rating criteria, there are specific areas throughout the project site which are classified as "moderate" and "high" fire hazard ratings with the majority of the site being classified as a "high" fire hazard rating as shown on the Final Development Wildfire Hazard Classification Map included as Exhibit 7. The Wildfire Hazard Classification Maps are a composite of specific site information derived from an analysis of the slopes, prevailing aspect, weather (number of critical fire days per year), response time (Phase I and Final Development), and vegetation types of the project area as shown on the exhibit maps listed below:

- Exhibit 1 Slope Map
- Exhibit 2 Prevailing Aspect
- Exhibit 3 Response Time (Phase I)
- Exhibit 4 Response Time (Final Development)
- Exhibit 5 Vegetation Types

As shown on the Slope Map included as Exhibit 1, 46.6% of the property is comprised of slopes ranging from 10-25% with 21.3% of the property having a slope less than 10%. The Prevailing Aspect of the property is West at 33.9% followed by East at 26.6% as shown on Exhibit 2 - Prevailing Aspect Map. Phase I Response Time from the Burns Fire Station resulted in four categories: 1) 0 to 10 minutes for 15.4%, 2) 10 to 15 minutes for 19.8%, 3) 15 to 20 minutes for 4.3% and; 4) 60.5% of the project not in Phase I as shown on Exhibit 3 Phase I Response Time Map. Response time for the final project area resulted in two categories: 1) 0 to 10 minutes for 72.6%, 2) 10 to 15 minutes for 27.4% with the furthest development parcel only 12 minutes from the on-site fire station as shown on Exhibit 4 Final Development - Response Time Map. The project area is comprised mostly of grass and sage vegetation with shrub and tree clumps interspersed as shown on Exhibit 5 - Vegetation. The project weather rating is 5 for this project, and assumes greater than 9 critical fire days per year.

The wild fire hazard rating of specific areas within the project site, as shown on the Wild Fire Hazard Classification Maps included as Exhibits 6 and 7 are based on the fire hazard criteria of the severity scale. The total rating number is derived by adding the ratings from the previously discussed maps and grouping the composite numbers into the three ratings categories. Promontory's Phase I wild fire severity ratings are 5.9% moderate, 33.5% high and 0.1% extreme with 60.5% not in Phase I. The Final Development wild fire severity ratings are 16.2% moderate, 83.7% high and 0.1% extreme.

III. PROPOSED WILD FIRE MITIGATION MEASURES

These proposed wild fire mitigation measures are intended to offset the existing wild fire hazards of the project site as well as the potential fire hazards that may be associated with the proposed development.

A. Vegetative Manipulations

- 1) Fuel Breaks Hazardous fuels in the form of native vegetation including dead, dying and diseased plant materials will be trimmed and/or cleared around the perimeter of the development phases where densities are greater than 0.5 acre per unit to assist in wild fire prevention. Fuel breaks for these higher density phases will consist of the following:

- Annual grasses shall be mowed to four inches or less.
- All ground litter will be removed annually.
- Over-matured dead or dying trees shall be evaluated as to their potential to ignite and to carry fire and possibly be removed.
- Fuel breaks may contain individual tree specimen, ornamental plants or other similar vegetation used as ground cover provided they will not provide a means of transmitting wild fire to adjacent native vegetation.
- Fire resistive vegetation will be planted in the fuel breaks to prevent undue soil erosion (see *Appendix A, Fire Resistant Vegetation*).
- As part of the recordation plat for each higher density subdivision, a maintained fuel break easement will be dedicated for the benefit of the area forester in areas determined to be critical for fire safety.

- Fuel breaks shall be maintained and monitored by the Development's HomeOwners Association and shall be a part of the CC&R's recorded with each higher density subdivision within the Promontory Development.
- The CC&R's for the development shall include enforcing language for the Homeowner's Association to budget for and provide fuel break maintenance services within the development boundary.
- The following chart identifies fuel break limits within the 0.5 acre lot and above development perimeters based on the wild fire hazard rating.

<i>MODERATE</i>	<i>HIGH</i>	<i>EXTREME</i>
30	50 feet	100 feet *

** No "extreme" areas have been identified within the development areas. (See Exhibit 6 and 7)*

- In addition, the proposed golf course fairways proposed at Promontory will provide fuel breaks throughout the development that will exceed in most cases the aforementioned criteria for fuel breaks.
- 2) Defensible Space Development phases that have densities less than or equal to 0.5 acre per unit shall construct defensible space around structures to reduce the wild fire threat. The defensible space includes three zones as described below:

Zone A (0 to 5 feet from the structure/home)

(The purpose of Zone A is to have the least flammable-type of landscaping immediately adjacent to the structure to prevent ignition from fire and direct exposure from flames.)

- All dead trees, shrubs and branches shall be removed.
- Native trees and shrubs with the exception of a few well-maintained specimen trees shall be removed.
- Low-growing vegetation with high-moisture content such as flowers and ground cover shall be planted and irrigated, if necessary.
- If mulches are used within this zone, rocks shall be used adjacent to the structure.

Zone B (5 to 30 feet from the structure/home)

(The purpose of Zone B is to provide an area where fire fighters can defend the structure and where fuels have been substantially reduced.)

- All dead trees, shrubs and branches shall be removed.
- Small groups of existing native shrubs may remain.
- All other native shrubs shall be removed.
- At least 10 - 15 foot separations between individual shrubs and /or groups of shrubs shall be provided.
- Native trees are allowed so long as there is a large separation between the crown of adjacent trees and ladder fuels are removed (lower tree branches 10 to 15 feet from the ground shall be removed).

- Bare ground in this Zone is unacceptable because of soil erosion concerns
- Use of wild flowers, ground covers, erosion control grasses, low-growing deciduous shrubs, rock and mulches are acceptable in this zone
- Plants shall be kept green during the fire season using supplemental irrigation if necessary
- A few deciduous shrubs such as specimen plants are acceptable

Zone C (30 to 100 feet from the structure/home)

(The purpose of this Zone is to reduce fire intensity and flame length by modifying the native vegetation.)

- All dead trees and shrubs shall be removed.
- Dead branches from shrubs and trees shall be removed.
- Shrub height shall be reduced.
- Ladder fuels shall be removed.
- Dense stands of timber shall be thinned to provide for separation between crowns
- Dead woody material lying on the ground shall be removed.
- Thick and continuous stands of shrubs shall be broken up by removing strips of shrubs along the contour of the slope
- On steep slopes the distance for Zone C shall be extended. If the slope is greater than 30%, the distance shall be extended to approximately 100 feet. For slopes greater than 50% the distance shall be extended to approximately 250 feet.

- 3) Lot Size Lots vary in size. Building pads on each lot, regardless of lot size, will be sized to provide adequate opportunity for defensible space around structures. All building activity will occur within the Limits of Disturbance of the building pads.
- 4) Chimney, Stovepipes, and Outdoor Fireplaces All fuels will be removed to a minimum of ten feet around all chimneys, stovepipes, and outdoor fireplaces. Any solid or liquid burning appliance shall have a spark arrester or screen equipped on stove pipes and chimney outlets.
- 5) Dead Vegetative Materials All trees and shrubs left in the fuel breaks and defensible space areas for aesthetic reasons will be kept free of dead, diseased or dying wood; lower branches will be pruned to a height of 16 feet if the trees are over 35 feet tall. The lower half of the tree will be pruned if it is less than 35 feet tall.
- 6) Fire Protection Improvements Appropriate fire protection infrastructure, including facilities, apparatus, and equipment will initially be from Burns Fire Station and will ultimately be constructed onsite to comply with the appropriate level of service standard (see exhibit 4 for the approximate location of the proposed fire station). In addition, approved fire sprinkler and suppression systems will be required for all residential and commercial structures.

B. Building Materials

- 1) Roof and Exteriors Roofs will be constructed of U.L. listed Class "A" fire-rated roofing materials, non-combustible and non-reflective materials. Examples of this may include asphalt shingles or tile roofing. Fire-retardant treated wood shingles will not be permitted. The subdivision CC&R's will reflect the type of building materials required for use and specify materials prohibited. The exterior base material of each structure shall be non-combustible with a minimum height of four feet from finished grade.
- 2) Structural Projections Structural projections such as balconies, decks, and roof gables will be constructed of fire resistant materials or materials treated with fire-retardant chemicals.
- 3) Trash Burning of flammable trash or rubbish will not be permitted.

C. Disposal of Flammable Solid Wastes

- 1) Vegetation All vegetation such as trees, branches, limbs, stumps, exposed roots, and brush disturbed during construction will be disposed of by chipping, composting, burial or removal.
- 2) Construction Materials Excess flammable construction materials will be disposed of by burial, removal or other means as specified by the local governing authority.

D. Road Specifications

- 1) Road Dimensions The private roadways serving the residences of the Promontory Subdivision shall have a 50 foot right-of-way and be constructed to the following standards:

Collector roads:

- 24 feet of asphalt pavement with 4 foot shoulders on each side

Residential Roads:

- 22 feet of asphalt pavement with 4 foot shoulders on each side

All roads and driveways shall have an unobstructed vertical clearance of 13 feet 6 inches.

- 2) Cul-de-sacs Cul-de-sacs will be a maximum of 900 feet in length for "High" and 1,200 feet for "Moderate" rating areas unless otherwise approved by the jurisdictional Fire Service District. Cul-de-sacs will be designed with a minimum road width of 30 feet (22 feet of asphalt paving with 4 foot of shoulders on each side), and have a turn-around of not less than 70 feet in diameter. All cul-de-sacs shall include signage that identifies the road as a dead-end road. The signage shall be located within 50 feet of the outlet.

- 3) Road Grades The maximum grade of all roads, shall be 10 percent. However, these roads may contain grades in excess of 10 percent, up to a maximum of 12.5 percent for short distances only when, it is determined that the steeper road grade is in the best interest of environmental protection and it is further determined that the steeper grade will not adversely affect public safety. The increased road grade shall also be reviewed by the jurisdictional Fire Protection District and Wild Land Fire Protection manager for approval.

- 4) Road Maintenance The CC&R's for the development will include enforcing language for the Association to budget for and provide snow removal and road maintenance services.
- 5) Roadway Construction All roadways shall be constructed to Summit County Standards for the project with respect to location and radius of curvature. All road surfaces shall be capable of providing all weather year-round access.
- 6) Road Identification Roads will be uniquely named or numbered and visibly signed as such at each road intersection. Lots will also be uniquely numbered on each road and visibly signed as such. A map of the development with road and lot designation will be furnished to all local fire authorities.
- 7) Bridges and Culverts Bridges and culverts will be constructed to support a gross vehicle weight of 40,000 pounds. Permanent culverts will be installed at all intermittent and perennial stream crossings.
- 8) Gates All posts for gates on private driveways and roads shall be four-feet wider than the approved road pavement width. All gates shall be located at least 15 feet from the right-of-way and shall open inward allowing a vehicle to stop while not obstructing traffic on the major or minor roads. Should gates be electronically operated, a receiver shall be installed that would permit emergency service access with a transmitter. If the gate can be locked, a lock-box or other access device shall be approved by the jurisdictional Fire Service District, Summit County Sheriff and the Lands Fire Manager, and shall be located on the exterior side of the gate to provide for emergency equipment access to the property through the gate.

- 9) Snow Removal and Road Maintenance Snow removal and road maintenance on private roads shall be the responsibility of the development's Homeowner's Association and will be noted as such on the recordation plat. The CC&R's for the development will include enforcing language for the Association to budget for and provide snow removal and road maintenance services.
- 10) Existing Roads All trails and dirt or gravel roads within the project area that will remain after the development is built shall serve as emergency fire exit roads. These remaining existing roads shall also serve as natural fire break areas throughout the project area.
- 11) Driveways The maximum grade of any driveway shall not exceed 10 percent. However, 12 percent grades may be allowed for a maximum of 250 lineal feet. Driveways exceeding these parameters shall be heated. The minimum width of any driveway shall be 12 feet. All driveways over 150 feet whether or not locked by a gate shall include an approved turn-around for emergency vehicles where the driveway meets the building pad and every 400 feet for long driveways. The minimum unobstructed vertical clearance shall be 13 feet 6 inches.

E. Water and Water Supply

A Community Water System to Serve All Lots is proposed at Promontory. Water Distribution Lines. The minimum size of main lines will be eight (8) inches in diameter and will be sized larger if flows and velocities dictate.

Fire Hydrants. Fire hydrants will be installed in accordance with jurisdictional Fire District requirements and the Uniform Fire Code. Fire hydrant spacing will be a maximum of 500 feet between hydrants within development phases.

Where new water mains are extended along streets where hydrants are not needed for protection of structures, fire hydrants shall be provided at spacing not to exceed 1,000 feet.

Fire Flow Requirements. The fire flow requirement will be a minimum of 1,500 gallons per minute.

Water Storage

Storage for Fire Fighting Use. Water storage will be provided to support the required minimum fire flow of 1,500 gallons per minute for a duration of two hours.

Additionally, the proposed golf courses will have ponds that will provide a supplementary water storage source for fire fighting use.

F. Inspections

The jurisdictional Fire Service District shall perform fuel break and individual lot inspections to verify compliance with these standards as outlined. The inspections shall be accomplished prior to building occupancy.

APPENDIX A

FIRE RESISTANT VEGETATION

The following is adopted in part from a USDA Forest Service Research Paper by Eamor Nord and Lisle Green, published by Pacific Southwest Forest and Range Experiment Station, Riverdale, California.

As previously defined, fire resistant vegetation consists of grasses, forbs, shrubs, and trees that do not readily ignite and burn when subjected to fire because of the inherent physiological characteristics of the species such as heat content, chemical composition, moisture content, fuel arrangement, and fuel loading.

Plants to be used primarily for fire hazard reduction must meet more stringent requirements than for other uses. Plants should fulfill most of these criteria:

- 1) Low Volume - Amount of woody and herbaceous material produced over a period of years, not just current production.
- 2) Adaptability - Must be adaptable to dry sites and to a moderately broad range of elevations, aspects, temperatures, and soils.
- 3) Growth Form - Low-growing, prostrate shrubs that creep along the ground are best.
- 4) Reproduction - Species or varieties which reproduce vegetatively as well as by seed. Preferred plants can be established on wildland sites by direct seeding. Other methods are more costly.
- 5) Root Systems - Deep, multiple-branched, and fast growing root systems.

- 6) Relative Flammability - Plants containing high moisture content in foliage, preferably over 75 percent during the summer season, are preferred. High moisture content is frequently correlated with salt or ash content of the foliage.
7. Palatability - Desirable except during the establishment stage when grazing, browsing, or clipping by livestock or wildlife can destroy young plants.

Following is a brief guide to vegetation that should be used in fire hazard reduction plantings.

A. **Grasses and Forbs**

Orchard grass (*Dactylis* spp.)
Kentucky bluegrass (*Kentucky bluegrass* spp.)
Rye grass (*Lolium* spp.)
White clover (*Tri folium* spp.)
Alfalfa (*Medicago* spp.)
Crested wheatgrass (*Agropyron* spp.)
Other perennial grasses

B. **Shrubs**

Manzanita (*Arctostaphylos* spp.)
Bitter brush (*Purshia* spp.)
Sand cherry (*Prunus besseyi*)
Lilac (*Syringa vulgaris*)
Bladdersenna (*Solutea arborescens*)

C. Broadleaf Trees

Aspen (*Populus tremuloides*)

Box elder (*Acer negundo*)

Cottonwood (*Populus* spp.)

Black locust (*Robinia pseudoacacia*)

Willow (*Salix* spp.)

PROMONTORY

WILD FIRE PREVENTION PLAN

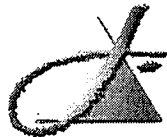
September 15, 1999

REVISED - October 20, 1999

Prepared for

PIVOTAL GROUP

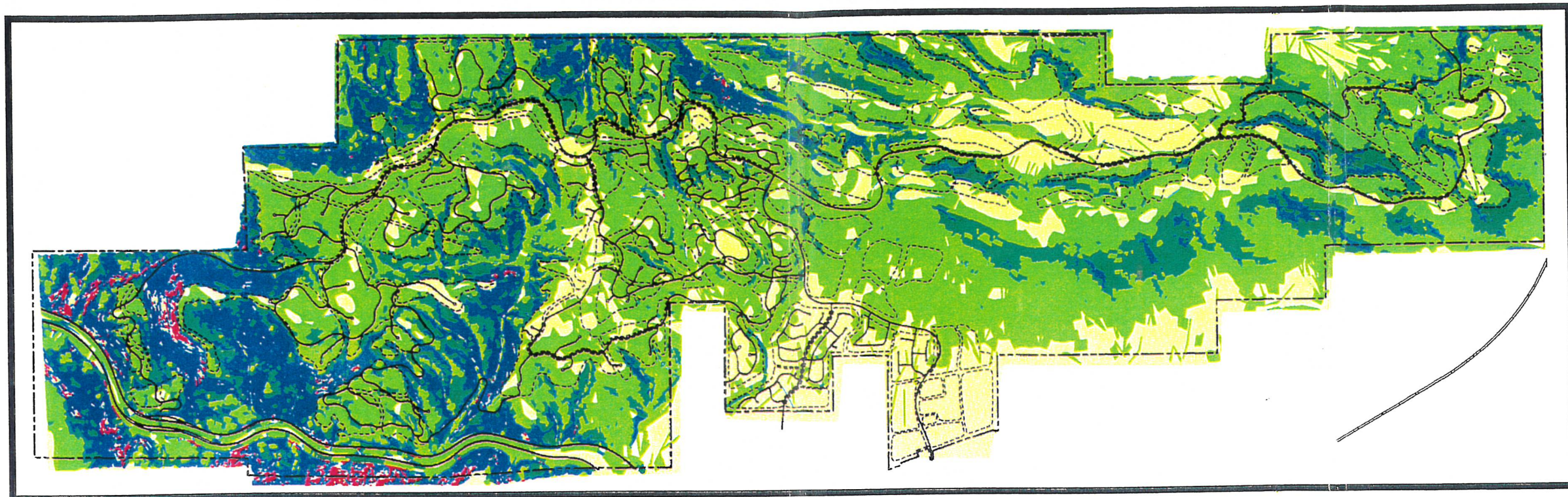
2415 East Camelback Road, 9th Floor
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Slope Analysis



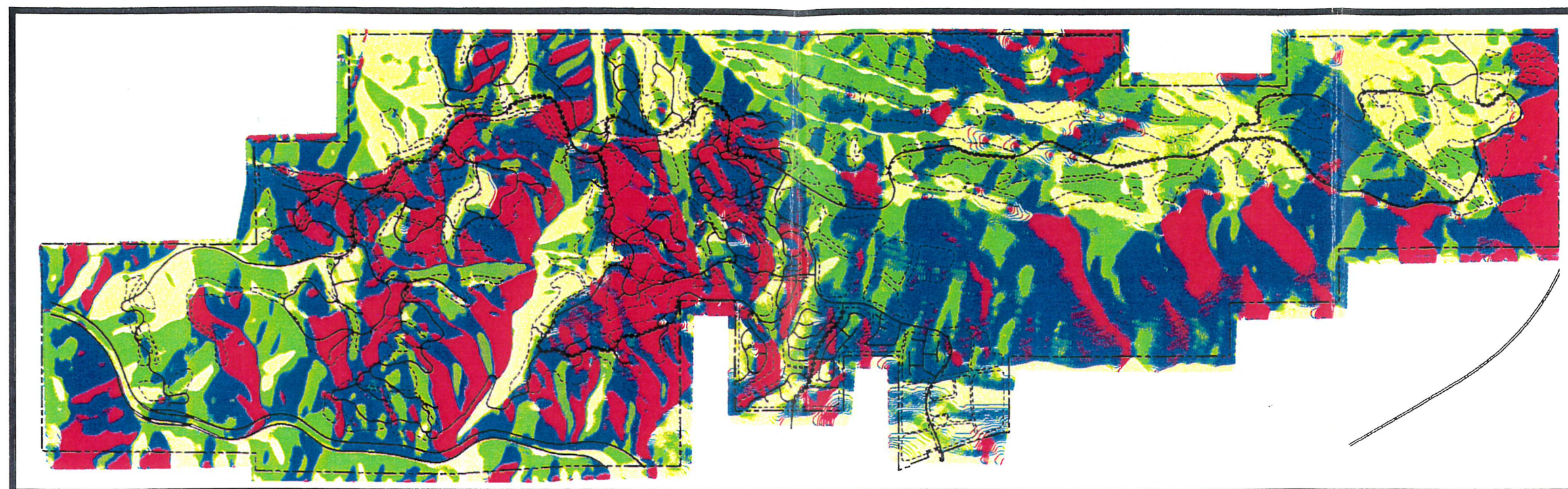
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Legend

	Rating	Slope	Percentage
	1	<10%	21.3%
	2	10% to 25%	46.6%
	3	25% to 40%	17.1%
	4	40% to 60%	14.1%
	5	>60%	0.9%

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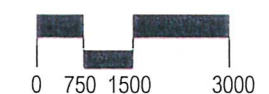
Exhibit 1



Prevailing Aspect Map



North



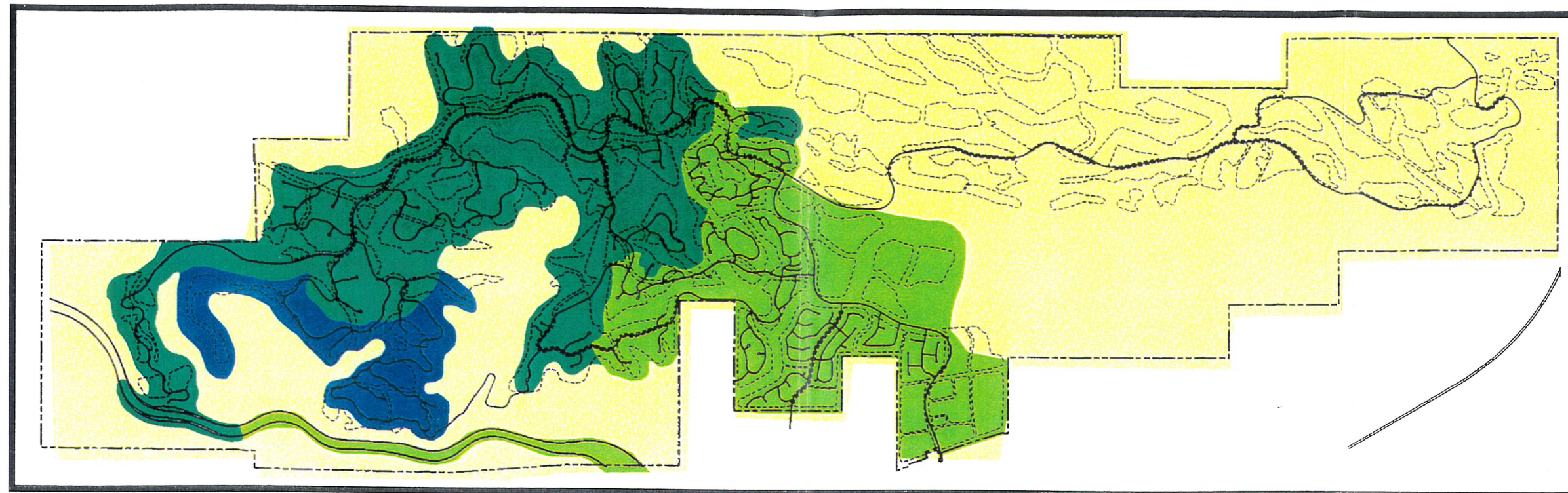
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Legend

	Rating	Aspect	Percentage
	1	North	19.5%
	2	East	26.6%
	4	West	33.9%
	5	South	20.0%

date: 10-20-99

Exhibit 2



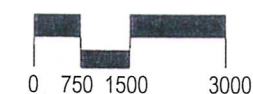
Phase 1 Response Time

Travel time is from Burns Fire Station

To site travel speed- 45 m.p.h.
On site travel speed- 35 m.p.h. w/ grades of < 8% and 25 m.p.h. w/ grades > 8%



North



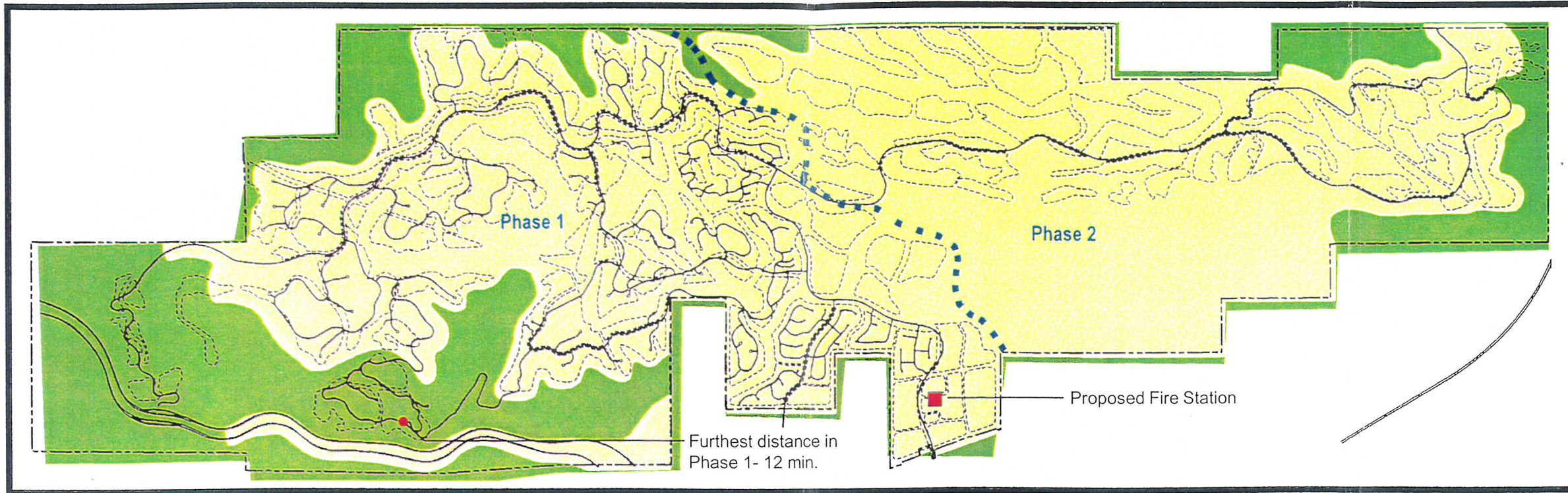
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Response Time	Percentage
Not in Phase 1	60.5%
<10 min.	15.4%
10 min. to 15 min.	19.8%
15 min. to 20 min.	4.3%

date: 10-20-99

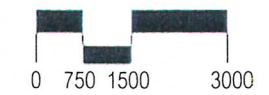
Exhibit 3



Final Development Response Time

Travel time is from on site Fire Station and Burns Fire Station

To site travel speed- 45 m.p.h.
 On site travel speed- Phase 1: 35 m.p.h. w/ grades of < 8% and 25 m.p.h. w/ grades > 8%
 Phase 2: Majority of proposed roadways will be designed <8%,
 therefore 35 m.p.h. travel speed was utilized



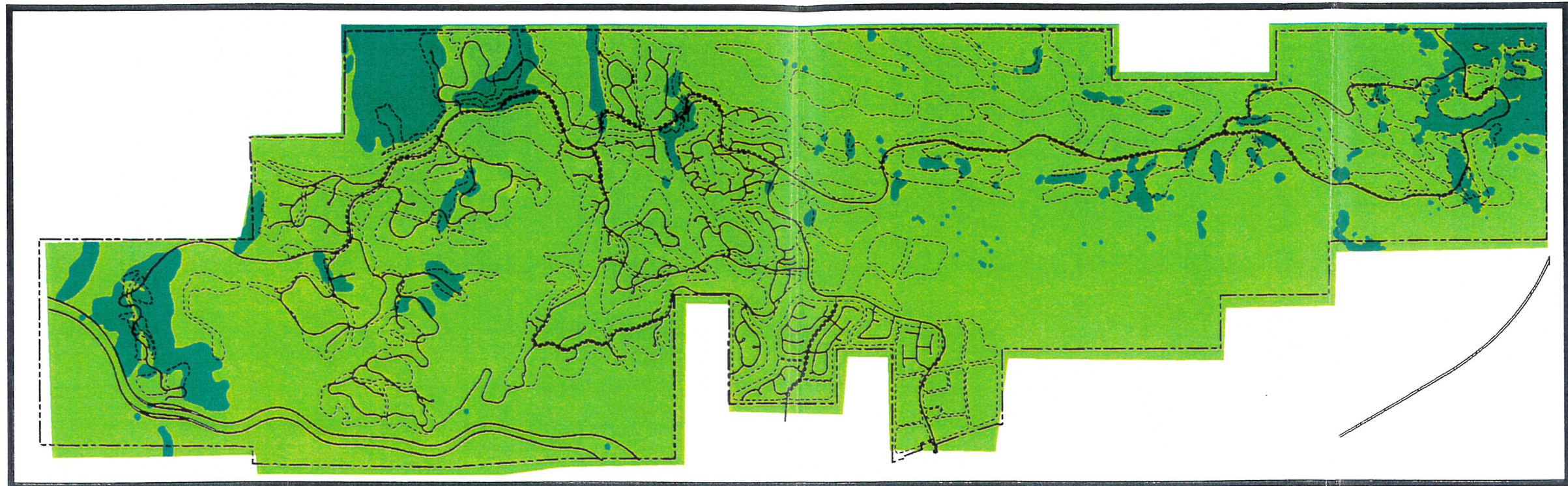
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Response Time	Percentage
<10 min.	72.6%
10 min. to 15 min.	27.4%

date: 10-20-99

Exhibit 4



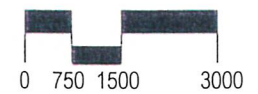
Vegetation



North

Legend

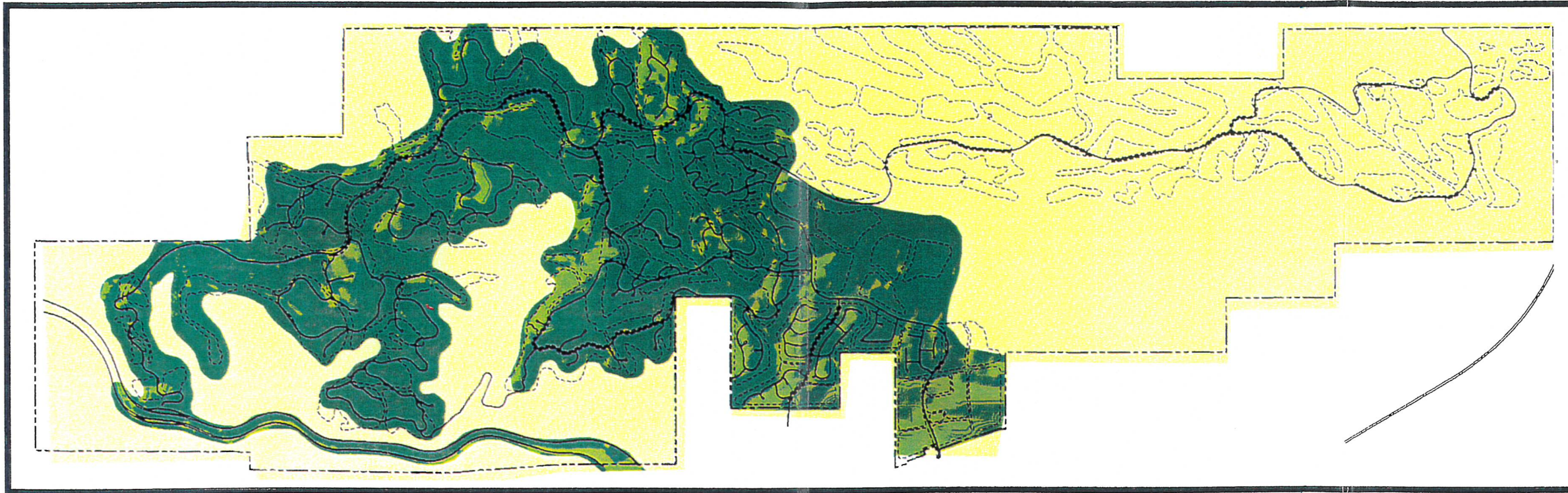
	Rating	Description	Percentage
	2	Grass/Sage	89.6%
	3	Hardwoods	10.4%



Scale 1"=3000'

date: 10-20-99

Exhibit 5







Phase 1 Wild Fire Hazard Classification Map

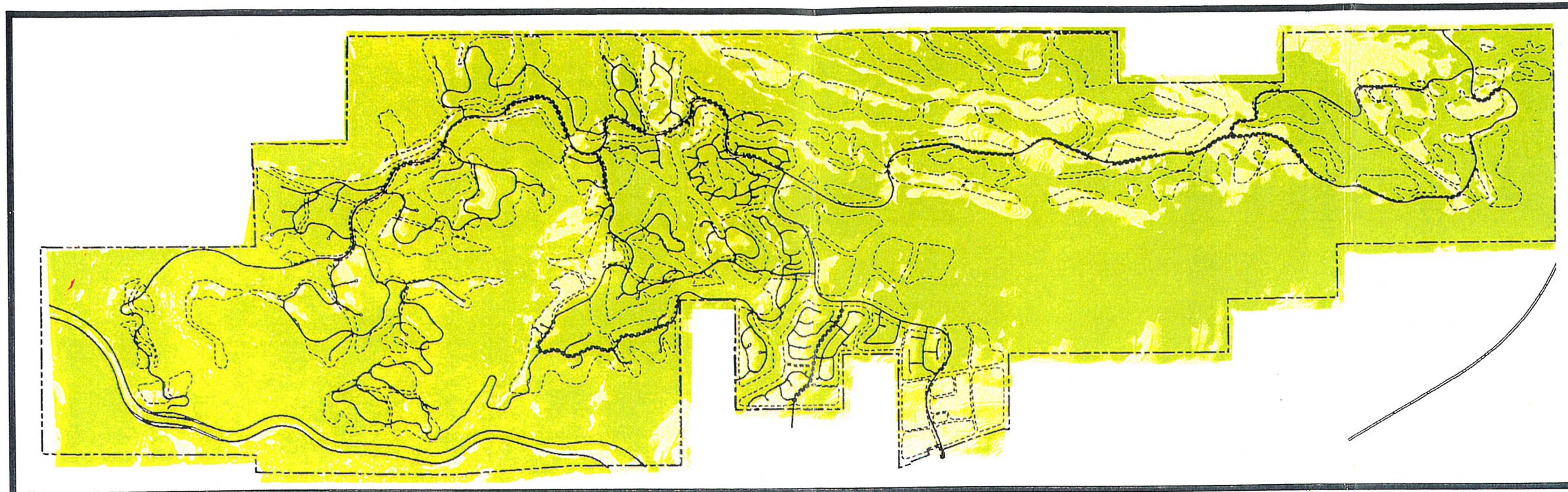


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Legend

	Rating	Description	Percentage
		Not in Phase 1	60.5%
	10-11	Moderate	5.9%
	12-18	High	33.5%
	19	Extreme	0.1%




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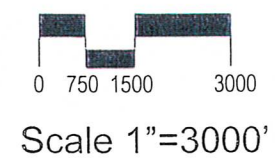


Final Development Wild Fire Hazard Classification Map



Legend

	Rating	Description	Percentage
	10-11	Moderate	10.2%
	12-18	High	89.8%
	19	Extreme	0.1%



date: 10-20-99

Exhibit 7