

# **CITY OF WHEAT RIDGE OPEN SPACE WILDFIRE MANAGEMENT PLAN**



Prepared by

**City of Wheat Ridge  
Parks and Recreation Department**

with

**ERO Resources Corporation**

**February 2003**

CITY OF WHEAT RIDGE  
Parks and Recreation Department

OPEN SPACE WILDFIRE MANAGEMENT PLAN

Recommended for Adoption by the Wheat Ridge Parks and Recreation Commission  
on Feb 19, 2003.

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Recommended for Adoption by the Wheat Ridge Fire Department  
on March 10, 2003.

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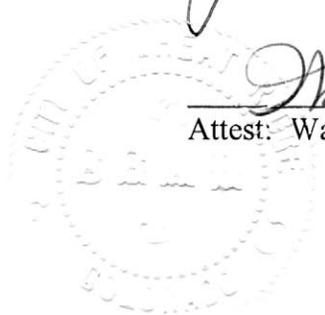
Recommended for Adoption by the Arvada Fire Protection District  
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Adopted by the Wheat Ridge City Council on March 24, 2003.

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Attest: Wanda Sang, City Clerk



# Acknowledgments

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The City of Wheat Ridge Wildfire Management Plan is the product of a collaborative process between the Wheat Ridge Parks and Recreation Commission, City of Wheat Ridge Staff, City of Wheat Ridge Police Department, Wheat Ridge Fire Department, and Arvada Fire Protection District. The individuals listed below contributed substantially by sharing their time, skills, knowledge, and thoughtful participation throughout the planning process. As its foundation, the Wildfire Management Plan emphasizes working with adjacent landowners, land managers, and local agencies to reduce the potential effects of wildfire on human life, private property, and the natural resources of Wheat Ridge's open space.

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# Executive Summary

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A wildfire is defined as a fire, regardless of ignition source that is unplanned, has escaped control, or is not authorized under state law or local ordinances. Uncontrolled wildfires near the wildland-urban interface can result in high economic costs and damage to natural resources. This interface occurs where structures and other human development meet or intermingle with undeveloped wildland areas such as the City of Wheat Ridge's Open Space. Vegetation throughout the Open Space has the potential for sustaining wildfire. Fire-adapted plants such as grasses are common and, in some areas, invasion by nonnative species such as Russian olive has resulted in an accumulation of fuels.

Certain conditions can promote destructive wildfires that may affect adjacent private property or the natural resource values of the Open Space. Climatic conditions on the Front Range (i.e., thunderstorms, high temperatures, low relative humidities, and drought) combined with combustible vegetation create an environment susceptible to wildfires. In addition, with the high numbers of recreational visitors using the Open Space, the chance for human-ignited wildfires increases. In order to address the management issue of wildfire within the City's Open Space, the Parks and Recreation Department developed the **City of Wheat Ridge Open Space Wildfire Management Plan**.

The **City of Wheat Ridge Open Space Wildfire Management Plan** provides a framework for integrating fire management with other resource management activities as outlined in the **City of Wheat Ridge Open Space Management Plan**. Implementation of the Wildfire Management Plan will assist the Parks and Recreation Department in its effort to work with adjacent landowners, land managers, and local fire control agencies to reduce the potential impacts of wildfire on human life, private property, and the natural resources of the Wheat Ridge's Open Space.

# 1.0 Background

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## 1.1 Purpose of the Wildfire Management Plan

The purpose of the City of Wheat Ridge Open Space Wildfire Management Plan (Wildfire Management Plan) is to outline basic considerations and constraints and provide guidelines for wildfire management planning within the Wheat Ridge Greenbelt and Lewis Meadows (“Open Space”) (Figure 1). The Wildfire Management Plan supplements and should be used in an integral fashion with the *City of Wheat Ridge Open Space Plan* (City of Wheat Ridge 2002).

The Wildfire Management Plan addresses in more detail a specific management issue identified by the Wheat Ridge Parks and Recreation Department within the *City of Wheat Ridge Open Space Plan* (Open Space Plan). Implementation of the Wildfire Management Plan will assist the Wheat Ridge Parks and Recreation Department in working with adjacent landowners, land managers, and local agencies to reduce the potential impacts of wildfire on human life, private property, and the natural resources of the Open Space.

## 1.2 Wildfire Management Goals

The principal wildfire management goals provide the foundation on which to base the Wildfire Management Plan. The following four goals establish the basic principles of wildfire management on the Open Space.

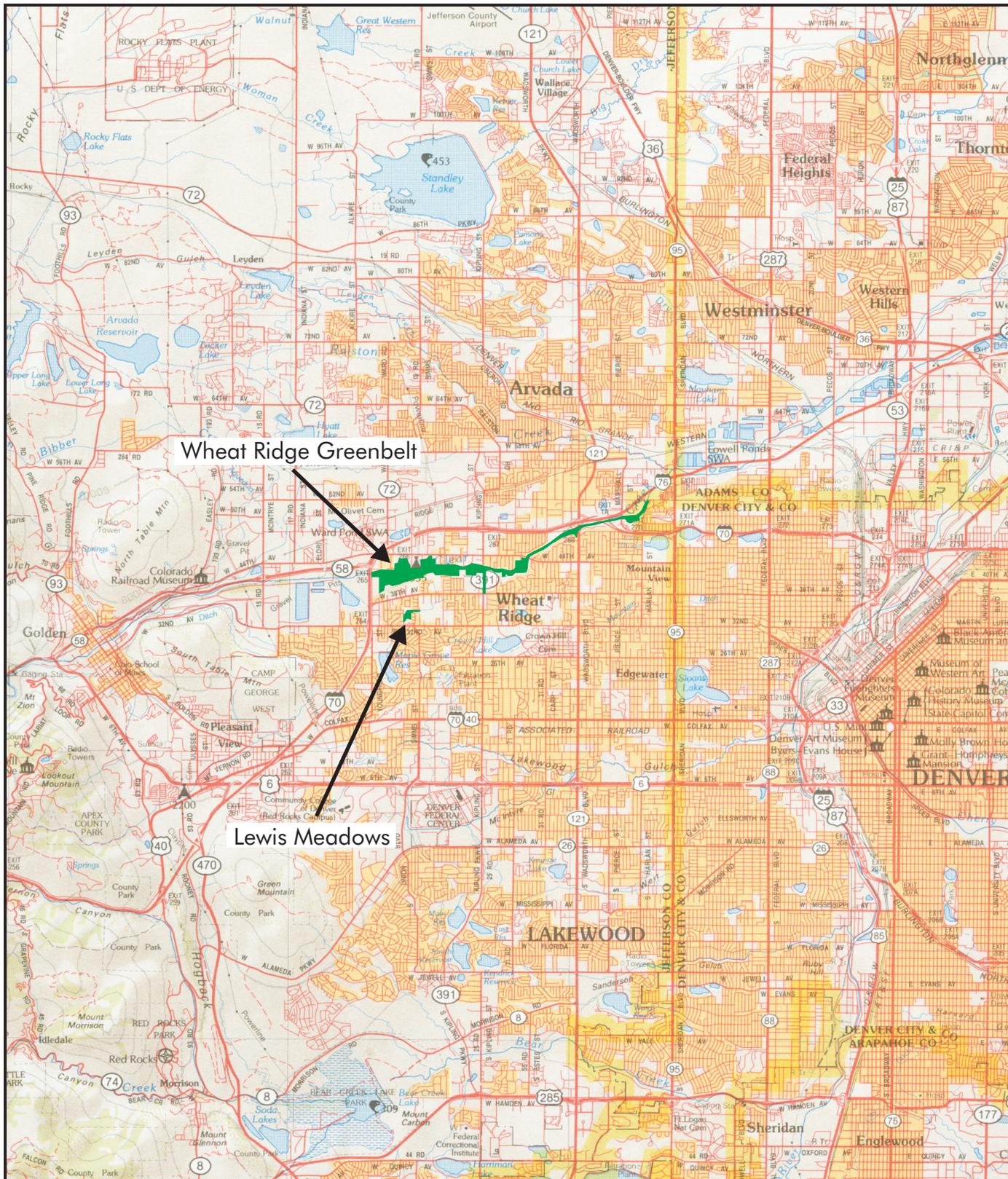
- Protect life and property in the Open Space.
- Reduce the opportunity of a fire destroying property adjacent to the Open Space.
- Protect the natural resources within the Open Space including wildlife, rare plants, and vegetation communities.
- Maintain the Open Space in a way to assist fire departments in extinguishing a fire before it grows out of control.

### 1.3 How to Use the Plan

At its core, the Wildfire Management Plan presents a number of tools to assist in addressing wildfire mitigation within the Open Space—

- [Figure 3](#) identifies emergency access on the Open Space including street names, gates, trails, and the number and position of other features (e.g., culverts, bridges, locks, and private gates) that may hinder access.
- [Figure 4](#) identifies wildfire hazard areas on the Open Space. Wildfire hazard classes shown in [Figure 4](#) are defined in [Table 1](#).
- [Figure 5](#) presents priority mitigation project areas and the general objectives within those project areas.
- The glossary includes a complete list of fire-related terms and is designed to define terms used in this plan as well as provide a comprehensive vocabulary for planning, mitigation, and outreach activities.

As an integral part of the Open Space Plan, the Wildfire Management Plan should change and evolve with the Open Space Plan. Future open space planning efforts should incorporate and build on the additional recommendations set forth in the Wildfire Management Plan. As the Wheat Ridge Parks and Recreation Department implements management actions outlined in the Wildfire Management Plan and the Open Space Plan, both documents should be updated to reflect those changes. Such changes will further ensure that the documents provide a foundation to balance wildfire management with the long-term protection of the natural resources within the Open Space.



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Figure 1  
 Regional Setting



1 Inch = 2 Miles

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 File: 1930Figure1.cdr

## **2.0 Wheat Ridge Open Space**

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### **2.1 General Description**

Located near the mouth of Clear Creek in the foothills west of Denver, Colorado, the City of Wheat Ridge owns about 300 acres of open space, the majority of which is located along the Clear Creek corridor within the Wheat Ridge Greenbelt. Wheat Ridge's additional open space area is Lewis Meadows, which is situated along Lena Gulch, which flows into Clear Creek within the Wheat Ridge Greenbelt (Figure 2). Management and oversight of open space properties fall under the Wheat Ridge Parks and Recreation Department.

### **2.2 Wheat Ridge Greenbelt**

The Wheat Ridge Greenbelt is the larger of Wheat Ridge's two open space properties, stretching 5 miles along Clear Creek and consisting of about 300 acres. The Greenbelt is bounded on the west by Youngfield Street, on the east by Harlan Street, and on the north and south by various private properties. The Greenbelt is located within the 100-year floodplain of Clear Creek, where the elevation varies from 5,450 to 5,280 feet. The Greenbelt is generally flat with a very gradual downward slope from southwest to northeast and is completely surrounded by development, which closely abuts its borders. There is no buffer zone, making it difficult to maintain some preferred resource conservation practices. It is accessible by seven trailheads along its 5-mile stretch, along with many additional neighborhood access points.

Although the Wheat Ridge Greenbelt historically has been hayed, cropped, and grazed, much of it has remained free from residential, commercial, and non-mining industrial development. Today, the Wheat Ridge Greenbelt provides habitat for a wide array of native wildlife and vegetative species, including the federally threatened Ute ladies'-tresses orchid, a globally imperiled species that is protected under the Endangered Species Act.

### 2.3 Lewis Meadows

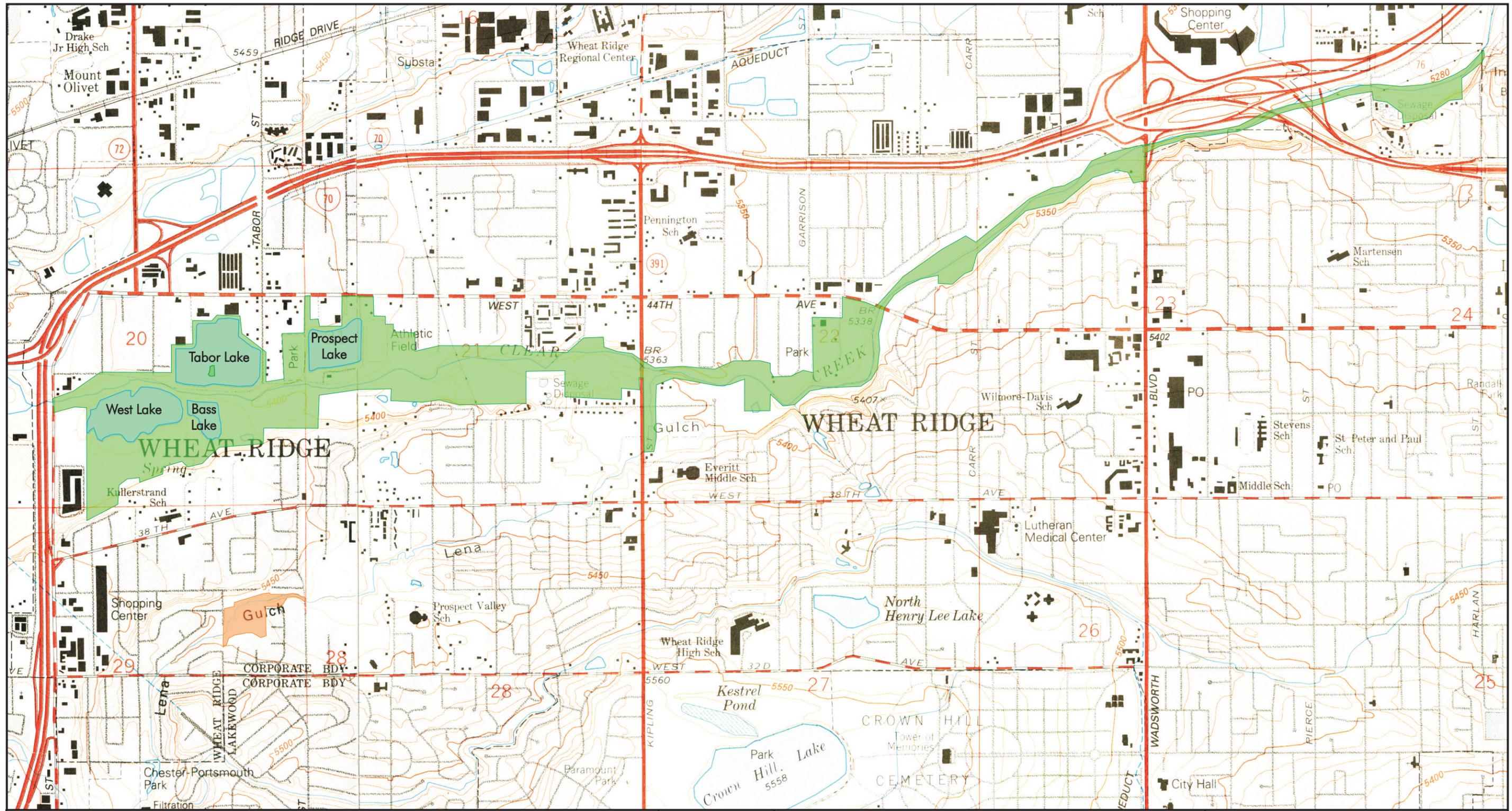
The 10-acre Lewis Meadows is located southwest of the Wheat Ridge Greenbelt just off of 34th Avenue and is surrounded entirely by private residential homes. Lewis Meadows is situated within the 100-year floodplain of Lena Gulch.

Lewis Meadows became designated open space in 1972 when residents from Jefferson County approved a one-half cent sales tax to raise money for open space purchases. Lewis Meadows features stands of mixed cottonwoods, mixed shrubs, and mesic grasses and is a popular area for dog walking. Lewis Meadows serves as a floodplain park, receiving overflows of Lena Gulch, which runs through the middle of the site.

### 2.4 Open Space Natural Values

The Wheat Ridge Greenbelt provides an important wildlife corridor and habitat for a wide range of vegetative and wildlife species. In terms of vegetation, remnant examples of naturally occurring riparian communities include the plains cottonwood/chokecherry riparian woodland type and the plains cottonwood/western snowberry riparian woodland type. In addition to these important riparian communities, the Conservation Management Zone within the Wheat Ridge Greenbelt supports the federally protected Ute ladies'-tresses orchid (CNHP 2000). The Conservation Management Zone also may contain the only known occurrence worldwide of a newly discovered species of earthstar, a type of fungus.

In addition to important vegetation communities and vegetative species, the Wheat Ridge Greenbelt and Lewis Meadows provide important habitat for a number of wildlife species including yellow warbler (*Dendroica petechia*), white-breasted nuthatch (*Sitta carolinensis*), wood duck (*Aix sponsa*), northern shoveler (*Anas acuta*), American kestrel (*Falco sparverius*), screech owl (*Otus kennicottii*), deer mouse (*Peromyscus maniculatus*), eastern cottontail rabbit (*Sylvilagus floridanus*), prairie vole (*Microtus ochrogaster*), striped skunk (*Mephitis mephitis*), spotted skunk (*Spilogale putorius*), raccoon (*Procyon lotor*), red fox (*Vulpes vulpes*), and beaver (*Castor canadensis*).



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- Greenbelt
  - Lewis Meadows
- Boundaries Approximate*

**Figure 2**  
 City of Wheat Ridge Open Space

Prepared for: City of Wheat Ridge  
 File: 1930Figure1.cdr  
 July 2002

1 inch = 1,500 Feet

## 3.0 Ecological Role of Fire

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Fire, whether set or caused by lightning, has been a part of grassland and forest ecosystems for thousands of years. Fire can benefit an ecosystem. It can remove dead vegetation that hinders new growth; it can release nutrients that enrich the soil; it can reduce invader plants and encourage native species; and it can create habitats attractive to wildlife. The significance of fire in natural grassland and forest systems in order to maintain those systems has been well established. Frequent, light fires on bluestem grasslands, for example, increase biomass and may stimulate flower production. Fire naturally thins forested systems. Research in fire ecology has demonstrated that many plant and animal species actually benefit from the rejuvenating effects of fires burning regularly through their habitat.

Fires affect animals mainly through effects on their habitat. Fires often cause short-term increases in wildlife foods that contribute to increases in populations of some animals. These increases are moderated by the animals' ability to thrive in the altered, often simplified, structure of the postfire environment. The extent of fire effects on animal communities generally depends on the extent of change in habitat structure and species composition caused by fire. Stand-replacement fires usually cause greater changes in the faunal communities of forests than in those of grasslands. Within forests, stand-replacement fires usually alter the animal community more dramatically than understory fires. Animal species are adapted to survive the pattern of fire frequency, season, size, severity, and uniformity that characterized their habitat in presettlement times. When fire frequency increases or decreases substantially or fire severity changes from presettlement patterns, habitat for many animal species may decline.

While the importance of riparian systems like Clear Creek along the Front Range as sources of productivity and diversity is recognized, there is little information about the interaction

### 3.0 Ecological Role of Fire

between pattern and process. To sustain these areas, managers need to understand the characteristics of disturbance processes and how they result in patterns in these systems. For example, Native Americans commonly used fire to clear brush from riparian areas and marshes to stimulate new grasses and tree sprouts to benefit beaver, muskrats, moose, and waterfowl. Recent high-intensity fires, which in the past were probably uncharacteristic of the upland vegetation surrounding riparian zones, can ultimately result in soil erosion and sediment loading that can damage aquatic systems.

However, low-intensity fires play an important role in determining composition and structure in upland and streamside vegetation, and consequently in contribution of vegetation debris to the aquatic system. Without low-intensity fire, uplands and streamsides may succeed to shade-tolerant coniferous species or invasive species (e.g., juniper or Russian olive in the Greenbelt). This succession may consequently result in the loss of early-successional deciduous trees and shrubs. This shift in conditions can drastically alter habitats of terrestrial and aquatic fauna, and in turn, their populations.

## 4.0 Wildfire Management

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Wildfires are those fires that result from a natural cause such as lightning strike or from human carelessness such as throwing a cigarette from a trail or dumping hot charcoals in a grassland area. Suppression of fires during the past 100 years and recent drought conditions, combined with residential development adjacent to open space, create some risk of wildfire or a fire hazard. The City of Wheat Ridge Parks and Recreation Department will reduce the fire hazard on its Open Space through a variety of appropriate management actions that are consistent with accomplishing the resource management goals and objectives of the Open Space Plan. In short, fire suppression will continue where natural- or human-caused fires threaten human lives and property.

Wildfire management generally involves three major components: prevention and mitigation, suppression, and post-fire follow-up. In addition, the Parks and Recreation Department has identified close and effective relationships with local and state fire control agencies as an important fourth and primary element of its wildfire management planning.

### 4.1 Relationships with Fire Control Agencies

A primary component of wildfire management is developing close and effective liaisons with local and state fire control agencies and officials. A principal objective of this Plan is to establish a close working relationship with the fire control officials likely to respond to a fire in the Open Space. On an annual basis, the Parks and Recreation Department intends to invite local fire officials to tour the Open Space and discuss its sensitive areas, access points, and roads.

Once suppression resources are deployed, fire officials may or may not be able to meet all the management goals and objectives as outlined in the Open Space Plan, but the potential benefits of collaboration are great. It may make the difference, for example, between fire equipment staying along the boundary of a sensitive

## 4.0 Wildfire Management

area rather than going through its center. When fires threaten people or buildings, fire officials cannot be expected to place ecosystem damage above other considerations. But even in threatening situations there may be some room for flexibility in response.

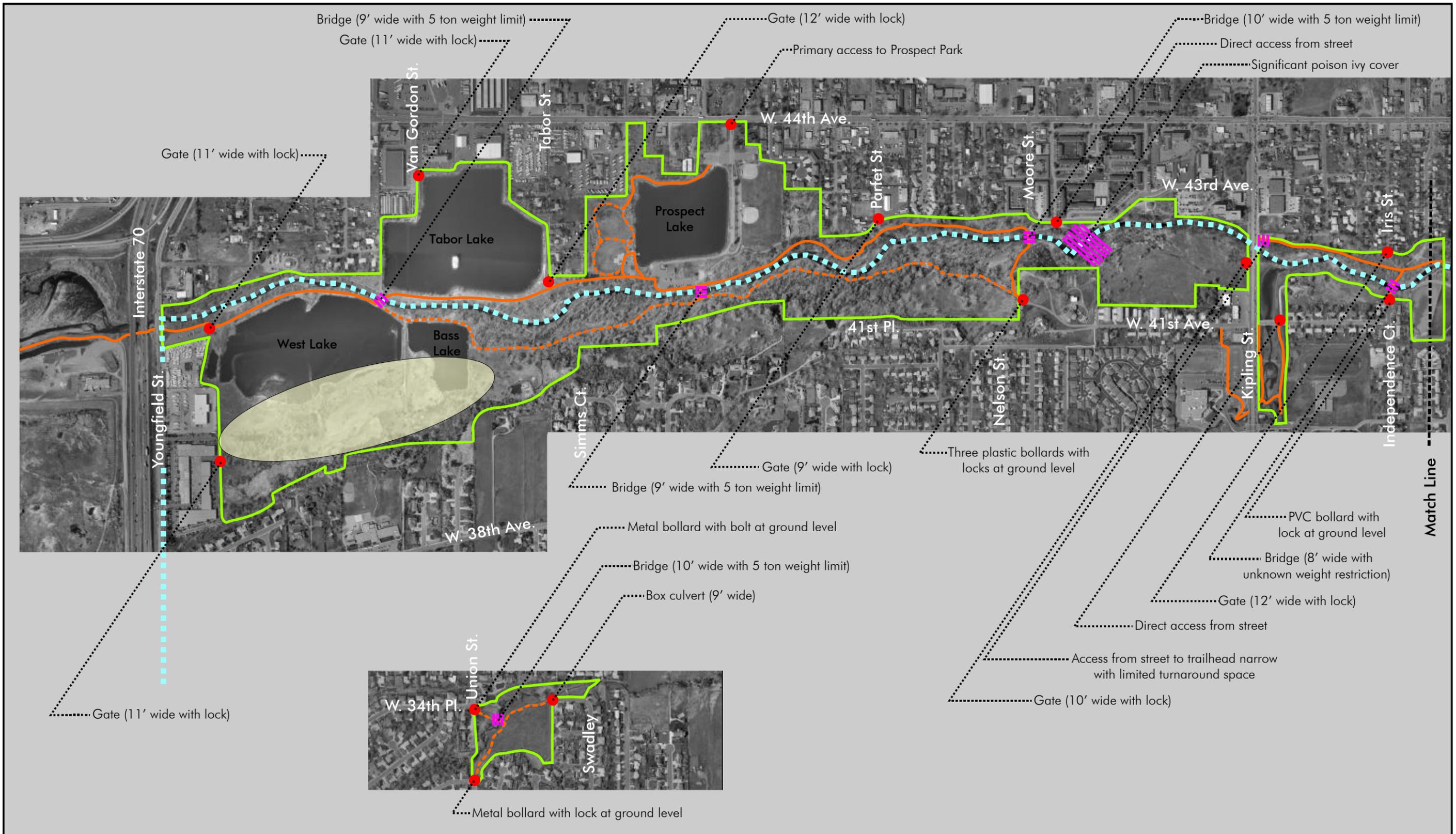
There are four fire protection districts that serve the City of Wheat Ridge. The Arvada Fire Protection District and Wheat Ridge Fire Department serve the majority of the City. The Arvada Fire Protection District is responsible for the area north of Clear Creek from Youngfield to Sheridan and the Wheat Ridge Fire Department serves the area south of Clear Creek including Lena Gulch (Figure 3). Contact information for the Wheat Ridge Fire Department and Arvada Fire Protection District is provided in Appendix A.

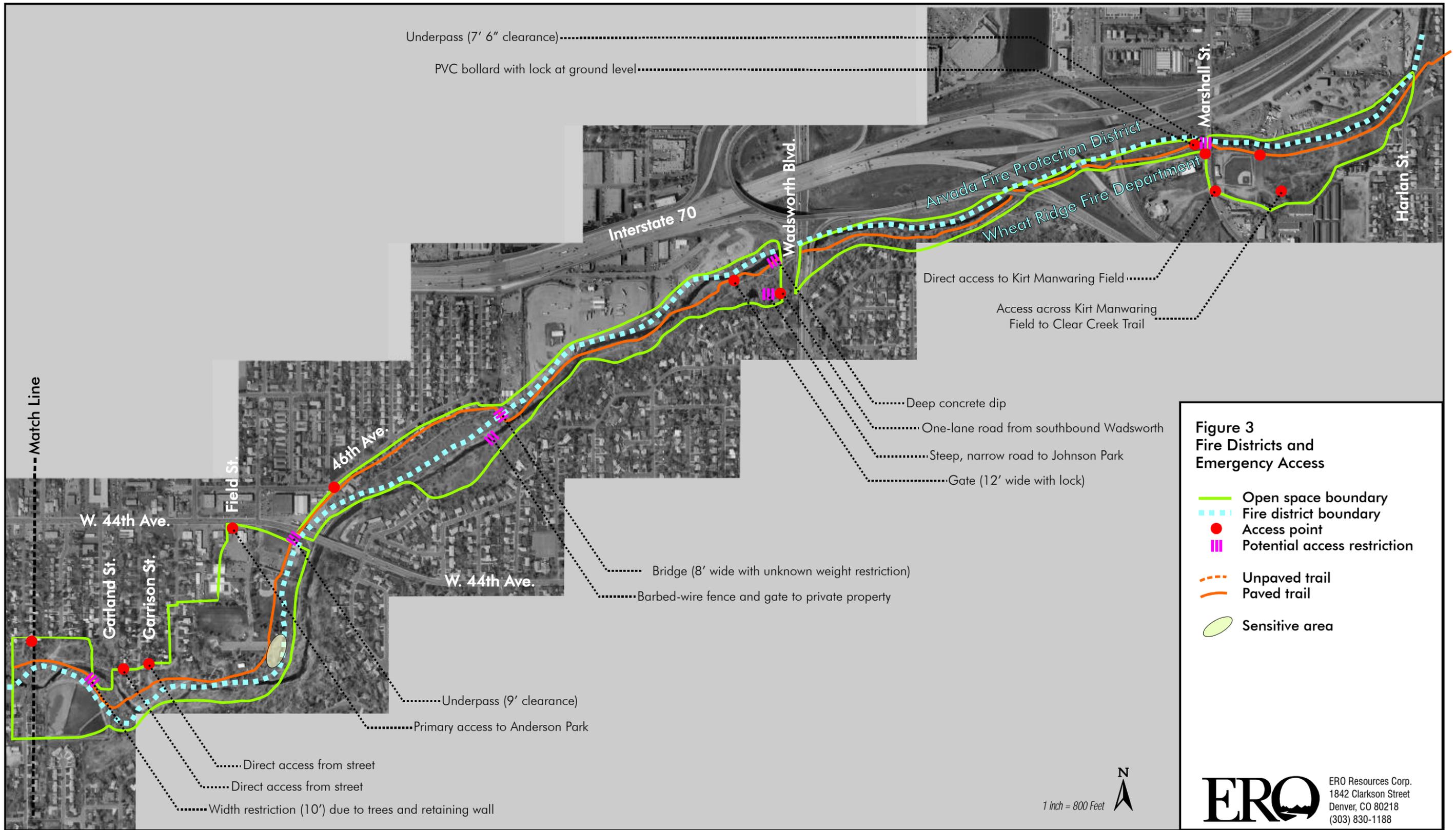
### **4.2 Prevention**

Fire engineering, code enforcement, ignition management, and public education are the main components of fire prevention. In general, these elements have been shown to be highly effective at reducing the incidence of fire.

#### 4.2.1 Fire Engineering

Fire engineering is a way to control wildfire by building in control measures. Before a wildfire can be controlled, it must be contained. Fuel breaks and fire roads are pre-suppression measures that greatly assist with containing a fire. Fuel breaks are strategically placed strips of low volume fuels designed to provide attack points, safe access, and reduced fire behavior. Roads or even recreation trails allow access into areas for rapid initial attack. The faster a fire engine or brush truck can gain access to a fire, the greater the chance for successful suppression. The Parks and Recreation Department has identified emergency access on the Open Space including street names, gates, trails, and the number and position of other features (e.g., culverts, bridges, and private gates) that may hinder access (Figure 3).





### *Charcoal Grills*

Charcoal that has been ignited stays hot enough to start fires for up to 72 hours. White coals mean high heat, not cold ashes. After cooking, hot coals should be placed in a heavy metal container with a lid, or water should be poured on and stirred with coals to extinguish them.

### *Propane Grills*

Propane grills are dangerous as an ignition source when they leak. Valves and connections can be checked by spraying soapy water on them. Bubbles indicate gas escaping and loose connections. Residents should be advised to clean the firebricks to remove grease and food residue.

### *Flammable Liquids*

Flammable liquids should be stored away from structures, and well away from pilot lights. Many maintenance projects on the Open Space as well as home improvement projects directly adjacent to the Open Space use flammable wood stains, cleaning agents, gasoline, or oil. Rags soaked in these materials are highly flammable and can spontaneously ignite. All rags should be washed in soap and water and spread to air dry before storing.

## 4.2.2 Education

Public education should be a very high priority in the City of Wheat Ridge, and the Parks and Recreation Department will assist in that effort. The Parks and Recreation Department's public education objective is to incorporate this Wildfire Management Plan to its Open Space Plan and add both documents to the City's website for access by Wheat Ridge residents. In addition, current projects will be highlighted to demonstrate, for example, the positive effect of vegetation management. A number of bulletins that describe fire-resistant plants and landscaping are available from Colorado State University Cooperative Extension. These publications are included in the [Reference](#) section.

## 4.0 Wildfire Management

### *Recommended Management Actions for Prevention*

*Action:* Continue to participate in the interagency development of public education programs. Important topics include wildfire hazard awareness, prevention and mitigation strategies, and fire ecology. Refer to *Environmental Education and Outreach* (Section 8 in the Open Space Plan).

*Action:* Consider posting signs at trailheads and picnic areas, which have a safety message on a flap. During extreme fire danger, the flaps can be opened to show a message warning of the fire hazard.

*Action:* Participate in the development of interagency goals, policies, and procedures for wildfire management especially as they affect the Open Space.

*Action:* Identify sensitive areas that require special protection within the Open Space for firefighters.

*Action:* Prepare educational programs for firefighters on Best Management Practices within the Open Space.

*Action:* Participate in the interagency coordination of technical training in wildfire prevention and suppression. Work with fire managers, firefighters, resource managers, volunteer fire departments, police departments, and other support personnel.

*Action:* Consider joint training sessions on the Open Space with fire control agencies. These sessions might include a review of communications procedures, equipment, practice with hoselays, and suppression exercises.

### 4.3 Mitigation

Mitigation specifically includes steps and actions that reduce the risk of damage or death from wildfire by treating an area that is at risk of wildfires. The key steps of mitigation involve:

- Identifying and assessing wildfire hazard.
- Prioritizing mitigation projects.
- Identifying key audiences in the community and providing them with information on wildfire hazards and mitigation techniques, primarily defensible space.
- Identifying and protecting sensitive species and communities, other native plants and wildlife, water quality, and air quality.

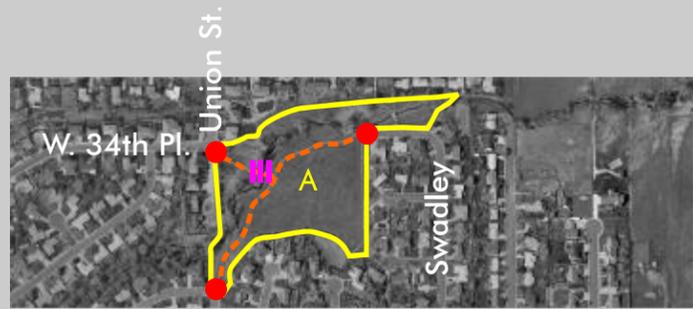
#### 4.3.1 Wildfire Hazard Assessment

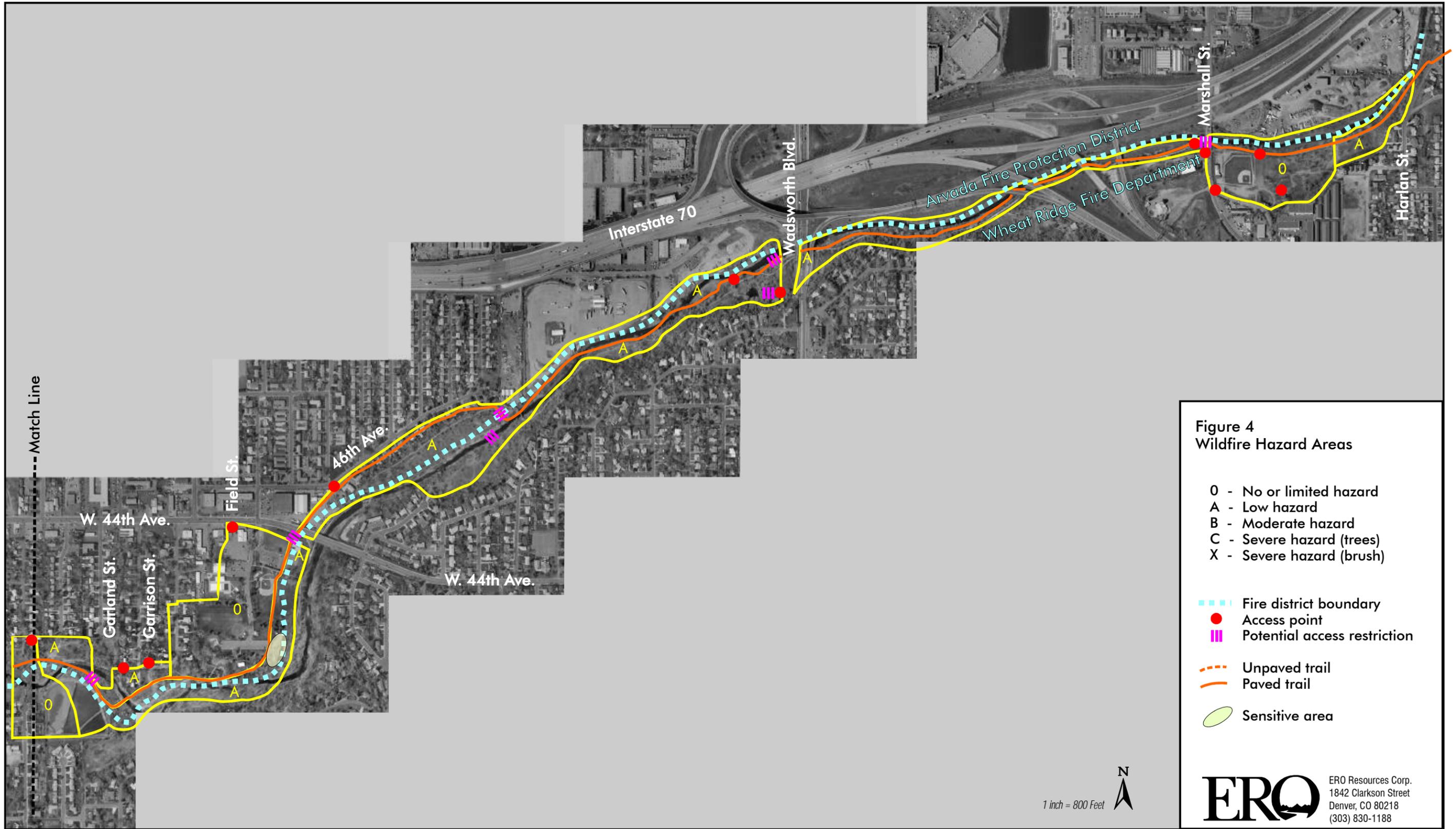
The wildfire hazard evaluation for the Open Space is based on a site visit to confirm the nature of vegetative fuels and slope. Vegetative fuels include living and dead vegetation materials. The amount of heat energy released during a wildland fire is defined by the amount, arrangement, and rate of combustion of the vegetative fuels. Slope is defined as the upward or downward incline or slant of the terrain. All other variables being equal, a fire traveling up a slope will move faster and have longer flames than a fire traveling on flat terrain—a fire on a 30 percent slope can produce flames twice the length and travel as much as one and one half times as fast as a fire on flat ground. The wildfire hazard appears in [Figure 4](#) and is characterized by fire behavior and vegetation parameters outlined in [Table 1](#). Additional factors such as all aspects of weather or the history of wildfires can provide a valuable dimension for wildfire assessment. However, these factors are not included in this evaluation.

**Table 1. Fire Behavior and Vegetation Characterizing Hazard**

Hazard Class	Expected Fire Behavior	Vegetation (Fuels)
0 (No Hazard or limited Hazard)	None	None (Open water, bare rock, cultivated fields).
X Severe Hazard (Brush)	Flames 5 to 20 feet high, of brief duration; high spread rates, at least 40 acres/hour; humans can not safely pass through flames but can occupy burned area within about 15 minutes; short-range spotting from blowing embers common.	Dense to moderately dense flammable vegetation = 10 feet high including Gamble oak, big sagebrush, conifer reproduction; abundant litter and/or herbaceous fuel, scattered conifer stand may be present.
A Low Hazard (Grass, Timber and, Brush)	Flames = 5 feet high, higher flare-ups rare; duration of highest flames brief; fire spread slow to fast, 1 to 40 acres/hour; humans can usually run through flames without serious and can occupy just-burned areas; spotting generally rare short range.	Grass, weeds, brush = 1 foot high, dead wood in contact with ground; open conifer stand may be present; includes aspen, cottonwood willow grasslands, brush other than oak, sage or buckthorn.
B Moderate Hazard (Grass, Timber, and Brush)	Intermittent flare-ups occurring up to many feet above tree tops; short and medium range spotting common; behavior between flare-ups as in Class-A; passing through fire front sometimes possible but chancy; parts of burned area can be occupied within half hour.	Medium density conifer stands; surface fuel mainly herbage and litter; some patches of reproduction and dead wood; becomes Class-C if slash is present.
C Severe Hazard (Trees)	Flare-ups higher than tree tops frequent to continuous; spread rates of up to several hundred acres per hour possible; fire front impassable; spotting several hundred yards common, possibly up to 1 mile or more; just burned areas untenable for = hour.	Dense conifer stands with any surface fuel; medium density stands with Class-X fuels or much dead wood from blowdown, insect activity, or logging.

*Source:* Colorado State Forest Service 1997.





**Figure 4**  
**Wildfire Hazard Areas**

- 0 - No or limited hazard
- A - Low hazard
- B - Moderate hazard
- C - Severe hazard (trees)
- X - Severe hazard (brush)

- Fire district boundary
- Access point
- || Potential access restriction
- - - Unpaved trail
- Paved trail
- Sensitive area

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1 inch = 800 Feet

N

### 4.3.2 Mitigation Projects

#### *Fuels Management*

Fuels management alters fuel characteristics (e.g., quantity, and continuity) in order to reduce the fuel hazard. Most fuel treatments are designed to reduce fire behavior (e.g., spread and intensity), such that the fire is easier to contain, or the damage from the fire is reduced owing to lower fire intensity. Fuel management practices can clearly reduce fire behavior, particularly for area treatments such as broadcast prescribed fire. Other fuel treatments such as removing ladder fuels can significantly affect the potential for crown fires by eliminating the vertical continuity between strata. Crown fires are extremely difficult to control and often devastating.

Fuels management also significantly reduces wildfire occurrence and acreage burned. However, it is important to note that fuels management may have little effect on fire spread during periods of extreme weather with low humidity, high temperatures, and strong winds. Ultimately a commitment to frequent maintenance will influence the effectiveness of fuels management. [Figure 5](#) presents priority mitigation project areas and the general objectives within those project areas. Priority areas are based on the wildfire hazard areas ([Figure 4](#)), adjacent land use, code enforcement issues, and access. All mitigation activities take into account natural resources goals and objectives outlined in the Open Space Plan.

#### *Poison Ivy and Fuels Management*

Poison ivy is found on the Open Space and is a common hazard to firefighting and presents a special circumstance that should be addressed during mitigation and suppression activities. A large percentage of the population is sensitive to poison ivy and develop an allergy-related rash after contact. The component of the plant that is responsible for the skin reaction is a light oily resin called *urushiol* present throughout the entire plant. The resin boils at about 390 degrees Fahrenheit so under fire conditions it may splatter onto soot particles which when airborne could be inhaled and result in respiratory swelling.

## 4.0 Wildfire Management

More likely, skin exposure to poison ivy may occur during mitigation projects or the cutting of fire line and the contamination of nomex, gloves, tools, and equipment with the resin. That resin can then be transferred to the skin through contact with the contaminated material and lead to the characteristic rash. Hand washing and avoiding subsequent contact with potentially contaminated gloves, boots, tools, and nomex will help to reduce exposure. Protective gear itself provides barrier protection to the resin, but the resin can persist on this equipment and lead to secondary exposure. Awareness of equipment contamination and hand washing are the most fundamental means to minimize the risk of contact with the resin when avoidance of the plant is impractical or impossible.

### *Recommended Management Actions for Mitigation Projects*

- Action:* Reduce the risk of wildfire and protect natural resources and public property through implementation of mitigation projects.
- Action:* Formally identify roads, trails, emergency access, and other access and egresses prior to fire event.
- Action:* Convert emergency access gates to breakaway bollards with locking latch units mounted well above ground level.
- Action:* Maintain access areas to permit brush truck entry (i.e., 9 feet wide and 6 feet high).
- Action:* Identify areas with significant poison ivy cover that require special attention during mitigation or suppression.
- Action:* Continue mowing a 2-foot wide strip along both sides of paved trails based on terrain and equipment access.
- Action:* Continue to maintain a mowed buffer along the property or fence line of areas adjoining the Greenbelt where there is adequate equipment access. Generally this buffer will be the width of a tractor's mowing flail deck or about 6 feet.

Action: Continue to maintain a mowed buffer around Lewis Meadows.

Action: Prune trees to remove ladder fuels. Refer to recommended management actions for defensible space.

Action: Remove material generated from pruning and thinning from the Open Space. Provide chipped materials to Wheat Ridge residents for garden use.

Action: Remove Russian olive trees from the Open Space to reduce fuel loading and meet additional objectives in the *Open Space Plan*.

#### 4.3.3 Defensible Space

Wildfire does not recognize where open space ends and private property begins. As the 2000 Hi Meadow Fire in Jefferson County proved, houses that did not meet wildfire defensibility standards were three times as likely to be destroyed. The two best predictors of structure survival are clearance around structures (i.e., defensible space) and the composition of the roof material.

For homes near the Open Space, the best protection is a defensible space of 30 feet or more around the home. Defensible space is an area, either natural or man-made, from which material capable of allowing a fire to spread unchecked has been treated, cleared, or modified to slow the rate and intensity of an advancing wildfire and to create an area for fire suppression operations. The following recommended management actions for defensible space are presented as an outreach tool for homeowners in subdivisions adjacent to the Open Space and are not intended for areas within the Open Space.

## 4.0 Wildfire Management

### *Recommended Management Actions for Defensible Space*

*Action:* Thin conifer trees so there is a minimum of 10 feet between foliage on adjacent trees.

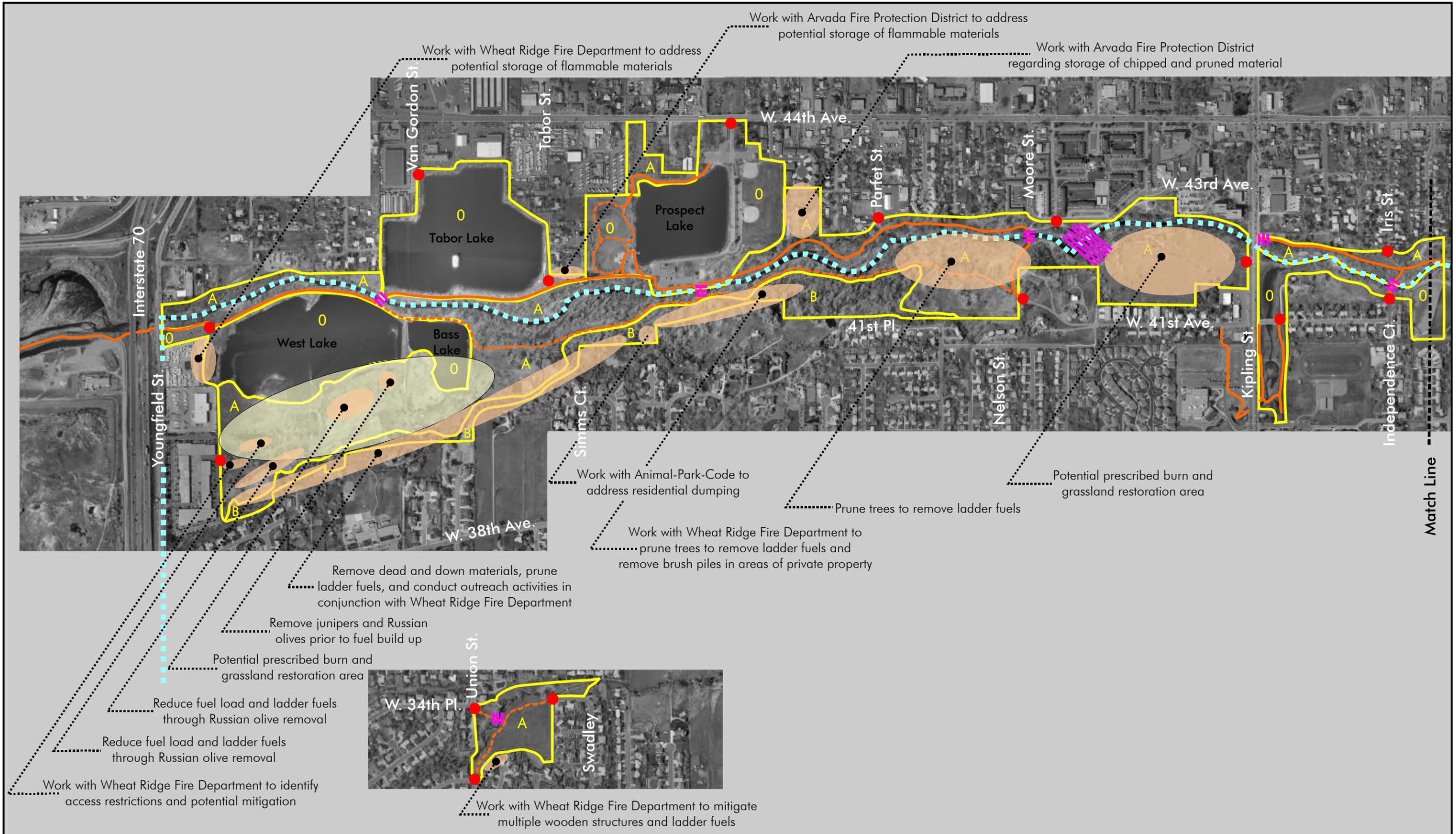
*Action:* Separate brush clumps from each other by a minimum of 10 feet.

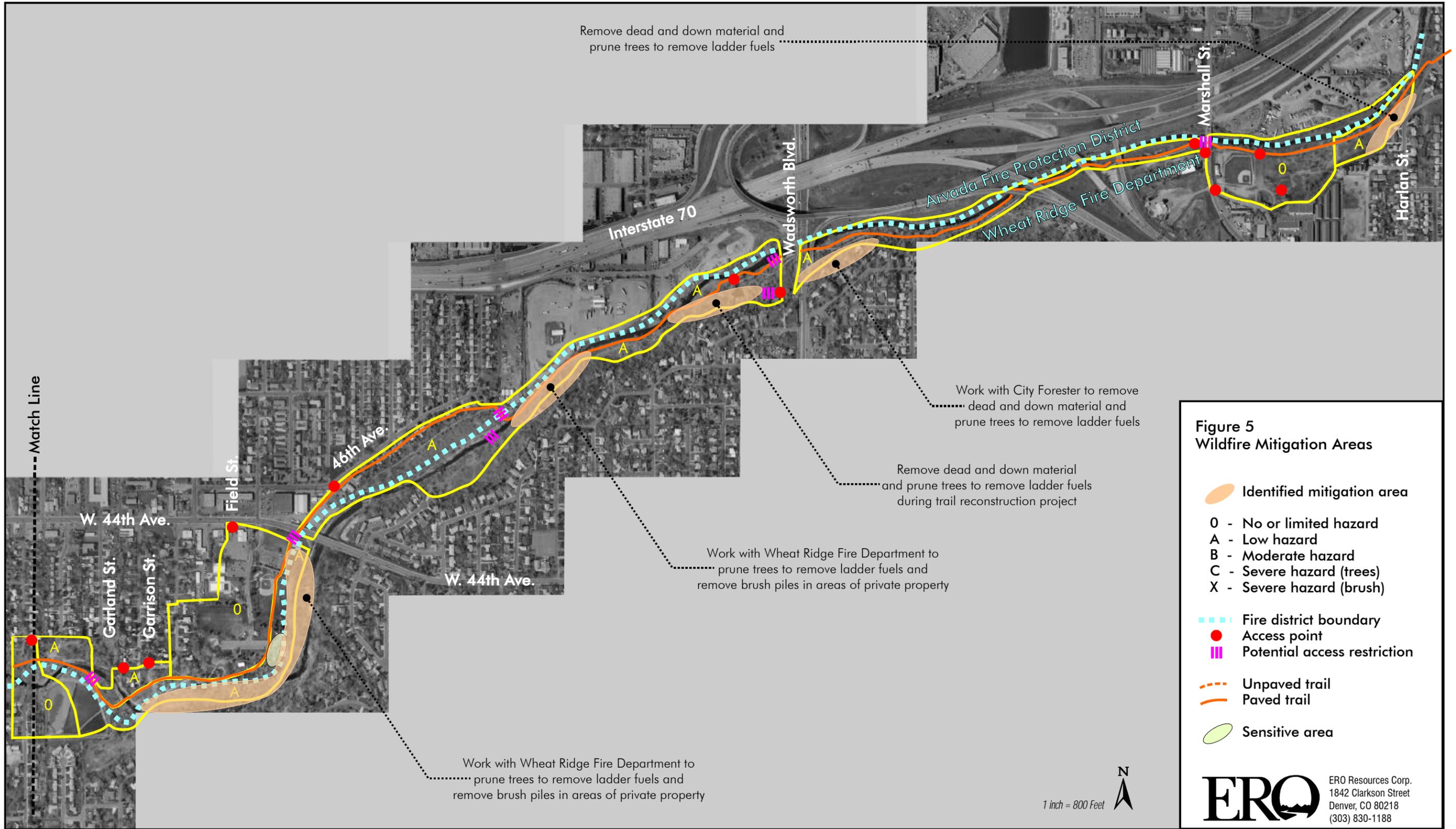
*Action:* Prune all tree limbs to a minimum height of 10 feet (pine, fir, spruce) or 4 feet (piñon, juniper), and remove all ground fuel below them.

*Action:* Remove dead or downed wood and mow grass and weeds to a height of less than 4 inches.

*Action:* Ensure driveway is accessible by fire equipment. Considerations include width, vertical clearance, and percent grade of the driveway. *(Residents should consult with their local fire protection district).*

*Action:* Provide homeowners adjacent to the Open Space with defensible space guidelines.





**Figure 5**  
Wildfire Mitigation Areas

-  Identified mitigation area
- 0 - No or limited hazard
- A - Low hazard
- B - Moderate hazard
- C - Severe hazard (trees)
- X - Severe hazard (brush)
-  Fire district boundary
-  Access point
-  Potential access restriction
-  Unpaved trail
-  Paved trail
-  Sensitive area

## 4.4 Suppression

All fires on the Open Space that are not defined as prescribed will be suppressed. The Parks and Recreation Department will work to ensure the use of suppression techniques that minimize damage to natural resources and ensure firefighter and citizen safety. The Park Naturalist will participate in the evaluation and implementation of fire suppression alternatives on the Open Space. Within the Open Space, fire suppression will center on public and firefighter safety, protection of structures and private property, natural resource protection, and public education.

### *Recommended Management Actions for Suppression*

- Action:* Protect natural resources through pre-suppression planning.
- Action:* Consider the use prescribed fires, practice burns, and other field training on the Open Space. Section 4.6 presents the basic considerations necessary for the use of prescribed fire.
- Action:* Identify and avoid threats in the Open Space to human health such as hazardous materials and poison ivy.
- Action:* Participate in interagency coordination and development of technical training in wildfire suppression.
- Action:* Include Best Management Practices (see below) in training for protecting natural resources and preventing the spread of non-native plant species of concern during fire suppression.
- Action:* Provide firefighters with background information on local site conditions (e.g., poison ivy locations) and sensitive resources (e.g., federally protected Ute ladies'-tresses orchid).
- Action:* Ensure firefighter and public safety.
- Action:* Evacuate public and pets to predetermined staging, sheltering, or safety zones.
- Action:* Prevent the spread of fire from the Open Space to private lands.

## 4.5 Post-Fire Follow-up

### *Recommended Management Actions for Post-Fire Follow-up*

*Action:* Identify areas of concern for soil stabilization.

*Action:* Identify areas of concern for vegetation and wildlife recovery.

*Action:* Identify areas of concern for water movement and erosion.

*Action:* Consult with natural resource experts to determine appropriate reclamation activities.

*Action:* Inform the public about post-fire activities.

## 4.6 Basic Considerations for Prescribed Burning

As previously discussed, fire, whether set or caused by lightning, has been a part of grassland ecosystems for thousands of years. Fire may provide one or more benefits to a grassland system—

- It can remove dead vegetation that hinders new growth.
- It can release nutrients to enrich the soil.
- It can create habitats attractive to certain species of wildlife.
- It can reduce noxious weeds and encourage native species.

Misused, fire can do the opposite. The best planned and managed fire may be extremely destructive if the probable effects on all biological systems on the site have not been well examined.

Grasslands in the Greenbelt and Lewis Meadows can be managed in different ways; fire is one possible choice. The first decision for Parks and Recreation staff is to determine whether fire is a viable option. Fire should not be a management choice for Open Space habitats if—

- Federal or state regulations prohibit burning.
- Local ordinances or zoning prohibit burning.
- Safety factors and containment are extremely risky.
- Element occurrences or natural communities may be subject to harm.
- Fire effects will not meet management objectives.

If fire cannot be used for the above reasons, accept the decision as final and explore alternative grassland management methods. Other grassland management options include mowing, haying, grazing, fertilization, herbicides, soil scarification, interseeding, and total reseeding.

The following factors will need to be considered if fire is a choice—

- Reasons for burning
- Safety
- Methods of spreading fire
- Confining fire
- Smoke management
- Weather conditions
- Permits
- Training
- Post-burn monitoring
- Effects

## 5.0 References

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**Available through the City of Wheat Ridge Parks and Recreation Department at 4005 Kipling Street:**

CNHP (Colorado Natural Heritage Program). 2000. Wheat Ridge Open Space Areas Biological Inventory 2000. Prepared by the Colorado Natural Heritage Program for City of Wheat Ridge Open Space.

City of Wheat Ridge. 2002. City of Wheat Ridge Open Space Management Plan. Unpublished plan prepared by the City of Wheat Ridge with ERO Resources Corporation. Wheat Ridge, Colorado.

**Available through Colorado State Forest Service at [www.colostate.edu/Depts/CSFS](http://www.colostate.edu/Depts/CSFS):**

Publication 6.302, Creating Wildfire Defensible Zones.

Publication 6.303, Fire-Resistant Landscaping.

Publication 6.304, Forest Home Fire Safety.

Publication 6.305, FireWise Plant Materials.

Publication 6.306, Grass Seed Mixes to Reduce Wildfire Hazard.

Publication 6.307, Vegetative Recovery After Wildfire.

## 6.0 Glossary

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**Aerial Fuels**  $\frac{3}{4}$  All live and dead vegetation in the forest canopy or above surface fuels, including tree branches, twigs and cones, snags, moss, and high brush.

**Aspect**  $\frac{3}{4}$  Direction toward which a slope faces.

**Blow-up**  $\frac{3}{4}$  A dangerously rapid increase in fire spread.

**Brush**  $\frac{3}{4}$  A collective term that refers to stands of vegetation dominated by shrubby, woody plants, or low growing trees, usually of a type undesirable for livestock or timber management.

**Brush Fire**  $\frac{3}{4}$  A fire burning in vegetation that is predominantly shrubs, brush and scrub growth.

**Buffer Zones**  $\frac{3}{4}$  An area of reduced vegetation that separates wildlands from vulnerable residential or business developments. This barrier is usually used for another purpose such as agriculture, recreation areas, parks, or golf courses.

**Burning Ban**  $\frac{3}{4}$  A declared ban on open air burning within a specified area, usually due to sustained high fire danger.

**Campfire**  $\frac{3}{4}$  As used to classify the cause of a wildland fire, a fire that was started for cooking or warming that spreads sufficiently from its source to require action by a fire control agency.

**Contain a Fire**  $\frac{3}{4}$  To complete a fuel break around a fire. This break may include natural barriers or a manually or mechanically constructed line.

**Control a Fire**  $\frac{3}{4}$  To completely extinguish a fire, including spot fires. Fireline has been strengthened so that flare-ups from within the perimeter of the fire will not break through this line.

**Control Line**  $\frac{3}{4}$  All built or natural fire barriers and treated fire edge used to control a fire.

**Creeping Fire** <sup>3</sup>/<sub>4</sub> Fire burning with a low flame and spreading slowly.

**Crown Fire (Crowning)** <sup>3</sup>/<sub>4</sub> The movement of fire through the crowns of trees or shrubs more or less independently of the surface fire.

**Curing** <sup>3</sup>/<sub>4</sub> Drying and browning of herbaceous vegetation or slash.

**Dead Fuels** <sup>3</sup>/<sub>4</sub> Fuels with no living tissue in which moisture content is governed almost entirely by atmospheric moisture (relative humidity and precipitation), dry-bulb temperature, and solar radiation.

**Debris Burning** <sup>3</sup>/<sub>4</sub> A fire spreading from any fire originally set for the purpose of clearing land or for rubbish, garbage, range, stubble, or meadow burning.

**Defensible Space** <sup>3</sup>/<sub>4</sub> An area either natural or manmade where material capable of causing a fire to spread has been treated, cleared, reduced, or changed to act as a barrier between an advancing wildland fire and the loss of life, property, or resources. In practice, “defensible space” is defined as an area a minimum of 30 feet around a structure that is cleared of flammable brush or vegetation.

**Duff** <sup>3</sup>/<sub>4</sub> The layer of decomposing organic materials lying below the litter layer of freshly fallen twigs, needles, and leaves and immediately above the mineral soil.

**Ecosystem** <sup>3</sup>/<sub>4</sub> An area where energy, nutrients, water, and other biological and geological influences, including all living organisms, work together and influence one another.

**Fine Fuels** <sup>3</sup>/<sub>4</sub> See Light Fuels.

**Fire Behavior** <sup>3</sup>/<sub>4</sub> The manner in which a fire reacts to the influences of fuel, weather, and topography.

**Fire Break** <sup>3</sup>/<sub>4</sub> A natural or constructed barrier used to stop or check fires, or to provide a control line from which to work.

**Fire Cache** <sup>3</sup>/<sub>4</sub> A supply of fire tools and equipment assembled in planned quantities or standard units at a strategic point for exclusive use in fire suppression.

**Fire Ecology** <sup>3</sup>/<sub>4</sub> The study of wildland fires and their relationship to the living and nonliving environment.

**Fire Front** <sup>3</sup>/<sub>4</sub> The zone of a moving fire where the combustion is primarily flaming. Behind the flaming zone, combustion is primarily glowing. Light fuels typically have a shallow flaming front, whereas heavy fuels have a deeper front. Also called flaming front.

**Fire Intensity** <sup>3</sup>/<sub>4</sub> A general term relating to the heat energy released by a fire.

**Fire Season** <sup>3</sup>/<sub>4</sub> (1) Period(s) of the year during which wildland fires are likely to occur, spread, and affect resource values sufficient to warrant organized fire management activities. (2) A legally enacted time during which burning activities are regulated by state or local authority.

**Fire Triangle** <sup>3</sup>/<sub>4</sub> Instructional aid in which the sides of a triangle are used to represent the three factors (oxygen, heat, fuel) necessary for combustion and flame production; removal of any of the three factors stops flame production.

**Fire Weather** <sup>3</sup>/<sub>4</sub> Weather conditions that influence fire ignition, behavior, and suppression.

**Flame Height** <sup>3</sup>/<sub>4</sub> The average maximum vertical extension of flames at the leading edge of the fire front. Occasional flashes that rise above the general level of flames are not considered. This distance is less than the flame length if flames are tilted due to wind or slope.

**Flame Length** <sup>3</sup>/<sub>4</sub> The distance between the flame tip and the midpoint of the flame depth at the base of the flame (generally the ground surface); an indicator of fire intensity.

**Flare-up** <sup>3</sup>/<sub>4</sub> Any sudden acceleration of a fire spread or intensification of a fire. Unlike a blow-up, a flare-up lasts a relative short time and does not radically change control plans.

**Flash Fuels** <sup>3</sup>/<sub>4</sub> Fuels such as grass, leaves, draped pine needles, fern, tree moss, and some kinds of slash that ignite readily and are consumed rapidly when dry. Also called fine fuels.

**Forb** <sup>3</sup>/<sub>4</sub> A plant with a soft rather than permanent woody stem, that is not a grass or grass-like plant.

**Fuel** <sup>3</sup>/<sub>4</sub> Combustible material. Includes, vegetation, such as grass, leaves, ground litter, plants, shrubs and trees, that feed a fire (see also Surface Fuels).

**Fuel Loading** <sup>3</sup>/<sub>4</sub> The amount of fuel present expressed quantitatively in terms of weight of fuel per unit area.

**Fuel Moisture (Fuel Moisture Content)** <sup>3</sup>/<sub>4</sub> The quantity of moisture in fuel expressed as a percentage of the weight when thoroughly dried at 212 degrees Fahrenheit.

**Fuel Reduction** <sup>3</sup>/<sub>4</sub> Manipulation, including combustion, or removal of fuels to reduce the likelihood of ignition and/or to lessen potential damage and resistance to control.

**Fuel Type** <sup>3</sup>/<sub>4</sub> An identifiable association of fuel elements of a distinctive plant species, form, size, arrangement, or other characteristics that will cause a predictable rate of fire spread or difficulty of control under specified weather conditions.

**Ground Fuel** <sup>3</sup>/<sub>4</sub> All combustible materials below the surface litter, including duff, tree or shrub roots, punchy wood, peat, and sawdust, which normally support combustion without flame.

**Hazard Reduction** <sup>3</sup>/<sub>4</sub> Any treatment of a hazard that reduces the threat of ignition and fire intensity or rate of spread.

**Heavy Fuels** <sup>3</sup>/<sub>4</sub> Fuels of large diameter such as snags, logs, large limb wood, that ignite and are consumed slower than flash fuels.

**Incident** <sup>3</sup>/<sub>4</sub> A human-caused or natural occurrence, such as wildland fire, that requires emergency service action to prevent or reduce loss of life or damage to property or natural resources.

**Initial Attack** <sup>3</sup>/<sub>4</sub> The actions taken by the first resources to arrive at a wildfire to protect lives and property, and prevent further extension of the fire.

**Ladder Fuels** <sup>3</sup>/<sub>4</sub> Fuels that provide vertical continuity between strata, thereby allowing fire to carry from surface fuels into the crowns of trees or shrubs with relative ease. They help initiate and assure the continuation of crowning.

**Large Fire** <sup>3</sup>/<sub>4</sub> (1) For statistical purposes, a fire burning more than some specified area of land (e.g., 300 acres). (2) A fire burning with a size and intensity such that its behavior is determined by interaction between its own convection column and weather conditions above the surface.

**Light Fuels** <sup>3</sup>/<sub>4</sub> Fast-drying fuels, generally with a comparatively high surface area-to-volume ratio, which are less than 1/4-inch in diameter and have a time lag of one hour or less. These fuels readily ignite and are rapidly consumed by fire when dry.

**Litter** <sup>3</sup>/<sub>4</sub> Top layer of the forest, scrubland, or grassland floor, directly above the fermentation layer, composed of loose debris of dead sticks, branches, twigs, and recently fallen leaves or needles, little altered in structure by decomposition.

**Live Fuels** <sup>3</sup>/<sub>4</sub> Living plants, such as trees, grasses, and shrubs, in which the seasonal moisture content cycle is controlled largely by internal physiological mechanisms, rather than by external weather influences.

**Mineral Soil** <sup>3</sup>/<sub>4</sub> Soil layers below the predominantly organic horizons; soil with little combustible material.

**Mutual Aid Agreement** <sup>3</sup>/<sub>4</sub> Written agreement between agencies or jurisdictions in which they agree to assist one another upon request, by furnishing personnel and equipment.

**Normal Fire Season** <sup>3</sup>/<sub>4</sub> (1) A season when weather, fire danger, and number and distribution of fires are about average. (2) Period of the year that normally contains the fire season.

**Peak Fire Season** <sup>3</sup>/<sub>4</sub> That period of the fire season during which fires are expected to ignite most readily, burn with greater than average intensity, and result in damages at high levels.

**Personnel Protective Equipment (PPE)** <sup>3</sup>/<sub>4</sub> All firefighting personnel must be equipped with proper equipment and clothing in order to mitigate the risk of injury from, or exposure to, hazardous conditions encountered while working. PPE includes, but is not limited to 8-inch high-laced leather boots with lug soles, fire shelter, hard hat with chin strap, goggles, ear plugs, Nomex shirts and trousers, leather gloves, and individual first aid kits.

**Preparedness** <sup>3</sup>/<sub>4</sub> Condition or degree of being ready to cope with a potential fire situation

**Prescribed Fire** <sup>3</sup>/<sub>4</sub> Any fire ignited by management actions under certain, predetermined conditions to improve habitat or reduce hazardous fuels. A written, approved prescribed fire plan must exist, and National Environmental Policy Act (NEPA) requirements must be met, prior to ignition.

**Prescribed Fire Plan (Burn Plan)** <sup>3</sup>/<sub>4</sub> This document provides the prescribed fire burn boss information needed to implement an individual prescribed fire project.

**Prescription** <sup>3</sup>/<sub>4</sub> Measurable criteria that define conditions under which a prescribed fire may be ignited, guide selection of appropriate management responses, and indicate other required actions. Prescription criteria may include safety, economic, public health, environmental, geographic, administrative, social, or legal considerations.

**Prevention** <sup>3</sup>/<sub>4</sub> Activities directed at reducing the incidence of fires, including public education, law enforcement, personal contact, and reduction of fuel hazards.

**Rate of Spread** <sup>3</sup>/<sub>4</sub> The relative activity of a fire in extending its horizontal dimensions. It is expressed as a rate of increase of the total perimeter of the fire, as rate of forward spread of the fire front, or as rate of increase in area, depending on the intended use of the information. Usually it is expressed in chains or acres per hour for a specific period in the fire's history.

**Reburn** <sup>3</sup>/<sub>4</sub> The burning of an area that has been previously burned but that contains flammable fuel that ignites when burning conditions are more favorable; an area that has reburned.

**Red Card** <sup>3</sup>/<sub>4</sub> Fire qualification card issued to fire rated persons showing their training needs and their qualifications to fill specified fire suppression and support positions in a large fire suppression or incident organization.

**Rehabilitation** <sup>3</sup>/<sub>4</sub> The activities necessary to repair damage or disturbance caused by wildland fires or the fire suppression activity.

**Retardant** <sup>3</sup>/<sub>4</sub> A substance or chemical agent which reduced the flammability of combustibles.

**Safety Zone** <sup>3</sup>/<sub>4</sub> An area cleared of flammable materials used for escape in the event the line is outflanked or in case a spot fire causes fuels outside the control line to render the line unsafe. In firing operations, crews progress so as to maintain a safety zone close at hand allowing the fuels inside the control line to be consumed before going ahead. Safety zones may also be constructed as integral parts of fuel breaks; they are greatly enlarged areas that can be used with relative safety by firefighters and their equipment in the event of a blowup in the vicinity.

**Slash** <sup>3</sup>/<sub>4</sub> Debris left after logging, pruning, thinning or brush cutting; includes logs, chips, bark, branches, stumps and broken understory trees or brush.

**Smoke Management** <sup>3</sup>/<sub>4</sub> Application of fire intensities and meteorological processes to minimize degradation of air quality during prescribed fires.

**Smoldering Fire** <sup>¾</sup> A fire burning without flame and barely spreading.

**Snag** <sup>¾</sup> A standing dead tree or part of a dead tree from which at least the smaller branches have fallen.

**Spot Fire** <sup>¾</sup> A fire ignited outside the perimeter of the main fire by flying sparks or embers.

**Spotting** <sup>¾</sup> Behavior of a fire producing sparks or embers that are carried by the wind and start new fires beyond the zone of direct ignition by the main fire.

**Stand** <sup>¾</sup> A contiguous group of trees sufficiently uniform in species, composition, arrangement of age classes, and condition to be a distinguishable unit.

**Structure Fire** <sup>¾</sup> Fire originating in and burning any part or all of any building, shelter, or other structure.

**Suppressant** <sup>¾</sup> An agent, such as water or foam, used to extinguish the flaming and glowing phases of combustion when direction applied to burning fuels.

**Suppression** <sup>¾</sup> All the work of extinguishing or containing a fire, beginning with its discovery.

**Surface Fuels** <sup>¾</sup> Loose surface litter on the soil surface, normally consisting of fallen leaves or needles, twigs, bark, cones, and small branches that have not yet decayed enough to lose their identity; also grasses, forbs, low and medium shrubs, tree seedlings, heavier branch wood, downed logs, and stumps interspersed with or partially replacing the litter.

**Torching** <sup>¾</sup> The ignition and flare-up of a tree or small group of trees, usually from bottom to top.

**Uncontrolled Fire** <sup>¾</sup> Any fire that threatens to destroy life, property, or natural resources.

**Underburn** <sup>¾</sup> A fire that consumes surface fuels but not trees or shrubs (see also Surface Fuels).

**Volunteer Fire Department** <sup>3</sup>/<sub>4</sub> A fire department of which some or all members are unpaid.

**Wildland Fire** <sup>3</sup>/<sub>4</sub> Any nonstructural fire, other than prescribed fire, that occurs in the wildland.

**Wildland-Urban Interface** <sup>3</sup>/<sub>4</sub> The line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels.

# Appendices

# Appendix A

## Open Space Wildfire Management Contact List

**Parks and Recreation Department**  
Joyce Manwaring, Director

**4500 Kipling Street ? Wheat Ridge, CO 80033**  
(303) 231-1308  
Fax (303) 231-1350  
joycem@ci.wheatridge.co.us

**Parks, Forestry, Open Space Division**  
Rick Murray, Park Superintendent

**9110 W. 44<sup>th</sup> Avenue ? Wheat Ridge, CO 80033**  
(303) 467-5902  
Pager (303) 851-8777  
Fax (303) 467-5901  
rickm@ci.wheatridge.co.us

Bill Cassel, City Forester

(303) 467-5903  
Fax (303) 467-5901  
billc@ci.wheatridge.co.us

Margaret Paget, Park Naturalist

(303) 422-2790  
Fax (303) 467-5901  
margaretp@ci.wheatridge.co.us

**Wheat Ridge Fire Department**  
Jim Payne, Chief

**3880 Upham Street ? Wheat Ridge, CO 80034**  
(303) 403-5901  
Cell (303) 324-2482  
Pager (303) 553-9027  
Fax (303) 940-0350  
chief1@wrfire.org

**Arvada Fire Protection District**  
Jon Greer, Deputy Chief

**6503 Simms Street ? Arvada, CO 80004**  
(303) 472-1579  
Dispatch (303) 424-8819  
Fax (303) 432-7995  
jon.greer@arvadafire.com

**Wheat Ridge Police Department**  
Jack Hurst, Chief of Police

**7500 W. 29<sup>th</sup> Avenue ? Wheat Ridge, CO 80033**  
(303) 235-2911  
Dispatch (303) 237-2220  
Fax (303) 235-2949  
jhurst@ci.wheatridge.co.us

**Animal-Park-Code Officers (APCO)**  
Nick Fisher, Supervisor

(303) 235-2920  
Fax (303) 235-2949  
nfisher@ci.wheatridge.co.us

## Appendix B

### Open Space Annual Wildfire Mitigation Review

Date:
Field Reviewers:

Review Item	Current Status	Mitigation	Notes
<i>Sensitive Areas</i>			
Orchid population at Anderson Park	Legal obligation to protect federally listed plant species.	Identify sensitive areas with fire departments during Spring 2003.	
Orchid population south of West and Bass Lakes	Legal obligation to protect federally listed plant species.	Identify sensitive areas with fire departments during Spring 2003.	
<i>Hazardous Materials</i>			
Potential flammable material stored behind Camper World	Materials identified as a potential ignition source in Wildfire Management Plan.	Fire Marshall to conduct inspection and provide results to Parks and Recreation Department.	
Poison ivy	Poison ivy constitutes significant cover in some areas of Greenbelt.	Identify areas with poison ivy cover with fire departments during Spring 2003.	
<i>Access Points</i>			
Youngfield Trailhead	11-foot gate with lock	Check gate and lock function.	
Youngfield Plaza	11-foot gate with lock	Check gate and lock function.	

<i>Access Points</i>			
Two-track road leading from Youngfield Plaza access gate	Road extends about 800 feet before entering wet, boggy area.	Field review with Wheat Ridge FD regarding access, sensitive and wet areas, and turnarounds.	
Tabor Lake at Van Gordon Street	11-foot gate, no lock	Acquire lock for gate and check gate and lock function.	
Tabor Lake at Tabor Street	12-foot gate with lock	Check gate and lock function.	
Parfet Street	9-foot gate with lock	Check gate and lock function.	
Kipling Street	10-foot gate with lock	Check gate and lock function.	
Iris Street	12-foot gate with lock	Check gate and lock function.	
Union Street at W. 34 <sup>th</sup> Place	Metal bollard with bolt at ground level	Short-term: replace bolt with lock.  Long-term: replace bollard with lock higher or with gate and lock.	
Union Street at 32 <sup>nd</sup> Drive	Metal bollard with lock at ground level	Short-term: check lock.  Long-term: replace bollard with lock higher.	

<i>Access Points</i>			
W. 41 <sup>st</sup> Avenue	Two access points adjacent to each other; one with one plastic bollard and lock; one with two plastic bollards and locks	Short-term: check locks.  Long-term: replace bollard with lock higher.	
Independence Court	PVC bollard with lock at ground level	Short-term: check locks.  Long-term: replace bollard with lock higher.	
Bridge at Independence Court	8-foot wide bridge with unknown weight restriction.	Determine weight restriction.	
Johnson Park	12-foot gate with lock.	Check gate and lock function.	
Marshall Street	PVC bollard with lock at ground level.	Short-term: check lock.  Long-term: replace bollard with lock higher.	
<i>Fuels Management</i>			
Fuel loading south of West Lake	Some areas with thickets of Russian olive and juniper growth.	Reduce fuel load and ladder fuels through Russian olive and juniper removal.	
Fuel loading south of West Lake along bluffs	Significant dead and down material in conjunction with some residential dumping contributing to fuel load.	Remove dead and down material. Code Enforcement to evaluate and contact residents if necessary. Wheat Ridge FD to contact residents, assist with mitigation if requested, and provide results to Parks and Recreation Department.	

<i>Fuels Management</i>			
Fuel loading south of Prospect Lake on south side of Clear Creek	Some ladder fuels, but primarily brush piles on private property	Work with Wheat Ridge FD and Code Enforcement to remove brush pile and stop residential dumping. Work with residents to prune trees to remove ladder fuels.	
Fuel loading and ladder fuels south of Anderson Park on south side of Clear Creek	Ladder fuels and brush piles primarily located on private property.	Work with Wheat Ridge FD and Code Enforcement to remove brush pile and stop residential dumping. Work with residents to prune trees to remove ladder fuels.	
Fuel loading directly west of Wadsworth	Dead and down material contributing to fuel load. Some ladder fuels	Remove dead and down material and prune trees to remove dead and down material during trail reconstruction.	
Fuel loading directly east of Wadsworth	Significant dead and down material in conjunction with some residential dumping contributing to fuel load.	Work with City Forester to assess and remove dead and down material. Code Enforcement to evaluate and contact residents if necessary.	
<i>Defensible Space</i>			
Wheat Ridge Manor	Neighborhood houses with wooden decks and potentially other fuels directly adjacent to south side of Greenbelt.	Wheat Ridge FD to contact residents, assist with mitigation if requested, and provide results to Parks and Recreation Department.	
Cambridge Park	Neighborhood houses with fuels directly adjacent to south side of Greenbelt.	Wheat Ridge FD to contact residents, assist with mitigation if requested, and provide results to Parks and Recreation Department.	
Wildwood	Neighborhood houses with fuels directly adjacent to south side of Greenbelt.	Wheat Ridge FD to contact residents, assist with mitigation if requested, and provide results to Parks and Recreation Department.	
Applewood Village	Neighborhood houses on southwest corner of Lewis Meadows with wooden fences overhanging vegetation.	Wheat Ridge FD to contact residents, assist with mitigation if requested, and provide results.	