

**RAPID RESOURCE ASSESSMENT  
AND MANAGEMENT PLAN  
KENTUCKY OPEN SPACE  
BOULDER COUNTY, COLORADO**

*Prepared for—*

City of Boulder  
Open Space and Mountain Parks  
66 S. Cherryvale Road  
Boulder, Colorado 80303

*Prepared by—*

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ERO Project #4089

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# CONTENTS

Summary .....	1
General Description of Site Resources .....	1
Open Space Values Based on Resource Assessment.....	1
Management Issues Based on Resource Assessment .....	1
Introduction .....	2
Purpose.....	2
Methods .....	2
Report Organization.....	3
General Description.....	3
Location and Access .....	3
Acquisition.....	3
Land Use .....	3
Landscape Context.....	4
Neighboring Properties .....	4
Site Resources .....	4
Topography .....	5
Geology.....	5
Hydrology .....	5
Vegetation .....	5
Wildlife .....	7
Cultural Resources .....	8
Agriculture .....	8
Recreation .....	9
Property Infrastructure .....	9
Legal Considerations .....	9
Property Management Plan .....	11
Management Area Designation.....	11
Management Issues.....	11
Management Strategies.....	12

## TABLE

Table 1. Noxious weeds present on the property.....	7
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## FIGURES

- Figure 1. Vicinity
- Figure 2. Property Location
- Figure 3. Property Features
- Figure 4. Soils
- Figure 5. Vegetation Communities

## APPENDICES

- Appendix A: Photo Point Map and Photo Documentation
- Appendix B: Plant Species
- Appendix C: References



## SUMMARY

KENTUCKY PROPERTY		
<b>APPROXIMATE SIZE</b>	<b>ACQUISITION DATE</b>	<b>CURRENT ZONING</b>
9 acres	2007	Rural Residential
<b>MANAGEMENT DESIGNATION</b>		<b>PUBLIC ACCESS</b>
Natural Area		Allowed, but not encouraged

## GENERAL DESCRIPTION OF SITE RESOURCES

Most of the property is former agricultural land and consists of both irrigated pasture, wetlands, and dryland meadow areas. About 1.6 acres of wetlands on the property were constructed in 1996 as mitigation wetlands. Several areas in the property are dominated by Fuller’s teasel (*Dipsacus Fullonum*) an introduced annual/biennial forbs. Several clusters of large cottonwoods are present in the northern section of the property and the southern section is dominated by introduced species.

## OPEN SPACE VALUES BASED ON RESOURCE ASSESSMENT

The property is important for open space because it maintains—

- Riparian and wildlife habitat along the South Boulder Creek corridor
- Open space conservation along the city’s east gateway/buffer
- County-designated Critical Wildlife Habitats and Environmental Conservation Area
- Natural and constructed wetlands
- Foraging and nesting habitat for various raptor species
- Potential for productive agricultural land

## MANAGEMENT ISSUES BASED ON RESOURCE ASSESSMENT

Some management issues that could adversely affect the open space values on the property include—

- Noxious weeds, including Canada thistle and Russian olive
- Lack of clear requirements for mitigation wetland management
- Several portions of the southern boundary fence are down or falling

## INTRODUCTION

### PURPOSE

The City of Boulder Open Space and Mountain Parks Department (OSMP) retained ERO Resources Corporation (ERO) to conduct a rapid resource assessment and develop a property management plan for the 9-acre Kentucky Property (“property”) near the city of Boulder in Boulder County, Colorado (Figure 1). The conditions on the property have generally been documented through photo points (Appendix A). The purpose of this rapid resource assessment and management plan for the property is to—

- Summarize the physical/ecological characteristics and conditions
- Document and record existing conditions and open space values
- Identify and prioritize management needs and opportunities
- Prescribe management actions
- Classify the property into a management area

The OSMP Visitor Master Plan directs that plans be completed for properties before they are opened and that visitor access be considered. Specific guidance for new properties is as follows:

***New Property Planning and Facilities.*** Complete planning and infrastructure improvements in a timely manner, prior to opening newly acquired properties to public access. However, as appropriate, preserve existing public access during the planning and improvement process. Open Space and Mountain Parks will complete a site management plan recommending appropriate locations, types of uses and visitor infrastructure, and how to provide adequate visitor infrastructure and services.

Property plans direct immediate planning and improvement needs, while Trails Study Areas (TSA) planning will be used to periodically update visitor access needs based on conditions at the time.

### METHODS

OSMP supplied records, documents, and GIS data applicable to the property. On March 19, 2008, a team of natural resource planners and ecologists from ERO walked the extent of the property documenting ecological and physical characteristics and identifying management needs and opportunities.

ERO consulted several organizations, agencies, and databases including the Colorado Natural Heritage Program (CNHP), Colorado Office of Archeology and Historic Preservation (OAHP), the Colorado Natural Diversity Information Source (NDIS), and Boulder County pertaining to resources on the property. Published information, such as U.S. Geological Survey (USGS) and Natural Resources Conservation Service (NRCS) maps, also was used to prepare the inventory.

## REPORT ORGANIZATION

This report presents a summary of the information gathered for the rapid resource assessment and describes the results of ERO's evaluation of the resources and open space values on the property. The report is organized into five narrative sections and three appendices. Following the *Summary* and *Introduction*, the *General Description* section provides information on the setting. The *Site Resources* section summarizes the ecological and cultural resources; existing trails and access; land use and management; and improvements and legal considerations on the property. The *Property Management Plan* describes short- and long-term management needs, management actions, and Management Area designation.

Appendix A contains photographs of the property with narrative descriptions and a corresponding photo point map. Appendix B presents plant and animal species identified during the site visit, and Appendix C includes report references.

## GENERAL DESCRIPTION

The property is located near the western edge of the Great Plains physiographic province. The property encompasses about 9 acres characterized irrigated pasture and dryland meadow areas.

## LOCATION AND ACCESS

The property is located in South Boulder County about 3 miles southeast of downtown Boulder (Figure 1). Specifically, the property is located in Section 3 in Township 1 South, Range 70 West of the 6th P.M. (Figure 2).

Administrative and emergency access is from Baseline Road at the northern end of the property. From downtown Boulder, travel east on Baseline Road to 55th Street. About ¼ mile past the 55<sup>th</sup> street intersection turn right (South) onto the property (gated access).

## ACQUISITION

The City of Boulder OSMP acquired the Kentucky Property from the Parks and Recreation on \_\_\_\_\_ 2007. The total price for 9 acres was \$720,000.

## LAND USE

The property was purchased by the City of Boulder in 1982 with the intention of creating a single large park associated with East Boulder Community Park. In 1996, the property was used for off-site wetland mitigation related to the development of nearby ballfields. The property now has about 3.5 acres of natural wetlands and 1.6 acres of constructed wetlands. It is currently managed by OSMP as undeveloped open space land. There is currently no grazing on the property. Large infestations of Fuller's teasel (*Dipsacus fullonum*) appeared to have been mowed (Photo 7) in the 2007 growing season. During the 2008 spring site visit flowering heads from the 2007 growing season were still visible but plants were only about 1ft tall. Continued monitoring and control of Fuller's teasel is recommended.

## LANDSCAPE CONTEXT

The property is located in on the eastern edge of Boulder, and is nearly contiguous with other OSMP lands to the east and north. The East Boulder Community Park is located about 1/3 mile south of the property.

## NEIGHBORING PROPERTIES

### NEIGHBORING AGRICULTURAL AND COMMERCIAL PROPERTIES

Agricultural or commercial properties and basic land uses identified near the property during the site visit and with a property record search available through the Boulder County Assessor's Office (Boulder County 2008a) are summarized below.

OWNER	LOCATION AND LAND USE
Granite Investors C/O Robert B. Roggow - Gp 7024 Fox Hill Dr. Longmont, CO 80501-5246 Parcel No. 157703000009	South and east of property Vacant land – records show use for (and complaints about) soil stockpiling
Opal Investors Ltd. C/O Robert B. Roggow - Gp 7024 Fox Hill Dr. Longmont, CO 80501-5246 Parcel No. 157703000005	West of property Vacant land.

### NEIGHBORING RESIDENTIAL PROPERTIES

Residential properties and basic land uses identified near the property during the site visit and with a property record search available through the Boulder County Assessor's Office (Boulder County 2008a) are summarized below.

OWNER	LOCATION AND LAND USE
Thacker Gary M. 5712 Baseline Rd. Boulder, CO 80303-2905 Parcel No. 157703000004	West of property (north inset)

## SITE RESOURCES

This section documents in more detail the basic physical and ecological characteristics and conditions that directly support the open space values of the property. Key features are shown on Figure 3.

## TOPOGRAPHY

Topography on the property is relatively flat but slopes slightly to the north. Elevations range from about 5,290 along the southern boundary to about 5,280 feet along the northern boundary. The USGS Topographical map of the property is shown in Figure 2.

## GEOLOGY

The property occurs along the western margin of the Denver Basin of northeastern Colorado, which contains unconsolidated surficial deposits and rocks of Quaternary age. Generally the area includes Modern Alluvium. Modern Alluvium contains Piney Creek Alluvium as well as younger deposits (Tweto 1979).

### SOILS

The Natural Resources Conservation Service (NRCS) has mapped one soil type on the property. The mapping unit is described below and Figure 4 shows the NRCS soil mapping. All soil information was gathered from the NRCS soil survey (NRCS 1975).

**Mapping Unit Nh. Niwot soils** (0 to 1 percent slopes). This soil includes small almost barren gravel bars and small areas of Loveland soils. Also included are unnamed soils that are sandy. Runoff is slow and the erosion hazard is slight except for back cutting near channels. These soils are frequently flooded and typically have a high seasonal water table. Native vegetation includes Indiangrass, switchgrass, big bluestem, and little bluestem.

## HYDROLOGY

### SURFACE HYDROLOGY

No mapped streams or drainages are located on the property. The property is located within a designated floodplain associated with South Boulder Creek.

According to topographic information from the USGS 7.5 minute quadrangle map, surface water on the property flows north toward Baseline Road before being conveyed east through a roadside ditch to South Boulder Creek (USGS 1965, revised 1994; USGS 1967, photorevised 1979).

### SUBSURFACE HYDROLOGY

Based on a review of the USGS Niwot and Louisville quadrangles, shallow ground water would flow in a northeasterly direction towards the South Boulder Creek drainage (USGS 1965, revised 1994, USGS 1967, photorevised 1979). There are no permitted water wells on the property (CDWR 2008), and no seeps or springs were identified on the property.

### WETLANDS

Wetland vegetation was observed in the northern and southern section of the property. In 1996, the property was used for off-site wetland mitigation and now has about 3.5 acres of natural wetlands and 1.6 acres of constructed wetlands. Wetland vegetation lines drainages and low swales in the property. Dominant wetland species include common threesquare (*Schoenoplectus pungens*), coyote willow (*salix exigua*), Baltic rush (*Juncus articus* ssp. *ater*), and broad and narrowleaf cattail (*Typha latifolia*, *T. angustifolia*).

## VEGETATION

### GENERAL VEGETATION DESCRIPTION

Most of the property is former agricultural land and consists of both irrigated pasture, constructed and natural wetlands, and dryland meadow areas. Several clusters of large cottonwoods are present in the northern section of the property and the southern section is dominated by introduced species. Vegetation communities are described below and shown in Figure 5. A list of plant species identified during the field visit appears in Appendix B.

### EASTERN COTTONWOOD TEMPORARILY FLOODED WOODLAND ALLIANCE (ECTW)

The northern section of the property are periodically flooded and large mature plains cottonwood trees are present. Plains cottonwood (*Populus deltoids* ssp. *monilifera*) is the dominant overstory species. Other overstory species such as box elder (*Acer negundo*), domestic apple (*Malus domestica*), crack willow (*Salix fragilis*), peachleaf willow (*Salix amygdaloides*), Russian olive (*Elaeagnus angustifolia*), and Siberian elm (*Ulmus pumila*) are present. Dominant understory species include introduced grasses such as smooth brome (*Bromopsis inermis*), orchardgrass (*Dactylis glomerata*), and Kentucky bluegrass (*Poa pratensis*).

### THREESQUARE HERBACEOUS ALLIANCE (THA)

In the northeastern corner of the property a threesquare herbaceous alliance is present. This community type is dominated by common threesquare, a native graminoid. Other species such as broad and narrowleaf cattail (*Typha latifolia* and *T. angustifolia*), prairie cordgrass (*Spartina pectinata*), and Fuller's teasel are also common.

### INTRODUCED SPECIES AGRICULTURAL PASTURE (ISAP)

The southern half of the property was used as an agricultural pasture and is dominated by introduced species. The most dominant species include introduced pasture grasses such as smooth brome and crested wheatgrass (*Agropyron desertorum*). Introduced forb species such as Fuller's teasel, Canadian horseweed (*Conyza canadensis*), Queen Anne's lace (*Daucus carota*), and curly dock (*Rumex crispus*) are also common.

### RARE PLANTS AND PLANT COMMUNITIES

No rare plants or plant communities have been identified by CNHP on the property (CNHP 2006) and none were observed during the site visits.

### STATE NOXIOUS WEEDS

Based on the site visits, three noxious weeds from List B were observed. Canada thistle (*Breca arvensis*) was found in low densities in the northern section of the property. Russian olive (*Elaeagnus angustifolia*) was found in the riparian areas in low densities. Fuller's teasel was found in medium to high densities in the wetland areas in the northern section of the property. Three list C noxious weed species occur on the property. Cheatgrass (*Anisantha tectorum*) was found scattered throughout the agricultural areas in low to medium densities. Chicory (*Cichorium intybus*) was found scattered throughout the wetland areas in low densities. Common mullein (*Verbascum thapsus*) was found scattered throughout the agricultural areas in low densities. Smooth brome is not listed on the Colorado noxious weed list but is listed as an OSMP priority weed. Smooth brome was found in high densities scattered throughout the property.

**Table 1. Noxious weeds present on the property.**

Common Name	Scientific Name	OSMP Priority	Boulder County Weed List	State of Colorado Noxious Weed List
Canada thistle	<i>Breca arvensis</i>	Moderate	x	B
cheatgrass (downy brome)	<i>Anisantha tectorum</i>	Moderate	not listed	C
chicory	<i>Cichorium intybus</i>	none	not listed	C
common mullein	<i>Verbascum thapsus</i>	none	not listed	C
Fuller's teasel	<i>Dipsacus fullonum</i>	High	x	B
Russian olive	<i>Elaeagnus angustifolia</i>	High	not listed	B
smooth brome	<i>Bromopsis inermis</i>	Moderate	not listed	not listed

The Colorado Noxious Weed Act §§ 35-5.5-101 through 119, C.R.S. (2003) states that “List B noxious weed species are species for which the Commissioner of Agriculture, in consultation with the state noxious weed advisory committee, local governments, and other interested parties, develops and implements state noxious weed management plans designed to stop the continued spread of these species. List C weed species are species for which the Commissioner, in consultation with the state noxious weed advisory committee, local governments, and other interested parties, will develop and implement state noxious weed management plans designed to support the efforts of local governing bodies to facilitate more effective integrated weed management on private and public lands. The goal of such plans will not be to stop the continued spread of these species but to provide additional education, research, and biological control resources to jurisdictions that choose to require management of List C species.”

## WILDLIFE

### GENERAL DESCRIPTION

The property provides habitat for a variety of wildlife species associated with prairie and agricultural lands in Boulder County. The wetlands and grasslands on the property contain potential habitat for a variety of wildlife species. Large cottonwoods in the north of the property provide potential nesting sites for raptors, as well as denning sites for mid-sized mammals such as raccoon (*Procyon lotor*). Typical bird species likely include song sparrow (*Melospiza melodia*), vesper sparrow (*Pooecetes gramineus*), western meadowlark (*Sturnella neglecta*), and various species of raptors (described below).

Small rodents may include (*Peromyscus maniculatus*), house mouse (*Mus musculus*), and western harvest mouse (*Reithrodontomys megalotis*). Other mammals that occur or are likely to occur on the property include coyote (*Canis latrans*), red fox (*Vulpes vulpes*), and raccoon. All of these species probably frequent the areas along the ditch, although coyote may be more common in open areas.

**Raptors.** The property provides foraging habitat and perch trees for various raptor species associated with the nearby South Boulder Creek riparian corridor.

### **THREATENED, ENDANGERED, OR CANDIDATE WILDLIFE SPECIES**

Preble's meadow jumping mouse (*Zapus hudsonius preblei*), a federally listed threatened species, was found in multiple locations along South Boulder Creek near the property in 1998 and 2000 (USFWS 2007). The property does not contain high quality habitat for Preble's. According to the Colorado Division of Wildlife Natural Diversity Information Source (NDIS) and CNHP databases for the area, there are no threatened or endangered species on the property (NDIS 2008).

### **COLORADO DIVISION OF WILDLIFE DESIGNATIONS**

According to the NDIS database, the property is considered to be within a resident population area for mule deer (*Odocoileus hemionus*).

### **BOULDER COUNTY COMPREHENSIVE PLAN DESIGNATIONS**

The property is located within the county-designated South Boulder Creek (+ wetlands) Critical Wildlife Habitats.

## **CULTURAL RESOURCES**

### **OFFICE OF ARCHAEOLOGY AND HISTORIC PRESERVATION FILE SEARCH**

The Colorado Historical Society Office of Archaeology and Historic Preservation conducted a search of the Colorado Inventory of Cultural Resources database for the property (OAHP 2008). This database contains information on documented federal or state studies or findings regarding any cultural resources. According to the search, no sites or surveys occur on the property (OAHP 2008). Other potential unidentified cultural resources may exist within the property boundaries.

### **OTHER RESOURCES AND DESIGNATIONS**

The property is located within an Archaeologically Sensitive Area (Travel Route) designated in the Boulder County Comprehensive Plan (Boulder County 2008b).

## **AGRICULTURE**

### **AGRICULTURAL USE**

The property was historically used for agriculture and irrigated hay production. There has been no agricultural activity since acquisition by OSMP.

### **INFRASTRUCTURE**

The property is bounded on all sides by barbed-wire fences. Several portions of the barbed-wire fence along the eastern boundary are either down or falling.

### **BOULDER COUNTY COMPREHENSIVE PLAN DESIGNATIONS**

The Boulder County Comprehensive Plan has not identified the property to be Significant Agricultural Land (Boulder County 2008c).

## **RECREATION**

Public access is not permitted on the property. Prior to public ownership, the property was privately owned and was not open to public access. No public access or use was evident during the site visit.

## **PROPERTY INFRASTRUCTURE**

### **STRUCTURES**

No structures exist on the property.

### **INFRASTRUCTURE AND UTILITIES**

A small pond is present in the southeast corner of the property. One lateral ditch is present along the south fence line while the Howard Ditch is present along the west fence line. The ditch in the west shows recent evidence of vegetation clearing. One concrete headgate is present in the southwest corner along the ditch are located on the property. A smaller headgate is present in the southeastern corner near the pond.

Fencing surrounding the property varies in terms of type and condition. Barbed-wire fencing on the northern side and the northern half of the western side of the property is in generally good condition and needs minor repair in a few locations. Fencing along the eastern southern half is falling or missing. Wood and barbed-wire fencing is present along the western side and is in relatively good condition. Fencing in the southern edge is in generally good condition but needs repair in some areas.

No utilities were observed on the property.

### **ROADWAYS AND TRAILS**

No roadways or trails were observed on the property.

## **LEGAL CONSIDERATIONS**

### **WATER RIGHTS**

*[Will be added for final report]*

### **MINERAL RIGHTS**

Purchase of the property include all mineral rights including sand, gravel, coal, and oil and gas owned by seller.

### **EASEMENTS AND RIGHTS-OF-WAY INFORMATION**

See OSMP property file

### **LOCAL PLANNING DESIGNATIONS**

The entire property is currently zoned Rural Residential (Boulder County 2008d).

Boulder County Comprehensive Plan designations on the property include—

- Critical Wildlife Habitat – South Boulder Creek (+ wetlands)

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KENTUCKY OPEN SPACE  
BOULDER COUNTY, COLORADO

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- Environmental Conservation Area – Boulder Mountain Parks/South Boulder
- Archaeologically Sensitive Area – Travel Route

The property is also considered to have minor geologic constraints due to expansive soils.

## PROPERTY MANAGEMENT PLAN

### MANAGEMENT AREA DESIGNATION

Recommended management area designation: Natural Area.

The location and features of the property are generally consistent with the characteristics, goals, and strategies outlined for Natural Areas in the OSMP Visitor Master Plan (OSMP 2005). This management area designation is consistent with the urban interface context of this property and the relative sensitivity of its resources.

### PUBLIC ACCESS

Recommended status: Allowed, but not encouraged.

This property currently offers few recreational amenities or attractions. While there is little evidence of existing recreational use on the property, periodic informal access is not likely to result in resource damage. However, should public use monitoring or surveys reveal potential resource impacts, incremental measures should be implemented to re-direct, restrict, or close public access to the property.

The goal of this access status is to allow limited informal access if it should occur, but to prevent a pattern of passive recreational use from forming that is detrimental to natural, agricultural and cultural resources. Should public access result in a Class 2 undesignated trail: (trail obvious; vegetation cover lost and/or organic litter pulverized in primary use area – see Manning et al. 2006), the property may be closed at the sole discretion of the OSMP department. External gates will be locked to prevent unauthorized vehicle access. Public access and facilities on this property will be evaluated further in a future Trail Study Area or other planning processes.

### MANAGEMENT ISSUES

The following management issues were identified on the property based on observations during the site visit, existing documentation, and input from OSMP staff.

**Noxious weeds.** The property contains two List B noxious weeds species and four List C species. Most of these noxious weed species are typical of open space properties in the region. However, the disturbed lands to the south of the property are known to have weed issues and could compromise efforts to control noxious weeds on the property.

**Wetlands.** Some of the wetlands on the property were constructed to mitigate for the City's wetland impacts at another location. As mitigation wetlands, there are likely to be certain requirements regarding the quality and condition of these wetlands that must be maintained. Any such requirements should be clearly understood as OSMP continues to manage wetlands, noxious weeds, and other resources on the property.

**Fencing.** Several portions of the barbed-wire fence along the eastern boundary are in poor condition.

## MANAGEMENT STRATEGIES

Management objectives and recommended management actions for various resources on the property are outlined below. In general, management objectives are a concise statement of what OSMP wants to achieve in protecting open space values, addressing management issues related to a particular resource type. Management actions are the specific tasks or tools that can be used to fulfill the objective and address the issue.

### VEGETATION

**Objective 1:** Prevent the spread of other noxious weeds from current conditions documented in the resource assessment.

Action: Continue control efforts for noxious weeds identified on the property.

Action: Coordinate to ensure that weed management priorities are consistent with wetland management responsibilities.

Action: Provide follow-up monitoring and weed control.

**Objective 2:** Develop a clear understanding of any legal requirements related to the constructed mitigation wetlands on the property.

Action: Document any management requirements and ensure that those are integrated into noxious weed, vegetation, and other management strategies for the property.

### FENCING AND SIGNING

**Objective 1:** Identify property as OSMP land through clear and defined fencing and signing of the property boundary.

Action: Install OSMP signs along property boundary.

Action: Repair areas of downed or missing fence along the east boundary.

Action: Evaluate boundary fence to ensure that it meets OSMP standards for resource management and wildlife passage.

### WETLAND MITIGATION SITE

**Objective 1:** Determine OSMP's responsibilities and liabilities regarding the existing wetland mitigation site on the property.

Action: Obtain relevant documentation from Boulder Parks and Recreation Department

Action: Establish clear roles and responsibilities to ensure long-term mitigation compliance

### AGRICULTURE

**Objective 1:** Integrate property with agricultural leases of surrounding lands.

Action: Develop agricultural management strategies that are compatible with vegetation and wildlife management objectives.

**CONSERVATION AND COORDINATION**

***Objective 1:*** Seek opportunities to provide long-term conservation to the remainder of South Boulder Creek corridor and its associated resources.

Action: If possible, acquire fee ownership or a conservation easement over portions of the adjacent property to the east and south, particularly the narrow slivers of ownership in between open space lands.

***Objective 2:*** Work with adjacent landowners to provide consistent, sustainable management to the surrounding area.

Action: Establish and maintain lines of communication with adjacent landowners.

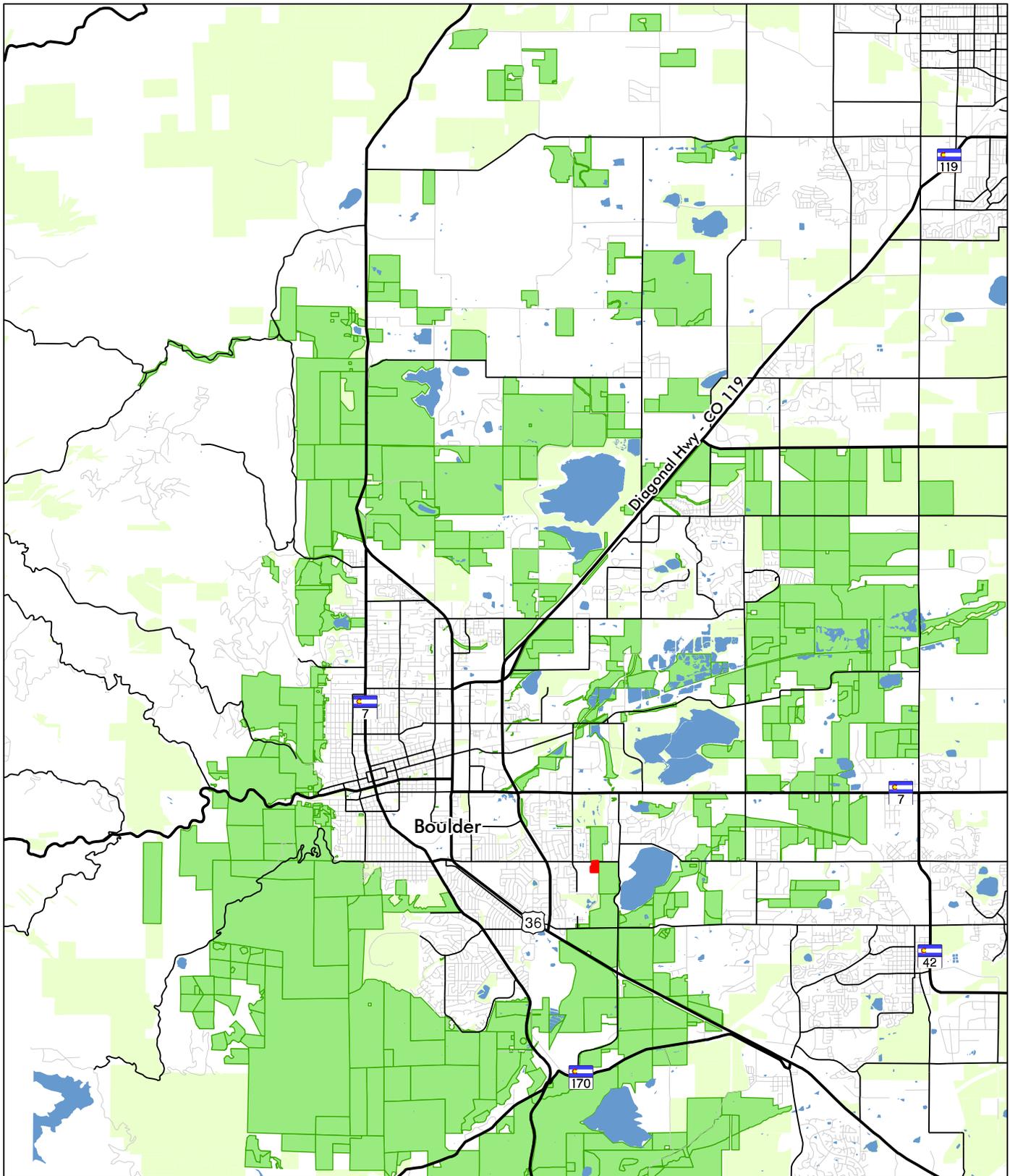
Action: Monitor resource conditions (e.g., weeds, prairie dogs) on adjacent properties and identify potential issues or opportunities.

Action: Allow OSMP to become a resource for landowners seeking knowledge or advice on various land management topics.



# FIGURES





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**Kentucky Property RRA and Management Plan**

- Kentucky Property
- City of Boulder Open Space
- Other Open Space

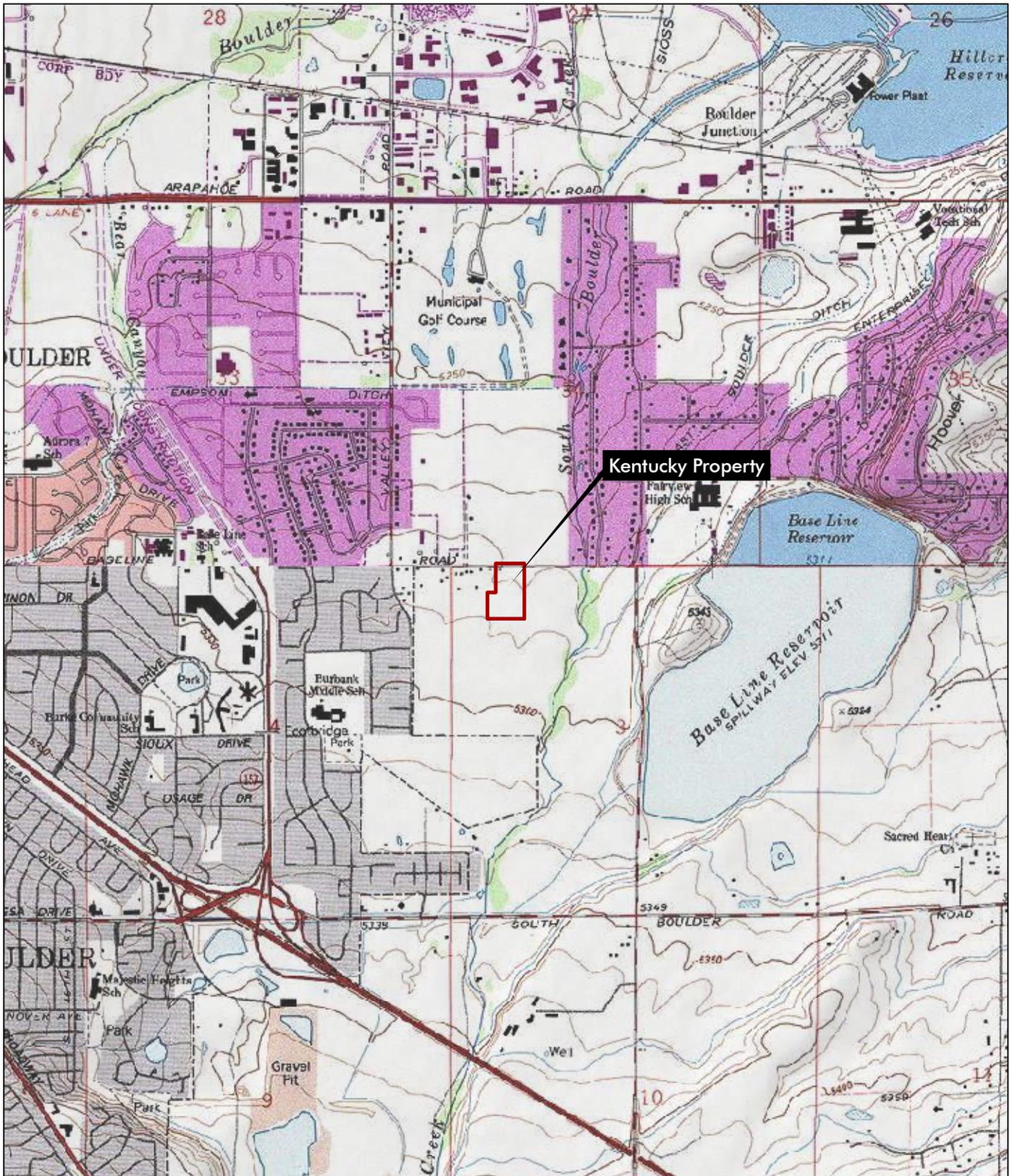


1 inch = 2 miles



**Figure 1  
 Vicinity Map**

Prepared for: City of Boulder Open Space  
 and Mountain Parks  
 File: 4089 Figure1.mxd  
 March 2008



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**KentuckyProperty RRA and Management Plan**

Section 3, T1S, R70W

UTM NAD83 Coordinate Zone 13N; 481269mE, 4427659mN

USGS Louisville CO, Quadrangle

Boulder County, Colorado



1 inch = 2,000 feet



**Figure 2  
 Location**

Prepared for: City of Boulder Open Space  
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 File: 4089 Figure 2.mxd  
 March 2008



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**KentuckyProperty RRA and Management Plan**

- City of Boulder Open Space
- Other Open Space
- Weed patch

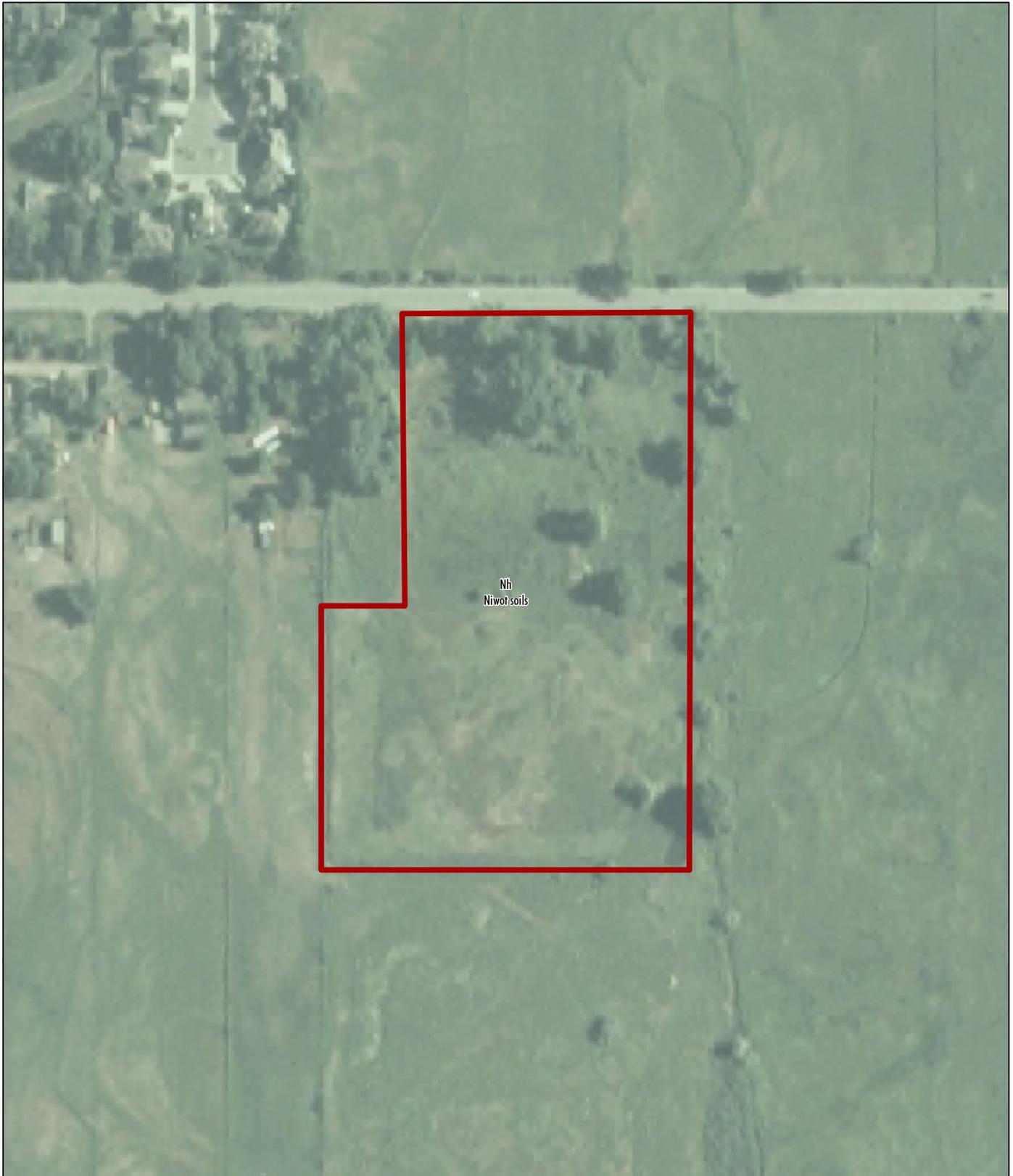


1 inch = 200 Feet



**Figure 3  
 Property Features**

Prepared for: City of Boulder Open Space  
 and Mountain Parks  
 File: 4089 Figure3 Kentucky.pdf  
 July 2008



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**KentuckyProperty RRA and Management Plan**

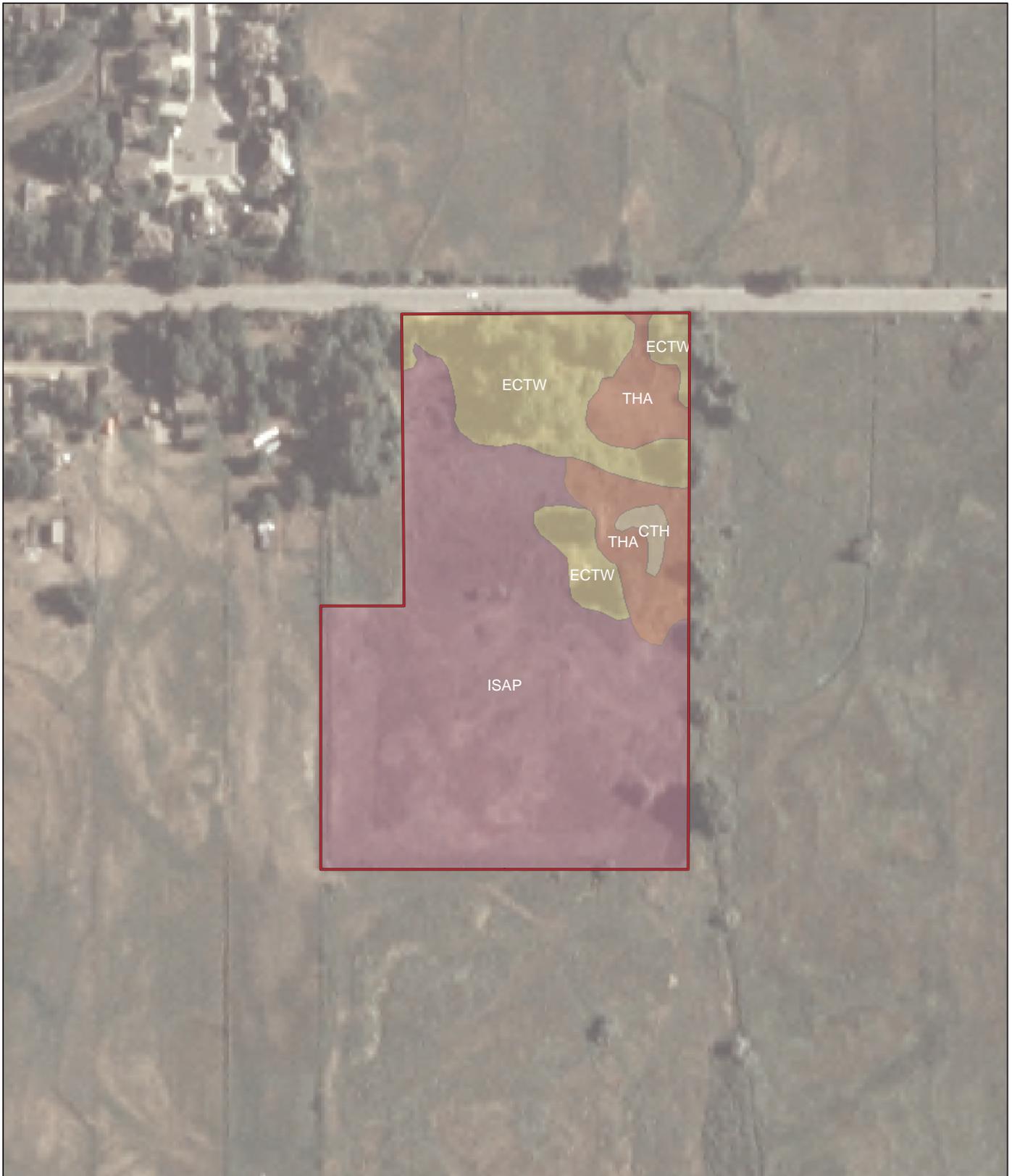


1 inch = 200 Feet



**Figure 4  
 Soils**

Prepared for: City of Boulder Open Space  
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 File: 4089 Figure 4.mxd  
 March 2008



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**Kentucky Property RRA and Management Plan**  
 (See following page for for vegetation community names)



1 inch = 200 Feet



**Figure 5**  
**Vegetation Communities**

Prepared for: City of Boulder Open Space  
 and Mountain Parks  
 File: 4089 Figure 5.mxd  
 June 2008

## Vegetation Communities

### Acronym, CmnName

	ADUD, Annual-dominant Upland Disturbance
	APS, American Plum Shrubland Alliance
	BBYH, Big Bluestem - (Yellow Indiangrass) Herbaceous Alliance
	BRSB, Baltic Rush Seasonally Flooded Herbaceous Alliance
	CFSH, Clustered Field Sedge Seasonally Flooded Herbaceous Alliance
	CHSH, Cattail Herbaceous Semipermanently Flooded Alliance
	CTH, Canada Thistle Weedy Forb Great Plains Herbaceous Vegetation [Provisional]
	CWH, Crested Wheatgrass Semi-Natural Herbaceous Alliance
	CWTS, (Coyote Willow, Sandbar Willow) Temporarily Flooded Shrubland Alliance
	CWW, Crack Willow (introduced) Temporarily Flooded Woodland Alliance
	DCAP, Disturbed Cultivated Agricultural Pasture
	DEV, Developed
	DFF, Douglas Fir Forest Alliance
	DFW, Douglas-fir Woodland Alliance
	ECTW, Eastern Cottonwood Temporarily Flooded Woodland Alliance
	ESSH, Emory Sedge Seasonally Flooded Herbaceous Alliance
	ETCW, Eastern Cottonwood Temporarily Flooded Woodland Alliance
	FBH, Foxtail Barley Temporarily Flooded Herbaceous Alliance
	FH, (Tall Fescue, Meadow Fescue) Herbaceous Alliance
	FSBH, Fourwing Saltbush Herbaceous Alliance
	GAH, Cultivated Alfalfa / Smooth Bromegrass Hay
	GH, Cultivated Grass Hay
	IC, Irrigated Cropland
	ISAP, Introduced Species Agricultural Pasture
	KBH, Kentucky Bluegrass Semi-Natural Herbaceous Alliance
	NNH, New Mexico Needlegrass Herbaceous Alliance
	NSH, Nebraska Sedge Seasonally Flooded Herbaceous Alliance
	NTH, Needle-and-Thread - Blue Grama Herbaceous Alliance
	OT, Ornamental Trees
	PDFF, Ponderosa Pine - Douglas-fir Forest Alliance
	PDFW, Ponderosa Pine - Douglas-fir Woodland Alliance
	PFDC, Perennial Forb Disturbance Community
	PMTH, Ponderosa Pine Wooded Mixed Herbaceous Alliance (Savannah)
	PPF, Ponderosa Pine Forest Alliance
	PPW, Ponderosa Pine Woodland Alliance
	PTSH, Ponderosa Pine Tallgrass Savannah Herbaceous Alliance
	PTW, Ponderosa Pine Temporarily Flooded Woodland Alliance
	QADF, Quaking Aspen - Douglas-fir Forest Alliance
	ROW, Russian Olive Semi-Natural Woodland Alliance
	SBH, Smooth Bromegrass Semi-Natural Herbaceous Alliance
	SDS, Snakeweed Dwarf-shrubland Alliance
	SKBH, Sun Sedge-Agassiz Kentucky Bluegrass Herbaceous
	SYS, Soapweed Yucca Evergreen Shrubland
	SYSH, Soapweed Yucca Shrub Savannah Herbaceous Alliance
	THA, Threesquare Herbaceous Alliance
	TSIS, Ill-scented Sumac Intermittently Flooded Shrubland Alliance
	TSSH, Three-leaved Sumac Shrub Savannah Herbaceous Alliance
	TSUS, Three-leaved Sumac Upland Shrubland Alliance
	WATER, Water
	WBSS, Water Birch Seasonally Flooded Shrubland Alliance
	WTFH, Western Wheatgrass Temporarily Flooded Herbaceous Alliance
	WWH, Western Wheatgrass Herbaceous Alliance

**APPENDIX A**  
**PHOTO POINT MAP AND DOCUMENTATION**





Kentucky Property

<p><b>ERO</b>          ERO Resources Corp.          1842 Clarkson Street          Denver, CO 80218          (303) 830-1188          Fax: (303) 830-1199</p>	<p><b>Kentucky Property RRA and Management Plan</b></p> <p>●→ 1 Photo Point</p> <p>0 200 400 Feet</p> <p>1 inch = 200 Feet</p> <p>N</p>	<p><b>Appendix A</b>  <b>Photo Points</b></p> <p>Prepared for: City of Boulder Open Space          and Mountain Parks          File: 4089 Figure3 Kentucky.pdf          July 2008</p>
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**APPENDIX B**  
**PLANT SPECIES**



## APPENDIX B PLANT SPECIES

### Plant Species Observed during the March 19, 2008 Site Visit

Species Name	Synonym	Common Name	Eastern Cottonwood Temporarily Flooded Herbaceous Alliance (ECTW)	Threesquare Herbaceous Alliance (THA)	Introduced Species Agricultural Pasture (ISAP)
<b>Native Annual/Biennial Forbs</b>					
Grindelia squarrosa		curlycup gumweed			■
<b>Introduced Annual/Biennial Forbs</b>					
Conium maculatum		poison hemlock	■		■
Conyza canadensis		Canadian horseweed			■
Dipsacus fullonum	D. sylvestris	Fuller's teasel	■	■	■
Lactuca serriola		prickly lettuce	■	■	■
Tragopogon dubius ssp. major		yellow salsify			■
Verbascum thapsus		common mullein			■
<b>Introduced Annual Grasses</b>					
Anisantha tectorum	Bromus tectorum	cheatgrass			■
<b>Native Perennial Forbs</b>					
Asclepias speciosa		showy milkweed		■	
Glycyrrhiza lepidota		American licorice		■	
Iris missouriensis		Rocky Mountain iris		■	
Oenothera villosa	Oenothera strigosa	hairy evening-primrose	■	■	
Solidago spp.		goldenrod	■		
Virgulus ericoides	Aster ericoides	white prairie aster			■

Species Name	Synonym	Common Name	Eastern Cottonwood Temporarily Flooded Herbaceous Alliance (ECTW)	Threesquare Herbaceous Alliance (THA)	Introduced Species Agricultural Pasture (ISAP)
<b>Introduced Perennial Forbs</b>					
Breca arvensis	Cirsium arvense	Canada thistle	■		■
Daucus carota		Queen Anne's lace			■
Rumex crispus		curly dock			■
<b>Native Perennial Cool Season Grasses and Grass Like</b>					
Carex emoryi		Emory's sedge		■	
Carex sp.		sedge		■	
Schoenoplectus pungens	Scirpus pungens, S. americanus	common threesquare		■	
Typha angustifolia		narrowleaf cattail		■	
Typha latifolia		broadleaf cattail		■	
<b>Introduced Perennial Cool Season Grasses</b>					
Agropyron desertorum	A. cristatum	crested wheatgrass			■
Agrostis gigantea	A. alba	redtop	■	■	
Bromopsis inermis	Bromus inermis	smooth brome	■		■
Dactylis glomerata		orchardgrass	■		■
Poa pratensis		Kentucky bluegrass	■		■
<b>Native Perennial Warm Season Grasses</b>					
Panicum virgatum		switchgrass	■	■	■
Spartina pectinata		prairie cordgrass		■	
<b>Native Trees</b>					
Negundo aceroides	Acer negundo	box elder	■		
Populus deltoides ssp. monilifera		plains cottonwood	■		

<b>Species Name</b>	<b>Synonym</b>	<b>Common Name</b>	<b>Eastern Cottonwood Temporarily Flooded Herbaceous Alliance (ECTW)</b>	<b>Threesquare Herbaceous Alliance (THA)</b>	<b>Introduced Species Agricultural Pasture (ISAP)</b>
Salix amygdaloides		peachleaf willow	■		
<b>Introduced Trees</b>					
Elaeagnus angustifolia		Russian olive	■		
Malus domestica	Malus pumila	domestic apple	■		
Salix fragilis		crack willow	■		
Ulmus pumila		Siberian elm	■		
<b>Native Shrubs and Subshrubs</b>					
Rhus aromatica ssp. trilobata	Rhus trilobata	skunkbush sumac		■	
Rosa woodsii		Woods' rose		■	
Salix exigua		sand bar willow, narrowleaf willow, coyote willow		■	
Swida sericea	Cornus stolonifera	redosier dogwood		■	



**APPENDIX C**  
**REFERENCES**



## APPENDIX C

### REFERENCES

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**PHOTO POINTS  
KENTUCKY**



**Photo 1** - View south from northwestern corner.



**Photo 2** - View southeast from northwestern corner.

**PHOTO POINTS  
KENTUCKY**



**Photo 3** - View east from northwestern corner.



**Photo 4** - View south from northeastern corner.

**PHOTO POINTS  
KENTUCKY**



**Photo 5** - View southwest from northeastern corner.



**Photo 6** - View west from northeastern corner.

**PHOTO POINTS  
KENTUCKY**



**Photo 7** - View of Fuller's teasel along the eastern edge of the property.



**Photo 8** - View north from eastern property edge.

**PHOTO POINTS  
KENTUCKY**



**Photo 9** - View west from eastern property edge.



**Photo 10** - View south from eastern property edge.

**PHOTO POINTS  
KENTUCKY**



**Photo 11** - View northwest from southeastern corner.



**Photo 12** - View west from southeastern corner.

**PHOTO POINTS  
KENTUCKY**



**Photo 13** - View southeast from southeastern corner.



**Photo 14** - View west from southeastern corner.

**PHOTO POINTS  
KENTUCKY**



**Photo 15** - View north from southwestern corner.



**Photo 16** - View northeast from southwestern corner.

**PHOTO POINTS  
KENTUCKY**



**Photo 17** - View east from southwestern corner.



**Photo 18** - View south from western property edge.

**PHOTO POINTS  
KENTUCKY**



**Photo 19** - View southeast from western property edge.



**Photo 20** - View east from western property edge.

**PHOTO POINTS  
KENTUCKY**



**Photo 21** - View east from western property edge.



**Photo 22** - View north from western property edge.