



**Broomfield Open Space, Parks, Recreation
and Trails
Master Plan
Appendix E**

**Management and Maintenance Guidelines for Open
Space**

PREPARED FOR:
City and County of Broomfield
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As part of the OSPRT Master Plan, Broomfield's existing open space management and maintenance guidelines were reviewed and strengthened where necessary to enhance the ability of staff to act as good stewards of open space properties.

Existing Open Space Management Guidelines (proposed revisions in italics)

1 Mowing and Trimming

- 1.1 Mowing shall be minimized in open space areas to encourage native grasses to grow. If mowing is deemed necessary due to safety and maintenance concerns such as fire mitigation, the parcel may be mowed.
- 1.2 A strip 6 to 15 feet wide shall be maintained behind private property lot lines depending on adequate equipment access and grades on slopes that are no more than 4 to 1, unless fire mitigation requires a wider maintenance zone. The 6-foot strip is preferred to conserve staff time and to encourage a more native character in open space areas.
- 1.3 A strip 6 feet wide shall be maintained along improved landscape areas adjacent to open space unless fire mitigation

requires a wider maintenance zone.

- 1.4 A strip 6 feet wide shall be maintained behind curb lines adjacent to open space.
- 1.5 Mowing is discouraged along trails unless necessary to allow for safe visibility or to address localized weed infestations. If deemed necessary, a strip 2-5 feet wide shall be created along trails depending upon terrain, availability of the proper size of equipment, and equipment access. The narrower 2-foot swath is encouraged to foster a more native character in the open space.
- 1.6 Mowed areas shall be cut at a height of 3 to 6 inches.
- 1.7 Weed mowing shall start in April and continue through October. Weeds shall be mowed on an as needed basis to prevent weeds from exceeding 12 inches in height or otherwise to prevent blooming and seed set. If weeds have set seed before mowing, the mown material shall be collected, removed from the site, and destroyed.
- 1.8 To prevent transmission of noxious weeds, mowers shall be thoroughly washed before being moved to a new location.
- 1.9 Trimming shall be limited to curb lines, fence lines, benches, light poles, and pump houses.

- Spraying shall be done to help reduce trimming activities.
- 1.10 Periodic grazing may be introduced in agricultural areas and other open space areas in place of mechanical mowing, to control the spread of noxious weeds and reduce competition by cool-season grasses on less aggressive warm-season grasses. Controlled burns may also be authorized in open space areas where no threats to private property would exist but would be limited to periods that would not impact ground-nesting songbirds.

2. Pond Maintenance

- 2.1 Where they may occur in natural ponds, algae blooms shall be treated using chemical, mechanical, and/or natural methods of control as needed. Fish habitat shall be maintained where water quality, adequate depths, and natural conditions exist.
- 2.2 Detention areas are treated per Section 8 below.

3. Noxious Weed Control

- 3.1 Noxious weeds shall be controlled as defined and mandated by State of Colorado regulations. Staff shall inventory all open space areas twice a year

- for new infestations of noxious weeds and monitor results of weed control measures.
- 3.2 The general goal of noxious weed control is to manage noxious weed infestations in such a way as to prevent large outbreaks in the open space areas. Open space areas adjacent to private property shall receive priority treatment where feasible to prevent the spread of noxious weeds from City owned land to private property.
- 3.3 Noxious weed control efforts shall be prioritized by species and infestation size. The major weeds of concern shall be leafy spurge (*Euphorbia* [*Tithymalus*] *esula*), Canada thistle (*Cirsium arvense* [*Breca arvensis*]), tumble knapweed (*Centaurea* [*Acosta*] *diffusa*), field bindweed (*Convolvulus arvensis*), purple loosestrife (*Lythrum salicaria*) – the last species is primarily located in waterways, wetlands, and pond areas. Noxious weed management goals shall be to (1) eradicate small, localized populations; (2) manage and enhance areas of more diffuse populations; and (3) control the perimeter to limit the expansion of large, extensive populations if control and revegetation are not practicable.
- 3.4 Weed management for a particular species and location shall include an integration of chemical, mechanical, and/or

- biological control methods based on the size and severity of the infestation. Multiple treatment methods shall be encouraged. Grazing may also be used for weed management. Applications of herbicides shall be conducted at the appropriate time of the year for the most effective control of the particular weed species. When appropriate for the weed species at issue, selective rather than non-selective (“broad-spectrum”) herbicides shall be used to minimize adverse impacts to native or other desirable species. Specific guidelines for chemical usage are described below.
- 3.5 When feasible, herbicides shall be applied when animals are not nesting or rearing young in the affected area, both to reduce chemical exposure and to minimize disturbance.
- 3.6 Plant species not listed as noxious, but the presence of which would impede the success of revegetation or restoration efforts, shall be controlled as required, using integrated methods.
- 4. Wildlife Management**
- 4.1 All federally listed or proposed threatened or endangered animal species shall be protected and preserved in accordance with the Endangered Species Act.
- 4.2 State-listed threatened or endangered animal species shall be protected to the extent required by the Bald and Golden Eagle Protection Act, Federal Migratory Bird Treaty Act, and other federal or state laws. Prairie dogs shall be treated in accordance with the City and County of Broomfield Policies for Prairie Dog Conservation and Management.
- 4.3 Other wildlife shall be preserved in their natural state unless they pose a public health risk as determined by the Environmental Protection Agency, Colorado Department Public Health Department and the Environment, County Health Department, or County Public Safety Department.
- 4.4 No wildlife shall be removed from, or introduced into, Broomfield Open Space areas, unless under circumstances described in Section 15, below.
- 4.5 Nuisance wildlife on private property (e.g. skunks, raccoons) may be removed by the owner. Removal shall be accomplished by a professional and in compliance with applicable State laws.
- 4.6 All native birds are protected by the Federal Migratory Bird Treaty Act, which prohibits killing, injuring, or harassing birds or destroying their active nests. Nuisance birds on private property may be removed subject to this federal protection, but only during the non-nesting season, unless some emergency exists that creates a public health or safety hazard.

5. Tree, Plant, and Vegetation Management
- 5.1 All threatened or endangered plant species, including the Ute ladies'-tresses orchid (*Spiranthes diluvialis*) and Colorado butterfly plant (*Gaura neomexicana* ssp. *coloradensis*), shall be protected and preserved in accordance with the Endangered Species Act.
- 5.2 Natural open space areas shall not be irrigated, except as deemed necessary for successful restoration.
- 5.3 All natural vegetation shall be left in its natural state unless associated with a hazardous condition, is diseased, or dead. (e.g., hazardous trees or limbs that need to be removed) or a nuisance species.
- 5.4 All disturbed vegetation shall be reestablished to its natural state.
- 5.5 The natural state of a disturbed site will be determined in terms of plant community type. Site exposure, slope, local hydrology and historic land uses will all be considered in this determination.
- 5.6 A restoration plan will be created for each disturbed site and will specify seeding and/or planting of only locally indigenous plant species, except in special circumstances in which one or more regional natives or other species are desirable for a specific purpose. Seed mixes will comprise a diversity of species, in proportions found in desired natural community. Indigenous or "native" species are those that occur naturally (i.e., not as a result of intentional or unintentional introduction by humans) in the Front Range region of Colorado. Regional natives are species that occur naturally in other portions of Colorado or ecologically similar portions of adjacent states. Plantings will be installed in natural-appearing groups and spacing. Weed control will be included in all restoration plans.
- 5.7 Supplemental irrigation may be considered for enhanced success of restoration seeding and plantings.
- 5.8 Non-indigenous species may be introduced into open space areas where appropriate to meet specific management objectives (e.g., wildlife habitat, species diversity, vegetative barriers) and where compatible with existing and desirable native plant or wildlife populations.
- 5.9 Vegetation shall be managed within trail corridors to promote wildlife habitat and enhance visual and ecological diversity while providing for public safety.
- 5.10 Fire mitigation, including mowing or clearing within 50' of residential areas, shall be undertaken as appropriate and in conjunction with the North Metro Fire and Rescue District policies.

5.11 Nuisance species as listed below shall be eradicated as warranted and feasible:

- Russian-olive (*Elaeagnus angustifolia*)
- Chinese or Siberian elm (*Ulmus pumila*)
- Crack willow (*Salix fragilis*)
- Reed canarygrass (*Phalaroides arundinacea*)
- Tamarisk (*Tamarix ramosissima [chinensis]*)

6. Vehicular Control

6.1 Access shall be restricted to maintenance and emergency vehicles. All other users desiring vehicular access to City and County open space areas (for example, to transport construction equipment to private property where no other access is feasible) must obtain a special Access Permit. The Access Permit may be obtained from Public Works and is reviewed by both the Public Works Department and the Open Space and Trails Division. The Permittee shall be required to restore any damage to the open space. Signs and fencing shall be installed where appropriate.

6.2 Prohibitions against motor vehicles, including off-road vehicles and autos, shall otherwise be enforced in open space areas.

7. Wetland Preservation

7.1 All drainage areas, drainage swales, and wetland vegetation

shall be preserved where appropriate.

7.2 No maintenance shall occur except to control noxious weeds, rid areas of trash and debris, or address other hazards that may exist. The U.S. Army Corps of Engineers (USACE) shall be consulted before any activity involving jurisdictional wetlands is begun.

7.3 If filling or other disturbance to wetlands is unavoidable, plan for a replacement/mitigation ratio of 1.5 to 3 units of mitigation area to 1 unit of disturbed area, unless a higher standard is required by USACE. The ratio shall be determined based on the existing quality of the wetlands to be affected, the anticipated quality of the replacement wetland to be created or restored, and the anticipated length of time required for mitigation to be achieved. In general, the ratio may be expected as follows: (1) cattail, bulrush, rush, or sedge community - 1.5 to 1; shrub community - 2 to 1; cottonwood community - 3 to 1. In the case of trees, it takes many years or decades to replace lost ecological value. Therefore, the replacement ratio may be based on the number of trees planted for each tree removed, or on the canopy area of the affected trees.

7.4 Wetlands shall be relocated within the same general area wherever practicable.

7.5 If wetland mitigation credits are obtained from a wetland bank, then a replacement ratio

- specified by USACE shall be required (plan for a ratio of 3 units of mitigation per 1 unit of disturbed area).
8. **Drainage Area Maintenance**
 - 8.1 Drainage and detention areas shall be maintained consistent with the City and County Stormwater Plan.
 - 8.2 To the degree practicable and consistent with stormwater management goals, look for opportunities to use open-channel drainage swales for stormwater conveyance, including projects involving “retrofitting” of existing channelized, concrete-lined, or piped conveyances.
 9. **Trash/Debris Control**
 - 9.1 Litter shall be cleaned up on a regular basis in high visibility areas. It shall be cleaned up on an as needed basis in remote areas. Litter cans shall be emptied on a regular basis.
 - 9.2 Adopt-a-Park and Adopt-an-Open Space Area programs shall be promoted to assist with this maintenance activity.
 - 9.3 Removal of dog feces and equine waste shall be enforced along trails pursuant to the Broomfield Municipal Code 6-28-010. “Please pick up after your pet” signs shall be posted at all open space access points, with plastic bags and disposal canisters.
 10. **Site Amenities**
 - 10.1 The 30-gallon recycled plastic trash receptacles and 6-foot recycled plastic benches currently in use shall constitute the approved standard for site furnishings.
 - 10.2 Docks should be constructed of recycled plastic unless another design is determined to be more appropriate.
 - 10.3 Bridges should be prefabricated Continental, unless another design is determined to be more appropriate.
 - 10.4 Enclosures for aeration systems shall conform to City standards. Underground vaults are preferred to minimize visual impacts.
 11. **Chemical Usage**
 - 11.1 All chemicals used for noxious weed control shall be EPA approved for use in wildlife and aquatic habitats. Chemicals shall only be applied under the supervision of an applicator licensed through the State of Colorado.
 - 11.2 A broad array of possible weed management and pest control techniques shall be encouraged, including: biological, chemical, cultural (i.e., cultivation of desirable plants), grazing, and

mechanical methods (e.g., mowing, pulling, burning, etc.) Multiple treatment methods shall be encouraged where feasible.

other physical barriers such as narrow water channels or planted berms.

Recommended Additional Open Space Management Guidelines

12. Fencing

12.1 Develop perimeter fences for open spaces that:

- Are consistent with Division of Wildlife guidelines to allow wildlife movement.
- Protect wetlands and riparian areas from grazing.
- Prohibit access into open space by vehicles other than maintenance vehicles.
- Place opaque prairie dog fencing along the bottom of perimeter fencing if necessary.

12.2 Natural barriers such as boulders or vegetation may also be used for fencing where appropriate.

12.3 In open space areas, designated public access points shall be provided that connect to internal trails/pathway systems and destinations designated for public use.

12.4 Look for opportunities to use Open Space areas to test effectiveness of alternative prairie dog dispersal barriers (i.e., in lieu of fencing) such as by planting natural vegetation screens; rows of tall grass species or shrub plantings, or

13. Dogs/Domestic Animal Control

13.1 Place and enforce restrictions to keep dogs on-leash along any trail that passes through or near a natural area.

13.2 Strictly enforce prohibitions against dogs and cats off-leash within any open space parcel unless specifically designated for such use.

14. Wildlife Management

14.1 Control or remove non-indigenous wildlife species where their presence creates a nuisance, health or safety hazard, or threat to native species, in consultation and coordination with the Colorado Division of Wildlife.

14.2 Consider methods to enhance natural populations of desirable species such as raptors while providing natural control of prairie dog populations by erecting raptor perch sites and carnivore “blinds” in the vicinity of prairie dog colonies.

14.3 Consider using Open Space ponds, stormwater detention ponds, and amenity ponds for reintroduction of native wildlife species, such as native nongame fishes and amphibians, in consultation with the Colorado Division of Wildlife.

- 14.4 Prohibit feeding of wildlife by the public. Utilize a variety of methods including signage, to educate the public about the detrimental effects and consequences of feeding wildlife.
- 14.5 When practicable, construct water features to create additional wetland and aquatic habitat. For example, require that stormwater conveyance swales and detention ponds, and amenity ponds, be designed to support wetland vegetation along a portion of their channels/banks.

15. Encroachment

- 15.1 Encroachment of private landowners on public open space is strictly prohibited. Private landowners shall not construct gardens, patios or other amenities on public lands, nor should they plant, remove or mow vegetation, or trap or release wildlife.
- 15.2 As described above, temporary access through Open Space may be granted for transportation of supplies or equipment to private property, providing that no feasible alternative route exists. Applicant shall obtain the appropriate Special Access permit and restore any disturbance as detailed above.

16. Baseline Management Study

- 16.1 A baseline management study shall be completed as soon as practicable for each significant City/County owned property. This study shall document significant natural features, type and condition of vegetation, presence and location of noxious weeds, habitat value, adjacent uses, views and other elements of the site. It shall also identify areas which would benefit from restoration and outline an appropriate restoration program. Areas where public access or types of uses should be limited in order to preserve habitat, shall also be noted.
- 16.2 Permissible public uses shall be governed by the table in Appendix D, unless the baseline management plan shall deem otherwise.

17. Signage

- 17.1 Uniform signage types shall be provided where appropriate:
 - Identification sign
 - Informational/regulatory sign
 - Directional sign
 - Interpretive panel
- 17.2 Signage form, colors and graphics may vary for parks and open space
- 17.3 Identification signs shall be posted in a location that

provides for maximum visibility for motorists and pedestrians. Informational/regulatory signs shall be placed at major entries, trailheads, and areas where trails cross.

17.4 Placement of signage shall not obscure significant views into the site, or views of significant natural features or resources.

