Planning, Design + Construction Standards
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Acknowledgements

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Plan Adoption:

Foreword: The goals of this Standards document were to

- Provide minimum design guidelines for all DPR Parks
- Give a clear and consistent message to other city departments on standards involving park land and all the primary responsibilities of DPR Department
- Create standard details that make maintenance easier and more efficient
- Establish a more accurate on-bid unit cost with the use of standard details
- Standardize the appearance of common elements in DPR’s parks without limiting opportunities for creativity and uniqueness in our parks
- Gather data to provide one information source that is up-to-date for planners, superintendents and consultants
- Provide information up-front to planners/consultants to reduce time spent on projects and create more consistent construction documents
- Give an overview of DPR’s parks to all planners, users and partners of Denver Parks & Recreation
- Provide opportunities to increase sustainable practices within DPR

Putting this information together would not have been possible without the exceptional examples of other cities that we used for reference, especially the City of San Diego and Seattle. The Time Saver Standards for Landscape Architecture were also helpful in giving an overview on the variety of issues that should be addressed on a topic by topic basis. Thank you to our Executive Committee who worked to find successful compromises on a number of issues. Finally, a special thank you to Tom Hawkey who patiently answered all of my questions and taught me about our wonderful park system.
1. Understanding DPR

DENVER PARKS & RECREATION

Mission: As stewards of Denver’s legacy, the Department of Parks and Recreation is dedicated to customer satisfaction and enhancing lives by providing innovative programs and safe, beautiful, sustainable places.

Vision: To be a nationally recognized leader providing model programs and dynamic public spaces.


1.1 How to Use the DPR Standards

On April 21, 2003, the Denver Parks and Recreation Game Plan was adopted by City Council as a supplement to the City’s Comprehensive Plan. Denver residents and the City worked for over two years to complete this first adopted strategic plan for Denver’s parks, recreation facilities, and natural open spaces. The Game Plan idea of Denver as a City in a Park is a 50-year vision and strategic framework plan. The DPR Standards document is a tool designed to complement the Game Plan by organizing design, planning and construction efforts while Denver transforms into a City in a Park. The Standards put into physical form the park policy and action strategies of sustainability, equity, engagement and sound economics as outlined in the Game Plan.

The DPR Standards is structured to guide the design process and should be used by all those who participate in creating Denver parks that are safe, beautiful and sustainable places. The DPR Standards apply to all parks, right-of-way in parks, parkways and medians, natural areas and facilities maintained by the Department of Parks & Recreation.
1.2 City & County of Denver Parks & Recreation Department

Denver’s parks and recreation facilities are unrivaled in the Rocky Mountain West. They embrace nearly 3,000 acres of “traditional” parks and parkways and 2,500 urban natural acres in the city alone, with an additional 14,000 acres of spectacular mountain parks. On the drawing boards are an additional 334 acres of neighborhood and community parks and 1,100 acres of natural areas at Stapleton and Lowry. Its 29 recreation centers, seven municipal golf courses, and nationally recognized cultural attractions, such as the Denver Zoo, the Denver Botanic Gardens, Historic Four Mile House, Red Rocks and the Buffalo Bill Museum, serve millions of visitors annually.

The system’s 135-year history spans from the first park, a single block that two savvy developers donated to the city in 1868 to create Curtis Park, to nearly 20,000 acres of urban parks and mountain parkland in 2003.

Our parks capture all that is the essence of Colorado, from sand-hill prairie along First Creek in far northeast Denver to fragile tundra at the peak of Mt. Evans. They span nearly 100 miles, 8,700 feet in elevation change, and five ecosystems.

But Denver also is a highly urban park system. In fact, the city owes much of its urban form and character to the tree-lined streets, parkways, boulevards, and parks that were designed in the late-19th and early-20th centuries. Parks give each Denver neighborhood a social heart, an identity and, often, a name.

Parks are about recreation — people “re-creating” themselves away from work and home. Denver is a city of people who like to play and enjoy the outdoors. In survey after survey, Denver residents credit parks, open space, and recreational opportunities for our high quality of life, a close second only to our sunny skies and great weather.

Change is the constant in park and recreation trends and the pace has quickened. People now skate, run, and jog past people strolling. The few street-corner jungle gyms of our early history have evolved into our 29 recreation centers and incredible citywide recreation programs. (Game Plan p. 2)

1.2.1 Responsibilities Of DPR

The following are examples of the duties and powers vested exclusively in the Department of Parks and Recreation under the City Charter (Subtitle B, Article II, Part 4).

- Management, operation and control of all facilities, either within or without the territorial limits of the City and County, owned by the City and County for park and recreational purposes;
- Building line restrictions around parks and parkways;
- Licenses, privileges and concessions in all parks and recreational facilities and on the streets and sidewalks within three hundred feet of the boundary of any park or recreational facility;
- Landscaping of public ways and thoroughfares;
- Cooperative agreements with School District No. 1 and other public and

---

### Denver's Park Planning:

- 1858-1859: the City Block Plan
- 1878: Sopris Lee Plan
- 1894: Rollandet Plan
- 1906-1907: Robinson Kessler Plan
- 1914: Olmsted Mountain Parks Plan
- 1929: DeBoer Plan
- 2003: Game Plan
private agencies for the development of park and recreational facilities, programs and activities, and for the establishment and maintenance of the museums, zoological or other gardens, collections of natural history and observatories.

1.2.2 The People Of DPR

DPR’s organization chart (see Appendix A) illustrates the roles and management structures within the department. The Denver Park System is divided into six Urban Districts and one Mountain Parks District. Recreation, Parks, Natural Resources, Planning/Design/Construction, Golf, Marketing and Communications, and Finance and Administration are the principal divisions within the department.

The Denver Zoo, Denver Botanic Gardens, Four Mile House, Winter Park, and Cableland are cultural facilities of the Parks and Recreation Department. Because they are independently managed, the DPR Standards do not apply to these organizations.

1.2.3 DPR Community Partnerships

In recent years, due to budget shortfalls and aging infrastructure, new types of complex partnerships are becoming even more important in the delivery of services to the public, i.e., conservancies, corporate sponsorships, or collaborations with the many non-profits providing programs and events in parks and centers. Currently, Denver Parks and Recreation has partnerships with over 160 organizations and agencies. DPR also participates in partnerships with community-based non-profits who have their roles clarified through memorandums of understanding (MOU) with the department. These organizations include Civic Center Conservancy (2005), City Park Alliance (1999), Denver Mountain Parks Foundation (2004), South Platte Greenway Foundation (1974), and The Park People Foundation (1970).

DPR also has an extensive partnership with Denver Public Schools, primarily in after-school programs, summer camp programs, and facility management. Both agencies are working to treat school yards and parks as joint civic campuses to serve the public better and to effectively use tax dollars.

1.2.4 DPR’s Governing Rules & Advisors

In accordance with the City Charter, DPR has adopted and administers policies, rules and regulations which can be judicially enforced through City Ordinances.

The Manager of Parks and Recreation is appointed by the Mayor and is a member of the Mayor’s Cabinet (Subtitle B Charter Art. II. Pt.4). The Parks and Recreation Advisory Board is established by the Charter and advises the Manager on various matters (Subtitle B Charter Art. II. Pt. 4.). DPR also presents issues and projects to other groups, including City Council, Registered Neighborhood Groups, and other city departments.

1.2.5 DPR’s Project Funding

Park projects can be funded in several distinct ways: through the annual Capital
Improvement Program (CIP) with annual revenues; through special district financing such as tax-increment financing (TIF) funding (Stapleton, Lowry), Local Improvement Districts (part of Skyline Park); grants; or city debt financing ((certificates of participation, general obligation Bonds (e.g. 1998 Bond Program)); or revenue bonds. DPR also applies for and receives private donations and government grants for projects.

Annual CIP: Denver’s Capital Improvement Program (CIP) provides funding for both the acquisition of new assets and the repair and rehabilitation of existing fixed assets from revenues that the City receives on an ongoing annual basis. (Capital equipment is separate from the CIP and is budgeted through the operating budget process.) The funding sources for annual capital are separated into the following funds:

- Winter Park Fund (revenues from the Interwest’s operation of the Winter Park Ski Area and dedicated solely to use on DPR projects);
- State Conservation Trust Fund (funds from the Lottery allocated by formula based on population and dedicated to DPR projects);
- Capital Improvements Fund (occupational privilege tax, land sales, and other miscellaneous income);
- Entertainment and Cultural Capital Fund (surplus seat tax on tickets at City venues dedicated to Theatres & Arenas projects).

Grants: Grants for DPR come primarily from Great Outdoors Colorado (GOCO) and the Colorado Historical Society. Other funding mechanisms for grants are federal, state and private entities.

City Debt Financing: (general obligation bonds; certificates of participation (COP); and revenue bonds) General obligation bonds require a vote of the electorate to authorize the financing and generally include a number of projects. The electorate votes to tax themselves through property tax to repay the bonds. Certificates of Participation do not require a vote of the electors but also do not raise new money. They are paid from existing revenues of the Capital Improvement Funds. Revenue bonds do not require a vote but are paid from new or existing revenues. Only agencies such as Golf or Wastewater, which are organized as Enterprise entities (deriving revenues from fees rather than taxes), may issue revenue bonds.

Special District Financing: (Tax increment financing districts (TIF); local improvement districts; metropolitan districts; general improvement districts)

DURA (Denver Urban Renewal Authority) Districts or Tax-Increment Financing (TIF) Districts. TIF is used only when an area or property can’t be redeveloped without public investment and when it meets a public objective, and then only to fill the gap between the total project cost and the level of private financing the project can support. In the case of developer reimbursement, the amount of money reimbursed depends on the success of the project, with the developer receiving reimbursement only if the project creates the extra value for the City. TIF captures the new tax revenue (property and/or sales taxes) generated at

---

**Diagram of TIF financing**

Length of TIF

Real Estate Tax Revenues ($)

TIF is used to pay off public redevelopment costs within the TIF district and provide revenue capacity.

Total assessed value after TIF is dissolved

Increased assessed value

Used to pay off public redevelopment costs

Base assessed value

Total assessed value before TIF

Diagram of TIF financing
the site and uses that revenue to pay back either (a) bonds issued by DURA, or (b) developer advances for the project. The new tax revenue that is created must be used for improvements that have a public benefit and that support the redevelopment effort, such as site clearance, streets, utilities, parks, the removal of hazardous materials or conditions, or site acquisition.

Metropolitan Districts. For large area developments such as Stapleton, Cherokee, Green Valley Ranch, and Central Platte Valley, the developer may, with permission of the City and a vote of the affected property owners create a metropolitan district that can build streets, parks, sewers, water lines, streetscapes, etc. Metro districts then assess the property owners a defined mill levy on their property to pay back bonds or developer advances. Impact fees or development fees can be levied for public infrastructure that benefits a development. These may be vehicles used by the metropolitan district or assessed by the City within a new growth area and administered by the City or the district.

Local Improvement Districts or General Improvement Districts: These are used for local development when the property owners agree to tax themselves to fund an improvement.

1.3 Park Definition, Typology & Habitat

It is important to understand the definition, type, and habitat of a park before planning begins. The DPR Water Conservation Plan outlines park definitions; the information below is an excerpt from that document. Figure 1.3.1 illustrates the relationship between the information.

1.3.1 Park Definitions and Criteria

Within any particular park or open space definition, there are a variety of typologies and habitat types.

Pocket Parks: Pocket parks are small, urban parks that function primarily as neighborhood social areas. They are approximately ½ to 1 ½ acres in size. Pocket parks are primarily passive places with a limited number of small-scale areas for active use (such as playgrounds).

- Provide a park character that may be composed of the Urban/Built Up Traditional Park typology and/or Grassland typology.
- Emphasize pedestrian movement to and within the pocket park.
• Create spaces that are integrated into the fabric of the neighborhood.
• Create definable edges or boundaries.
• Provide a good opportunity for themed or specialized spaces.

**Neighborhood Parks:** Neighborhood parks are smaller than 10 acres. These parks are close to residents, within walking or biking distance, and fulfill active recreation needs for tennis, playgrounds, informal play fields, multipurpose courts and passive open space. The green, open space is important to the vitality and character of Denver's neighborhoods. These parks can be a focus of neighborhood recreational and social activity. Neighborhood parks are particularly important because they provide easy access being close to users' homes, and provide recreation for children, the elderly, and other less mobile populations.

• Provide a park character that may be a mixture of the Urban/Built Up Traditional Park and Grassland typologies.
• Emphasize pedestrian movement to and within the park.
• Create spaces that relate to the specific needs of the immediate neighborhood.
• Create clearly definable park edges and interior park spaces.

**Community Parks:** Community parks are places accessible to two or more adjacent neighborhoods. Community parks range in size from 5 to 80 acres and generally provide a larger park with off-street parking, flexible open space for picnicking and passive use, athletic facilities for organized sports, and in some cases, recreation centers. They often have special features including flower beds or viewpoints, which draw residents from surrounding neighborhoods. If the infrastructure is available, community parks may also contain drinking fountains and restrooms.

• Provide a character that will be a mixture of the Urban/Built Up Traditional Park, Forest Land and Grassland typologies.
• Create spaces that enrich the park character while meeting both the passive and active recreation needs of the community.
• Improve on-site/off-site water quality and integrate water quality treatment.

**Regional Parks:** Regional parks serve the entire community of Denver and the metropolitan area. These parks are all greater than 80 acres and have a major impact on the image of the city. They break the grid system pattern, enhance the environment with visual and physical relief, and reduce noise and pollution. These parks make green, open landscapes accessible to Denver residents. Regional parks provide larger areas for complexes or facilities, large amounts of flexible passive open space, large water bodies, picnic facilities, playgrounds, athletic fields and restrooms. These parks serve all of the metropolitan area residents.

• Provide a park character that may be composed of the Urban/Built Up Traditional Park, Forest Land and Grassland typologies.
• Emphasize pedestrian movement to and within the park.
• Create spaces that are integrated into the fabric of the neighborhood.
• Create definable edges or boundaries.
• Improve on-site water quality and integrate water quality treatment.

**Urban Open Space:** Urban open space parks are primarily urban downtown
parks and open space. They vary in size from small pocket parks to linear parks, streets, or transit malls. They function as formal, urban open spaces, pedestrian in nature, with outdoor uses. Urban open space parks are designed to accommodate pedestrian activities and are focal points of activity. They are associated with public buildings or commercial areas.

**Natural Open Space:** Natural open space is a physical and biological area which either retains, has reestablished, or has the potential to reestablish many aspects of its natural character. These areas are generally larger than five acres and may host geological, scenic or other natural features of scientific or educational value. Natural open space areas provide natural wildlife habitat areas, scenic recreational experiences, trails and related facilities. Natural areas classifications are: active use natural areas, conservation and restoration areas, potential native areas and preservation areas. These areas may be linear riparian and/or trail corridors.

- Create or preserve a prairie ecosystem that reflects the native conditions, including landforms, soils and vegetation.
- Integrate elements, structures, water quality areas and flood control improvements into the park character.
- Create a broad range of wildlife habitats.

**Mountain Parks:** Mountain parks are characterized by elevations above 6,000
feet and by deep, narrow canyons, steep slopes and gently sloping divides. The natural landscape provides recreational amenities with passive activities such as scenic viewing, hiking, picnicking, camping, and fishing.

**Athletic/Multi-Use Complexes:** Athletic/Multi-Use complexes are highly intensive recreational facilities. They include state-of-the-art facilities for field sports and can accommodate large tournaments. The complexes are generally linked to the parks and open space system through trail connections to other facilities. Additionally, the athletic/multi-use complexes offer amenities such as concessions and restrooms and can accommodate informal recreation including court games, children’s play areas for all ages, and indoor meeting space.

- Design and locate the athletic/multi-use complexes to be compatible with adjacent land uses and adjacent parks and open spaces.
- Encourage multi-modal access. Parking areas are typically larger in these parks to accommodate tournaments.
- Create park elements, structures and water quality treatment areas that are compatible with the parks and open space system.

### 1.3.2 Floristic Regions, Life Zones and Typologies & Habitat

As stated earlier, Denver parks capture the essence of Colorado, from sand-hill prairie along First Creek in far northeast Denver to fragile tundra at the peak of Mt. Evans. They span nearly 100 miles, 8,700 feet in elevation change, and five ecosystems. The following information is excerpted from the *Native Plant Revegetation Guide for Colorado* (p.11-12) and is provides an overview of the natural landscape patterns within Denver parks.

The state is divided into three floristic regions based on geography, elevation and climate. The Eastern Plains and Foothills Region occurs on the eastern side...
of the state below 8,000 feet (2,438 m). The Rocky Mountain Region occurs in the center of the state on either side of the Continental Divide and includes the intermontane valleys (North Park, Middle Park, South Park and the San Luis Valley). The Western Plateau and Canyon Region occurs on the western side of the state below 8,000 feet (2,438 m).

<table>
<thead>
<tr>
<th>Table 1.3.2.1 Lifezones</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alpine</td>
</tr>
<tr>
<td>Subalpine</td>
</tr>
<tr>
<td>Montane</td>
</tr>
<tr>
<td>Foothills</td>
</tr>
<tr>
<td>Plains</td>
</tr>
<tr>
<td>11,400’</td>
</tr>
<tr>
<td>9,300’</td>
</tr>
<tr>
<td>7,500’</td>
</tr>
<tr>
<td>6,000’</td>
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<tr>
<td>&gt;</td>
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<tr>
<td>11,400’</td>
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<tr>
<td>&lt;</td>
</tr>
<tr>
<td>6,000</td>
</tr>
</tbody>
</table>

Within each floristic region, the natural landscape can be subdivided into life zones, each zone being characterized by a given range of temperature, humidity, type and amount of precipitation, growing season length, amount and distribution of wind and soil conditions (Merriam 1899, Marr 1967). Five life zones defined by elevation occur in Colorado: alpine, subalpine, montane, foothills, and plains. Divisions between zones are not always distinct; zones are often separated by transition areas (ecotones) between two or more distinct zones. The elevational limits are general descriptions and may vary with topography, aspect, and latitude. For instance, because of differences in amounts of solar radiation which affect factors such as temperature, precipitation, and growing season, life zone boundaries tend to occur at higher elevations as you travel south. Life zones also tend to be higher on south-facing slopes than on adjacent north-facing slopes at the same latitude. Each floristic region contains at least one life zone, and each life zone generally includes several natural communities. A few natural communities (wetland and riparian communities in particular) may cross life zones.

Natural communities tend to occur in predictable patterns on the landscape. The distribution of flora and fauna is for the most part determined by local resources and conditions. Important factors include water and nutrient availability, temperature, light, disturbance, and the presence of other organisms.

Table 1.3.2.2 summarizes the various vegetation types, or communities, that can be found within Colorado. The data set was established by The Colorado Vegetation Classification Project (CVCP), a cooperative interagency with Colorado Division of Wildlife, Bureau of Land Management, and US Forest Service and has been modified by and for DPR Parks needs. Land cover types are listed in hierarchical form based on the classification system devised by Anderson, et al. (1976); titled A Land Use and Land Cover Classification System for Use with Remote Sensor Data. Each level reveals further detailed information within the overall Type I classification. See Appendix B for Land Cover: Type III information. Although other documents exist that classify habitats for Colorado, the following is intended to give a larger overview of the entire scale of habitats within the Denver park system.
# Table 1.3.2.2
Edited by DPR. Information based on The Colorado Vegetation Classification Project (Colorado Division of Wildlife (CDOW), Bureau of Land Management (BLM), and U.S. Forest Service (USFS))

<table>
<thead>
<tr>
<th>TYPOLOGY</th>
<th>HABITAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land Cover: Type I</td>
<td>Land Cover: Type II</td>
</tr>
<tr>
<td><strong>1 URBAN/BUILT UP:</strong> High density commercial or high density residential areas.</td>
<td>10 PARK: Traditional park landscape including irrigated turf and relatively formal landscape, including trees and shrubs. May also include golf courses.</td>
</tr>
<tr>
<td>11 RESIDENTIAL: High density residential areas, consisting of homes, lawns, and planted trees.</td>
<td>11 RESIDENTIAL: High density residential areas, consisting of homes, lawns, and planted trees.</td>
</tr>
<tr>
<td>12 COMMERCIAL: High density urban areas with little vegetation, parking lots, buildings, etc.</td>
<td>12 COMMERCIAL: High density urban areas with little vegetation, parking lots, buildings, etc.</td>
</tr>
<tr>
<td><strong>2 AGRICULTURE:</strong> Row crops, irrigated pasture and hay fields, dry farm crops.</td>
<td>21 DRYLAND AGRICULTURE: Dryland crops and fields.</td>
</tr>
<tr>
<td>22 IRRIGATED AGRICULTURE: Irrigated crops and fields.</td>
<td>22 IRRIGATED AGRICULTURE: Irrigated crops and fields.</td>
</tr>
<tr>
<td>23 ORCHARD: Agricultural areas consisting of orchards.</td>
<td>23 ORCHARD: Agricultural areas consisting of orchards.</td>
</tr>
<tr>
<td><strong>3 GRASSLAND (RANGELAND):</strong> Consists of grass/forb range, shrub/brush range, or mixed range.</td>
<td>31 GRASS/FORB PRAIRIE: Perennial and annual grasslands. Low elevation (&lt; 6,000(^\prime)) species include blue grama, needle &amp; thread, sand drop seed, prairie clovers, gay feathers and cone flowers. Mid elevation (&gt; 6000' and &lt; 9500') species include blue grama, junegrass, western wheat, pussy toes, golden banner and paintbrush. In the southeast plains region of Colorado, grasslands are often associated with yucca and various cacti species, such as cholla, and prickly pear.</td>
</tr>
<tr>
<td>32 SHRUBLAND: Consists primarily of sagebrush, saltbrush, greasewood, snakeweed, mountain mahogany, paintbrush, evening primrose and penstemon.</td>
<td>32 SHRUBLAND: Consists primarily of sagebrush, saltbrush, greasewood, snakeweed, mountain mahogany, paintbrush, evening primrose and penstemon.</td>
</tr>
<tr>
<td>33 SHRUB/GRASS/FORB MIX: Mixed grass/forb and shrub/grass. Example species include a combination of the above.</td>
<td>33 SHRUB/GRASS/FORB MIX: Mixed grass/forb and shrub/grass. Example species include a combination of the above.</td>
</tr>
<tr>
<td><strong>4 WOODLAND:</strong> Consists primarily of pinyon/juniper, oak or pinyon/juniper/oak mixed.</td>
<td>41 CONIFEROUS WOODLAND: Woodlands of pinyon/juniper.</td>
</tr>
<tr>
<td>42 DECIDUOUS WOODLAND: Woodlands of gambel oak and mountain shrub mix. Example species include mountain mahogany, chokecherries, sumac, and currents.</td>
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</tr>
<tr>
<td>43 MIXED WOODLAND: Woodlands of pinyon/juniper/gambel oak or pinyon/juniper/mountain shrub mix. Example species include artemisia, rabbitbrush, yucca.</td>
<td>43 MIXED WOODLAND: Woodlands of pinyon/juniper/gambel oak or pinyon/juniper/mountain shrub mix. Example species include artemisia, rabbitbrush, yucca.</td>
</tr>
<tr>
<td><strong>5 FOREST LAND:</strong> More than 25% forested land (deciduous, coniferous, and mixed forests).</td>
<td>51 DECIDUOUS FOREST LAND: Forests of aspen or aspen/oak mix.</td>
</tr>
<tr>
<td>52 CONIFEROUS FOREST LAND: Forests consisting of one or more evergreen tree species. Example species include ponderosa pine, douglas fir and spruce/fir mix.</td>
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</tr>
<tr>
<td>53 MIXED FOREST LAND: Forests consisting of a mixture of coniferous and deciduous trees or tall shrub species. Example mixes include: pine/oak, fir/askpen, pine/aspen mix, bearberry, or common juniper.</td>
<td>53 MIXED FOREST LAND: Forests consisting of a mixture of coniferous and deciduous trees or tall shrub species. Example mixes include: pine/oak, fir/askpen, pine/aspen mix, bearberry, or common juniper.</td>
</tr>
<tr>
<td><strong>6 BARREN LAND:</strong> Less than 10% vegetation.</td>
<td>61 ROCK: Less than 10% vegetation, rock outcrops, red sandstones, etc.</td>
</tr>
<tr>
<td>62 SOIL: Less than 10% vegetation, dominated by bare soil.</td>
<td>62 SOIL: Less than 10% vegetation, dominated by bare soil.</td>
</tr>
<tr>
<td><strong>7 SUBALPINE/TUNDRA:</strong> Areas both above and below timberline consisting of alpine tundra and subalpine grass/forb meadow species.</td>
<td>71 ALPINE MEADOW: High elevation areas above treeline (&gt; 11,000 (^\prime)) where alpine tundra vegetation includes grasses, forbs, and sedges. Principal species may include alpine timothy, alpine bluegrass, tufted hairgrass, spike trisetum, alpine sagebrush, yarrow, alpine avens, american bistort, sticky poalmonium, wild strawberry, and/or sedge species.</td>
</tr>
<tr>
<td>72 SUBALPINE SHRUB COMMUNITY: Upper montane elevation (7,000-11,500 ft) shrubs consisting primarily of shrubby cinquefoil, mountain gooseberry, birch, willow and with subalpine meadow species in the understory.</td>
<td>72 SUBALPINE SHRUB COMMUNITY: Upper montane elevation (7,000-11,500 ft) shrubs consisting primarily of shrubby cinquefoil, mountain gooseberry, birch, willow and with subalpine meadow species in the understory.</td>
</tr>
<tr>
<td>73 SNOW: Perennial snow fields.</td>
<td>73 SNOW: Perennial snow fields.</td>
</tr>
<tr>
<td>74 SUBALPINE MEADOW: Below timberline, high elevation (approx 9,000-11,500(^\prime)) herbaceous vegetation.</td>
<td>74 SUBALPINE MEADOW: Below timberline, high elevation (approx 9,000-11,500(^\prime)) herbaceous vegetation.</td>
</tr>
<tr>
<td><strong>8 RIPARIAN:</strong> Riparian areas along waterways or standing wetlands. Principal woody species include Narrowleaf and Common Cottonwood, Maple, Birch, and various willow species. Herbaceous species include various sedges, Souring Rush, and cattails.</td>
<td>81 FORESTED RIPARIAN: Wooded riparian areas consisting primarily of poplars.</td>
</tr>
<tr>
<td>82 SHRUB RIPARIAN: Shrub riparian areas consisting primarily of shrubs. Example species include: willows, red-osier dogwood, three leaf sumac, wood’s rose, bog birch, water birch, or currant.</td>
<td>82 SHRUB RIPARIAN: Shrub riparian areas consisting primarily of shrubs. Example species include: willows, red-osier dogwood, three leaf sumac, wood’s rose, bog birch, water birch, or currant.</td>
</tr>
<tr>
<td>83 HERBACEOUS RIPARIAN: Non-woody riparian areas consisting primarily of sedges.</td>
<td>83 HERBACEOUS RIPARIAN: Non-woody riparian areas consisting primarily of sedges.</td>
</tr>
<tr>
<td><strong>9 WATER:</strong> Open water such as lakes, streams, and rivers.</td>
<td>91 STANDING WATER: Consists of lakes and reservoirs.</td>
</tr>
<tr>
<td>92 RUNNING WATER: Consists of rivers and streams.</td>
<td>92 RUNNING WATER: Consists of rivers and streams.</td>
</tr>
</tbody>
</table>
1.4 Process To Update DPR Standards

The Standards document is considered to be a dynamic process that will be continually shaped through dialogue and demand. It documents the practices of the Department currently, and as practices change, so too should the Standards document. The Standards document is the responsibility of the DPR Planning Division. An annual review of employee input and analysis of the Standards Variance forms (See Section 2.6) will provide updated information to consider for changes in the Standards.

Proposed changes to the Standards shall be submitted to the Director of Planning for approval. It is the responsibility of the Director of Planning that any changes be reviewed and approved by other Division Directors. The Standards document will be revised to reflect the updated information and be distributed in the fourth quarter in order to prepare the document for the new CIP year.
2. Projects: Planning, Design & Construction

Park projects range in size and scope, and procedures, submittals and approval processes vary relative to the type of project and the phase of work being completed. The following outlines prototypical processes, submittals and approvals for DPR projects. The City Project Manager shall confirm the appropriate project process, submittals and approvals prior to initiating the project.

2.1 Project Management

Figure 2.1.1 illustrates the phases involved in a project from beginning to completion. Where a project starts within these phases may be determined by previous plans and analyses so that a project may not always be continuous from beginning to completion.
2.2 Phases 1-3: Determining Needs and Funding

Many factors affect how projects are scheduled and funded. Figure 2.21, Determining Needs & Funding for Projects, shows the typical yearly process that determines priorities for the Parks and Recreation Planning Division.

2.3 Phases 4-5: Planning & Design

Planning and design varies depending on the type and size of a project. Figure 2.3.1, Initiating a Project: Writing a Scope & Selecting a Consultant, illustrates the steps that are taken when initiating a project. Figure 2.3.2, How a Project is Planned: Planning Process, is a prototypical approach for a DPR project; and Figure 2.3.3, How a Project is Designed: Design Development and Construction Document, is a prototypical approach for developing a plan into construction documents from which a project can be built. Each of these should serve as guides, and each project will typically require customizing of scope and process to serve the unique needs of the project.

2.4 Phases 6-10: How a Project is Built

Construction can be complicated and unpredictable due to a variety of unforeseen conditions and factors. Figure 2.4.1, How a Project is Built, outlines the typical procedures for construction projects.

2.5 Project Review

In order to ensure that a project complies with all City codes, plans and department-wide expectations, a project typically goes through an internal review. Figure 2.5.1, Internal Design Review Process, provides a guideline for a project. The DPR Standards Checklist, Table 2.4.3, also provides a tool by which to evaluate a project, and implement, the DPR Standards.

In addition to an internal review, projects will often go through a public review process as well. Figure 2.5.2, Public Meeting Process, identifies when a project should be taken through this process and serves as a basic checklist for setting up a public meeting.

2.6 Product Expectations

Figure 2.6.1, 2.6.2, 2.6.3, and 2.6.4 relate the document requirements for final products that will be turned over to DPR.

2.7 Applying for a DPR Standard Variance

DPR Standards should be exercised in the presence of sound judgment. The standards do not preclude the use of different methods when special conditions or site-specific conditions are a factor and when proper authorization is obtained. If a major deviation from the Standards is necessary or desirable, the Project Manager shall complete a DPR Standard Variance Form (See Appendix C) so that a change can be evaluated by Division Directors and analyzed as a possible future revision to the DPR Standards.
Determining Needs & Funding for Projects.

CIP Priority System:
1. Mandated
2. Health & Safety
3. Matching Requirements
4. Critical Capital Maintenance
5. Completes a Project
6. Strategic Planning Studies
7. Capital Maintenance
8. Cost Savings/Revenue Generating
9. Improved Service Delivery

- Councilmember and public submit input
- DPR Planner and Superintendent submit input
- Individual Park and Facility Master Plan calls for work
- Grant Opportunities

2-Year & 6-Year Needs Assessment (N.A.)

Department Manager prioritizes projects based on available capital funding for 2 Year N.A. and department plans and policies

Capital Improvement Projects (CIP) priorities funded with Mayor and City Council approval for the upcoming capital budget year

Project assigned to a Project Manager within DPR Planning after approval of CIP

DPR Planning Director sets schedules based on funding, workload, prioritization, etc.
Initiating a Project
Writing a Scope & Selecting a Consultant

Determine Project Scope

Determine extent of project phasing: Planning, Design and/or Construction

Review flow-charts and checklists for information to be included in scope of work

Determine Proposal Requirements: RFP vs. On-Call

Release Scope in RFQ

PROPOSAL PRODUCTS
- Resumes/Previous Work
- Proposed Schedule
- Proposed Fees
- Design Concepts

PROPOSAL TIMELINE
- Proposal Due Date
- Short List Completed Date
- Short List Interview Date
- Date when Consultant is Chosen

Issue RFP

Choose On-Call

Select Consultant

Revise and Approve Final Scope
How a Project is Planned.
Planning Process
Prototypical for a DPR project, may be adjusted based on project size and type.

**Project Kickoff:** Schedule of a project; Assess project/facility; Gather data: surveys, soils, site assessment, land acquisition needs, public input; Analyze impacts: historical, transportation, environmental, urban design, utilities/easements; Team development: internal, external, groups and public; Budget analysis and breakdown: consultant, construction, contingencies
Submittal: consultant to prepare memo of proposed project program and schedule

- **Workshop #1:** Public input: discuss roles, scope, budget, schedule.
  Submittal: summary report or meeting minutes of community priority ranking of program elements, Council input

- **Alternatives Mtg:** Conceptual alternatives presented to project team
  Submittal: conceptual alternatives and probable costs

- **Workshop #2:** Present alternatives to pick individual elements or entire preferred plan.
  Submittal: summary report or meeting minutes of community preferences, Council input

- **Preferred Plan:** Preferred plan prepared with a cost estimate and presentation to project team.
  Submittal: Preferred plan and cost estimate

- **Preliminary Review Mtg:** Meet with other city departments to determine permits and compliance, if necessary.
  Finalize ‘Who’s Gonna Do What’ Checklist
  Submittal: Preferred plan, cost estimate, Checklist

- **Approval Presentation:** Present to public, Parks & Recreation Advisory Board, and Council, if necessary
  Submittal: Final plan and cost estimate

- **Final Submittal:** Final Design package
  Submittal: A final design package that includes a summary of all the project submittals compiled in one document, a final full-size rendered illustrative plan, and identification of maintenance impacts.
  See Document Requirements, Figures 2.6.1 & 2.6.3 for further detail.

- **Not Funded:** Return to determining needs and funding (Figure 2.2.1)
- **Funded:** Move to Construction Document Phase (Figure 2.3.3)

See Document Requirements, Figures 2.6.1 & 2.6.3 for further detail.

DPR Standards 12-01-06

Figure 2.3.2 How a Project is Planned: Planning Process
How a Project is Designed.
Design Development (DD) & Construction Documents (CD)

Project Scope: The City Project Manager refines a scope of work and budget based on work done in the ‘How a Project is Planned’ process (Figure 2.3.2). This may include an entire design process project or just a portion of the project that can be currently funded.

The type of bidding process is also determined at this point since this impacts CD requirements. Establish the review team, see Figure 2.5.1 Internal Design Review Process

Initiating a Project: Approval of consultant and fund encumbrance, see Figure 2.3.1

Survey: Obtain/verify field survey and basemap

Design Development (DD) approx. 30% CD Plan Submittal: preparations of DD plans, specifications and cost estimate. Any modifications to scope must be approved and submitted in writing with DD drawings.

50-60% CD Plan Submittal*: CD’s and cost estimate submitted and City Project Manager distributes for applicable internal review, see Figure 2.5.1, Internal Design Review Process

90% CD Plan Submittal*: CD’s and cost estimate submitted and City Project Manager distributes for review. Determine applicable permits. Attend Goals Committee to determine DSBO Goals.

100% CD Plan Submittal: Project Manager gives final approval. CD drawings are signed. Project Manager submits the 100% submittal drawings to PW for public bid, if required. Identify maintenance requirements.

Submittal: 1 Full-size CD set (mylar), 2 half-size CD sets, computer disc with pdf’s of plans, AutoCAD base drawings and cost estimate

As-built Plan Submittal: Contractor submits as-built info under contract requirements (see specs for requirements). As-builds are redlined. Project Manager approval of redlines. Information transferred to digital format, resubmit for final certification by Project Manager. Note: As-builds shall be required for a full set of plans, not just a section of the plan set.

Submittal: 1 Full-size AB set (mylar), 1 half-size AB set, computer disc with pdf’s of plans and AutoCAD base drawings

*Note: Percentage of submittal may vary based on individual project.

See ‘How a Project Is Built‘ for next steps

Figure 2.3.3 How a Project is Designed: Design Development & Construction Document
How a Project is Built.

Project completes 100% CD package (See How a Project is Designed, Figure 2.3.3)

- **Formal Bid Process (Public Works)**
  - $250k
- **On-call (Mini-bid) Process (DPR)**
  - < $250k

**Bid/Award:** Bidding and Bid Approval Process; See Built Design Checklist

**Signed/Approved Contract**

**Notice to Proceed**

**Construction:** Preparation and Build Phases; See Built Design Checklist

- **City Responsibility:** Quality Assurance – verify materials and workmanship
- **Contractor Responsibility:** Quality Control – Implement control on materials and workmanship

**Request by contractor to inspect project for Substantial Completion**

**Closeout:** Punch Lists, Final Completion & Turnover of manuals and tools, As-builts; See Built Design Checklist

- **City has paid contractor and the user has the tools to operate the facility**

**Warranty Period:** See Built Design Checklist

**Warranty Expiration**

**Archive Documents & As-builts**

**Products & Files Stored**

*Figure 2.4.1 How a Project is Built*
Internal Design Review Process

- This information provides a guideline for a project. The Project Manager should customize this list to fit the needs of a specific project.

![Diagram of Internal Design Review Process]

- Design Review - Drawings prepared and delivered to District Planner. Utilize checklists for further analysis of reviewing entities.

- DPR - Planner
  Design intent, standards, sustainability

- DPR - Superintendent
  Maintenance issues

- DPR - Natural Areas
  Natural areas planting & maintenance

- DPR - Water Conservation
  Irrigation and water conservation

- DPR - Forestry
  Tree species, spacing, etc.

- DPR - Facilities
  Building design & maintenance

- DPR - Facility Use Permit Office
  Impacts to park/field use

- Public Works -
  Transportation, Bridges, Wastewater (Infrastructure, Water Quality, Urban Drainage), DES Review and/or Bluebridge Review

- Community Planning & Development (CPD) - Impacts/Fit with adjacent uses & Blueprint Denver; Landmark

- Environmental Health -
  Environmental issues

- Denver Commission for People with Disabilities (DCPD) - ADA Compliance

- Office of Economic Development – Div. of Small Business Opportunity (DSBO)

- Outside or specialty entities
  (Denver Water, DOCC art, Denver Public Schools, Denver Police Department, etc.)

- Design Review - Drawings reviewed, comments compiled and distributed in order to revise drawings.

- Resend out revised drawings and responses to City comments; follow-up meetings for large, unresolved issues

- Approval from all City agencies submitted

- Letter of approval from DPR/PW
Determine public involvement process with Project Manager and the Planning Director.

**MAJOR:** Significant planning or capital project with complex public issues and a large number of stakeholders that will be impacted. Decisions and recommendations are extensive and a wide range of alternatives may be developed.

**MINOR:** Simple planning or capital project that has impacts to stakeholders and requires public buy-in. Relatively few alternatives anticipated.

**NOTIFICATION:** Simple planning or capital project with limited impacts to stakeholders. Alternatives limited.

**NONE:** Limited to minor maintenance projects and improvements. No anticipated impacts to stakeholders, including adjacent neighbors, other agencies, and elected officials.

**Public Meeting Process**

Develop Scope including Activities, Roles & Responsibilities and Products

- Schedule Date and Location
- Notify Stakeholders
- Prepare Materials
- Conduct Workshop
  - Present Data
  - Facilitate Discussions
  - Record Discussions
- Follow-up
- Decision Reached
Document Requirements
Planning/Design Process

• Conceptual designs and/or master plan for a design

• Used for presentations to supervisors, managers, Council, neighborhood boards, etc., and used as exhibits on which construction plans will be based

Information on all designs: project title, north arrow, graphic and written scale, property line or limit of work, legend, location map, date, rendered graphic

The plan may include:

Grading: existing and proposed, slopes

Planting: existing and proposed, identify form and function of plant material (street tree, slope planting, wildlife corridor, etc.), may provide suggested plant species

Building: plans (floor, roof), elevations, materials board

Signage: park sign plan, elevations, materials, location

Site Details and Furniture: details, plans, elevations, materials, finishes, critical dimensions, catalogue cuts for prefabricated items

Cost Estimate: All costs including maintenance period and 10% contingency

Format: 24"x36" boards (mounted) with enough margin to provide a half-scale set of drawings on 11"x17" paper. Boards for public meetings shall be readable from a distance of 10’. Powerpoint presentations also may be utilized for public meetings in addition to boards. Findings from process shall be compiled into a final report for the project (See Document Requirements for Planning Booklets and Design Reports).
Document Requirements

Construction Documents (CD’s)

• Technical plans used for obtaining bids, the execution and completion of the work and the as-built plans

• Submit to DPR for final signatures

Basic information for CD’s: 24x36 reproducible bond, lettering no smaller than 1/8”, Title block (project name, phase, date, DPR project tracking number), north arrow, graphic and written scale, limit of work, legend, key map, matchlines, labeled streets

Title sheet: Project name, vicinity map, project address, DPR project tracking number, project contacts, sheet index, survey data, any DPR required notes

May also contain:

Grading/Drainage: existing and proposed, spot elevations, slope gradients, off-site grading, limit of grading, details, legend, notes, specifications

Irrigation: components, drinking fountains, water service/meter coordinates, water budget/schedule, details, legend, notes, specifications

Layout: existing and proposed improvements, horizontal control, utilities, details, legend, notes, specifications

Planting: symbols, schedule, seed mix information, fertilization, details, legend, notes, specifications

Architectural: floor/roof plans, elevations, foundation, framing, mechanical, structural, plumbing, electrical, details, legend, notes, specifications

Electrical: lights, point of connection, fixture legend and schedule, panel schedule, illumination levels, details, legend, notes, specifications

Format: 24”x36” sheets with enough margin to provide a half-scale set of drawings on 11”x17” paper.

Copies: Copies vary based on number of submittals and number of reviewing agencies.

See As-Built requirement in How a Project is Designed CD

Figure 2.6.2 Document Requirements: Construction Documents
Document Requirements
Planning Booklets & Design Reports

- Conceptual designs and/or master plan for a design
- Used for presentations to supervisors, managers, council, neighborhood boards, etc., and used as exhibits on which construction plans will be based

Booklet may include:

- **Title Page**: Title of project, date, DPR logo, DPR project tracking number
- **Executive Summary**: Short summary of booklet
- **Table of Contents**
- **Acknowledgements**: Mayor, DPR Manager, Prepared by, Committee members, Plan Adoption Date
- **Chapters**: Introduction, Background & Context, Goals/Objectives, Analysis, Plan (Final and Alternatives), Community Involvement, Phasing, Implementation Strategies, Conclusion
- **Definition of Terms**
- **Appendix**

**Plans**: Plans should be able to stand alone outside of the booklet. Include project title and tracking number, north arrow, graphic and written scale, property line or limit of work, legend, rendered, location map, date. A final presentation board of the plan graphic may be required.

**Format**: 8.5”x11” Portrait (if possible). Can be designed for color but should also be readable in black and white. Maps may be fold-out 11”x17” if necessary. Adobe Indesign is encouraged.

**Final Copies**: 1 Digital copy and 3 hard copies for Project Manager, Director and DPR Library
Document Requirements
Operations & Maintenance Manual

• The O&M Manual contains instructions for handling, installation, operation, and maintenance.

**Cover:** Project name, vicinity map, project address

**Must Include:**
1. Table of Contents
2. Contacts (Contractors, Subcontractors and Suppliers)
3. Reduced Cover Sheet of CD set
4. Digital version of CD set

**May include:**
- Literature & data sheets for operation and maintenance of equipment
- Standard color charts
- Manufacturer’s instructions/ manuals and catalog cuts
- Parts catalog/Utility information
- Precautions and warnings relative to equipment
- Deviations from supplier recommendations
- Routine maintenance program/ Seasonal sequence of operations
- Records of warranty operating procedures
- Warranty information including begin/end date of warranty

**Format:** Pages shall be punched and fitted to a loose-leaf binder. Keep foldout-pages to a minimum. Provide 2 copies of the O&M manual.
Table 2.4.2 Built Design Checklist

**Bid/Award**
- Advertise (RFP/RFQ/BID)
- Pre-bid meeting
- Addenda/ comments to bid package
- Bid opening
- Review bids
- Check against budget
- Choose alternatives
- Approve or reject

**Bid Approval Process**
- Prepare engineer’s recommendation
- Obtain DSBO recommendation
- Provide contractors with Notice to Apparent Low Bidder
- Prepare conforming copies of contract (4-7)
- Contractor signs and adds insurance and bonds
- PW prepares Form 42 (Contract Justification) and TC 70 (Encumbers funds) with appropriate fund/org(s)
- Contractor returns signed contract
- Client agency (agency providing funds) signs contract and forms, then regulatory agency
- City attorney reviews signed document
- City Council approval if contract is over $500,000

**Construction - Build**
- Submittal review and approval
- Shopdrawing review and approval
- Inspection
- Pull building permit and other permits (Contractor)
- Answer requests for information (City)
- Process Progress Payments (verify quantities and pay contractor)
- Monitor Schedule
- Respond to public inquiries and implement any public coordination
- Process change orders
- Issue field orders
- Participate in regularly scheduled meetings

**Closeout**
- Develop punch list and time limit to get done
- Complete preparation of as-built drawings and documentation
- Provide any training and O&M (Operations & Maintenance) manuals
- Supply all required tools
- Be sure punch list is completed
- Prepare final payment
- Obtain consent of surety/final lien waivers
- Advertise for final payment
- Prepare notice of final acceptance
- Obtain most current set of as-builts

**Warranty**
- Facility field staff monitor for failures
- Conduct a formal inspection and punch list 2 months before warranty period expires or make sure Contractor fixes or City collects on bond

**Archive**
- Collect plans, specs, as-builts, O&M manuals, project correspondence, special reports, and organize into retrievable file form

**Note:** Checklist created from ASPEN Phases extended format
<table>
<thead>
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**Structures**

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</tr>
</tbody>
</table>

**Water Features & Lakes**

<table>
<thead>
<tr>
<th>Item</th>
<th>Y</th>
<th>N</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Features</td>
<td>Y</td>
<td>N</td>
<td>NA</td>
</tr>
<tr>
<td>Lakes &amp; Ponds</td>
<td>Y</td>
<td>N</td>
<td>NA</td>
</tr>
</tbody>
</table>

**Art in Parks**

<table>
<thead>
<tr>
<th>Item</th>
<th>Y</th>
<th>N</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art in Parks</td>
<td>Y</td>
<td>N</td>
<td>NA</td>
</tr>
</tbody>
</table>

**Parkways and Boulevards**

<table>
<thead>
<tr>
<th>Item</th>
<th>Y</th>
<th>N</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parkways and Boulevards</td>
<td>Y</td>
<td>N</td>
<td>NA</td>
</tr>
</tbody>
</table>

**Medians and Traffic Islands**

<table>
<thead>
<tr>
<th>Item</th>
<th>Y</th>
<th>N</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medians and Traffic Islands</td>
<td>Y</td>
<td>N</td>
<td>NA</td>
</tr>
</tbody>
</table>
3. Design & Development

In addition to these Standards, refer to DPR specifications and details.

3.1 Site Analysis & Site Work

3.1.1 Site Analysis

Park design and site planning shall include analysis and integration of on-site and off-site features such as: bicycle and pedestrian trails, open space areas, topography, views, existing vegetation, natural areas, wildlife populations, historical features and joint-use needs of adjacent schools. Community plans, master plans, general development plans and other City planning documents should be referenced when analyzing and evaluating the project during site planning.

View preservation areas have been established by Ordinance (Chapter 10 Art. IV. Restrictions on Structures Within Areas Necessary to Preserve Mountain Views, §§ 10-56--10-80) that provide limitations on construction within designated areas, including Cranmer, Cheesman, Ruby Hill, Harvard Gulch, Civic Center, Washington, City, Southmoor, Sloan's Lake, 51st & Zuni and Hirshorn Parks. Also, under Executive Order 100, when acquiring new property through purchase or deed, Environmental Health must be involved.

3.1.2 Surveying

Surveying coordinates shall comply with the CCD GiS department.

3.1.3 Site Work

The purpose of compliance with specifications ensures that a site is ready for construction, is a safe environment in which to work, and produces a safe built product.

3.1.4 Site Preparation

Verify all of the following that apply to your project with the Project Manager before beginning construction: location of utilities, verification of pressure, location and protection of remnant native plant communities and wildlife habitat, property protection, tree protection, trail protection/detour, erosion control, site layout verification, construction facilities and temporary controls and contamination verification.

3.1.5 Grading & Drainage

Grading. Grade areas within drawing and specification tolerances within the project limits, as well as adjacent transition areas. Under no circumstances shall variations from specified grade elevations create any ponding or retention of water on walks, plazas or finished surfaces. Grading should comply with ADA standards. Grading operations, with the exception of fine grading, shall be completed and approved, in writing, by Project Manager before staking or installation of any irrigation system begins.
**Finished Grade.** Finish grade for lawn areas and planting areas shall be 1” below walks, mow strips or other paving.

**Drainage.** All park projects shall direct drainage away from buildings, electrical enclosures, backstops and irrigation controllers, and all projects shall have the necessary components for drainage. Provide for opportunities to keep water on site where possible. See specification for acceptable products.

<table>
<thead>
<tr>
<th>Use</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paving (walkways and plazas including concrete, asphalt or unit pavers)</td>
<td>Paving within parks shall meet current ADA accessibility guidelines</td>
</tr>
<tr>
<td>Crusher Fines Paths</td>
<td>4% max</td>
</tr>
<tr>
<td>Parking Areas</td>
<td>1% min - 4% max</td>
</tr>
<tr>
<td>Turf &amp; Natural Areas</td>
<td>2% min - 25% max (4:1)</td>
</tr>
<tr>
<td>Shrub and Groundcover Areas</td>
<td>2% min - 33% max (3:1)</td>
</tr>
<tr>
<td>Mulch Areas</td>
<td>2% min - 33% max (3:1)</td>
</tr>
<tr>
<td>Basketball and Volleyball Courts</td>
<td>Drain end to end at 1% for concrete and 2% for asphalt</td>
</tr>
<tr>
<td>Tennis Courts</td>
<td>Drain side to side or end to end at 1%, never allow high point at net</td>
</tr>
<tr>
<td>Multi-Purpose Fields</td>
<td>2% min to 2.5% max</td>
</tr>
<tr>
<td>Softball Fields</td>
<td>1.5% for skinned and turf infields, outfield turf; provide positive drainage away from home plate in all cases</td>
</tr>
</tbody>
</table>
3.2 Infrastructure

3.2.1 General Requirements

Infrastructure Design. Collaboration between approval-administering parties is essential for infrastructure design. Collaboration should occur at the concept level in order to maximize opportunities for shared uses and costs, as well as foster an environment for a positive partnership. DPR currently has an MOU with Public Works.

Notice. A DPR Construction and Access Permit is required prior to any activity that will impact DPR facilities (parks, parkways, recreation centers, golf courses, trails, medians, etc.). This includes access across or through DPR property. An anticipated start and completion date must be submitted with the permit; and this information will be forwarded on to the Park Superintendent by DPR. However, due to the variability of construction schedules, notice shall be given to the Park Superintendent by the Permittee 24 hours prior to work being done so that the Superintendent can be made aware of other workers in the area. Work crews shall carry a copy of the approved Construction and Access Permit while on DPR property. Work crews shall not park trucks or heavy equipment on Parks property unless absolutely necessary. In an emergency situation, notice shall be given no later than 24 hours after the work has been completed.

Coordination & Impacts. In accordance with Chapter 39 Sec 39-6, it is unlawful to destroy any park property. Destruction of Parks property by non-Parks work crews shall be repaired or DPR will issue a bill to cover the costs of damage and labor. Landscaping shall not interfere with the general function, safety or accessibility of any existing gas, electric, water, sewer, telephone, drainage facilities, or other drainage or utility easements. For example, landscaping adjacent to overhead utility lines must take into account mature size and shape of plantings, and minimize potential conflicts. Likewise, proposed utilities shall not interfere with existing landscaping and irrigation. Improvements to existing park infrastructure may need to be made, at cost to the installing utility, in order to safely locate within a park or a ROW adjacent to a park. For example, if installation of a utility in ROW adjacent to a park was deemed necessary, it would be the responsibility of the utility to locate their infrastructure in such a way that does not impact existing tree roots, irrigation lines and irrigation head locations. This allows DPR to protect workers from unsafe working conditions and protect existing infrastructure and street trees.

Installation. Infrastructure shall be installed according to the approved plans submitted with the Construction and Access Permit. Should changes occur, approval must be given by DPR in order to continue construction.

Utilities shall use sleeving when crossing beneath pavement and in certain unique situations deemed necessary by the Project Manager.

3.2.2 Infrastructure Extensions To Serve Park Facilities

Table 3.2.2.1 provides a brief summary of park system infrastructure components
that require other entity involvement during concept development. This list is not comprehensive and requirements may be different from project to project. Other departments that may require permits:

- Community Planning & Development (CPD), Building Inspection Division (BID), Fire, BID Health.
- Landmark (all proposed work to a designated landmark/historical structure)
- Zoning Administration

### Table 3.2.2.1 Park Infrastructure

<table>
<thead>
<tr>
<th>Component</th>
<th>Design Elements</th>
<th>Reviewing Entity in Addition to DPR</th>
<th>Design Standards from Reviewing Entity</th>
<th>Permits from Reviewing Entities may include:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas &amp; Electric</td>
<td>Lighting, Power</td>
<td>Xcel</td>
<td>Xcel Energy Standards for Electric Installation and Use</td>
<td>Xcel Energy Standards for Electric Installation and Use</td>
</tr>
<tr>
<td>Communications</td>
<td>Telecom/IT/Cable</td>
<td>Qwest, Comcast</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private Streets</td>
<td>Roads through parks</td>
<td></td>
<td></td>
<td>DPR Standards</td>
</tr>
<tr>
<td>Private to Public Street Transition</td>
<td>Curb cuts, ramps</td>
<td>Public Works</td>
<td>PW Street Cross-sections</td>
<td>Street Occupancy Permit, Street Closure Permit, Street Cut Permit</td>
</tr>
<tr>
<td>Public Streets</td>
<td>Local, Collector &amp; Arterial roads through parks</td>
<td>Public Works</td>
<td>PW Street Cross-sections</td>
<td>Forestry Permit, DPR Maintenance Agreement, ROW Construction Permit</td>
</tr>
<tr>
<td>Medians &amp; Parkways</td>
<td>Median design</td>
<td>Public Works</td>
<td>DPR Standards, PW Street Cross-sections</td>
<td>Flood Plain Permit</td>
</tr>
<tr>
<td>Floodplain</td>
<td>Design in floodplain</td>
<td>Public Works</td>
<td>Storm Drainage Criteria Manual</td>
<td></td>
</tr>
<tr>
<td>Contaminant Assessment</td>
<td>ID potential contaminant areas</td>
<td>Env. Health</td>
<td>Environmental Health Standards</td>
<td></td>
</tr>
</tbody>
</table>

**Layout.** Infrastructure extensions to serve park facilities (not in the ROW) should be laid out in a uniform manner in order to create efficiencies in maintenance and prevent unsafe working conditions. The following table recommends minimum and preferred depths at which utilities should be located within parks. Should a
utility cross an irrigation main line within a park, the utility shall cross at a 90-degree angle when practical. A utilities ascent to the surface, or daylighting, should be made as quickly as possible to avoid confusion in utility depth.

<table>
<thead>
<tr>
<th>Utility</th>
<th>Min. Depth*</th>
<th>Min. Clearance</th>
<th>Pref. Depth*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>4.5'</td>
<td>18&quot;</td>
<td>4.5</td>
</tr>
<tr>
<td>Electric-service lines**</td>
<td>2'</td>
<td>12&quot;</td>
<td>4'</td>
</tr>
<tr>
<td>Electric-main lines**</td>
<td>2.5'</td>
<td>12&quot;</td>
<td>3'</td>
</tr>
<tr>
<td>Gas**</td>
<td>2'</td>
<td>12&quot;</td>
<td>5'</td>
</tr>
<tr>
<td>Sanitary Sewer</td>
<td>See PW</td>
<td>12&quot;</td>
<td>6'</td>
</tr>
<tr>
<td>Stormwater</td>
<td>See PW</td>
<td>12&quot;</td>
<td>5'</td>
</tr>
</tbody>
</table>

* Depth is from Finished Grade to top of pipe
** Depth of bury shall meet the criteria as established by the National Electrical Safety Code (NESC) for electric systems and Department of Transportation for gas systems. Clearances and depth of bury may be reduced for joint trenches with approval.

**Streets.** Public streets through parks shall be coordinated jointly by DPR and Public Works. Private park roads (non-dedicated ROW) shall be determined by DPR. Principles that apply to Parks roads may not be the same as public ROW streets.

**Fire.** Landscaping around fire hydrants, including adjacent vegetation height and setbacks, should be approved by Denver Water’s Sales Administration Section and should comply with the current fire code.

**Stormwater & Best Management Practices (BMPs).** When entering into design concept level for drainage, it is the intent of DPR to encourage the integration of drainage systems into the park as features, the use of drainage to increase flora and fauna diversity, and the improvement of water quality where possible.

The Denver Storm Drainage Criteria Manual should be used to ensure that a park stormwater management plan functions in accordance with City policy, guidelines and criteria. The design of a stormwater management plan shall be reviewed and approved by the DPR Project Manager.

The UDFCD (Urban Drainage & Flood Control District) Urban Storm Drainage Criteria Manual provides both an overview and specific detailing that deals with Stormwater Quality Management, New Development BMPs, Industrial and Commercial BMPs, and Construction, Structural and Nonstructural BMPs. Figure 3.2.3, an excerpt from the Manual, shows the many planning options for stormwater BMPs.
Figure 3.2.3 UDFCD Urban Storm Drainage Criteria Manual: BMP Planning Flow Diagram
3.2.3 Infrastructure Located Within ROW Adjoining Park Land

ROW adjoining park land is reviewed by the CCD Public Works Department. Standard Right-of-Way Cross Sections and Utility Locations define the general area where wet and dry utilities can be installed. ROW varies from park to park; therefore, the existing ROW map shall be consulted for accurate ROW information. It is the expectation of both DPR and Public Works that ROW adjoining parks will be maintained by DPR to back of curb.

In ROW adjoining park land, it is the strong recommendation of Denver Parks & Recreation that dry utilities be installed under sidewalks or in streets to protect workers from unsafe working conditions and protect existing infrastructure and street trees. The utility provider shall coordinate with DPR.

3.2.4 Utility Corridors

Refer to DPR Utility Policy in regards to existing or proposed locations for utilities.

3.2.5 DPR Energy & Water Usage

Energy and water policies that directly impact DPR should be reviewed and approved by the Manager of DPR.
3.3 Hardscape

Hardscape is used to provide gathering places and direct circulation within a park. Circulation within parks encompasses vehicular modes as well as alternative forms of transportation such as bicycling, walking, rollerblading, etc. Trails are discussed in the Program Elements section.

3.3.1 Walkways

The purpose of walkways is to highlight pedestrian circulation routes through a park and provide a durable surface on which to walk these routes. Pedestrian circulation should connect people to program elements, special features, and parking; however, some walkways just provide a place for recreational walking. Looped walkway systems, as well as perimeter walks within the ROW, are preferred. Entrances to parks are emphasized by walkways and these should be located in a logical, convenient and aesthetic manner. Where possible, walkways shall link to existing and proposed trail networks. Coordinate with Public Works to ensure connectivity within the ROW and through adjacent neighborhoods.

Primary walkways. The purpose of primary walkways is to formalize the primary pedestrian circulation route, provide accessibility to all users and allow emergency and maintenance vehicle access. Primary walkways should include security lighting and be composed of concrete. Provide a minimum 20' radius at intersections.

Secondary walkways. Secondary walkways support circulation patterns and serve aesthetic aspects such as dividing landscape types or program elements. These walkways can be composed of concrete, crusher fines, asphalt, pavers, etc., but must be an ADA accessible surface. Security lighting on secondary walkways should be determined on a case by case basis.

Tertiary walkways. Tertiary walkways tend to provide access to more private and secluded areas and may not have the formalness of primary and secondary walkways. These walkways may use alternative paving materials such as crusher fines or other porous materials. There will be no plowing on tertiary walkways and this should be considered in the design of the walkways. Trails in Natural Areas may be classified as tertiary trails and can be designed as soft-surface, low-impact trails a minimum of four feet wide.

### Layout

<table>
<thead>
<tr>
<th>Type of Walkway</th>
<th>Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary walkway</td>
<td>10' wide (min.)</td>
</tr>
<tr>
<td>Primary walkway adjacent to ball field lights (should accommodate vehicles with outriggers)</td>
<td>12' wide (min.)</td>
</tr>
<tr>
<td>Walkways in front of parking stalls without wheel stops</td>
<td>9' wide (min.)</td>
</tr>
<tr>
<td>Secondary Walkways</td>
<td>6' wide (min.)</td>
</tr>
<tr>
<td>Tertiary Walkways</td>
<td>4' wide (min.)</td>
</tr>
<tr>
<td>Walkways in ROW</td>
<td>Follow PW street cross-section standards</td>
</tr>
</tbody>
</table>
**Walkway Design.** Concrete walkways should be approved for alignment and grade. Radii shall be continuous and flowing to avoid angular intersections in the horizontal alignment. A minimum 20-foot radius shall be used for connections along primary walkways and secondary walkways requiring plowing in the winter. All concrete walkways shall have a broom finish. Walkway expansion and control joints should be located and constructed in accordance with specifications.

Non-concrete walkways should be approved for alignment and grade and shall be designed to prevent weeds and ensure a consistent trail cross-section through the use of stabilizer, if necessary. Use edging where appropriate. See specifications for acceptable materials.

**Handicap Ramps.** Ramps shall be designed in accordance with current Public Works standards. Handicap ramps are required at all primary and secondary walkways.

### 3.3.2 Stairs & Ramps

Stairs and ramps shall comply with ADA guidelines. Open risers are not permitted under ADA. Specifics on treads and risers, nosings, handrails and detectable warnings are given in the ADA guidelines. Additionally, the maximum height between landings, on stairs, should be five feet. To prevent potential tripping hazards, single steps should be avoided. For ramps, specifics on width, slope, landings, handrails, edge protection and outdoor conditions are given in the ADA guidelines.

### 3.3.3 Plazas

Plazas shall comply with ADA standards, provide the ability to accommodate a wide variety of functions/events in the space, and should have positive drainage away from buildings. Expansion and control joints should be provided to functionally manage cracking and to aesthetically add to the plaza design. Provide for lighting, electric power and a water source.

### 3.3.4 Mow Strips

Concrete mow strips shall be provided to separate all lawn areas from natural areas, under fencing, where fencing is adjacent to turf or ground cover that requires edging or mowing, as an integral component of any wall. Mow strip width shall be a minimum 12 inches wide. No metal edging is allowed in parks for safety reasons.

### 3.3.5 Parking Lots

**Building Parking Requirements.** Parking standards for all park buildings shall comply with the City and County of Denver Zoning Code Article VI Off-Street Parking Requirements. The following table shows the Zoning Code parking class based on primary use of a park building.
### Table 3.3.5.1 Zoning Code Parking Class

<table>
<thead>
<tr>
<th>Primary Use</th>
<th>Parking Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recreation Center (Indoor Facility)</td>
<td>Class Four</td>
</tr>
<tr>
<td>Event Facilities/Vendors</td>
<td>Class Four</td>
</tr>
<tr>
<td>Maintenance Garage (auto repair)</td>
<td>Class Eight</td>
</tr>
<tr>
<td>Office</td>
<td>Class Nine</td>
</tr>
<tr>
<td>Golf Pro Shop</td>
<td>Class Four</td>
</tr>
<tr>
<td>Museums/Libraries</td>
<td>Class Two</td>
</tr>
</tbody>
</table>

**Program Element Parking Requirements.** Parking standards for program elements are established by DPR and the following table is offered as a guide. Parking numbers may be achieved through the use of both on-street parking and off-street parking, in the park and adjacent to the park, to be determined by the Project Manager. Parking areas should provide preferred parking for carpools and vanpools in addition to required accessible spaces. Meet accessibility guidelines for both on-street and off-street parking. Partnerships and shared use parking is encouraged. Provide drop off areas within the park, where appropriate. Parking should be located, if possible, near the activity it is intended to serve. A desirable distance is within 250 to 300-feet, and no more than 400-feet from the activity.

### Table 3.3.5.2 Parking Guidelines

<table>
<thead>
<tr>
<th>Primary Use</th>
<th>Parking Ratio (min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multi-Purpose Fields</td>
<td>15 per field - 30 per field*</td>
</tr>
<tr>
<td>Tennis Courts</td>
<td>2 per court - 4 per court*</td>
</tr>
<tr>
<td>Basketball Courts</td>
<td>5 per court - 10 per court*</td>
</tr>
<tr>
<td>Baseball/Softball Fields</td>
<td>20 per field - 40 per field*</td>
</tr>
<tr>
<td>Skatepark</td>
<td>1 space for every 600 sq. ft.</td>
</tr>
<tr>
<td>Dog Park</td>
<td>Regional: 25 per acre&lt;br&gt; Neighborhood: 5 per acre</td>
</tr>
<tr>
<td>Trail Heads</td>
<td>Regional Trail: 5 per mile&lt;br&gt; Minor/Nbhd Trail: Determine as needed</td>
</tr>
<tr>
<td>Regional Playgrounds</td>
<td>1 space for every 600 sq. ft.</td>
</tr>
<tr>
<td>Permittable Picnic Shelters</td>
<td>1 space for every 100 sq. ft.</td>
</tr>
<tr>
<td>Outdoor Event Facilities</td>
<td>1 space for every 4 seats or 1 space for every 50 sq. ft. gross floor area</td>
</tr>
<tr>
<td>Marinas</td>
<td>0.7 spaces for every berth or mooring, Marinas: 2 spaces for every 3 employees on the maximum shift, plus 1 space for every vehicle customarily used in operation of the use or stored on the premises</td>
</tr>
</tbody>
</table>

* Higher range numbers should be used for Athletic Field Complexes that will need more parking for tournaments, etc.

**Layout.** Parking layout shall comply with the City and County of Denver Zoning Code Article VI Off-Street Parking Requirements.

**On-street Parking.** In order to provide the public access to parks, public streets
generally surround Denver parks. Coordinate with Public Works to provide on-street parking adjoining parks on all streets, where appropriate.

**Bicycle Parking.** Bicycle parking at park buildings should provide for 15% or more of building occupants. Bicycle parking for program elements should be 10% of vehicular spaces.

### 3.3.6 Private Park Roads

**General Requirements.** Private park roads should be designed to connect participants to program elements as deemed necessary by the Project Manager. Private park roads should only be included within parks when necessary and should discourage through-traffic to the greatest extent possible. Roads should be wide enough to accommodate on-street parking to meet parking requirements for program elements. Private roads shall provide for emergency access and clear sight triangles and should also consider accommodating bike lanes, traffic calming devices and bus stops where applicable.
3.4 Landscape

Landscape Design. Landscape should aesthetically complement and enhance the overall design of a park. However, landscape within a park should also serve a functional purpose. Turf should be located in general use and programmed use areas and in tree lawns. Low-water turf should be used in other non-programmed areas as an alternative to water-intensive turf. The aesthetics of planting beds should be weighed against maintenance considerations. Planting beds should be used in: highly visible areas to enhance entry, transition areas to separate uses, steeply sloped areas to prevent erosion, and specialty gardens as a program element. Trees are an important part of any park and should: provide shade and seasonal interest, screen views, enhance the uniqueness of a site and highlight axes and formal designs. Natural areas landscape should fit within the native context, enhance wildlife, promote species diversity, and protect remnant habitats.

Plant Layout. Plants should be grouped by water requirements in order to comply with Irrigation Hydrozone Standards. Plant locations and spacing shall permit normal plant development without undue crowding or trimming. Shrubs, groundcover and vines should be spaced at a minimum of one-half of their mature diameter from all walkways to prevent overcrowding and impeding on walkways. See Grading Standards for appropriate vegetation in accordance with slope. Where possible, provide walkways to separate lawn areas from shrub and groundcover areas to reduce edging costs. No metal edging is allowed in parks for safety reasons. Mulch should be applied to all planting beds and underneath trees; see specifications for acceptable products.

Plant Selection. In accordance with the Game Plan, all new parks and new construction in existing parks should contain naturalized areas and drought resistant plants to promote water conservation and reduce maintenance costs. Plant selection shall be those species which are considered relatively disease and pest-free and require minimal trimming to be maintained in a safe and attractive condition. The Parks and Recreation Department retains the right to prohibit any plant material generally known to require excessive maintenance because of factors such as, but not limited to, disease, pest control, troublesome root development, ultimate size and difficult growth habits.

<table>
<thead>
<tr>
<th>Table 3.4.0.1 Minimum Planting Sizes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Plant</strong></td>
</tr>
<tr>
<td>Deciduous shade trees</td>
</tr>
<tr>
<td>Ornamental trees</td>
</tr>
<tr>
<td>Evergreen trees</td>
</tr>
<tr>
<td>Multi-stem ornamental trees</td>
</tr>
<tr>
<td>Shrubs</td>
</tr>
<tr>
<td>Vines</td>
</tr>
<tr>
<td>Ground cover/perennials</td>
</tr>
</tbody>
</table>

Installation Criteria. A horticultural suitability soil test shall be obtained and the results and recommendations shall be incorporated into the construction
plans and specifications. The test results shall determine the type and rate of soil amendments, if leaching is a requirement, and the details of future maintenance requirements. The following table provides an installation calendar for landscape material.

### Table 3.4.0.2 Vegetation Installation & Protection Period

<table>
<thead>
<tr>
<th>Vegetation</th>
<th>Installation</th>
<th>Vegetation Protection Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turf - Seed</td>
<td>April 15-June 1 &amp; Aug 15-Oct 1</td>
<td>1 year</td>
</tr>
<tr>
<td>Turf - Sod</td>
<td>April 15-Oct 1</td>
<td>1 year</td>
</tr>
<tr>
<td>Turf - Athletic Fields (seed &amp; sod)</td>
<td>April 15-Oct 1</td>
<td>2 years</td>
</tr>
<tr>
<td>Shrub/Grndcvr</td>
<td>April 15-Oct 1</td>
<td>1 year</td>
</tr>
<tr>
<td>Trees</td>
<td>April 15-June 15 &amp; Sept 1- Oct 31</td>
<td>2 years</td>
</tr>
<tr>
<td>Native Seeding (Irrigated)</td>
<td>Spring thaw: April 15-Aug 20 &amp; Dormant seeding: Oct 15-April 15</td>
<td>1 year</td>
</tr>
<tr>
<td>Native Seeding (Non-Irrigated)</td>
<td>Oct 15 - April 15</td>
<td>1 year</td>
</tr>
</tbody>
</table>

**Preservation of Existing Vegetation.** Existing vegetation should be analyzed to determine its value to a park. Tree size and function, remnant native plant communities, and wildlife habitat are examples of criteria by which to judge plant value. See specifications for requirements in regards to tree retention and protection.

### 3.4.1 Turf

Lawn areas should be of a size and configuration to permit the most effective use of mechanized maintenance equipment and reduce lawn edging. Small, decorative lawn areas are discouraged. Turf areas less than 6-feet in width are discouraged because spray irrigation is prohibited and only low-flow irrigation systems are allowed.

**Seed.** Generally, turf areas are a blend of 90% Bluegrass and 10% Ryegrass, or a 100% Bluegrass. See specifications for acceptable products and application rates.

**Sod.** Generally, turf sod areas are a Colorado grown Kentucky Bluegrass. See specifications for acceptable products.

**Athletic Field Turf.** Athletic field turf should be a Bluegrass blend with improved, drought resistant varieties, and suitable for vigorous athletic field use.

**Low-water Turf.** Low-water turf can be defined as grasses that demand less water than bluegrass turf and may feature native species within their blends. A Short Grass Mix and a Mid Grass Mix, found in DPR specifications, can be considered low-water turf. Fescue turf with a low bluegrass content can also be considered low-water turf.
Establishment & Vegetation Protection Periods. Consult specifications for establishment requirements and refer to Table 3.4.0.2 for vegetation protection periods.

Temporary Seed. Temporary seeding should occur where disturbed areas have a period of exposure of one year. Plant a temporary cover crop. DPR acceptable grasses include Six Weeks Fescue, Slender Wheatgrass, Bottlebrush Squirreltail, Sand Dropseed, and Purple Threeawn.

Fertilization/Herbicides. Fertilization should be used only when necessary and should be based on soil samples and plant performance. Handle fertilizer with care and avoid pollution of waterways. Citizens requesting notification of spraying are required to submit demographic information including name, address and phone number, with the name of up to three parks, to Environmental Health.

3.4.2 Planting Beds (Shrubs, Perennials, Groundcover)

Planting beds and vegetation heights shall not impede on site triangles at intersections or signage. Planting beds should achieve year-round visual interest through plant selection (i.e., deciduous and evergreen materials, ornamental grasses, varied blooming schedules). Plant shrubs and perennials in groupings in order to achieve a proper massing of vegetation. Small planting areas are discouraged.

Layout & Plant Selection. Groundcover shall be designed with triangular spacing at a distance that will typically ensure 100 percent coverage within two years of installation. Provide plants that are well established and rooted in removable containers with not less than the minimum number and length of branches required by the Colorado Nursery Act for the pot size indicated.

3.4.3 Park Trees

Species diversity is a primary goal of DPR. No more than ten percent of the total number of trees in a plan should be of the same species. Trees should provide shade and seasonal interest, screen views, enhance the uniqueness of a site and highlight axes and formal designs. See the City Forester for a list of approved trees.

Tree Layout. Trees planted in turf areas shall be spaced to permit the most effective use of mechanized maintenance equipment and operation of irrigation system. There should be 15 feet between trees and other vertical objects in the park. For all trees installed in turf areas, provide the specified bark mulch 4-inches deep in a minimum 48-inch diameter around the tree. Trees shall be staked according to specifications and details. Groves of trees are encouraged, where appropriate, for water conservation.

Shade, coniferous and ornamental trees should all be chosen in conformance with the Colorado Nursery Act.
3.4.4 Natural Areas

In accordance with the City Charter (Ch. 39, Art. VIII, Natural Areas), Natural Areas adopted Rules and Regulations on January 11, 2001. The Rules and Regulations set out classifications, criteria, procedures and public process for designating Natural Areas, as well as regulatory requirements for controlling public access to and use of Natural Areas.

Natural Areas Design. Natural area landscapes should comply with the criteria necessary for Natural Area designation:

• Provide or could provide protection for a sustainable natural ecosystem, wildlife habitat, native plant species and communities, geological formations or water corridors or wetlands;
• Serve as an example of a rare or unique native condition in an urban setting in need of ecological preservation;
• Serve as an outdoor classroom or laboratory for scientific study or other educational opportunities for the public;
• Function as an area of biological diversity, natural beauty, and inspiration which meets aesthetic needs and which enriches the meaning and enjoyment of human life.

All furnishings, amenities, and signage in natural areas shall meet all specifications and be of the same quality as those in traditional parks. Refer to Section 3.8 Furnishings for detailed standards for natural areas benches and fencing. The decision on whether to irrigate and what type of irrigation system to be used shall be made by the Project Manager and City Naturalist. The City Naturalist shall approve all site plans, plant specifications, schedules, and plans in natural areas. See specifications for acceptable products and application rates for seed mixes including Short Grass Mix, Mid Grass Mix, Sandhill Prairie Mix, Riparian Prairie Mix, Wetland Mix and Native Wildflower Mix. Prairie sod is prohibited within park land. The City Naturalist shall approve all plant schedules and planting plans in Natural Areas.

Natural Areas Classifications. One of four classifications will be placed on a site to be designated as a Natural Area, in keeping with existing conditions on the site and appropriate public use, if any, of the site.
### Table 3.4.4.1 Natural Area Classifications

<table>
<thead>
<tr>
<th>Classification</th>
<th>Description</th>
<th>Goal of Designation</th>
<th>Management</th>
<th>Allowed Uses</th>
</tr>
</thead>
</table>
| **Active Use**         | These areas should demonstrate important natural features or include native plant or wildlife habitat. These areas will allow for limited active recreational facilities, such as surfaced trails or fishing piers, and for other facilities that will attract public use. | 1. To provide recognition of the value of the natural features in the area  
2. To trigger restorative projects that could establish or reestablish native planting and appropriate wildlife habitat  
3. To ensure that all construction and earth-disturbing activity done in the area is sensitive to the natural aspects of the area | Will include what is typical for active park and recreational facilities. Expertise will be sought for restorative projects.                                                                                       | No uses will be allowed that are not allowed in City parks. Picnicking, biking, rollerblading or roller-skating, horseback riding, hiking, meetings of large groups, and pets are allowed only in authorized areas and under such conditions or restrictions as will prevent any notable impacts to natural aspects of the area. |
| **Conservation & Restoration Areas** | These areas have or will have the potential to restore significant natural features, native plant communities, or wildlife habitat. Activities will be geared toward the appreciation of the natural aspects of these areas. | 1. To provide recognition of the natural significance of the area or the wildlife in the area  
2. To ensure that the area remains in its natural state and that restoration be actively pursued or allowed to occur naturally | Will be directed towards protecting areas by limiting formal or informal activities to those that will have little or no impact on the area. Restrictions on public access and use should be posted and enforced. | No uses will be allowed that are not allowed in Active Use Areas. Authorized areas for public access and use, as allowed in Active Use Natural Areas, will be fewer and more restricted. Some areas of land may be closed, permanently or temporarily, to public access in order to allow for conservation or restoration. |
| **Potential Native Areas** | These areas consist of open space found in such areas as along parkways and roadways, slope cutaways, open fields, undeveloped land between developed properties, buffer areas, areas along railroad tracks, and the like. | 1. To take unappealing, neglected, or underutilized open space and improve its value and aesthetics  
2. To provide, where appropriate, wildlife corridors and sustainable, naturalized landscapes  
3. To conserve natural resources and reduce maintenance | Will be directed towards promoting self-sustaining native growths that require minimal maintenance. Active or passive public access or use will be allowed as appropriate for a specific site. | No uses will be allowed that are not allowed in Active Use Natural Areas. Authorized areas for public access and use, allowed in the Active Use Natural Areas, will vary depending on the given circumstances. Some areas of land may be closed to public access, temporarily or permanently, in order to allow for recovery of native vegetation or erosion control. |
| **Preservation Areas** | These are typically areas of pristine or near pristine character that require special protection of their natural features or control of the environment for the protection of wildlife and its habitat. These areas could contain sensitive natural elements or are notable for their unique scenic value. | 1. To preserve and protect the area as is  
2. To restrict human activity to a minimum | Will be directed towards maximum protection of resources and public education. Areas will be typically closed to direct public access and use, and these restrictions should be posted and enforced. | No uses will be allowed in the area that are not expressly authorized for the purposes of preservation and protection of the area or supervised public education activities in the area. The area will be closed to public access and use, except for viewing outside the area. |

Excerpted from the Natural Areas Rules and Regulations.

**Weed Management.** Weed management is an essential tool for promoting the health and vitality of Natural Areas. The Noxious Weed List, available from Natural Resources, provides information on plants that are prohibited.
3.4.5 Street/Plaza Trees

Permits are required for planting, pruning, or removing trees in the public ROW under Article II, Section 57-20 of the Revised Municipal Code. Permits may be obtained from the DPR Forestry Division. Parkway and boulevard standards can be found in "Denver's Designated Parkways and Boulevards". Article II, Section 57 of the Revised Municipal Code also establishes the authority of the City Forester to institute rules and regulations for the planting and maintaining of trees on any public right-of-way or other public place in the city.

Street Tree Selection. Choosing the right tree for a site promotes health and longevity. Ornamental trees should be used only when overhead utility lines are present, as their lower height makes it more difficult to meet clearance guidelines above streets (13'-6") and sidewalks (8'-0"). See Appendix D for the current approved and prohibited street trees. Contact the Forestry office for the yearly updates to this list.

DPR Forestry requires diversity of street trees to ensure the sustainability of Denver’s urban forest. The 10-20-30 Standard shall be: no more than 10% of one species, no more than 20% of one genus, and no more than 30% of one family. For example, using the Acer saccharum v Green Mountain, if 100 trees are planted in a plan, no more than 10 should be of the saccharum species, no more than 20 should be of the Acer genus, and no more than 30 should be of the Aceraceae family. Forestry may grant exceptions to the 10-20-30 standard under special circumstances.

Street Tree Layout. Spacing requirements for street trees are listed in the following table.

### Table 3.4.5.1 Street Tree Spacing Requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Spacing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between shade trees</td>
<td>35'</td>
</tr>
<tr>
<td>Between ornamental trees</td>
<td>25'</td>
</tr>
<tr>
<td>From curb at intersections</td>
<td>30'</td>
</tr>
<tr>
<td>From street lights</td>
<td>20'</td>
</tr>
<tr>
<td>From alleys &amp; driveway curb cuts (not including flare)</td>
<td>10'</td>
</tr>
<tr>
<td>From fire hydrants</td>
<td>10'</td>
</tr>
<tr>
<td>From stop signs</td>
<td>20'</td>
</tr>
<tr>
<td>From attached sidewalks</td>
<td>7'</td>
</tr>
<tr>
<td>Clearance above street</td>
<td>13.5'</td>
</tr>
<tr>
<td>Clearance above sidewalk</td>
<td>8'</td>
</tr>
</tbody>
</table>

Root Barriers. Root barriers may be needed in special situations, as determined by the City Forester. When applicable, the root barrier shall be installed adjacent to the walkway or wall and not around the rootball.

Tree Pits. DPR Forestry recommends 5-feet wide by 15-feet long tree pits in
walkways and plazas to provide for a large rooting area.

**Tree Grates.** Tree Grates shall have expandable center openings and they must meet current ADA requirements. Concrete tree grates are not acceptable, however pavers or other pervious surfaces are allowed. See Public Works standards for tree grates within the ROW.

**Tree Replacement.** In order to comply with Game Plan standards of 15-18% tree canopy cover in residential areas and 10% cover in commercial areas, street tree replacement must take place. Infill trees should be planted to follow spacing and alignment of the original tree planting. DPR Forestry maintains a list of acceptable street trees, see Appendix D.

### 3.4.6 Parking Lot Landscaping

See CCD Zoning Code for parking lot landscaping requirements.

### 3.4.7 Landscape Maintenance

Executive Order No. 87 establishes the policy of the City and County of Denver as to Water Conservation. Therefore, DPR adheres to regulations set forth by the Denver Water Department regarding the use of water resources. For standard maintenance schedules see the Maintenance Chapter.
3.5 Irrigation

3.5.1 General Requirements

A properly designed and functioning irrigation system’s benefits include:

- Improved uniformity of irrigation water application
- Increased soil-moisture uniformity
- Lower water or power bills
- Easier irrigation system scheduling and management
- Reduced runoff and deeper percolation
- Healthier plants and turf grass that are most resistant to pests and disease

Equipment selection and the design of irrigation systems impact the uniformity of an irrigation system. This includes sprinkler types, nozzle size, pressure, pipe size, installation and system maintenance.

Irrigation Design. The design of an irrigation system shall be based on hydrozones and shall be designed to efficiently apply uniform water throughout each zone during the allowable watering schedule. Irrigation systems shall be designed for head to head coverage. Refer to Table 3.5.1.1, Irrigation Design, for appropriate coverage in relation to the irrigation application. Verification of pressure shall be provided to the Project Manager. The irrigation design must also have sufficient residual pressure and flow to accommodate site conditions, field changes and unforeseen future demands as well as anticipated future demands, if it is a phased project. Water conservation equipment, such as rain/wind sensors and weather stations, should be used when appropriate.

Distribution Uniformity (DU_LQ) and Scheduling Coefficients (SC) are two methods used to improve irrigation design and installation and help optimize the uniformity of coverage of irrigation systems. Densograms are used to demonstrate the theoretical sprinkler watering pattern based on specific sprinkler/nozzle/spacing/pressure combination utilizing DU and SC.

<table>
<thead>
<tr>
<th>Irrigation Application by Type of Zone</th>
<th>Distribution Uniformity (DU)</th>
<th>Scheduling Coefficient (SC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed Spray</td>
<td>65%</td>
<td>1.4 or less</td>
</tr>
<tr>
<td>General Rotor Zone</td>
<td>70%</td>
<td>1.3 or less</td>
</tr>
<tr>
<td>Athletic Field Rotor Zone</td>
<td>80%</td>
<td>1.2 or less</td>
</tr>
<tr>
<td>Drip/Micro</td>
<td>80%</td>
<td>1.2 or less</td>
</tr>
</tbody>
</table>

Distribution Uniformity (DU_LQ): A measure of how evenly water is applied across the lowest quarter of all catch cans set out in an irrigated area.

Scheduling Coefficient (SC): Defines how big the critical dry area will be and the irrigation run time required to alleviate the dry area.

Watering Schedule. In order to comply with Denver Water watering requirements, it is critical that irrigation systems are designed to provide complete site coverage during the irrigation window. The standard watering schedule during non-drought years, wherever possible, should be 3 days per week with an
8-hour irrigation window (10:00 pm to 6:00 am). While establishing plants (see Section 3.4 Landscape), and possibly during the vegetation protection period, the watering schedule is 2x the standard watering schedule. Irrigation systems should also take into account monthly irrigation watering budgets. Contact the District Superintendent for watering budget information.

<table>
<thead>
<tr>
<th>Type of Vegetation</th>
<th>Season</th>
<th>Dates</th>
<th>Time</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Athletic field turf</td>
<td>Summer</td>
<td>March 1 - November 1</td>
<td>10p.m. - 6 a.m.</td>
<td>3 days/week</td>
</tr>
<tr>
<td>Turf</td>
<td>Summer</td>
<td>April 15 - October 15</td>
<td>10p.m. - 6 a.m.</td>
<td>3 days/week</td>
</tr>
<tr>
<td>Turf</td>
<td>Winter</td>
<td>November 1 - March 1</td>
<td>10 a.m. - 6 p.m.</td>
<td>As needed</td>
</tr>
<tr>
<td>Trees</td>
<td>Summer</td>
<td>April 15 - October 15</td>
<td>During establishment period (2-3 years)</td>
<td>Bi-monthly</td>
</tr>
<tr>
<td>Trees</td>
<td>Winter</td>
<td>November 1 - March 1</td>
<td>10 a.m. - 6 p.m. over 40°</td>
<td>Once a month</td>
</tr>
<tr>
<td>Natural Areas</td>
<td>Summer</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Hydrozones.** In order to conserve and protect water resources, irrigation zones should take into account hydrozones. Hydrozones help to define the amount of water that should be applied to an area as well as the infiltration rate of the soil, soil type, slope, sun exposure and water needs of the plant materials and water pressure.

<table>
<thead>
<tr>
<th>Hydrozone</th>
<th>Inches per Year*</th>
<th>Example Vegetation**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Low (VL)</td>
<td>0”-7” per year</td>
<td>Succulent plants, desert grasses and shrubs</td>
</tr>
<tr>
<td>Low (L)</td>
<td>7”-15” per year</td>
<td>Prairie plants</td>
</tr>
<tr>
<td>Moderate (M)</td>
<td>15”-25” per year</td>
<td>Turf</td>
</tr>
<tr>
<td>High (H)</td>
<td>&gt;25” per year</td>
<td>Sports fields, Golf courses</td>
</tr>
</tbody>
</table>

* Year refers to one full irrigation season, see below.

**Based on a site with little slope and typical soils.

**Maintenance.** Executive Order No. 87 (see Appendix E) establishes the policy of the City and County of Denver as to Water Conservation. Therefore, DPR adheres to regulations set forth by the Denver Water Department regarding the use of water resources.

**Warranty.** See specifications for warranty information. Whenever possible, provide a two-year warranty for irrigation work.

### 3.5.2 Sources Of Water

Consult Denver Water at concept level to analyze opportunities for using alternative water sources for designs. See specifications for acceptable products regarding the different sources of water.

**Potable Water:** Water fit for drinking; safe to consume. Water from any source
which has been investigated by the health agency having jurisdiction, and which has been approved for human consumption. Drinking water is regulated through the state health department (Colorado Department of Public Health and Environment) and the U.S. Environmental Protection Agency.

**Non-potable Water:** Water such as treated domestic wastewater, groundwater and well water which is suitable for various beneficial uses excluding human consumption.

**Recycled Water.** Recycled water is wastewater treated to a higher standard suitable for applications other than drinking. It satisfies both U.S. Environmental Protection Agency regulations under the federal Clean Water Act and Colorado Department of Public Health and Environment guidelines for specific, non-potable uses. Recycled water is produced by taking treated wastewater effluent that otherwise would be discharged into a river or stream and treating it again to a higher standard so it can be used for non-drinking purposes such as irrigation for parks and golf courses, industrial uses, commercial applications, lakes and wildlife refuges.

**Taps.** Before any taps are made from mains, applications for the taps must be received and approved by Denver Water or other distributor. The potable water system shall be protected from contamination with recycled water through the physical separation of the two systems, which will be inspected by Denver Water.

### 3.5.3 Isolated Systems

Whenever practical, specific program elements irrigation systems, such as ballfields, dog parks etc., or areas that require additional watering during the winter, can be located on separate systems.

### 3.5.4 Water Meter, Point Of Connection & Backflow Device

**Water Meter.** A water meter is a device used to measure the flow of water. Design the water meter to meet watering window requirements. Coordinate final location and install in conformance with Denver Water.

**Point Of Connection (POC).** The point of connection is the location where an irrigation system is connected to a water supply. The POC should be screened from view.

**Backflow Device.** A device installed between the point of connection and the sprinklers that is designed to prevent the backflow of contaminated water into the water source. A high hazard, reduced pressure type, USC (University of Southern California Foundation for Cross Connection Control and Hydraulic Research) and Denver Water Board approved backflow device is required. A backflow cover is required. In high traffic areas, the backflow device shall be located on a concrete pad and be protected by a bollard. See specifications for acceptable products.
3.5.5 Irrigation Heads

All heads of a specific type or function in the system shall be of the same manufacturer and shall be marked with the manufacturer’s name and identification in such a position that they can be identified without being removed from the system. All sprinkler heads shall be set perpendicular to finish grade unless otherwise designated.

Head Coverage. Provide head to head coverage for all irrigated areas. Utilize the scheduling coefficient guidelines for each landscape type. Contractor will be held responsible for coordination between landscape and irrigation system installation. Landscape material locations shown on the Landscape Plan shall take precedence over the irrigation system equipment locations. Relocate the irrigation equipment if in conflict with the landscape material.

Overspray. All irrigation heads shall be installed and adjusted to avoid overspray onto buildings, walkways, play equipment, etc.

Anti-drain Valve/Excess Flow Valve. Consider using anti-drain valves/excess flow valves installed in the riser of the head assembly wherever possible.

Head Locations. Landscaped areas less than 25 feet in width must be designed in accordance with the following Denver Water standards.

For strips of land less than 6 feet in width – Spray irrigation shall be prohibited. Low-flow irrigation systems are required.

For strips of land between 6 feet and 15 feet in width – Only low flow irrigation, or spray irrigation using low-angle spray nozzles designed for the specific width to be irrigated shall be permitted. All spray heads must be pressure reducing and designed to prevent low head drainage.

For strips of land more than 15 feet in width – Only gear-driven rotors with low angle nozzles may be used to irrigate turf areas. Planting beds may be irrigated with low-flow or spray irrigation. All spray heads must be pressure reducing and designed to prevent low head drainage.
**Heads/bubblers**

**Lawn, Shrub Or Groundcover Heads.** Adjust heads to correct height after planting installation. Heads shall be flush to finish grade and shall be placed a minimum of 3” away from curb or hard edge for pop-ups and a minimum of 6” away from curb or hard edge for rotors. Plant placement shall not interfere with intended sprinkler head coverage, piping or other equipment. Heads of same type shall operate at the same pressure +/- 7%. In athletic fields, or other appropriate locations, a soft cover head shall be required. See specifications for acceptable products.

**Subsurface / Low Pressure Irrigation.** In non-irrigated areas, use subsurface/low volume irrigation to establish trees and shrubs. When using bubblers, locate them in small valve boxes to prevent damage.

### 3.5.6 Irrigation Controls

Irrigation systems shall be controlled by an automatic electrical controller. Utilize master valves and flow sensors where applicable. The controller shall be installed on a concrete pad at a location approved by the Project Manager, preferably in a central location to the covered area or system. The controller should be installed within a strong box. See specifications for minimum requirements and acceptable products.

### 3.5.7 Installation (Trenching, Piping, Sleeving, Wiring)

**Trenches.** Trench excavation shall follow, as much as possible, the layout shown on the drawings. Dig trenches straight and support pipe continuously on bottom of trench. Trench bottom shall be clean and smooth with all rock and organic debris removed. Comply with OSHA standards for all trenching and excavation. Trenching under canopy of existing trees should be accomplished by hand or other method that will not damage limbs or branches. Keep trenches at least 12 feet from trunk of existing trees. See tree protection detail for more information.

Trench horizontal clearances shall be 5 inches horizontally on both sides of the trench for piping 3 inches or larger, and for piping 2 inches and smaller, trenches
shall have a minimum width of 4 inches of clearance.

Backfilling of trenches shall not begin unless authorized by Project Manager. Backfill shall not be done in freezing weather unless authorized by Project Manager. Dress backfilled areas to original grade. Excavated material is generally considered satisfactory for backfill purposes. Backfill material shall be free of rubbish, vegetable matter, frozen materials, and stones larger than 1 inch in maximum dimension. Material not suitable for backfill or extra material must be hauled away. Do not leave trenches open for a period of more than 48 hours. Open excavations shall be protected in accordance with OSHA regulations.

**Piping.** Provide a minimum of 6 inches of horizontal clearance between each line and a minimum of 12 inches of clearance between lines of other trades.

<table>
<thead>
<tr>
<th>Table 3.5.7.1 Vertical Pipe Clearances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pipe</td>
</tr>
<tr>
<td>Pressure supply piping (main lines)</td>
</tr>
<tr>
<td>Pressure supply piping (main lines)</td>
</tr>
<tr>
<td>Non-pressure piping (laterals)</td>
</tr>
<tr>
<td>Non-pressure piping (laterals)</td>
</tr>
</tbody>
</table>

PVC Mainlines shall be installed with a minimum 3” per 100’ slope to manual drain valve and drainage sump. Place manual drain valves at low points and dead ends of pressure supply piping to insure complete drainage of system. See specifications for acceptable products.

**Sleeving.** Sleeving is required for all irrigation pipe and electrical lines below paving in order to minimize impacts to paved areas during construction/
maintenance repairs. Install sleeving under asphalt paving and concrete walks prior to concreting and paving operations to accommodate piping and wiring and cover pipe ends. Extend sleeves a minimum of 12 inches beyond the paved surface above. Minimum depth to top of pipe shall be determined by depth of mainline and lateral lines. Lay sleeve to drain at minimum grade of 3’ per 100’. Sleeving cannot be stacked vertically within the same trench. Sleeving located under areas where asphalt or concrete paving will be installed shall be bedded with sand (a 6” layer below pipe and above pipe). Mark sleeves in a manner to ensure easy location in the future by stamping the concrete and/or using tracer wires where appropriate. Sleeving is generally sized 2 sizes larger than the irrigation piping required. See specifications for acceptable products.

Wiring. Control wiring shall be installed on the side of pressure main when installed in the same trench. Control wiring vertical clearance is 24” from top of wire bundle to finish grade where installed separately from mainline trench. Wiring shall be color coded in accordance with specifications. See specifications for acceptable products.

3.5.8 Valves & Valve Boxes
See specifications for acceptable products.

Electric Control Valves. Control valves turn water on and off from individual circuits of sprinklers or drip emitters. Install electric control valves as detailed on the drawings. Cross-handle of fully opened valve cluster isolation angle valve shall be 3 inches below bottom of valve box lid.

Quick Coupling Valves. A permanently installed valve which allows direct access to the irrigation main for the use of hoses or mobile sprinklers. A key is required to open the valve. Install quick coupling valves as detailed at control valve cluster locations. At stand-alone applications, install on double swing joint in specified valve box.

Drain Valves. A valve used to drain water from a line. Install manual drain valves at all low points in pressure supply line, whether indicated on the drawing or necessitated by actual conditions, to ensure proper drainage of the mainline. Install 6” PVC sleeve inside valve box for access. Provide a three cubic foot gravel drainage sump at each drain valve.

Isolation/Gate Valves. An isolation valve is used for isolating all or part of the irrigation system for repairs, maintenance, or winter shut-down. A gate valve is a type of isolation valve that is used as an emergency shut-off “gate” that blocks the flow of water; used infrequently due to the high tendency for wear.

Install as detailed in locations shown on drawings. Provide isolation valves along the mainline at appropriate locations to divide the irrigation system into controllable units, at stub outs for future systems, and prior to crossing expansive pavement.

Air Release Valves. Air release valves should be installed where mainlines dead-end, or are not on a continuous loop, and at high points on a continuous
loop system.

**Valve Boxes.** A locked box that houses valves and is permanently labeled with zone numbers. Group valves to minimize the number of valve boxes. Install valve boxes flush with finish grade and square to adjacent surface features. When valve boxes are grouped together, allow at least 12 inches between exposed valve box sides. Cutting of valve box to give clearance for piping or valves will not be allowed. Valve boxes shall be colored green for potable systems and purple for non-potable systems. The top of valves in cluster boxes shall be a minimum of 3 inches and a maximum of 6 inches from the underside of the valve box lid, readily accessible and operational. Valve boxes should be located a minimum of 24 inches, with 36 inches as desirable, away from paved surfaces. No riser extensions shall be allowed to valve boxes. No boxes shall be located within Athletic Field play areas.

### 3.5.9 Thrust Blocks

Cast in place thrust blocks reinforce irrigation pipe at its joints where imbalanced hydraulic force exists (e.g. tees, bends, end caps, hydrants, valves, connecting pipe of differing materials, etc.). Construct thrust blocks in accordance with specifications. Contact Project Manager prior to placing thrust blocks, for observation of thrust block excavation and initial placement.

### 3.5.10 Pump Stations

Pump stations increase water pressure in order to move water. Consider visual impacts when siting pumps. In areas of high visibility, the pump station enclosure should be architecturally integrated into the park and surrounding neighborhood. Pump stations shall be accessible by service vehicles. Pump and booster stations shall utilize prefabricated variable frequency drive packaged vertical turbine pump systems. See the Facility Services Division for current pump station specifications and approval.
3.5.11 Water Conservation Devices

**Irrigation Cycle Interrupters (Rain Sensors).** Irrigation controllers shall be fitted with sensors that can terminate a watering cycle when precipitation or humidity would make irrigation unnecessary.

**Weather Stations.** Utilize evapotranspiration (ET) data from weather stations whenever applicable.

**Water Management.** Refer to the Water Management Conservation Plan and GreenCO BMP’s for efficient water management techniques.
3.6 Structures

New structures must participate in the City of Denver Community Planning and Development (CPD) development review process if they comply with requirements for Planned Developments, Planned Building Groups, or Planned Unit Developments. These new structures must conform to the City of Denver’s requirements. All DPR structures should be ADA compliant.

DPR also places further restrictions on new structures over 5,000 square feet to attain the Silver level of the US Green Building Council (USGBC) LEED (Leadership in Energy and Environmental Design) rating system. DPR also encourages sustainable features in structures under 5,000 square feet in order to “improve occupant well-being, environmental performance and economic returns of buildings” (LEED Rating System V2.1 p.i). Structures should incorporate sustainable characteristics in site development, water savings, energy efficiency, materials selection and indoor environmental quality.

Architectural design should be of a high quality and utilize consistent forms so that they contribute to a city-wide Denver park identity. Incorporate quality details that are sensitive to historic character, as appropriate, while addressing contemporary issues of durability and economy. All permitted structures and facilities within a park should be clearly signed with a name and address in order to easily locate facilities and clearly dictate permitted structures.

Park structure standards were established by DPR to create a “family” of structures consistent in each a park. The following is a list of unified structures:

- Picnic Shelters
- Kiosks
- Toilet Enclosures
- Ballfield Dugout Cover & Pressbox

See Appendix F for plans, elevations, sections and details. Approved furnishings for these structures can be found in Section 3.8 Furnishings.

Approved Color Palette. Structures within parks shall comply with the approved color palette unless otherwise authorized.

- Primary color: Federal Green - U.S. Govmt Paint Color No. 14056
- Accent color: Copperglow - Devoe No. 2D49C
- Lettering: White
- Black: Tricorn Black - Sherwin Williams No. SW2126

DPR Family of Structures (from L to R)
- Platte River Shelter
- Observatory Park Kiosk
- Cheesman Toilet Enclosure
3.6.1 Shelters

Design Criteria. DPR has three standard shelter sizes:

<table>
<thead>
<tr>
<th>Shelter</th>
<th>Size (sf)</th>
<th>Shape</th>
<th>Approx. Seating Capacity</th>
<th>Approx. Standing Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type A</td>
<td>617</td>
<td>Elongated Octagon</td>
<td>18</td>
<td>123</td>
</tr>
<tr>
<td>Type B</td>
<td>464</td>
<td>Elongated Octagon</td>
<td>12</td>
<td>92</td>
</tr>
<tr>
<td>Type C</td>
<td>900</td>
<td>Octagon</td>
<td>24-30</td>
<td>180</td>
</tr>
</tbody>
</table>

See Appendix F for detailed drawings. DPR accepts Polygon or Skylark models or approved equals. Note: Seating Capacity is based on recommended number of picnic tables. Standing capacity assumes 1 person equals 5 square feet.

Location Criteria. The siting of shelters is important because it can affect the ability to permit shelters. Permittable shelters should be located near parking, restrooms and play areas and shall be ADA accessible. Reasonable access to parking for delivery of food, tents, etc., shall be made.

Required Amenities. The following table illustrates the minimum amenities required for each shelter type. See Table 3.3.5.2 for parking guidelines.

<table>
<thead>
<tr>
<th>Shelter</th>
<th>Required Amenities</th>
<th>Suggested Amenities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Picnic Tables</td>
<td>BBQ’s</td>
</tr>
<tr>
<td>Type A</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Type B</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Type C</td>
<td>4-5</td>
<td>2</td>
</tr>
</tbody>
</table>

3.6.2 Kiosks

Design Criteria. The DPR standard kiosk allows for two paneled sections, approximately 2’-6” wide by 3’-6” tall, attached to a roofed structure. Secure on a concrete pad. See Appendix F for detailed drawings.

Location Criteria. Kiosks should be located near entries, intersections of trails, where multiple signs and neighborhood postings are needed, and as determined by the Project Manager.

3.6.3 Toilet Enclosures

Design Criteria. The DPR standard toilet enclosure is a steel column structure with a corrugated steel roof and includes woven wire screen panels on the closed sides. See Appendix F for drawings however individual projects should update the drawings to include room for portable restrooms that meet ADA. See Section 3.6.6 Portable Restroom Facilities for more information.

Location Criteria. Toilet enclosures should be located where portable restrooms

Toilet Enclosure (Crescent Park)
are a permanent condition and as dictated by the Project Manager.

3.6.4 Ballfield Dugout Cover & Pressbox

**Design Criteria.** See Appendix F for detailed drawings.

**Location Criteria.** Locate at DPR facilities where deemed necessary. Use only at Tier A Facilities (see Program Elements section for more information).

3.6.5 Restroom Facilities

**Design Criteria.** The minimum restroom size shall be two toilets and one lavatory in a women’s room and one toilet, one urinal and one lavatory in a men’s room. However in cases of very intense use, such as ballfields, it will be necessary to add fixtures. When the number of people gathered at a particular site reaches 225, add one toilet in the women’s and one urinal in the men’s restroom. When the number grows to 300 add one more toilet in the women’s and men’s restrooms.

Design restrooms to provide a service life of a minimum of 50 years when properly maintained. At a minimum, provide ADA compliant dimensions. Incorporate vandal and graffiti resistant design features.

The following guidelines establish the demand criteria for a restroom facility.

- Where 150 or more people gather per day in a four to six hour period at a particular location at least three times per week during the summer months;
- Areas frequently permitted especially for families such as family picnics. As noted above this would apply to large families or multiple families and especially where shelters are available (at least three permits per week);
- Areas where permitted athletic events take place on a consistent basis, such as lighted ballfields;
- Locations where there is a dense congregation of uses, such as the grouping of picnic tables, playground and athletic fields (for example: Sloan’s Lake North, Barnum Park South or Washington Park South Meadow);
- Areas where there is dense informal use (not permitted) that would demand water and restrooms facilities, such as a Skate Park;
- Key junctions at trails, paths, parkways and pedestrian bridges.

**Location Criteria.** Use best practice site analysis/design and integrate the restroom facility into the related park master plan or initiative. Locate the restroom in obvious areas of the park so that restroom can be easily found by park users and near roads for reasonable access by maintenance staff. Locate within Sight and reasonable walking distance of the most intensely used areas; however, restroom facilities should be at least 50 feet away from playgrounds because children may put sand in the drinking fountains when playing. The restrooms should be visible from the areas of intense activity within the park, and where possible, visible from park entrances and the street for safety reasons.

**Building Components.** See the 2005 DPR Restroom Master Plan for building component recommendations.

**Required Amenities.** Provide a drinking fountain. Where needed, provide
additional storage room for Maintenance and/or a minimum paved 8'-0" wide service road with a turnaround for ¾-ton maintenance vehicles.

3.6.6 Portable Restroom Facilities

The following applies to city provided portable restroom facilities only, not those associated with special events.

**Design Criteria.** Portable restrooms shall have a hardscape access for trucks. A minimum of one portable restroom should be accessible and such restrooms shall meet ADA guidelines for access. Follow other criteria as established in the Prototypical Restroom Guidelines.

**Location Criteria.** Portable restrooms should be located predominantly in community, regional and athletic/multi-use parks and meet the following criteria:

- Locations where permanent plumbed restrooms are planned but not yet built.
- Permitted areas frequently used by large groups of people, especially at shelters.
- Tier A and Tier B permitted fields during seasonal use or as needed.
- Non-permitted areas where there is frequent use of grouped park elements, such as an area that includes picnic tables, a playground and an informal play field.
- Key junctions on high traffic trails.

3.6.7 Concession Facilities

**Design Criteria.** Concession facilities vary from location to location and may range from a small sales kiosk to a large facility with food, beverage and retail sales. The following are examples of program elements that may be located in a DPR concession building: restrooms, kitchen (catering or full), offices, event room, cafeteria, retail area, vending machine area, etc.

**Location Criteria.** Concession buildings shall be located as needed. DPR Finance office involvement is required.

**Required Amenities.** Benches, bicycle racks, drinking fountains, trash receptacles, picnic tables, trash dumpsters and lighting are examples of other amenities that may be required at Concession facilities.

3.6.8 Maintenance Facilities & Work Stations

Maintenance facilities are necessary for every district. In addition to the District Facility, satellite maintenance facilities, or operation facilities, may be necessary for larger parks within a district.

**Design Criteria-District Maintenance Facility (DMF).** The average District Maintenance Facility is approximately 6,500 square feet and typically provides space for 40 staff (20 permanent and 20 seasonal). Table 3.6.8.1 is a list of minimum program elements for a DMF. See DPR Facilities for specific finishes and fixture requirements.

**Location Criteria (DMF).** DMF’s shall be located by DPR.

**Required Amenities (DMF).** Possible additional amenities may include security, fencing, cameras, carports and alarms.
### Table 3.6.8.1 District Maintenance Facility

<table>
<thead>
<tr>
<th>Space</th>
<th>Size</th>
<th>Components</th>
</tr>
</thead>
</table>
| **Multi-Purpose Room** (lunch, meeting, training) | min. 750-900 sq ft | • Sink and base cabinet  
• Personal lockers along a wall (15 minimum)  
• Space and service for refrigerator, hot plate and microwave |
| **Office Suite**                           | min. 350 sq ft | • Superintendent's Office (10' x 12', minimum): Space for computer, file cabinets, desks, two person conference  
• Operation Supervisor’s Office: Space for desk, 2 computer work areas, map storage, small conference area |
| **Men’s & Women’s Restrooms**              |            | • Located near Multi-Purpose Room                                           |
| **Unisex Shower**                          |            | • Separate room                                                             |
| **Eye Wash Sink**                          |            | • In vehicle storage area                                                   |
| **Vehicle Storage/Work Area/General Storage Bays** | min. 2050 sq ft | • 3-4 bays (16’ x 40’ each inside dimension) with Overhead doors one at 12’ wide by 10’ tall, others at 10’ wide by 10’ tall  
• Vehicles: Snow Plowing – 4 Vehicles, 2 deep (16’ x 40’), Secured and sheltered miscellaneous vehicle storage in bay areas  
• Miscellaneous storage, secured within bay area (6’ x 18’ with shelves)  
• General work station: 1 or 2 with space for benches  
• Permanent staff equipment lockers, located in or near bay area: 15 minimum, approximate size 32” wide by 24” deep by 84” high  
• Slope bay floor to a drain that is connected to the sanitary sewer. A sand and grease trap interceptor is required |
| **Maintenance Technician Area**            | min. 160 sq ft | • Includes irrigation and plumbing functions  
• Secured storage for special tools (80 square feet)  
• Separate secured storage for irrigation fittings, controllers, etc. (80 square feet) |
| **Horticulturist Area**                    | min. 200 sq ft | • Secured tool storage and special fertilizers (160 square feet)  
• Space for desk, file cabinet |
| **Secured and Sheltered Storage Area**     | min 16,000 sq ft, approx. 80’ by 200’ | • Either attached or detached from main building  
• Tools: Gasoline powered tools, for example, power-push mowers, weed mowers, chain saws, etc. (8’ by 16’), ventilation required; Agricultural chemicals- dry bags and boxes (6’ by 16’); ventilation required; Miscellaneous- gasoline, lubricants, antifreeze; ventilation required |
| **Service Yard**                           |            | • Asphalt paving suggested  
• Staff parking – 10 spaces outside of fenced yard  
• Vehicle/equipment parking and storage  
• Lunch area, shaded with trees  
• Elevated loading ramp – optional  
• Irrigated landscape  
• Agricultural chemical mixing bay 13’ by 18’ (concrete slab with curb). One 4” drain is required to a 350-gallon storage/holding tank. The tank is buried with an accessible lid so that it can be evacuated. Note: Both chemical mixing bay and washing bay require permanently roofed shelter.  
• Vehicle washing bay, 13’ by 18’. Concrete slab with curb and a 4” diameter drain to a sand grease trap required. Drain must be connected to sanitary sewer.  
• Three-sided shed for general storage optional, 28’ deep by 96’ wide  
• 6’ fence with 25’ wide sliding gate and one pedestrian gate |
| **Electrical Service**                     |            | • Verify demand at specific facility |
| **Hazardous Materials**                    |            | • No restricted chemicals are used or stored at DMF’s. |
Design Criteria-Operations Facility (OF). The average OF is approximately 1,500 square feet and typically provides space for 4 to 6 permanent staff. An OF may require the following program elements: Lockers, men’s/women’s restrooms, office, multi-purpose room, kitchenette, air compressor storage, trash dumpster enclosure, two-bay garage, garage floor drain, internet/technology lockable cabinet, fire/security system, mechanical closet, janitor’s closet with water source, and a lockable horticulturist storage area. See DPR Facilities for specific finishes and fixture requirements.

Location Criteria (OF). An OF should be easily accessible and outdoor work areas screened from neighbors.

Required Amenities (OF). Provide parking for vehicles as needed.

Design Criteria-Work Station (WS). 8’ by 10’ lockable shed.

Location Criteria (WS). Work stations shall be located as needed, for example near ballfields for field equipment storage or in a park located a significant distance from the DMF. See Program Elements Section 3.7.3 Athletic Fields and Courts.

3.6.9 Recreation Centers

The 2006 DPR Indoor Recreation Centers Needs Assessment Findings and Analysis Compilation should be used to guide Recreation Center design. Within that document, The Analysis by Key Indoor Recreation Center System Components, makes recommendations on components and component sizes.

3.6.10 Bus Shelters

Design Criteria. Bus shelters shall be provided by RTD. Bus shelter layout and amenities shall be reviewed by DPR when located on park land or parkways maintained by DPR. No advertising shall be located on shelters within DPR owned land.

Location Criteria. Bus shelters shall be located by RTD in cooperation with the Park Project Manager. Shelters shall be located near trail and/or park walkway access.

Required Amenities. A minimum of one bench and one trash receptacle secured to a concrete pad is required.

3.6.11 Amphitheaters

Design Criteria. Amphitheaters can be formally or informally designed, depending on the location, and consideration should be made for seating and stage sizing in relation to planned events. The amphitheater shall meet the guidelines established by the Americans with Disabilities Act.

Location Criteria. Amphitheater locations shall be determined by the Project Manager.

Required Amenities. Concessions, telephones, signs, parking, walkways, electrical connection, ramps and restroom facilities are amenities that may be needed for an amphitheater.
3.6.12 Historical Structures.

**Design Criteria.** DPR has a rich historical legacy within its park system. Care should be taken during the design and construction of structures and landscapes around historically significant areas. The Design Guidelines for Landmark Structures and Districts provides guidelines by which to evaluate the extent of preservation and alteration to assure that the significant characteristics of the Landmark structure or district remain apparent. The Secretary of the Interior’s Standards for Archaeology and Historic Preservation shall also be utilized.

**Required Amenities.** Signage may be appropriate for providing information regarding historical structures within a park.

3.6.13 Park Ornamental Structures (Trellises/ Pergolas/Arbors/Privacy Screening/Gateways/ Arcades/Portals)

Park ornamental structures can serve a variety of purposes such as providing shade, especially in areas where trees are inappropriate (e.g. by pools), screening views, adding architectural interest, highlighting entries, creating visual links between separated areas, and providing framework and structure for landscape materials. These pieces can be freestanding or attached to a structure, fence or wall.

**Design Criteria.** Ornamental structures should be constructed of easily maintainable materials that have been approved by DPR Facilities. Ornamental structures should be compatible with other park architecture, in terms of style, color and material. Overall, structures shall be appropriately sized for the location and shall consist of elements that are sized proportionately to each other.

**Location Criteria.** Layout of park ornamental structures should be coordinated with utilities, grading and planting plans. Typically, ornamental structures should not be placed on top of utilities in the event of utility maintenance. Drainage should be directed away from barrier footings and posts and should not disturb drainage patterns unless necessary. Ornamental structures may reduce heavy winds and strong sunlight. However, shade patterns should be analyzed to prevent walkways and trails from being shaded during winter months when snow and ice may accumulate.

**Required Amenities.** Benches, drinking fountains, trash receptacles, picnic tables, fences, and lighting are examples of other amenities that may be needed for park ornamental structures.

3.6.14 Boat/Fishing/Dock Facilities

DPR Aquatics maintains rules and regulations regarding boat types and sizes at DPR parks. When designing boat/fishing facilities, consider areas, if necessary, for a boat launching ramp, boat slips and catwalks, docks, fishing stations and other necessary amenities.

**Design Criteria.** Dock general circulation areas should be ADA accessible and should allow for the free movement of pedestrians when wheelchairs are perpendicular to the side railing. Floating docks are preferred when water fluctuates more than 18 inches. However, the benefits of closeness to the water level should be weighed against the fact that floating docks are often unstable, especially for those in wheelchairs. Consider using light colored materials for docks to reduce heat absorption on walking surfaces. Dock heights within
18 inches to 24 inches of the water level allow easier access to boats. The minimum width of a dock should be 6’ and finger walkways between slips may be a minimum of 3’ wide.

**Required Amenities.** Parking, picnic shelters, concessions and site furnishings may be necessary.

### 3.6.15 Bridges

**Design Criteria.** The City of Denver requires the following CDOT Specifications be used for bridges that are to be maintained by Public Works: Bridge Section 628. Additional CDOT specifications, such as Bearings Section 512, Steel Structures Section 509, Pedestrian and Bikeway Railing Section 514, Timber Structures Section 508, Structural Concrete Section 601 and 602 may also be necessary.

**Location Criteria.** Bridges shall be located as deemed necessary by the Project Manager. Bridges located along ADA accessible walkways and trails shall be ADA accessible.

**Required Amenities.** Existing non-complying bridges should be signed.
3.7 Program Elements

Program elements are the individual components that work together to create destinations for recreational use and enjoyment. These program elements work within an individual park but also combine to form a network of programming within the entire park system. This section discusses standards for individual program elements but does not make recommendations for how these program elements should be combined within a park due to the changing nature of recreation and demand by users.

3.7.1 Trails

The Parks and Recreation Department directs the construction and maintenance of nearly all the off-street trail system, coordinating with the appropriate City agencies. The off-street trails provide recreational opportunities and supplement the transportation emphasis of the grid bicycle route system. DPR trails are multipurpose trails serving a variety of trail users. DPR Rules and Regulations state that horseback riding shall be permitted only on paths or trails as designated by the Manager. Horseback riding is currently only permitted on the Highline Canal between Mississippi and Leetsdale and Cherry Creek. Standards for trails shall not apply to Mountain Parks.

Trails should conform to:

- CCD Bike Path Standards
- Americans with Disabilities Act (ADA)
- American Association of State Highway and Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities. In some cases, CCD Bike Path Standards may override the AASHTO guidelines (which are typically requirements on federally funded projects).

Trail Hierarchy.
Regional Trails - essential routes in the citywide system, such as the Cherry Creek Trail, Platte River Trail, Bear Creek Trail, Highline Canal Trail, and Clear Creek Trail

Minor Trails - links to the regional routes, such as Lakewood/Dry Gulch, Sanderson Gulch, Goldsmith Gulch, Weir Gulch, West Harvard Gulch, and East Harvard Gulch

Neighborhood Trails - recreational loops or trails through a neighborhood, sometimes linking neighborhood destinations, such as Wagon Trail, Lake of Lakes Trail, and Westwood Trail

Trail Location Criteria. The criteria for placement of off-street trails includes undeveloped parcels, drainage corridors or open space, Parks Department ownership or maintenance responsibility, and connectivity to existing trails or public facilities such as schools, libraries and community centers.

Trails should try to avoid crossing users at grade on streets, and requiring frequent or diagonal crossings. When trail crossings occur at grade, they should occur at established intersections and where there is adequate sight distance. Where
future arterials and collectors cross existing drainageways, the design should provide adequate clearance for grade separation of trail users. When grade separation cannot be achieved, provide adequate medians to serve as a refuge for trail users.

**Trail Design.** There are optimal dimensions for safe operational conditions on shared-use paths. In areas of heavy pedestrian traffic, specific lanes should be designated for each of the uses. Such areas are designed for two-way travel, but must include a lane specifically for walkers, joggers, and other pedestrians. In the absence of available space for divided lanes, a single paved path is acceptable, provided that standard widths are used. The width for a two-directional shared-use path shall be 10 feet (8 feet minimum).

Cross slope. Paths shall be constructed with a 2% cross slope, which is the maximum allowed by ADA, with the pavement low point on the downhill side. This slope will help prevent ponding and ice formation on the path.

Clear zone. A clear zone of 3 feet (2 feet minimum) graded at a maximum of 6:1 shall be provided on each side of the trail. Within the 3-foot clear zone, a vertical clearance of 10 feet (8’-4” minimum) shall be maintained. The clear zone shall be flush with finish grade of the trail (maximum of 1” from finish grade of trail to finish grade of clear zone). Clear zones in Natural Areas should be crusher fines or seeded with short (<6”) tall native grasses. These should not be mowed on a routine basis to discourage weeds and invasive vines.

Recovery zone. Paved shoulders shall be provided as zone of recovery for cyclists to regain their balance in areas where a maximum sideslope of 6:1 cannot be accommodated and particularly in areas where trail obstructions are present within the established clear zone of 3 feet (retaining walls, rocky slopes, waterways, etc.). This recovery zone shall be a 3 feet in width (2 feet minimum) and shall be finished with 3/8-inch tooled joints on 1-foot centers to provide a tactile warning to users that they have strayed off the path.

Where the trail is adjacent to canals, ditches or slopes down steeper than 3:1, a wider separation should be considered. A minimum 5-feet separation from the edge of the path pavement to the top of the slope is desirable. Depending on the height of embankment and condition at the bottom, a physical barrier, such as dense shrubbery, railing or chain link fence, may need to be provided.

Design Speed. The design speed for all geometrics shall be 20 mph (per AASHTO). If that cannot be accommodated, the revised speed limit that the design is based upon should be posted.

Horizontal. Minimum horizontal curvature along the centerline of the path shall be 90 feet. This minimum curvature applies where the cross slope of the path is 2% and the assumed lean angle of the bicyclist is 20 degrees. At trail intersections, access ramps, etc., the minimum inside radius is 20 feet to ensure maintenance vehicle accessibility (for sweeping and snow plowing). Pavement markings and signs shall be provided to alert users to any possible obstructions.
Stopping sight distance is an essential design element, particularly with maintenance vehicles operating on the trail. The safety of all users depends on the ability to respond to and avoid potential path obstructions. Per Figure 19 of AASHTO, the minimum stopping sight distance for a 20 mph design speed and 5% descending grade is 140 feet. The AASHTO guide can be used to determine the required lengths for other geometric conditions. It should be emphasized that the distances shown in the diagram are the distances required for one-way traffic only and are minimums. Every effort should be made to provide stopping sight distances greater than the distances recommended in the diagram. Table 4 of the AASHTO guide shall be used to determine the minimum lateral clearance required to maintain the appropriate stopping sight distance for trail obstructions. Intersections of off-street paths and all roadways shall be designed to comply with the recommendations set forth in the AASHTO guide and City & County of Denver standards.

Vertical. Steep grades can encourage quick descents and difficult climbs for an average user. Off-street paths in Denver must conform to the accessibility standards set forth by the ADA. Therefore, the absolute maximum longitudinal grade for off-street paths shall not exceed 5% for more than 800 feet in length. Maximum grades of 3% are preferable. Additionally, the effects of grade on erosion and drainage must be addressed. Attention should be given specifically to areas of rapid grade changes, where ponding may be a problem. The entrance/exit ramps for shared-use paths shall also comply with ADA standards. Ramps that exceed 5% in grade, up to a maximum 8.33%, shall provide 5’ long rest plateaus every 30’ horizontal travelled to allow users the opportunity to rest. Ramps shall be designed with a rest plateau at both the top and bottom of the ramp.

**Pavement & Surfacing.** The specifications for the pavement structure for multi-use paths is defined in the Typical sections, found in Appendix G. In general, the pavement shall be 6 inches in thickness and placed over a properly compacted subgrade. Pavement shall be concrete for all regional, shared-use paths. Other pavement types shall be approved by the DPR. The Highline Canal Trail is an exception to these pavement type standards, see Appendix G for more detail.

Surface finishes shall address two primary concerns: the maintenance and durability of the pavement, and the smoothness of the surface as it relates to comfort and safety of users. Cracks, vertical offsets and potholes create safety hazards for the users, and such surface imperfections also increase the possibility of damage due to freeze/thaw cycles. Cracks and vertical offsets can also catch the blade of a snow plow, damaging both the blade and the path surface. Control joints shall be perpendicular saw cuts of 1/8-inch width, one quarter depth of slab on 10-feet centers along the length of the path (control joint spacing is based on the width of the trail so an 8’ trail would use an 8’ spacing). Zip strips may be used instead of saw cuts. The surface of the pavement shall be a broom finish.

Recovery zones shall be tinted Davis Dye color 1117 (Tile Red) at a rate of three pounds per bag of Type I-II Portland Cement. Recovery zones shall be scored to 3/8” depth at 12” on centers. Fibrous reinforcement shall be included in the concrete mix.
Railings. Railings shall be used only in areas where there is great concern for safety. Railings shall be provided at any location where the adjacent drop-off is greater than 30 inches. Exceptions to this include drop-off’s near streambeds and low water crossings. Areas with a drop-off of greater than 18 inches or sideslopes steeper than 1:1 should be considered for railings. It should also be noted that railings can be potential obstructions for cyclists. Railings shall be designed so that the vertical posts are set back from the actual railing. Also, railings should be placed near the edge of the clear zone when possible. If the railing is to be placed at the edge of the traveled way, a taper of 9 feet shall be provided to transition the railing from the edge of the clear zone to the edge of traveled way. Railings shall be a minimum of 42 inches in height. See Appendix G for railing detail.

Drainage. Sideslope treatment shall be 6:1 maximum for 3 feet offset from the edge of the trail. In general, the high side of the typical cross section shall incorporate an interceptor ditch adjacent to the outside edge of the clear zone to divert the surface runoff before it reaches the path pavement. The interceptor ditch shall be a minimum of 1 foot deep. Landscaping or shoulder treatments shall be finished at 1 inch below the edge of pavement to help prevent ponding on the path. Drainage grates and covers should be placed outside of a shared-use path (and, when possible, outside of the clear zone). Also, the ends of cross-path drainage structures shall extend beyond the edge of the clear zone so as not to present trail obstructions. Use Carsonite markers, or approved equal, when obstructions occur within a clear zone.

Structures. The widths of structures (bridges, etc.) along the trails should maintain the widths of the trail segments they are connecting. Overpass structures must be a minimum of 10 feet in width. Although the design loads shall be project specific, the minimum design shall accommodate a 10,000-pound vehicle (H5 loading factor) to withstand loading from sweeping and snow plowing maintenance vehicles. In most conditions, bridge decks should be broom-finished concrete. Underpass structures shall provide 10 feet of vertical clearance (8’-4” minimum). If the determined height cannot be met, post signage that states the actual vertical clearance.

To route base flows of drainage and reduce the formation of algae and ice on the trail, 2-inch deep by 6-inch wide drainage gutter shall be provided at the low edge of the path through tunnel structures. Drainage gutters should drain at a minimum of 1% and should drain off of the trail to prevent ponding.

Intersections. Where feasible, grade-separated intersections shall be provided where trails cross arterial and collector streets. When an at-grade intersection must be designed, the following issues shall be considered:

- Traffic control devices, including regulatory, warning and guide signs shall be installed per the MUTCD (Manual on Uniform Traffic Control Devices) and per the recommendations of AASHTO.
- Stopping sight distance shall be provided per the previous discussion in Horizontal design section.
- Ramps, curb cuts, and refuge islands shall be provided per City accessibility standards and AASHTO recommendations.
Paths adjacent to roadways shall be set back a minimum of 5 feet from the back of curb. If the 5-feet set back cannot be achieved, a barrier or railing shall be installed to protect users from vehicular traffic on roadways with speed limits exceeding 35 mph.

**Lighting.** Lighting for underpasses shall consist of 150-watt, high-pressure sodium vapor light fixtures with vandal-resistant lexan enclosures, plus a vandal resistant protective enclosure surrounding the fixture provided by Xcel. Lighting level shall be 2 footcandle minimum. To reduce glare while maximizing illumination on the trail and reducing vandalism possibilities, lighting fixtures shall be overhead-mounted wherever possible. Wall-mounted lighting is also acceptable if clearance requirements cannot be met with overhead-mounted fixtures. Trail lighting should be determined by balancing issues of light intrusion, wildlife, and safety along a trail. When lighting is determined to be necessary, lighting levels shall be between 1 to 2 footcandles. See Furnishings-Lighting section for further lighting information.

**Signing & Striping.** All signing and pavement markings shall follow the specifications set forth by the MUTCD. A yellow centerline stripe shall be provided at all approaches to underpasses and continue through the underpass to separate opposing lanes of traffic. Yellow centerlines, used to define no-passing zones, should otherwise be used sparingly so that when used, trail users recognize that there truly is a trail alignment condition which requires that all users keep to their right. Pavement markings shall be non-slip in wet weather conditions.

**Environmental/Conservation Issues.** Off-street trails are often built along streamways and other environmentally sensitive corridors. A 50-feet buffer zone (10-feet minimum) should be maintained between an off-street trail and an adjacent sensitive conservation area. Also, trail designers should follow the guidelines described in the publication “Planning Trails with Wildlife in Mind - A Handbook for Trail Planners” (Trails and Wildlife Task Force, Colorado State Parks, and Hellmund Associates, September 1998). Where possible, native vegetation should be used to revegetate the site following construction of new trails.

**Trail Furnishings.** Furnishings along a trail shall not impede on trail circulation. Benches provide areas for resting along trails and are helpful on longer trails.

**Non-MUTCD Signage.** Cluster signage when appropriate.

Trailhead Signs. Trailhead signs should be located at the starting points of trails and at key intersections of major trail corridors. These should provide some or all of the following:
- Name of the trail
- Total distance
- Distance to points of interest
- Interpretive signage
- Rules and Regulations

Designated accessible trails should display the international symbol of accessibility. If the trail is not accessible, it should be signed “Not Accessible” at the trailhead.
Trail Markers. Trail markers should identify each trail along its entire route. Trail markers can also be located at set distances along a trail to give users an idea of how far they have traveled. The post signs should include one or more of the following:

- Trail logo identifying the particular trail
- Trail symbol indicating permitted trail use(s)
- Direction indicator
- Direction to major park destinations and trail intersections

Overlooks. Overlooks allow users to enjoy natural features and wildlife, or take in a unique view. Overlooks may include trailhead signage, trail markers, drinking fountains, benches, shade structures, trash receptacles, bicycle parking, etc.

Fitness/Wellness Stations. Equipment is developed to provide participants of all ages with a comprehensive physical conditioning program suited to different fitness levels. Generally, the first few exercise stations are designed to loosen muscles and warm up the cardiovascular system, intermediate stations for development of major muscle groups and flexibility, and final stations to help stretch muscles and cool down the cardiovascular system.

The stations are designed to be installed along a walking path in either equally spaced intervals or in clusters. The plan should be designed to accommodate a minimum 30 minutes of exercise. Layout of the equipment shall not impede on the walkway or trail.

Trailhead Design. Trailheads are the major access points to a trail. Trailhead design varies from simple facilities to encompassing spaces with multiple design elements. Meeting the needs of users should take into account the diversity of user groups along a trail. Trailheads can be divided into two categories of major and minor trailheads. Major trailheads include automobile parking and can be located at the beginning/end of a trail as well as points along the trail. Minor trailheads are located at intersections of two trails, resting points and at beginnings and ends of neighborhood trails, but may not include parking.

Major Trailheads may include the following:

- Convenient access to shuttle and/or transit stops
- Automobile parking, including parking spaces reserved for persons with disabilities (See Hardscapes-Parking Section)
- Secure bicycle parking (See Hardscapes-Parking Section)
- Kiosks, with orientation information, interpretive information and/or bulletin board space (See Structures-Kiosks Section)
- Trailhead signage
- Interpretive signage
- Drinking water
- Trash receptacles
- Benches, or other places to sit
- Restrooms or directions to restrooms
- Staging or gathering spaces (may include shelters and picnic tables)
- Lighting
- Telephone/emergency phones
• Equestrian amenities (horse trailer parking, water trough, hitching/mounting post) where appropriate.

Minor trailheads should provide a limited set of standard components, such as trail information, seating and bicycle parking. Drinking fountains and trash receptacles are also recommended if possible.

3.7.2 Playgrounds

Playgrounds shall be designed to offer the greatest play potential possible within the budgetary constraints and physical restrictions of the site. The play experience should challenge the users by addressing their physical, social and mental development while providing entertainment. The play environment shall be safe, durable, vandal resistant and require minimal maintenance. Playgrounds and equipment shall meet the current requirements of:

- Americans with Disabilities Act (ADA);
- Consumer Product Safety Commission’s (CPSC) Handbook for Public Playground Safety;
- International Play Equipment Manufacturers Association (IPEMA).

Playground Design. Playgrounds shall be located within close proximity to picnic and turf play areas and should be designed with good sightlines in mind. Playgrounds should be located off secondary or tertiary walkways to prevent playground surfacing material transfer onto primary walkways and separate play areas from vehicular circulation. Play areas for preschool children (ages 2-5 years) shall be separated from play areas for school-age children (ages 5-12 years), if possible. Barbecues and plant materials with thorns or stickers, or that attract bees, or other potential hazards shall not be located adjacent to play areas. Provide seating close enough to play areas for adults to supervise children. Incorporate shade into the playground and seating where possible. Playgrounds shall be contained by curbs or adjacent walks. Due to fluctuations in surfacing materials (e.g., Engineered wood fiber), a ramp conforming to ADA standards for disabled access shall be provided to play pits and should be designed to not impede on safety zones. Colors of proposed equipment and surfacing materials shall be reviewed by the Project Manager for heat absorption qualities. Avoid colors where surfaces get too hot to use in the summer.

Playground Drainage. The play area subgrade shall have positive drainage for all play area surfaces. Concrete sub-base for poured-in-place rubber surfacing shall slope at 1% minimum towards drain inlet or sump. Provide subsurface drainage where necessary. Leach lines or sumps may be considered if a storm drain is not available and is approved by the City Project Manager. If sumps are needed, design them outside of the play area, if possible, to minimize the amount of drainage rock that infiltrates the play area in the event children dig down and pull up the filter fabric, or repairs to the play equipment require digging.
**Playground Surfacing Materials.** Acceptable surfacing material includes engineered wood fiber or rubberized paving. Sand play areas should be used only as play features. Sand should not be used as the predominant playground surfacing. If both sand and engineered wood products are used in the same play area, then they shall be separated from each other by a minimum of 5’ of paving or rubberized surfacing.

Sand. Sand shall be 4”-6” below the adjacent paving. See specifications for acceptable products.

Engineered Wood Fiber (EWF). Engineered wood fiber may be flush, or up to 4” below adjacent paving, after settlement. EWF shall be an energy absorbing protective surfacing manufactured for playground installations. It shall be non-toxic, free of bark and organic materials, independently tested by ASTM Standard F1292, with sufficient fines to comply with ADA requirements, while maintaining Head Impact Criteria (HIC). Depth of playpit, shall be 12” plus 2”-4” of freeboard. EWF shall be 12” minimum compacted, and shall be of a thickness sufficient to attenuate falls per ASTM F1292.

Interlocking Rubber Pavers. Rubber pavers shall meet the requirements of CPSC and ASTM for play areas. Only pavers which have joints that will not trap sand or dirt in the process of expansion and contraction are allowed. Pavers may be placed on a concrete sub-base, and shall be of a thickness sufficient to attenuate falls per ASTM F1292.

Poured-in-Place Rubberized Paving. Rubberized paving shall meet the requirements of CPSC and ASTM for play areas. All rubberized paving shall be installed on a concrete sub-base. Refer to manufacturer’s specification and installation procedures. Provide a 30-45 degree cant into adjacent sand play area which shall be keyed into concrete sub-base.

**Play Equipment Criteria.** All play equipment shall be installed in accordance with the manufacturer’s specifications. All playground equipment, whether premanufactured or custom play elements, shall conform to the aforementioned playground standards. Follow the most current CPSC and ASTM guidelines for all safety zones.

**Playground Audit.** A design and post-construction audit shall be conducted by a NRPA/NPSI Certified Playground Safety Inspector.

### 3.7.3 Athletic Fields & Courts

**Athletic Field Establishment Criteria.** The Athletic Field Master Plan (2005) indicates that sports played on a ballfield/diamond are experiencing a decline in player participation. However, sports played on multi-purpose/soccer/football turf fields are experiencing an increase in player participation. Based on this data, for future sport field/facility development, DPR should make multi-use fields a priority. For other siting/locating criteria, see the Athletic Field Master Plan (2005).

**Athletic Field & Court Layout.** Fields should be laid out based on the
largest field size (soccer) in order to accommodate a variety of sports fields. All fields should be designed to have at least one alternate layout for seasonal field rotation.

A hierarchy of fields, based on level of service, is used within DPR. DPR encourages the development of predominantly Tier B fields within the city. The following are assumptions and criteria for Tier A and Tier B fields.

### Table 3.7.3.1 Tier A Athletic Fields

<table>
<thead>
<tr>
<th>Tier A Baseball/Softball Field Criteria</th>
<th>Tier A Multi-Use Field Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regulation-size field for appropriate age group</td>
<td>Regulation-size field for appropriate age group (Multiple Field Sizes)</td>
</tr>
<tr>
<td>Multiple fields in one location</td>
<td>Multiple fields in one location</td>
</tr>
<tr>
<td>Field properly prepared for play (lines, dragged, etc)</td>
<td>Fields properly prepared for play (lined)</td>
</tr>
<tr>
<td>Skinned infield (Greater than 60')</td>
<td>Goals</td>
</tr>
<tr>
<td>Restrooms (functional - hard plumbed or sufficient number of portable restrooms )</td>
<td>Restrooms (functional - hard plumbed or sufficient number of portable restrooms )</td>
</tr>
<tr>
<td>Designated on-site parking</td>
<td>Designated on-site parking</td>
</tr>
<tr>
<td>Dugouts w/ play benches</td>
<td>North/South field orientation mandatory</td>
</tr>
<tr>
<td>Outfield fence</td>
<td>Crown in center for drainage</td>
</tr>
<tr>
<td>Scoreboard</td>
<td></td>
</tr>
<tr>
<td>Grandstand/Bleachers</td>
<td></td>
</tr>
<tr>
<td>Scoreboard/Press Box/PA Systems</td>
<td></td>
</tr>
<tr>
<td>Tier A Maintenance</td>
<td></td>
</tr>
<tr>
<td>Tier A Baseball/Softball Fields (Optional Amenities)</td>
<td>Tier A Multi-Use Field (Optional Amenities)</td>
</tr>
<tr>
<td>Warm up area, concession stand, field lights (also an extra fee), drinking fountains, covered dugouts (Argo, Garland, Lowry only)</td>
<td>Warm up area, bleachers, shade shelter, concession stand, drinking fountains, field lights (Also an extra fee)</td>
</tr>
<tr>
<td>Turf Quality</td>
<td>Turf Quality</td>
</tr>
<tr>
<td>Well-maintained Quality Turf / Synthetic Turf ( 2 &amp; 3 Level)</td>
<td>Sports Turf / Synthetic Turf — (2 &amp; 3 Level)</td>
</tr>
</tbody>
</table>
Table 3.7.3.2 Tier B Athletic Fields

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Tier B Multi-use Turf Field Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regulation-size field for appropriate age group (or very near regulation size)</td>
<td>Regulation-size field for appropriate age group (or very near regulation size) (Multiple Field Sizes)</td>
</tr>
<tr>
<td>Multiple fields</td>
<td>Multiple fields</td>
</tr>
<tr>
<td>Field properly prepared for play (lines, dragged, etc.)</td>
<td>Multiple fields</td>
</tr>
<tr>
<td>Skinned infield (greater than 60')</td>
<td>Goals</td>
</tr>
<tr>
<td>Enclosed dugout w/ player bench</td>
<td>Field properly prepared for play (lined)</td>
</tr>
<tr>
<td>Outfield fence</td>
<td>Restrooms (portable restrooms at minimum)</td>
</tr>
<tr>
<td>Restrooms (portable restrooms at minimum)</td>
<td>Parking (on-site non-designated)</td>
</tr>
<tr>
<td>Bleachers</td>
<td>Crown in center for drainage if possible</td>
</tr>
<tr>
<td>Parking (on-site non-designated)</td>
<td></td>
</tr>
<tr>
<td>Tier B maintenance</td>
<td></td>
</tr>
<tr>
<td>Turf Condition</td>
<td>Turf Condition</td>
</tr>
<tr>
<td>Sports Turf (see Landscape section)</td>
<td>Sports Turf (see Landscape section)</td>
</tr>
</tbody>
</table>

Athletic Field & Court Design. Table 3.7.3.3 gives information regarding athletic field design. Signs shall be posted at all tier A and tier B level fields that state that use of this field is by permit only. Positive drainage needs to be achieved. Fields will typically be crowned in the center with drainage to the sides. There shall be positive drainage from home plate.

Table 3.7.3.3 Athletic Field & Court Design

<table>
<thead>
<tr>
<th>Sport</th>
<th>Space Reqmts</th>
<th>Size</th>
<th>Orientation</th>
<th>Max. Permit Hours/Year</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ballfield Sports</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseball</td>
<td>3-4 Ac</td>
<td>Baseline-90’</td>
<td>Home plate/Pitchers</td>
<td>700</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pitching dist-60.5’</td>
<td>Mound axis runs north/south</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Foul line - 320’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Softball</td>
<td>1.5 - 2 Ac</td>
<td>Baseline-60’</td>
<td>Home plate/Pitchers</td>
<td>700</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pitching distance- 46’ men, 40’ women</td>
<td>Mound axis runs north/south</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Foul line - 275’</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Multi-use Field Sports</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soccer</td>
<td>2 Ac</td>
<td>225’ x 360’ (20’ min sideline clearance)</td>
<td>Long Axis N/S</td>
<td>500</td>
</tr>
<tr>
<td>Flag Football/Rugby/Field Hockey</td>
<td>1.5 Ac</td>
<td>160’ x 360’ (10’ min sideline clearance)</td>
<td>Long Axis NW/SE</td>
<td>500</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Long Axis N/S</td>
<td></td>
</tr>
<tr>
<td>Lacrosse</td>
<td>1.5 - 2 Ac</td>
<td>180’ x 330’ (20’ min sideline clearance)</td>
<td>Long Axis NW/SE</td>
<td>500</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Long Axis N/S</td>
<td></td>
</tr>
<tr>
<td>Ultimate Frisbee</td>
<td>1 Ac</td>
<td>120’ x 210’ (10’ min sideline clearance)</td>
<td>Long Axis NW/SE</td>
<td>500</td>
</tr>
<tr>
<td>Volleyball</td>
<td>0.1 Ac</td>
<td>30’ x 60’ (10’ min sideline clearance)</td>
<td>Long Axis N/S</td>
<td>500</td>
</tr>
<tr>
<td><strong>Court Sports</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Basketball (full court)</td>
<td>0.15 Ac</td>
<td>50’ x 84’ (5’ min sideline clearance)</td>
<td>Long Axis N/S</td>
<td>NA</td>
</tr>
<tr>
<td>Tennis (2 court min.)</td>
<td>0.2 Ac</td>
<td>36’ x 78’ (10’ min. sideline clearance and 21’ end clearance)</td>
<td>Use California corners in design</td>
<td>NA</td>
</tr>
</tbody>
</table>
Parking Requirements. See Table 3.3.5.2 for athletic field parking recommendations.

Baseball/Softball Field Elements. Table 3.7.3.4 lists the model information for DPR accepted products. See Structures section for restroom and concession requirements.

<table>
<thead>
<tr>
<th>Table 3.7.3.4 Baseball/Softball Elements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Element</strong></td>
</tr>
<tr>
<td>Backstops</td>
</tr>
<tr>
<td>Scoreboards</td>
</tr>
<tr>
<td>Bases/Base Anchors</td>
</tr>
<tr>
<td>Seating/Bleachers</td>
</tr>
<tr>
<td>Slope &amp; Drainage</td>
</tr>
<tr>
<td>Infield/Outfield Materials</td>
</tr>
<tr>
<td>Lighting</td>
</tr>
</tbody>
</table>
**Multi-use Field Elements.** Table 3.7.3.5 lists the model information for DPR accepted products. See Structures section for restroom and concession requirements.

<table>
<thead>
<tr>
<th>Table 3.7.3.5 Multi-use Field Elements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Element</strong></td>
</tr>
<tr>
<td>Goals</td>
</tr>
<tr>
<td>Surface</td>
</tr>
<tr>
<td>Lining &amp; Striping</td>
</tr>
<tr>
<td>Corner marks</td>
</tr>
</tbody>
</table>

**Court Elements.** Table 3.7.3.6 lists the model information for DPR accepted products. See Structures section for restroom and concession requirements.

<table>
<thead>
<tr>
<th>Table 3.7.3.6 Court Elements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Element</strong></td>
</tr>
<tr>
<td>Tennis</td>
</tr>
<tr>
<td>Base</td>
</tr>
<tr>
<td>Surfacing</td>
</tr>
<tr>
<td>Net</td>
</tr>
<tr>
<td>Lighting</td>
</tr>
<tr>
<td>Fencing</td>
</tr>
<tr>
<td>Basketball</td>
</tr>
<tr>
<td>Base</td>
</tr>
<tr>
<td>Hoops</td>
</tr>
</tbody>
</table>

**Lighting.** Not all fields will need lighting. However, for fields that do need lighting, the general rule is as the level of competition increases, so do the lighting requirements. For Tier A fields and diamonds, the goal should be an even distribution of 30 to 50 footcandles (fc). For all other fields and diamonds where it is determined that lighting is necessary, the goal should be an even distribution of 20 to 30 fc. Lighting designs should minimize light trespass, glare, and sky glow and consider maintenance when considering height of pole, type of lamps and style of fixtures. See court elements for court lighting requirements.
Alternative surfaces.

Synthetic Turf. Synthetic turf’s main advantages are the greatly reduced water requirements and the reduced need for weekly maintenance and striping. It also provides an even and consistent playing surface that is not affected by the weather and can be used year-round.

Requirements for synthetic turf include:

- Adequate underdrain system with off-field drainage (connection to stormwater drain recommended).
- Line for soccer or line for only one other sport.
- Consider if synthetic turf is appropriate for the park setting. As a general rule it should be limited to athletic field complexes and playgrounds.
- Security fencing may be needed.
- Use proper edging (ex. concrete mow strip).
- Install a quick coupler system to allow for maintenance washing.

Skinned Fields. Like synthetic turf, skinned fields require low water use, however it is not as versatile as synthetic turf, as use during rain and snow can create an uneven and unsafe playing surface. The playing surface should be prepared similar to that of an infield of a baseball or softball field and crowned to drain. This may be a good temporary field solution in a phased project.

Irrigation. Consideration should be given to developing a replacement and repair schedule for the irrigation systems for all the athletic fields. Without adequate water, fields will go dormant and with continued use turf damage will occur to the fields. Over-watering can also be detrimental to athletic fields. If irrigation systems are leaking or if the schedule controller is set up for the watering of the entire park, the athletic fields may be getting over-watered or water may be applied too close to a scheduled usage of the field.

Additional requirements for athletic field irrigation (see Irrigation section for basic irrigation standards):

- Use heated and insulated backflow preventer enclosures to enable watering during the athletic field season and not the irrigation season.
- Separate athletic field zones from other park zones.
- Locate irrigation valve boxes outside of playing fields, including alternate layouts.
- Use controllers that allow for multiple program settings.
- Irrigation systems shall take into account the Denver Water watering window and DPR use restrictions.
- A booster pump is recommended in order to allow multiple irrigation schedules to be run at the same time due to competing field irrigation and field scheduling issues.
3.7.4 Dog Parks

Based on research done for the Denver Department of Parks and Recreation’s Dog Off-leash Pilot Program, a set of Site and Design Criteria were developed for any proposed off-leash area within the DPR system. The criteria define the basis for a safe, functional off-leash area and its relationship to the surrounding uses and environment. The criteria accommodate a range of possibilities for off-leash areas from single use (fully fenced) to shared use sites (partially fenced, time of day restrictions). Key elements for new locations are walking distance from neighborhoods as well as equitable distribution city-wide. Having identified community involvement as a key factor in the success of an off-leash area, any new areas will have to be supported by the local community. To create and ensure this support a process is set up by which a community can apply for a future dog off-leash area (Appendix H).

Site Criteria.
- No Designated Natural Areas or wildlife habitat
- No natural bodies of water
- No toxic residue from previous uses
- Positive drainage
- Clear separation from other park uses/amenities such as picnic areas, athletic fields, or regional trails, either via a fence, vegetation, distance or time of use
- Distance of 100 feet from a playground or other children’s facility
- No arterial streets within 200 ft. unless the area is fully fenced
- Access to parking
- Good connection to adjacent/surrounding neighborhoods via pedestrian/bicycle trails
- No other site within same service area (2-mile radius)

Design Criteria
- Minimum size of one acre
- Nonlinear layout to maximize usable space
- If fence needed, use a 4-feet tall decorative perimeter fence with minimum 2 double gated entrances plus two 10-feet wide maintenance gates
- ADA accessible paved entrance path
- Crusher fines surfacing around entrance at least 30’x30’.
- Minimum of 1 acre of alternative surface (sand-based soil mix, synth. turf.) – balance of area can be native vegetation; no turf
- Minimum of 4 doggie clean up stations (bag dispenser & trash barrels)
- Community bulletin board
- Shade trees or shade structure
- Attractive visual buffer from surrounding residents and/or park areas (vegetation, fence treatment)
- Rules & Regulation signage

Optional amenities
- Shade structure
- Water
- Benches/tables
3.7.5 Skateparks

A “Skatepark” is any facility, structure, or area, whether integrated into the design of a city park or built as a stand alone facility, which is meant to be used by skateboarders, inline skaters, roller skaters or bicycles without pegs. A skatepark is comprised of both an activities area and a spectator area. Skatepark size and components, such as bowls, street areas, and movable equipment, may vary based on demand. A skatepark should be accessible to the public and should connect to park circulation by means of a hard surface walkway.

Skatepark Design.

Activities area. That portion of a skate facility reserved or designed for riding skateboards, in-line skates, roller skates, or bicycles without pegs.

Spectator area. That portion of a skate facility reserved for use by persons viewing the skate activities area. At a minimum, the spectator area shall include all areas that are 30 feet or less from the outer edge of the skate activities area.

A warning strip, or rumble strip, is recommended at the walkway connection to a skatepark to warn users to slow down as they exit the skatepark. Surfaces within the skatepark should be designed to be smooth and continuous. The skating surface should not be compromised by adjacent materials. Crusher fines and mulch near activity areas is strongly discouraged. Color concrete may be necessary to improve aesthetics, reduce sun glare, and increase safety by visually showing transitions from different activity area components (e.g., transitions from bowls to flatwork). Consider buffering and transitioning adjacent to the skatepark area and within the park with resilient landscaping and site design.

The skatepark shall be designed to be maintainable and discourage standing water. Irrigation shall not overspray into the skatepark.

Skatepark Amenities. Rules and regulations shall be posted at all skateparks. The following is a list of amenities that should be considered when designing a skatepark: benches, drinking fountains, restrooms, lighting, trash receptacles, shade structure, bicycle racks, secured power outlets, quick coupler access, and a concession zone for portable concessions. Due to the intense usage of skatepark facilities, these amenities should be graffiti-proof, vandal-proof and skate-proof to the greatest extent possible, even when located outside the activities area. Locate secured power outlets to prevent vandalism, such as elevating beyond a person’s reach.
3.7.6 Disc Golf

In general, a disc golf course should only be located where it will not be in conflict with other existing uses. Disc golf courses should not be located close to trails, picnic tables, etc., where errant discs could injure other users. Also, the course should minimize the risk of shots going into the street, parking lots, etc.

Wherever possible, the course should consist of 18 holes, although 9 holes may be provided where space is a constraint. Generally, 6 to 10 acres will be required for a recreational 18-hole course on level ground. Up to 30 acres will be required on hilly terrain or for championship courses.

Disc Golf Design. Where possible, the course should have lots of variety, with a mix of short and long holes, open and tight, left and right around tree masses, etc. Where it is necessary for a disc golf fairway to cross a trail, the course should be designed so the disc golf player has excellent site distance in both directions on the trail and can see oncoming trail users. Disc golf etiquette gives trail users the right of way.

Individual fairways within the course should never cross each other. The course should be designed so that the last target is close to the first tee, preferably near a parking lot and restroom facilities. If possible, the course should be one way on the front nine (clockwise) and the opposite direction on the back nine.

Tees should be concrete, minimum 6 feet wide and 12 feet long, oriented in the direction of the hole. The concrete should have a rough broom finish lengthwise on the tee. If possible, provide multiple tees (e.g., advanced, recreational, beginner) for a wider range of abilities. Hole information and number should be given at each tee. In general, provide 3 sleeves for every hole so that the targets can be regularly moved around. This will provide more variety for the players and will minimize the wear and tear on the turf near the targets.

Disc Golf Amenities. Rules and regulations, as well as signage for holes, shall be posted at disc golf courses. The following is a list of amenities that should be considered when designing a disc golf course: benches, restrooms, drinking fountains, trash receptacles, parking facilities including bicycle racks.
3.8 Furnishings

General Requirements. Parks shall include site furnishings as necessary. Site furnishings accepted by DPR are designed to complement each other in color, materials and form and have been tested for durability and maintenance. Specialty site furnishings may be appropriate in some cases; however, furnishings should be reviewed with the same criteria as approved furnishings. Site furniture shall be permanently secured per manufacturer's recommendations. Site furnishings shall be oriented to discourage skateboard activity to the greatest extent possible. All furnishings shall be Federal Green color unless otherwise stated.

Locations. Site furniture in lawn areas shall be spaced a minimum of 15' from other site furniture, fencing/walls, and trees/shrubs to accommodate City lawn mowers. Site furniture shall be located to avoid conflicts with irrigation systems, other park improvements, wildlife activity, and will be located in areas that will be the least damaging to native plant communities.

3.8.1 Picnic Tables

Location. Picnic tables should be located where there is some shade, and somewhat close to parking and access points. Picnic tables shall be placed on concrete pads with a 2% cross slope for drainage. Pads shall extend 4' beyond the table/bench dimensions to accommodate circulation and maintenance. Some of the picnic tables should be contiguous to walkways or have walkways leading to them for disabled access. Table 3.8.1.1 lists suggested guidelines for the number of accessible seats at picnic areas. See Structures Standards 3.6.1 for picnic table requirements at shelters.

<table>
<thead>
<tr>
<th>Capacity of Seating</th>
<th>Number of Wheelchair Seats</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 to 25</td>
<td>1</td>
</tr>
<tr>
<td>26 to 50</td>
<td>2</td>
</tr>
<tr>
<td>51 to 300</td>
<td>4</td>
</tr>
</tbody>
</table>

Model. DPR accepts the Little Tikes #266-6-07 single pedestal, direct bury, powder coated picnic tables or approved equal.

3.8.2 Park Benches.

Location. The Denver Ribbon Bench is used in all park areas to help visually define DPR-owned property for the public. Park benches shall be placed on a concrete pad when located in lawn areas and should not impede circulation. Park benches along primary walkways should provide an area for accessible seating. Benches may be backless if necessary. Benches should be designed with a middle armrest. In Natural Areas benches should be located in strategic sites for wildlife viewing, but away from wildlife activity and nesting.

Memorial benches can be purchased through DPR. The cost for a memorial bench includes the bench, pad and commemorative plaque and the process takes approximately 12 weeks. Coordination of bench location is made with the donor, Project Manager/Superintendent and the Park Bench Donation Coordinator.
Model. DPR accepts Victor Stanley, TimberForms, BRP and Wausau Tile, Inc. #MF 2200 ribbon style, 6’, surface mount, powder coated benches or approved equal.

Exception for Natural Areas: DPR accepts any of the specified Denver Ribbon Benches or approved equal in the color of brown for all of the natural areas in the system. For fenced, larger natural areas (e.g. Heron Pond), DPR also accepts the 6’ DuMor Bench 165-60PL recycled plastic with cast iron supports in Heritage brown or black or approved equal. Benches may be backless if necessary.

3.8.3 Drinking Fountains

Location. Every park, pocket parks optional, should include at least one drinking fountain when utility access allows. Drinking fountains are operated from April 15 to October 15, depending on weather conditions. Locate drinking fountains a minimum of 50 feet from playgrounds to prevent transfer of sand/woodchips into the drinking fountain. Use High/Low drinking fountain for disabled access when appropriate. See Structures Standards 3.6.1 for drinking fountain requirements at shelters.

Model. DPR accepts Haws 3500 series or approved equal.

3.8.4 Barbecues

Location. Black metal barbecues shall be located outside the circulation routes. If located in lawn areas, provide a concrete pad as a mow strip. There shall be no barbecues in Natural Areas due to potential fires, but barbecues are allowed in managed parks/areas adjacent to Natural Areas. See Structures Standards 3.6.1 for barbecue requirements at shelters.

Model. DPR accepts Little Tikes #200X single pedestal, rotating grill, powder coated barbecue or approved equal.

3.8.5 Bicycle Racks

Location. See parking for bicycle rack requirements. Bicycle racks shall be secured. See Structures Standards 3.6.1 for bicycle rack requirements at shelters.

Model. DPR accepts Wausau Tile, Inc. #MF 9006 inverted U surface mount, powder coated bicycle rack or approved equal.

3.8.6 Trash Receptacles

Location. Trash receptacles shall be located in easily accessible areas for ease of pickup. See Structures Standards for trash receptacle requirements at shelters. Trash receptacles located near benches should be spaced a minimum of 10 feet away from a bench. Coordinate with the Project Manager to determine the number of receptacles needed within the park and at specific program elements. See Structures Standards 3.6.1 for trash receptacle requirements at shelters.
3.8.7 Trash Dumpsters

Location. Screen from view to the greatest extent possible.

Model. Side-loading dumpsters are the standard within DPR; however, rear-loading dumpsters can be accommodated when necessary. The dumpster size should be a minimum of 2 yards.

3.8.8 Fences

Parks should be designed functionally and visually as open as possible with as little fencing as possible. Fencing should only be provided for multipurpose fields or where there is a safety issue that cannot be addressed by some other means.

Chain-Link Fencing. Use 9-gauge 2” galvanized (after weaving) chain link wire. Use 11-gauge 1-3/4” galvanized (after weaving) chain link wire for tennis courts. All tube, posts, top rail, and bracing is SS40 or schedule 40. Vary in height and detailing as per the specific site use(s) and requirements. If the fence exceeds 8’ in height a mid-rail will be required. Specify a top and bottom rail for all chain link fences.

All materials shall be free of burrs and sharp edges, and salvage shall be knuckled. Fence posts, chain link, rails and all hardware to be coated when possible. Chain link fabric shall be located on the side adjacent to play or use areas and attached with plastic ties.

Decorative Fencing/Outdoor Pool Fencing. Fabricate using 1 inch square steel tube welded to 1 inch square tube cross pieces which are then welded to the 2 inch steel square tube uprights.

Post and Cable Fencing. Post and cable fencing shall not be used within park land.

Natural Area Post & Rail Fencing. Perimeter fencing intended to mark the edge of a natural area, discourage pedestrians and bicyclists, and keep out motorized vehicles and automobiles shall be a simple post and (2 or 3) rail system. Rails should be secured in their holes.

Natural Area Woven Wire Fencing. Perimeter fencing intended to keep pedestrians and wildlife off of adjacent roads shall be a post and woven field wire system. Cable shall run along the top and a tension wire along the bottom to keep the fencing square and secure. Fencing will be square (or rectangular) with the smallest openings a minimum of 3” and a minimum 9 ½ gauge, galvanized (after weaving) or black wire. The cable and tension wire shall be independently
secured at points so that no cable section is longer than 80’ (to prevent breakage along the length of the entire fencing).

**Natural Area Prairie Dog Fencing.** Prairie dog fencing shall be a solid vinyl or metal fencing, buried to a depth approved by the City Naturalist and exposed until vegetative barriers are established.

### 3.8.9 Fence Gates

Gate openings for pedestrians shall be a minimum of 4’ wide. Gate openings for maintenance vehicles shall be a minimum of 14’ wide. Fence gate locations should consider utility access and locking for emergencies. See DPR Facilities for vehicle gate design and manufacturing.

### 3.8.10 Walls

Shall be designed and located to discourage skateboarding and graffiti vandalism. Walls shall not be located within the ROW.

**Wall Railing.** Safety railings shall be provided when walls are over 30” in height and adjacent to walkways, as necessary.

### 3.8.11 Signage

Table 3.8.11.1 relates information regarding the various types of park signage. See Appendix I for detailed drawings and acceptable signage materials. The variety of sign types comprise a kit of parts which are to be used to meet the typical signage needs of Parks and Recreation facilities. Natural Areas sign types are designed to correlate to the DPR facilities signage, but also stand out as individual to Natural Areas. Certainly all instances and conditions are not accommodated by these standard sign types. In the event that an atypical situation arises, the signage must be submitted for approval. This is an effort to maintain the consistency and clarity in graphic communication. In addition, request for special trails signage, both permanent and temporary, must be submitted to the Trails Coordinator for approval. Consideration should be given for alternate formats and languages for educational and regulatory signage.

DPR has formally adopted policies and procedures governing how the department decides whether to accept and how to recognize potential gifts, corporate sponsorships, and naming requests associated with capital projects. Advertising is illegal in Denver parks, parkways, trails, and recreation facilities. Depending upon the scale and type of request, approvals, in addition to that of the Managers, may be required from the Parks and Recreation Advisory Board, the Office of Cultural Affairs (for fine art), or from City Council. Please see Appendix J.

**Special Needs Signs.** While those signs which fall under the Americans with Disabilities Act have been designed with the rule in mind, special considerations should be given to sign content, location and selection in order to provide the greatest access possible to persons with disabilities.

**Temporary Signs.** “Manual on Uniform Traffic Control Devices” (MUTCD) guidelines shall be used for detour signage when detours are to be implemented.
Temporary project identification signs, used to identify project name and group responsible for the work (e.g., flower planting, clean-up, etc.), should be mounted freestanding adjacent to short-term projects. Set these signs back from the trail or roadway far enough to avoid interferences with pedestrians and/or vehicles.

**Existing Signs.** A number of existing monument signs, particularly in the Mountain Parks, have been recognized as significant, in terms of character and historic value. It is the intent of this standard to supplement such signs, not to replace them. These signs possess a character and historic significance that should be maintained. DPR planners should determine those signs which warrant this type of consideration and may choose to supplement such signs with an additional sign from this package or replace an old logo with a new one to update the sign. The sign types from this package may be used in conjunction with existing monuments to meet additional needs.

**Sign Proximity to Features.** In locating signs relative to other features (such as buildings, roads, amenities, facilities), be certain the proximity of the sign to the feature is such that their relationship is obvious and appropriate. Signage should not interfere with the integrity of historic structures and should be located adjacent to the structure. Refer to MUTCD guidelines and 3.4.5 Street Tree Layout Standards when locating signage within the ROW and determining signage height.

**Footings.** All sign posts shall be installed centered in concrete footings. All exposed edges of concrete footings shall be eased to finish edges and minimize breakage. The top of the footing shall be flush with finish grade. Signs shall be ordered from the DPR approved signage fabricator. If not, the alternative fabricator shall submit shop drawings of each typical footing detail, designed and stamped by a licensed, professional engineer for all Park ID, Educational and pole-mounted Regulatory signage.
# Table 3.8.11.1 Signage

<table>
<thead>
<tr>
<th>Type</th>
<th>Qnty</th>
<th>Sign</th>
<th>Description</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Park ID</strong></td>
<td></td>
<td>Large Park ID</td>
<td>Used to identify larger parks and recreation facilities, where there are longer sightlines and faster moving traffic. Natural Area Park ID signs shall be used to identify large, “free-standing” designated natural areas (e.g. Camp Rollandet, Heron Pond).</td>
<td>Mount freestanding near roadways and/or sidewalks. Observe required setbacks from public streets and property lines. Regional and Community parks should have signs at appropriate major entrances or highly visible locations. Neighborhood parks, or smaller, should have one park ID sign per park. Greenways/Trails should locate one park ID sign per trailhead.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Small Park ID</td>
<td>Used to identify smaller parks and recreation facilities, with shorter sightlines and slower moving traffic.</td>
<td></td>
</tr>
<tr>
<td><strong>Building ID</strong></td>
<td></td>
<td>Large Building ID</td>
<td>Used to identify larger parks and recreation buildings, where longer sightlines, faster moving traffic and the scale of the architecture dictate a large sign. Observe local sign code restrictions.</td>
<td>Mount on building near entry door.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Small Building ID</td>
<td>Used to identify smaller parks and recreation buildings, where shorter sightlines, slower moving traffic and the scale of the architecture dictate a small sign. Observe local sign code restrictions.</td>
<td>Mount on building near entry door.</td>
</tr>
<tr>
<td><strong>Structure ID</strong></td>
<td></td>
<td></td>
<td>Use to identify name and/or address of structure for permitting and emergency purposes.</td>
<td>Mount on structures (shelters, restrooms, etc.) in a location that is readable from roads/parking areas.</td>
</tr>
<tr>
<td><strong>Interior</strong></td>
<td></td>
<td>Building Signage</td>
<td>Use large size to accommodate longer legends and/or longer sightlines. Use small size to accommodate shorter legends and/or shorter sightlines. Do not mount directly to door, as this is a violation of the Federal Americans with Disabilities act (ADA). According to ADA, signs identifying permanent rooms (interior or exterior) must conform with certain criteria, refer to the ADA document for details.</td>
<td>Mount adjacent to doors or entry openings to permanent rooms or spaces (restrooms, locker room, etc.). This signage is appropriate for buildings of a similar nature (Recreation, Pool, and Maintenance Facilities).</td>
</tr>
<tr>
<td><strong>Educational</strong></td>
<td></td>
<td>Interpretive Notice</td>
<td>These are pedestrian scale signs and should be positioned so as to be accessible by the non-vehicular public in proximity to the item they refer to without interfering with the item. See that these signs are accessible by persons with disabilities. Utilize graffiti-resistant, vandal resistant, and fade resistant materials for signage.</td>
<td>Mount freestanding on park land adjacent to points of interest (historic, natural, general, etc.). Naturalized areas within traditional parks (e.g. sections in parks like Bible Park or Chennai).</td>
</tr>
<tr>
<td><strong>Regulatory</strong></td>
<td></td>
<td>Double Pole Notice</td>
<td>DPR Rules &amp; Regulations (R&amp;R), Natural Areas R&amp;R, or other program elements R&amp;R (skatepark, permitted fields, fountains, tennis courts, pools, etc.)</td>
<td>Mount freestanding adjacent to parks and park elements. Use where wall mounted signs are impossible or inappropriate.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Notice wall mounted</td>
<td>DPR Rules &amp; Regulations (R&amp;R), Natural Areas R&amp;R, or other program elements R&amp;R (skatepark, permitted fields, fountains, tennis courts, pools, etc.)</td>
<td>Mount to wall adjacent to parks and park elements. Use where pole mounted signs are impossible or inappropriate.</td>
</tr>
<tr>
<td><strong>Traffic Control/Directonal</strong></td>
<td></td>
<td>Traffic Control/Warning pole mounted</td>
<td>Used for traffic control and warning information (e.g. Yield, Stop, etc.). All such signs shall conform to the standards described in the “Manual on Uniform Traffic Control Devices” (MUTCD). When a sign states a restriction to automobiles, the sign should specify motor vehicles, as a bicycle is a vehicle by Colorado state law.</td>
<td>Mount freestanding along private park roadways and/or trails.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Traffic Control/Warning wall mounted</td>
<td>Used for traffic control and warning information (e.g. Yield, Stop, etc.). All such signs shall conform to the standards described in the “Manual on Uniform Traffic Control Devices” (MUTCD). When a sign states a restriction to automobiles, the sign should specify motor vehicles, as a bicycle is a vehicle by Colorado state law.</td>
<td>Mount to wall along private park roadways and/or trails to carry large traffic control information (see Traffic Control). Use where pole mounted signs are impossible or inappropriate.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Trail ID Pole Mounted</td>
<td>Set sign back form trail as stipulated in CCD Bicycle Master Plan. See Program Elements-Trails section for further signage information.</td>
<td>Mount freestanding along bicycle trails to identify trails or to provide direction at intersections.</td>
</tr>
</tbody>
</table>
3.8.12 Lighting

DPR coordinates street and pedestrian lighting on park land with Xcel Energy. Lighting designs of roadways and other designated areas shall be completed by a lighting design professional following IES guidelines where applicable. Parks shall have final review and approval of all such design. All lighting in public ROW (including street and pedestrian lighting) shall be coordinated and must be approved by Denver Public Works. Illumination levels shall be provided for all plans extending 100 feet beyond planning boundaries in all directions. All lighting fixtures, poles and bases are to be Federal Green unless otherwise stated. Contact Xcel Energy for current model numbers. Light pole mow strips shall be provided for all light poles located in lawn areas. Mow strips shall be provided and installed by Parks or their designated contractor. Utility facilities (transformers, switch cabinets, etc.) should be easily accessible by maintenance vehicles and grouped to the greatest extent possible. See Program Elements for requirements for lighting Athletic Fields. See Landscape section for street tree and lighting spacing requirements. The following table lists recommended lighting distances from objects.

<table>
<thead>
<tr>
<th>Object</th>
<th>Distance from</th>
</tr>
</thead>
<tbody>
<tr>
<td>Street Tree</td>
<td>20’</td>
</tr>
<tr>
<td>Traffic Signal Pole (for pedestrian lights only)</td>
<td>30’</td>
</tr>
<tr>
<td>Stop Sign (for pedestrian lights only)</td>
<td>30’</td>
</tr>
<tr>
<td>Driveway</td>
<td>10’</td>
</tr>
<tr>
<td>Face of curb (to center of pole)</td>
<td>3’</td>
</tr>
<tr>
<td>Fire Hydrant</td>
<td>10’</td>
</tr>
<tr>
<td>Sidewalks (to center of pole)</td>
<td>3’</td>
</tr>
</tbody>
</table>

Private Park Road Lighting. Maintenance trucks shall have access to all private street lighting for relamping and maintenance purposes.

Model. Xcel Energy “Hockeypuck” maximum pole height 35 feet, Pole spacing along a private park road (maximum width 36 feet) is approximately 225-250 feet. One pole is required at each road intersection.

Parking Lot & Security Lighting. Maintenance trucks shall have access to all parking lot and security lighting for relamping and maintenance purposes. Parking and interior drives shall be lighted and use consistent source colors and even, uniform light distribution. The use of a greater number of low fixtures in a well organized pattern is preferred over the use of a minimum number of tall fixtures. At no point should lighting levels in parking and service areas exceed 8 foot candles when measured at the ground.

Model. Xcel Energy “Hockeypuck” maximum pole height 30 feet.

Pedestrian Lighting. The majority of pedestrian lighting within a park should be dark-sky compliant. Utilize internal baffling or other methods if possible to create dark-sky compliant fixtures. Maintenance trucks shall have access to all...
pedestrian lighting for relamping and maintenance purposes. Placement of fixtures should provide a coordinated and organized plan that facilitates uniform light levels and works with the placement of sidewalks, landscaping, signage, building entries and other features to contribute to the overall appearance of the park. See Hardscape for walkway lighting standards.

Model. Spacing is typically 70-100 feet. Pole heights and bases may vary from fixture to fixture in order to provide variety. Limit lumen levels to 3500 lumens per fixture if possible. The following table (3.8.12.2) lists DPR and Xcel approved pedestrian lighting.

### Table 3.8.12.2 Pedestrian Lighting

<table>
<thead>
<tr>
<th>Light</th>
<th>Style</th>
<th>Picture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Globe</td>
<td>Historic-simple</td>
<td><img src="image" alt="Globe" /></td>
</tr>
<tr>
<td>Acorn</td>
<td>Historic-ornate</td>
<td><img src="image" alt="Acorn" /></td>
</tr>
<tr>
<td>Harp</td>
<td>Historic-MidCentury</td>
<td><img src="image" alt="Harp" /></td>
</tr>
<tr>
<td>Zed</td>
<td>Modern-ornate</td>
<td><img src="image" alt="Zed" /></td>
</tr>
<tr>
<td>Metropolitan</td>
<td>Modern-simple</td>
<td><img src="image" alt="Metropolitan" /></td>
</tr>
</tbody>
</table>

**Trail & Natural Area Lighting.** Maintenance trucks shall have access to all trail lighting for relamping and maintenance purposes. Natural Area lighting should take into consideration the area classification for wildlife (i.e., active use, conservation/restoration, etc.).

Model. Use security lighting standards for lighting trails. Use Xcel Energy accepted wall lights when necessary.

**Architectural Lighting (Building, Bollards, Wall & Uplights).** DPR is responsible for purchasing, installing and maintaining all architectural lighting without the assistance of Xcel Energy. Architectural lighting should be used sparingly and should be used to help identify entries, park identification signage.
or provide for additional safety lighting (such as along stairs, under bridges, etc.). Architectural lighting should be of a low level and not spill light and glare onto adjacent properties.

Model. Lighting to be approved by Project Manager.

**Role of Xcel Energy for Streetlight and Pedestrian Light Maintenance.**
The City of Denver does not install, own or perform maintenance on any of the streetlights or pedestrian lights that are placed in the public ROW or in parks, unless the lighting fixture was not approved by Xcel Energy. Approved lights are owned and operated by Xcel Energy in conformance with the most current Xcel Energy tariffs. Per the tariff, Park pays a monthly charge for energy usage and routine maintenance. For all other maintenance or damaged facilities, additional fees are assessed. For non-approved lighting fixtures, Xcel Energy can still supply the power feed for these units and arrange for them to be billed to DPR through metered service. The use of non-approved lighting is strongly discouraged and requires review/approval of the DPR Director of Planning.

Xcel Energy-owned lighting systems. To report a lighting system outage or malfunctioning light, log on to the Xcel Energy outage-reporting page at www.xcelenergy.com/odl/ or call 1-800-895-4999. Including the grid identification number (labeled on the pole) facilitates Xcel Energy investigating the outage. See the Web page for additional details.

**Coordination of Lighting Design and Installation within a Park**

1. Site plan is submitted to DPR showing both existing and proposed lighting locations based on criteria provided.
2. Site Plan is reviewed by DPR. Site Plan must also be reviewed by Public Works if lighting is proposed in the ROW.
3. Comments returned to project team.
4. Final plan approved by Project Manager.
5. Copy of Final Plan is forwarded to Xcel Energy by DPR so an electric distribution design and cost estimate can be prepared. Can take up to 120 days.
6. Xcel sends cost estimate and plan to DPR for review.
7. Comments returned to project team and revisions made by Xcel Energy.
8. Xcel Energy sends final cost estimate and plan to DPR for payment or encumbrance.
9. Once Xcel Energy receives payment, light poles are ordered and construction is scheduled. Can take up to 120 days.
10. Lights installed by Xcel Energy and final inspection conducted by DPR.
3.9 Water Features & Lakes

Historically, water features and lakes have been a part of the DPR system for over 100 years. They are recreational amenities and aesthetically pleasing elements. Currently, new methods for combining water as an amenity with water quality treatment and stormwater conveyance are being routinely practiced.

Because of its value to quality of life, water is still a highly sought after component within parks. However, water features and lakes can add to up-front costs, create extensive on-going maintenance costs and impact water use. The design and placement of water features and lakes should take all these issues into consideration.

3.9.1 Water Features

Water features may come in various forms, shapes, and sizes to suit the aesthetic needs of the park and the park setting. Examples of water features include reflecting ponds, decorative fountains, and interactive/play features (see Appendix L for a list of water features). Of paramount concern is public health and safety while providing a sustainable and efficiently maintained product. See DPR Facilities for further fountain requirements for equipment and vault facilities (see Appendix K).

**Water Quality.** Water features intended for human water contact shall be designed to maintain water quality in accordance with the Colorado Department of Public Health and Environment (CDPHE) Water Quality Control Division’s 5 CCR 1003-5; Swimming Pools and Mineral Baths (April 1998).

**Sustainability.** Water features shall be designed with sustainability and energy conservation in mind. Water recirculation and programmable controllers are examples of sustainability in design. Water collection and circulation systems shall be water tight and capable of maintaining water integrity for the life of the feature. Environmentally-friendly products should be used for maintenance of water features.

**Safety.** For water contact features, walking surfaces shall be non-skid surfacing. Use a horizontal or vertical deterrent for features not intended for water contact. Use appropriate rules and regulation signage and water quality signage for water features.
Mechanical Equipment Enclosures. Enclosures housing supporting equipment shall be weather tight but vented and provide adequate space for easy access to mechanical and electrical components requiring maintenance. Provide easy access to and inside the enclosure. Locate and screen the enclosure by considering aesthetic implications to the surrounding water feature and park. Use above ground enclosures whenever possible to minimize flood damage.

Maintainability. Operating component parts shall be commonly available on the open market and have a good track record of reliability. The system design shall provide for efficient winterization of the system to protect it from freezing. All water features shall have a dedicated water tap and shall be connected to the sanitary sewer for drainage.

3.9.2 Lakes & Ponds

Lake management, protection and design is thoroughly discussed in the “Lake Management and Protection Plan - 2004.” The following summarizes some of the recommendations of the plan:

- Involve all pertinent agencies in the (re)design of lakes including Public Works Wastewater & Water Quality, the Water Quality Committee, the Department of Environmental Health, Denver Water, Division of Fish and Wildlife and Vector Control under Animal Control in order to address the entire system.
- Use natural vegetation, as designated by the Natural Areas Unit, along the shoreline (area where lake and land meet), littoral zone (shallow zone of the lake which can be occupied by rooted plants) and shoreland (minimum 30’ from high water level, use considerably more than 30’ when possible). Natural vegetation helps to filter sediment and nutrients thereby positively impacting water quality, creating wildlife habitat in order to increase diversity of species, restoring the lakes biological integrity and reducing human/goose conflicts. Use natural vegetation in forebays whenever possible.
- Determine nutrient budgets for areas that drain into lakes by utilizing soil testing within 1000’ of a lake to determine fertilizer needs. Test non-potable irrigation water to determine the concentration of nutrients, and if needed, adjust fertilizer based upon the results of the previous two recommendations.
- Use the IPM (Integrated Pest Management) Plan to reduce the use of pesticides.
- When turf must be used within the shoreland zone, establish a no-mow zone adjacent to lakes to reduce nutrient loading resulting from decaying grass clippings.
- Establish a monitoring system for vegetation (removal and replacement) and sediment control .
- Manage water flow for a lake by trying to create a sustained flow and by designing/modifying the input and overflow/output to maximize the circulation of the lake water and avoid short circuiting (zones of stagnant water within an otherwise functional system created by the design of the inlets and outlets). Provide for mechanical mixing (ex. aeration) when natural circulation cannot be achieved.
• Work with Environmental Health to create a management plan regarding environmental health issues. Discourage invasive species through lake maintenance.
• Provide a water augmentation plan where necessary.
• Lakes and ponds shall be lined to prevent commingling with groundwater.
• Drainage and drainage design from outside development into DPR-owned lakes and ponds shall be approved by DPR.
3.10 Art in Parks

Under the leadership of the citizens of the City and County of Denver, an adopted City Ordinance (Chapter 20, Article IV, Div. 4, Public Art Program. §§ 20-85--20-90) requires that capital improvement projects and bond monies with construction and design budgets over $1,000,000 must allocate 1% of the estimated construction budget for the acquisition of public art.

Denver Commission on Cultural Affairs has developed the Public Art Process which outlines procedures including outreach guidelines for the selection of public art commissioned by the City and County of Denver. Consider the following in locating art in parks: maintenance access, utility lines, irrigation lines, safety issues and ADA accessibility.

DPR is not responsible for the maintenance of public art. Art donated to DPR is maintained by DPR and therefore shall be reviewed by DPR. See Appendix M for an approximate list of art in Denver Parks.
3.11 Parkways and Boulevards

Table 3.11.1 lists the minimum parties that must be involved in any design and construction of Parkways and Boulevards. DPR Standards, including landscape and irrigation, shall apply to all medians that are DPR’s maintenance responsibility.

<table>
<thead>
<tr>
<th>Design/Construction Item</th>
<th>DPR</th>
<th>PW</th>
<th>CPD</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROW adjacent to a Park</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Existing Parkway/Boulevard ROW</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>New Parkway/Boulevard ROW Geometry</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Median Geometry</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>

The following definitions are provided to help clarify the meanings of ROW, parkways and boulevards.

- **Right-of-Way:** Public land that includes the street, the tree lawn and the sidewalk. Parkways and boulevards are within the public ROW.
- **Parkway and Boulevard:** One of 35 streets that are designated as a parkway or boulevard by City ordinance that includes: Public right-of-way, Parkway building setback (on private property). Parkway Building Setback and Parkway Sign Setback apply only to designated parkways and boulevards.
  - **Parkway Building Setback:** The distance from the right-of-way that structures can be located along a parkway or boulevard. Setback distances are established by the DPR Rules and Regulations Governing Building Line Restrictions around Parkways to create a visually open green space that extends the park-like character to the building edge.
  - **Parkway Sign Setback:** The distance from the right-of-way that signs, such as commercial signs, shall be located along a parkway or boulevard. Setbacks are established by the DPR Rules and Regulations Governing Sign Restrictions around Parkways to ensure that the visual open character of the parkway or boulevard is protected. Parkway sign setback does not apply to traffic signage.
- **Tree Lawn:** The area between the sidewalk and the curb that is a character-defining feature of a parkway or boulevard. Tree lawns are typically wide to create a distinctive park-like setting and are often planted with street trees to create a continuous canopy. Although they are within the City’s right-of-way, tree lawns are maintained by the adjacent property owner.
- **Median:** A broad, landscaped island that is located between two directions of travel, usually landscaped with trees and shrubs. Not every parkway or boulevard has a median. Medians must be designed with both aesthetic and functional characteristics in mind, such as respecting traffic sight-lines.

**Parkways and Boulevards.** The Design Guidelines for Designated Parkways and Boulevards provides guidance for each of the existing 35 designated
parkways and boulevards.

Both the Design Guidelines for Designated Parkways and the CPD Rules and Regulations for General Development Plans section 5.2.3 can provide direction for new parkways and boulevards. Although existing parkways and boulevards share certain unifying features, it should be noted that each is distinct. Therefore, design for new parkways and boulevards should consider both unifying features to tie them into the overall Denver system and new unique features that set them apart and help to establish a unique character for an area. Future parkways and boulevards should also consider sustainable features, such as the integration of stormwater into the design.

General Parkway and Boulevard Landscape Characteristics:
- Street Cross Section (Develop in coordination with DPR, PW, & CPD)
- Spacious Tree lawn
- Continuous Open Space (Back of Curb to Building Edge)
- Plantings of Trees and Shrubs
- Buildings that Face the Street
- Topographic Changes
- Views and Vistas

The following topics are discussed in the Design Guidelines for Designated Parkways and Boulevards:
- Preservation of Character (or Definition of Character for new parkways)
- Preservation of Original Features
- Street Cross Sections and Topography
- Tree Lawns
- Sidewalks
- Building Setbacks and Siting Buildings and Structures
- Monuments and Gateways
- Signs
- Vegetation
- Fences and Structures
- Pedestrian Lighting
- Street Lighting
- Driveways, Alleys and Parking
- Bus Stops
- Utility Boxes, Mailboxes and Underground Utilities

**Maintenance.** Parkway and boulevard medians will only be maintained by DPR with written approval and a maintenance agreement from the Manager of DPR prior to median construction.
### 3.12 Medians and Traffic Islands

DPR Standards, including landscape and irrigation, shall apply to all medians and traffic islands that are DPR's maintenance responsibility. Medians and traffic islands will only be maintained by DPR with written approval and a maintenance agreement from the Manager of DPR prior to construction.

**Design.** Medians shall be designed with the safety of maintenance staff in mind and shall provide curb cuts for maintenance access.

Splash pans shall be included on medians to aid in maintenance. Concrete splash pans shall be 12 to 18 inches wide from the back of curb. See the DPR Median Design Guidelines for further information and detailed drawings.
Appendix

Appendix A  DPR Organization Chart
Appendix B  Colorado Vegetation Full Document
Appendix C  Variance Form
Appendix D  DPR Approved Street Trees
Appendix E  Executive Order No. 87
Appendix F  DPR Structures
Appendix F  DPR Structures
Appendix G  Trail Information
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Appendix I  Signage Details
Appendix J  Gifts/Sponsorships/Naming Request Policy
Appendix K  Fountain Requirements for Equipment and Vault Facilities
Appendix L  DPR Water Features
Appendix M  DPR Art in Parks
The Colorado Vegetation Classification Project (Colorado Division of Wildlife (CDOW), Bureau of Land Management (BLM), and U.S. Forest Service (USFS))

**Appendix B Colorado Vegetation Full Document**

### 1. HABITAT: 11 URBAN/ BUILT UP: High density commercial or high density residential areas, consisting of homes, lawns, and planted trees, or parks and golf courses.

### 2. COMMERCIAL: High density urban areas with little vegetation, parking lots, buildings, etc.

### 3. DRYLAND AGRICULTURE: Dryland crops and fields.

### 4. IRRIGATED AGRICULTURE: Irrigated crops and fields.

### 5. ORCHARD: Agricultural areas consisting of orchards.

### 6. RANGE-LAND: Consists of grass/forb range, shrub/brush range, or mixed range.

### 7. GRASS/FORB RANGELAND: Perennial and annual Grasslands. Low elevation (< 6,000') species include Blue Grama, Needle & Thread, Sand Drop Seed, and brome species. Mid elevation (> 6000' and < 9500') species include Wheatgrass, Smooth Brome, Blue Grama, Cheatgrass, dandelion, Spearleaf Buckwheat, and clover. In the southeast plains region of Colorado, grasslands are often associated with yucca and various cacti species, such as cholla, and prickly pear.

### 8. SHRUB/RANGELAND: Consists primarily of sagebrush (ARTR2), saltbush (ATCO), greasewood (SAVE4), and snakeweed (GUSA).

### 9. SHRUB/GRASS/FORB MIX: Mixed grass/forb and shrub/grass rangeland. Example species include:


#### 3102 GRASS DOMINATED: Rangeland dominated by annual and perennial grasses. Example species include: Needle & Thread, Western Wheatgrass, Crested Wheatgrass, Kentucky Blue Grass, or Blue grama.

#### 3103 FORB DOMINATED: Rangeland dominated by forbs. Example species include: arrowleaf balsamroot (BASA3), liostegium (LIGUS), meadowow (THAL2), false heliotrope (VTE4), and muleeas eye-wtihia (WYAM).

#### 3104 GRASS/FORB RAIN: Rangeland dominated by grasses and forbs. Example species include: arrowleaf balsamroot (BASA3), Gumweed (GRND), Muleeas eye-wtihia (WYAM), Prisne junegrass (KOMA), Western wheatgrass (PASM), lupine, or Kentucky Blue Grass.

#### 3105 TALL-GRASS PRAIRIE: Grassland present in the eastern plains region. Species include Big Bluestem (ANGE), Indian grass (SONU), Little bluestem (SCSC) and Switchgrass (PINI).

#### 3106 MID-GRASS PRAIRIE: Grassland present in the eastern plains region. Species include Sideoats grama (BOCU), Galleta (HIJA), Bluebunch wheatgrass (PSSP), Little blue breast (SCSC), New Mexico feathergrass (STNE), Green needlegrass (STVI) and Needle-and-Thread (STCO).

#### 3107 SHORT-GRASS PRAIRIE: Grassland present in the eastern plains region. Species include Blue grama (BOGR) and Buffalograss (BLOA).

#### 3108 SAND DUNE COMPLEX: Grassland present in the eastern plains region. Species include Praire sandreed (CALO), Sand bluegrass (ANHA), Sanddrop (SPCR), and Hummocky mule grass (MUPU), and Common read (PHAI), Blowing saltgrass (REFL) and Lemon scurfpea (PSLA).

#### 3109 FOOTHILL/MOUNTAIN GRASSLANDS: Grassland present primarily on the western slope. Species include Parry oatgrass (DAPA), Arizona fescue (FEAR), Idaho fescue (FEID), Thurber fescue (FETH), Mountian muley (MUMO), Bluebunch saltgrass (PSSP), Needle-and-Thread (STCO), Junegrass (KOMA), wildrye (ELYMU) and Stander wheatgrass (ELTR).

#### 3110 DISTURBED RANGELAND: Disturbed or overgrazed rangeland in the NW region. Species include Bromo snakeweed (GUSA2), Cactus (Opunlla spp.), Yucca (Yucca spp.), and Tall-Grass Praire (BRTE), Medusahead rye (TAAS), Hegeon (HAGL), Russian thistle (SIAL2), and tumble mustard (SIAL2).

#### 3111 SPARSE GRASS/BLOWOUTS: Sparsely vegetated grasslands, 10 –40% vegetation, indicative of blowouts.

#### 3100 SAGEBRUSH COMMUNITY: Shrubland principally dominated by ARTR2, ARNO4, and/or ARFI2. Often associated with Rabbitbrush (CHNA2), Bitternut (PUTR2), Broom Snakeweed (GUSA2), various grasses, and mixed cacti. Greasewood (SAVE4), Serviceberry (AML2 or AMUT), Snowberry, or Winterfat (KR22) may also be present as secondary species.

#### 3200 SAGEBRUSH/GRASS MIX: Codominant sagebrush shrubland and perennial Grassland. Principal shrub species include Big Sagebrush, 3-winged Sage, and Black Sage. Principal grass species include Crested Wheatgrass, Bluebunch Wheatgrass, and Blue Grama.

#### 3201 RABBITBRUSH/GAMEL OAK MIX: Shrubland co-dominated by Big Rabbitbrush and Gambel Oak. Patchy distribution of both species, with mixed grass/forb understory.

#### 3202 SNAKEWEEDE/GRASS MIX: Desert and low elevation shrubland dominated by SAV4. Associated with ATCA2, ATCO, USGA2, ARTR2, various rabbitbrush species and various grasses.

#### 3203 SAGEBRUSH/GAMEL OAK MIX: Shrubland co-dominated by Big Sagebrush and Gambel Oak. Patchy distribution of both species, with mixed grass/forb understory.

#### 3204 SNOWBERRY/RUSH MIX: Mountain deciduous shrubland dominated by Snowberry. Often associated with Saskatoon Serviceberry, sagebrush, Rabbitbrush, and Gambel Oak.

#### 3205 BITTERBRUSH COMMUNITY: Shrubland principally dominated by Bitterbrush (PUTR2). Often associated with Rabbitbrush, Sagebrush, Greasewood, various grasses, and mixed cacti.

#### 3206 BITTERBRUSH COMMUNITY: Low-elevation shrublands found on alluvial salt fans or flats. Component species may include: saltbushes, greaseweed (SAVE4), sagebrushes, horsemelons, and spiny hoarfrost (GRSP).

#### 3207 SAGEBRUSH/GAMEL OAK MIX: Co-dominant sagebrush and perennial grassland. Principal shrub species include Rubber Rabbitbrush (CHNA3), Sticky Rabbitbrush (CHV18), and Small Rabbitbrush (OHD2). Grassland species are the same as surge type Sagebrush.

#### 3208 SAGEBRUSH/MESCOUNTAIN SHIRRUB MIX: Co-dominant sagebrush desert mountain shrubland consisting of Mountain Big Sagebrush (ARTRV) and any combination of Mountain Snowberry (SYORZ), Service Berry (Utah AMUT or saskatoon AMUT), Squaw apple (PEA2), or bitterbrush (PUTR2), often with grass/forb understory. Understory species may include, among others, Elk Sedge (CAGE2), Bluegrass, Needlegrass, arrowleaf balsamroot, lupine, penstemons, Indian paintbrush, and Mariposa lily. Often found at the higher elevations of the sagebrush zone, on north facing slopes, in basins, or on other mesic sites.

#### 3209 GRASS/MISC: CACTUS MIX: Low elevation perennial Grassland co-dominates with cacti shrubland. Grass species include Blue Grama, Needle & Thread, Sand Drop Seed, and brome species. Cholla cactus dominant, but other species and shrubs present in low density include Prickly Pear Cactus, Yucca, and Hairy Sage. No Cholla cactus is present north of the Palmer Divide. Prickly Pear and Yucca become dominate in the NE region.

#### 3210 WINTERFAT/GRASS MIX: Temperate shrubland and perennial Grassland. Eurotia species of winterfat mixed with Blue Grama. Rabbitbrush often present.

#### 3211 SAGEBRUSH/RABBFRBUSH MIX: Codominant shrubland and perennial Grassland. Prickly shrub species include Bitterbrush with some Rabbitbrush. Sagebrush and Greasewood present. Principal grass species include Crested Wheatgrass, Bluebunch Wheatgrass, and Blue Grama.

#### 3212 GRASSY/YUCCA MIX: Co-dominant shrubland and perennial Grassland. Principal grass species include Crested Wheatgrass, Bluebunch Wheatgrass, and Blue Grama. Principal cactus species include Yucca potentially mixed with Prickly Pear.

#### 3213 SAGEBRUSH/RABBITBRUSH MIX: Co-dominant Sagebrush and Rabbitbrush shrubland. Principal shrub species include Basin Big Sagebrush (ARTRT), Wyoming Big Sagebrush (OHD2), Rubber Rabbitbrush (CHNA3), Sticky Rabbitbrush (CHV18), or Small Rabbitbrush (OHD2).
Appendix B  Colorado Vegetation Full Document

4  WOODLAND:
Consists primarily of pinyon/juniper, oak, or PJ/oak mixed.

41  CONIFEROUS WOODLAND: Woodlands of pinyon/juniper (PIED/JUSC2).

42  DECIDUOUS WOODLAND: Woodlands of Gambel oak (QUGA) and mountain shrub mix. Example species include:

43  MIXED WOODLAND: Woodlands of PJ/oak mix or PJ/mountain shrub mix. Example species include:

4101  PINYON-JUNIPER: Coniferous woodland principally co-dominated by Pinyon Pine (PIED) and Utah juniper (JUOS) or Rocky Mountain Juniper (JUSC2). Understory is sagebrush, mixed mountain shrubs, or grasses, usually at least 25% cover.

4102  JUNIPER: Woodland principally dominated by Utah Juniper (JUOS) or Rocky Mountain Juniper (JUSC2). Understory may be sagebrush, grass, or bare soil.

4201  GAMBEL OAK: Deciduous woodland (or tall shrubland) dominated by Gambel Oak. Primary associated shrub species include Mountain Mahogany (CEMO2), Utah Serviceberry (AMAL2), and Big Sagebrush, and to a lesser extent, Mountain Snowberry (SYOR2).

4202  XERIC MOUNTAIN SHRUB MIX: Deciduous woodland (or tall shrubland) codominated by Gambel Oak, Serviceberry, and/or Mountain Mahogany. Primary associated shrub species include Snowberry, sagebrush, or chokecherry. Secondary shrub species may include Skullshrub sumac (RHT), Antelope bitterbrush (PUTR2), and Squawapple (PERA4).

4203  SERVICEBERRY/SHRUB MIX: Deciduous woodland (or tall shrubland) dominated by Utah and Saskatoon Serviceberry (AMAL2). Primary associated shrub species include Big Sagebrush, Mountain Snowberry, and Gambel Oak.

4204  UPLAND WILLOW/SHRUB MIX: High elevation shrubland (11,500+) dominated by willow species such as Snow, Arctic, and Montane Willow. Associated shrubs include Common Gooseberry, and Common Juniper. Occasionally Plane-Leaf Willow is present boggy areas and may function more as a riparian site than an upland site.

43  MIXED WOODLAND: Woodlands of one or more coniferous tree species. Example species include: Ponderosa Pine (PIPO), Douglas Fir (PSME) or aspen (PRTR5). Associated conifer species may include Pinyon Pine and Utah Juniper or Rocky Mountain Juniper at densities just above 25%. Big Sagebrush grows in the interspaces between the trees and may comprise at least 25% cover.

5  FOREST LAND: > 25% forested land (deciduous, coniferous, and mixed forests).

51  DECIDUOUS FOREST LAND: Forests of aspen (PRTR5) or aspen/oak mix.

52  CONIFEROUS FOREST LAND: Forests consisting of one or more evergreen tree species. Example species include: Ponderosa Pine (PIPO), Douglas Fir (PSME) or Engelmann Spruce (PIEN).

53  MIXED FOREST LAND: Forests consisting of a mixture of coniferous and deciduous trees or tall shrub species. Example mixes include: pine/oak, fir/aspen, or pine/aspen mix.

6  BARREN LAND: Less than 10% vegetation.

61  ROCK: Less than 10% vegetation, rock outcrops, red sandstones, etc.

62  SOIL: Less than 10% vegetation, dominated by bare soil.
### 7 SUBALPINE/TUNDRA:
Areas both above and below timber-line consisting of alpine tundra and subalpine grass forb meadow species.
- **71 ALPINE MEADOW:** High elevation areas above tree line (> 11,000 ft) where alpine tundra vegetation includes grasses, forbs, and sedges. Principal species may include Alpine Timothy (PHAL2), Alpine Bluegrass (POAL2), Spike Trisetum (TRSP2), Alpine Sagebrush (ARSC), Yarrow, Alpine Avens (GERO2), American Bistort (POBI6), Sticky Polemonium (POVI), Wild strawberry (FRAGA), and/or sedge species.
- **72 SUBALPINE SHRUB COMMUNITY:** Upper montane elevation (7,000-11,500 ft) shrubs consisting primarily of Shrubby Cinquefoil, Mountain Gooseberry, and with subalpine meadow species in the understory.
- **73 SNOW:** Perennial snow fields.
- **74 SUBALPINE MEADOW:** Below timberline, high elevation (approx 9,000-11,500) herbaceous vegetation.

### 8 RIPARIAN:
Riparian areas along waterways or standing wetlands. Principal woody species include Narrowleaf and Common Cottonwood, Russian Olive, various willow species, and tamarisk. Herbaceous species include various sedges, Scouring Rush, and cattails.
- **81 FORESTED RIPARIAN:** Wooded riparian areas consisting primarily of poplars. Example species include:
  - **8101 COTTONWOOD:** Wooded riparian area dominated by Common Cottonwood (POFR2), Narrowleaf Cottonwood (POAN3), or Plains Cottonwood (POSAR) or Eastern Cottonwood (PODE3).
  - **8102 BOX ELDER:** Wooded riparian area primarily dominated by Box Elder (ACNE). Can be mixed with Common Cottonwood (POFR2), Narrowleaf Cottonwood (POAN3), or Plains Cottonwood (POSAR) or Eastern Cottonwood (PODE3).
  - **8103 CONIFER RIPARIAN:** Wooded riparian area dominated by Doug Fir, Blue Spruce (Pipu) and/or Engelmann Spruce (PIEN), or codominated by Spruce, Aspen (POTR6), and Narrowleaf Cottonwood (POAN3). Associated species include: Rocky Mountain Juniper (JUSC2), Thistle Alder (ALINT), or willows.
- **82 SHRUB RIPARIAN:** Shrub riparian areas consisting primarily of shrubs. Example species include:
  - **8201 WILLOW:** Shrub riparian or wetland area dominated by shrub willow. Example species include:
  - **8202 EXOTIC RIPARIAN SHRUBS:** Shrub riparian area dominated by Salt Cedar (TARA) or Russian Olive (ELAN). Often associated with willows or cottonwoods.
- **83 HERBACEOUS RIPARIAN:** Non-woody riparian areas consisting primarily of sedges. Example species include:
  - **8301 SEDGE:** Herbaceous riparian or wetland areas dominated by sedges. Example species include: water sedge (CAAO), beaked sedge (CAUT), Nebraska sedge (CANE2), Baltic rush (JUBA), and bulrush (SCIRP). Common wetland grasses include: tufted hairgrass (DECE), redtop (AGGI2), and reedgrass (CALAM).

### 9 WATER:
Open water such as lakes, streams, and rivers.
- **91 STANDING WATER:** Consists of lakes and reservoirs.
- **92 RUNNING WATER:** Consists of rivers and streams.
DPR Standards should be exercised in the presence of sound judgment. The standards do not preclude the use of different methods when special conditions or site specific conditions are a factor and when proper authorization is obtained. If a major deviation from the standards is necessary or desirable the Project Manager shall complete a DPR Standard Variance Form so that a change can be evaluated by Division Directors and analyzed as a possible future revision to the DPR Standards.

**Instructions**

This request form must be submitted by e-mail in Word format or PDF. Please, no faxed request forms.

<table>
<thead>
<tr>
<th>Name</th>
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<tr>
<td>Project</td>
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<tr>
<td>Date of Request</td>
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<tr>
<td>Brief Project</td>
<td>Description</td>
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</tbody>
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Describe the DPR Standards in which you wish to submit a variance. Include DPR Standard including page number, substitution for the standard, reasoning for substitution.

<table>
<thead>
<tr>
<th>DPR Standard (page)</th>
<th>Substitution</th>
<th>Reasoning</th>
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Division Approval:

__________________________  ____________________________
DPR Planning Director      DPR Parks Director

[ ] Submit for DPR Standard revision
<table>
<thead>
<tr>
<th>Medium/Large Trees Botanical Name</th>
<th>Cultivar</th>
<th>Common Name</th>
<th>Zone</th>
<th>Ph</th>
<th>Moisture</th>
<th>General Habit</th>
<th>General Foliage</th>
<th>Management Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acer saccharum</td>
<td>v Rocky Mountain Glow</td>
<td>Bigtooth Maple</td>
<td>5a</td>
<td>≤ 8</td>
<td>Xeric</td>
<td>50' high, 35' wide; broad and spreading.</td>
<td>Dark green to red and yellow in fall.</td>
<td>Prune for central leader, seed crop might.</td>
</tr>
<tr>
<td>Acer saccharum</td>
<td>v Green Mountain</td>
<td>Sugar Maple</td>
<td>3b</td>
<td>≤ 8</td>
<td>Mod</td>
<td>40' high, 35' wide; oval to round.</td>
<td>Dark green in summer to yellow-orange in autumn.</td>
<td>Can be salt sensitive.</td>
</tr>
<tr>
<td>Acer saccharum</td>
<td>v Legacy</td>
<td>Sugar Maple</td>
<td>3b</td>
<td>≤ 8</td>
<td>Mod</td>
<td>50' high, 40' wide; symmetrical, upright oval.</td>
<td>Five lobed, glossy dark green in summer, red, orange, yellow in autumn.</td>
<td>Can be salt sensitive.</td>
</tr>
<tr>
<td>Aesculus hippocastanum</td>
<td>v Common Horsechestnut</td>
<td>4a</td>
<td>≤ 8</td>
<td>Mod</td>
<td>50' high, 40' wide; dense symmetrical oval.</td>
<td>Primate, dark green in summer to yellow in autumn. White showy flowers in spring.</td>
<td>Large spritly fruit and twig drop, a conch.</td>
<td></td>
</tr>
<tr>
<td>Aesculus xanthoxyloides</td>
<td>Yellow buckeye</td>
<td>4a</td>
<td>≤ 8</td>
<td>Mod</td>
<td>50' high, 35' wide; dense symmetrical oval.</td>
<td>Primate dark green in summer to yellow, brown in autumn.</td>
<td>Large fruit and twig drop, conch.</td>
<td></td>
</tr>
<tr>
<td>Celtis occidentalis</td>
<td>Hackberry</td>
<td>2b</td>
<td>≤ 8</td>
<td>Xeric</td>
<td>50' high, 40' wide; pyramidal when young, irregularly rounded stem mature.</td>
<td>Light to medium green in summer, yellow in fall.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Celtis occidentalis</td>
<td>Katsuratree</td>
<td>4b</td>
<td>≤ 8</td>
<td>Mod</td>
<td>40' high, 40' wide; upright pyramidal to round.</td>
<td>Dark blue-green in summer to yellow in autumn.</td>
<td>Does not tolerate compaction well.</td>
<td></td>
</tr>
<tr>
<td>Corylus colurna</td>
<td>Turkish Filbert</td>
<td>5a</td>
<td>≤ 8</td>
<td>Min</td>
<td>70' high, 30' wide; Broadly pyramidal, conical.</td>
<td>Dark green and lustrous in summer, potentially yellow to purplish in autumn.</td>
<td>Fruit may be a problem.</td>
<td></td>
</tr>
<tr>
<td>Fraxinus americana</td>
<td>v Autumn Purple</td>
<td>White Ash</td>
<td>5a</td>
<td>≤ 8</td>
<td>Min</td>
<td>50' high, 40' wide; Round habit</td>
<td>Reddish-purple to deep red in autumn</td>
<td>Non-flowering.</td>
</tr>
<tr>
<td>Fraxinus americana</td>
<td>v Rosehill</td>
<td>White Ash</td>
<td>5b</td>
<td>≤ 8</td>
<td>Min</td>
<td>50' high, 40' wide; upright oval to pyramidal, sturdy branching.</td>
<td>Purple in autumn.</td>
<td>Fruit.</td>
</tr>
<tr>
<td>Fraxinus mandshurica</td>
<td>Manchurian</td>
<td>Manchurian Ash</td>
<td>≤ 8</td>
<td>Mod</td>
<td>50' high, 30' wide, dense, oval crown</td>
<td>Rich green in summer, yellow in the autumn.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fraxinus nigra</td>
<td>Fallgold</td>
<td>Black Ash</td>
<td>≤ 8</td>
<td>Mod</td>
<td>50' high, 20' wide; narrow crown</td>
<td>Shiny green in summer, yellow in the autumn.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fraxinus pennsylvanica</td>
<td>v Crimson</td>
<td>Green Ash</td>
<td>4</td>
<td>≤ 8</td>
<td>Xeric to Mod</td>
<td>50' high, 30' wide; upright to round.</td>
<td>Glossy, dark green in summer, orange-yellow in fall.</td>
<td>Non-flowering. Oven-used in landscape design, many pest and maintenance problems associated with this tree.</td>
</tr>
<tr>
<td>Fraxinus pennsylvanica</td>
<td>v Marshall Seedless</td>
<td>Green Ash</td>
<td>4</td>
<td>≤ 8</td>
<td>Xeric to Mod</td>
<td>50' high, 40' wide; irregularly rounded</td>
<td>Glossy deep green in summer, yellow in fall</td>
<td>Non-flowering. Oven-used in landscape design, many pest and maintenance problems associated with this tree.</td>
</tr>
<tr>
<td>Fraxinus pennsylvanica</td>
<td>v Patmore</td>
<td>Green Ash</td>
<td>4</td>
<td>≤ 8</td>
<td>Xeric to Mod</td>
<td>50' high, 40' wide; symmetrical conical to rounded</td>
<td>Glossy deep green in summer, golden-yellow in fall</td>
<td>Non-flowering. Oven-used in landscape design, many pest and maintenance problems associated with this tree.</td>
</tr>
<tr>
<td>Fraxinus pennsylvanica</td>
<td>v Summit</td>
<td>Green Ash</td>
<td>4</td>
<td>≤ 8</td>
<td>Xeric to Mod</td>
<td>50' high, 40' wide; uniform oval</td>
<td>Dark green in summer, golden-yellow in fall</td>
<td>Non-flowering. Oven-used in landscape design, many pest and maintenance problems associated with this tree.</td>
</tr>
<tr>
<td>Ginkgo biloba</td>
<td>v Autumn Gold</td>
<td>Ginkgo</td>
<td>4b</td>
<td>≤ 8</td>
<td>Min</td>
<td>50' high, 30' wide; symmetrical to young.</td>
<td>Excellent gold fall color</td>
<td>Slow grower.</td>
</tr>
<tr>
<td>Ginkgo biloba</td>
<td>v Princeton Sentry</td>
<td>Ginkgo</td>
<td>4b</td>
<td>≤ 8</td>
<td>Mod</td>
<td>50' high, 25' wide; narrowly conical, upright uniform branching.</td>
<td>Good yellow fall color</td>
<td>Slow grower.</td>
</tr>
<tr>
<td>Gymnocladus dioicus</td>
<td>v Imperial</td>
<td>Thomsless Honeyclust</td>
<td>4b</td>
<td>8</td>
<td>Xeric</td>
<td>50' – 35' high, broadly rounded, good horizontal branching angles.</td>
<td>Dark green in summer foliage, good yellow fall color.</td>
<td>Essentially fruitless.</td>
</tr>
<tr>
<td>Gymnocladus dioicus</td>
<td>v Moraine</td>
<td>Thomsless Honeyclust</td>
<td>4b</td>
<td>8</td>
<td>Xeric</td>
<td>50' high, 35' wide; vase shaped with rounded crown.</td>
<td>Dark green in summer, golden yellow in autumn</td>
<td>Essentially fruitless.</td>
</tr>
<tr>
<td>Gymnocladus dioicus</td>
<td>v ShadeMaster</td>
<td>Thomsless Honeyclust</td>
<td>4b</td>
<td>8</td>
<td>Xeric</td>
<td>50' high, 35' wide; high vase-shape canopy.</td>
<td>Dark green in summer foliage, late to turn yellow-green</td>
<td>Essentially fruitless.</td>
</tr>
<tr>
<td>Gymnocladus dioicus</td>
<td>v Skyline</td>
<td>Thomsless Honeyclust</td>
<td>4b</td>
<td>8</td>
<td>Xeric</td>
<td>50' high, 35' wide; upright, broadly pyramidal, strong central leader</td>
<td>Dark green in summer foliage; good yellow fall color.</td>
<td>Essentially fruitless.</td>
</tr>
<tr>
<td>Gymnocladus dioicus</td>
<td>v Trueshade</td>
<td>Thomsless Honeyclust</td>
<td>4a</td>
<td>8</td>
<td>Xeric</td>
<td>50' high, 40' wide; pyramidal.</td>
<td>Dark green in summer foliage; good yellow fall color.</td>
<td>Essentially fruitless.</td>
</tr>
<tr>
<td>Liquidambar styraciflua</td>
<td>v Kentucky Coffeetree</td>
<td>4a</td>
<td>≤ 8</td>
<td>Xeric</td>
<td>50' high, 40' wide; sparse branching when young, oval to vase shaped; upward branching; Flattened shade.</td>
<td>Emerges late spring, blue green in summer and good yellow fall color.</td>
<td>Female has fruiting.</td>
<td></td>
</tr>
<tr>
<td>Liriodendron tulipifera</td>
<td>Tulip Tree</td>
<td>Tulip Tree</td>
<td>≤ 8</td>
<td>Mod</td>
<td>50' high, 40' wide; broadly pyramidal.</td>
<td>Green in summer to yellow in autumn. Green yellow flowers in spring.</td>
<td>Large root system, can be salt sensitive.</td>
<td></td>
</tr>
<tr>
<td>Populus grandidentatae</td>
<td>v Bloodgood</td>
<td>London Planetree</td>
<td>5b</td>
<td>≤ 8</td>
<td>Mod</td>
<td>50' high, 60' wide; pyramidal when young, open and spreading with age. Bark is extremely showy, modified with cream, olive and light brown colors.</td>
<td>Medium to dark green in summer; yellow-brown in fall, 1' globed-shaped (synapsis), pendulous, on long stalks.</td>
<td></td>
</tr>
<tr>
<td>Common Name</td>
<td>Botanical Name</td>
<td>General Habit</td>
<td>General Foliage</td>
<td>Management Issues</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Platanus occidentalis</em></td>
<td>Sycamore</td>
<td>Pyramidal-rounded with a dense crown, lower branches descending</td>
<td>Lustrous, leathery, dark green in summer, yellowish in the fall</td>
<td>Pruning for clearance.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Quercus acutissima</em></td>
<td>Sawtooth Oak</td>
<td>Pyramidal-rounded with a broadly rounded outline with a prominent trunk. Bark is attractive, dark brown to brown in fall.</td>
<td>Unfold reddish in spring, lustrous dark green in summer, yellow brown to russet-red in fall.</td>
<td>Acorns</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Quercus bicolor</em></td>
<td>Swamp White Oak</td>
<td>Pyramidal-rounded with a broadly rounded outline with a prominent trunk. Bark is attractive, dark brown to brown in fall.</td>
<td>Green leaves in summer, yellowish-brown to russet-red in autumn.</td>
<td>Winter dessication.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Quercus hemorrhoidalis</em></td>
<td>White Oak</td>
<td>Pyramidal-rounded with a broadly rounded outline with a prominent trunk. Bark is attractive, dark brown to brown in fall.</td>
<td>Dark and shiny green in summer; yellow – green to yellow in autumn.</td>
<td>Fruit not important; narrow crotch angles and poor branch attachments.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Quercus macrocarpa</em></td>
<td>Bur Oak</td>
<td>Pyramidal-rounded with a broadly rounded outline with a prominent trunk. Bark is attractive, dark brown to brown in fall.</td>
<td>Unfold reddish in spring, lustrous dark green in summer, yellow brown to russet-red in fall.</td>
<td>Acorns</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Quercus robur</em></td>
<td>English Oak</td>
<td>Pyramidal-rounded with a broadly rounded outline with a prominent trunk. Bark is attractive, dark brown to brown in fall.</td>
<td>Green leaves in summer, yellow in autumn.</td>
<td>Winter dessication.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Quercus rubra</em></td>
<td>Red Oak</td>
<td>Pyramidal-rounded with a broadly rounded outline with a prominent trunk. Bark is attractive, dark brown to brown in fall.</td>
<td>Dark green to bronze-wine red. Acorns, large root system.</td>
<td>Acorns, hard to transplant, multiple pests if not maintained</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Quercus shumardii</em></td>
<td>Shumard Oak</td>
<td>Pyramidal-rounded with a broadly rounded outline with a prominent trunk. Bark is attractive, dark brown to brown in fall.</td>
<td>Unfold reddish in spring, lustrous dark green in summer, yellow brown to russet-red in fall.</td>
<td>Acorns</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Tilia americana</em></td>
<td>American Basswood</td>
<td>Upright vase</td>
<td>Green leaves in summer, yellow in autumn.</td>
<td>Large root system.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Tilia albitorque</em></td>
<td>Priority</td>
<td>Upright vase</td>
<td>Green leaves in summer, yellow in autumn.</td>
<td>Large root system.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Tilia americana</em></td>
<td>Red Bud</td>
<td>Upright vase</td>
<td>Green leaves in summer, yellow in autumn.</td>
<td>Large root system.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Ulmus americana</em></td>
<td>American Elm</td>
<td>Upright vase</td>
<td>Green leaves in summer, yellow in autumn.</td>
<td>Large root system.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Ulmus americana</em></td>
<td>Eastern Cottonwood</td>
<td>Upright vase</td>
<td>Green leaves in summer, yellow in autumn.</td>
<td>Large root system.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Ulmus americana</em></td>
<td>River Birch</td>
<td>Upright vase</td>
<td>Green leaves in summer, yellow in autumn.</td>
<td>Large root system.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Ulmus americana</em></td>
<td>Western Red Cedar</td>
<td>Upright vase</td>
<td>Green leaves in summer, yellow in autumn.</td>
<td>Large root system.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Moisture requirements are based on average overall species performance after root establishment period.*
<table>
<thead>
<tr>
<th>Small Trees</th>
<th>Botanical Name</th>
<th>Cultivar</th>
<th>Common Name</th>
<th>Zone</th>
<th>Ph</th>
<th>Moisture Level*</th>
<th>Set of Canopy (6 Melody)</th>
<th>General Habit</th>
<th>General Foliage</th>
<th>Management Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acer ginnala</td>
<td>Ginnala Maple</td>
<td>Ginnala Maple</td>
<td>3a</td>
<td>≥6.4</td>
<td>Xeric to Min</td>
<td>314</td>
<td>10 – 25 high, 15 – 25 wide; roundish, sometimes irregular outline, multi-stemmed or single</td>
<td>Glossy dark green in summer, yellow, orange, red in fall</td>
<td>Suckering possible, pruning to maintain outline, heavy seed crop.</td>
<td></td>
</tr>
<tr>
<td>Acer tataricum</td>
<td>Tartarian Maple</td>
<td>Tartarian Maple</td>
<td>3</td>
<td>≥6.4</td>
<td>Xeric</td>
<td>314</td>
<td>10 – 25 high, 15 – 25 wide; roundish, sometimes irregular outline, multi-stemmed or single</td>
<td>Glossy dark green in summer than Amur Maple, yellow autumn color sometimes red.</td>
<td>Suckering possible, pruning to maintain outline, heavy seed crop.</td>
<td></td>
</tr>
<tr>
<td>Acer truncatum v</td>
<td>Norwegian Sunset</td>
<td>Shangri-La Maple</td>
<td>5a</td>
<td>≥6.2</td>
<td>Min</td>
<td>314</td>
<td>20 high, 25 wide, upright, oval, good uniform branch structure</td>
<td>Glossy dark green foliage, yellow-red fall color, hard to drought tolerant.</td>
<td>Pruning for street use to maintain shape and structure.</td>
<td></td>
</tr>
<tr>
<td>Acer truncatum v</td>
<td>Pacific Sunset</td>
<td>Shangri-La Maple</td>
<td>5a</td>
<td>≥6.2</td>
<td>Min</td>
<td>314</td>
<td>25 high, 25 wide, rounded, upright spreading</td>
<td>Glossy dark green foliage, yellow orange to red autumn color</td>
<td>Pruning for street use to maintain shape and structure.</td>
<td></td>
</tr>
<tr>
<td>Aesculus glabra</td>
<td>Ohio Buckeye</td>
<td>Ohio Buckeye</td>
<td>4a</td>
<td>≥6.4</td>
<td>Mod</td>
<td>314</td>
<td>35 high, 30 wide, dense, symmetrical round.</td>
<td>Palmate leaves bright green in summer to yellow-orange in autumn</td>
<td>Drought, heat intolerant.</td>
<td></td>
</tr>
<tr>
<td>Amelanchier canadensis v</td>
<td>Shadblow</td>
<td>Serviceberry</td>
<td>4</td>
<td>≥7.5</td>
<td>Xeric</td>
<td>177</td>
<td>30 high, 15 wide, oval, multi-stem or single</td>
<td>Green to dark green in summer; yellow to red in autumn.</td>
<td>Rootstock suckering possible; poor heat tolerance, needs moist, well-drained.</td>
<td></td>
</tr>
<tr>
<td>Crataegus crus-galli inermis</td>
<td>Thornless Cockspur Hawthorn</td>
<td>Thornless Cockspur Hawthorn</td>
<td>4a</td>
<td>≥6.2</td>
<td>Xeric</td>
<td>314</td>
<td>20 high, 30 wide, round with strongly horizontal branching.</td>
<td>Glossy dark green in summer, orange in fall</td>
<td>Pruning for street use; fruit could pose a problem.</td>
<td></td>
</tr>
<tr>
<td>Koelreuteria paniculata</td>
<td>Golden Rain Tree</td>
<td>Golden Rain Tree</td>
<td>5b</td>
<td>≥6.2</td>
<td>Xeric</td>
<td>314</td>
<td>30 high, 30 wide, irregular rounded, open</td>
<td>Purple red while emerging, bright green to blue-green in summer, yellow in autumn</td>
<td>Seed pods could be a problem.</td>
<td></td>
</tr>
<tr>
<td>Malus spp. v</td>
<td>Any non-fruiting variety</td>
<td>Crabapples</td>
<td>4</td>
<td>≥6.3</td>
<td>Min to Mod</td>
<td>491</td>
<td>20 high, 25 wide, variable</td>
<td>Variable</td>
<td>Pruning for street use.</td>
<td></td>
</tr>
<tr>
<td>Phellodendron amurense v</td>
<td>Macho</td>
<td>Amur Corktree</td>
<td>4a</td>
<td>≥6.3</td>
<td>Min to Mod</td>
<td>314</td>
<td>30 high, 20 wide, broadly vase-shaped to rounded.</td>
<td>Glossy dark green, yellow to bronze-yellow in autumn.</td>
<td>Use only male cultivars, as fruit can be messy. Needs large root space.</td>
<td></td>
</tr>
<tr>
<td>Phellodendron amurense v</td>
<td>Shademaster</td>
<td>Amur Corktree</td>
<td>4a</td>
<td>≥6.3</td>
<td>Min to Mod</td>
<td>314</td>
<td>30 high, 20 wide, broadly vase-shaped to rounded.</td>
<td>Glossy dark green, yellow to bronze-yellow in autumn.</td>
<td>Use only male cultivars, as fruit can be messy. Needs large root space.</td>
<td></td>
</tr>
<tr>
<td>Prunus cerasifera v</td>
<td>Minnesota Purpleleaf Newport Plum</td>
<td>Newport Plum</td>
<td>5b</td>
<td>≥7.0</td>
<td>Min</td>
<td>177</td>
<td>15 high, 15 wide, round with horizontal branching</td>
<td>Reddish-purple</td>
<td>Pruning for street use.</td>
<td></td>
</tr>
<tr>
<td>Prunus cerasifera v</td>
<td>Purpleleaf Newport Plum</td>
<td>Newport Plum</td>
<td>5b</td>
<td>≥7.0</td>
<td>Min</td>
<td>113</td>
<td>15 high, 12 wide, rounded</td>
<td>Reddish-purple</td>
<td>Pruning for street use.</td>
<td></td>
</tr>
<tr>
<td>Pyrus calleryana v</td>
<td>Aristocrat</td>
<td>Callery Pear</td>
<td>5a</td>
<td>≥6.3</td>
<td>Mod</td>
<td>314</td>
<td>30 high, 20 wide, broadly pyramidal.</td>
<td>Variable autumn color.</td>
<td>Possible storm damage given branch angles and density; fireblight.</td>
<td></td>
</tr>
<tr>
<td>Pyrus calleryana v</td>
<td>Chanticleer</td>
<td>Callery Pear</td>
<td>5a</td>
<td>≥6.3</td>
<td>Mod</td>
<td>341</td>
<td>30 high, 15 – 20 wide, upright, narrow pyramidal.</td>
<td>Copper-red to red-purple in autumn.</td>
<td>Possible storm damage given branch angles and density; fireblight.</td>
<td></td>
</tr>
<tr>
<td>Pyrus calleryana v</td>
<td>Redspire</td>
<td>Callery Pear</td>
<td>5a</td>
<td>≥6.3</td>
<td>Mod</td>
<td>314</td>
<td>30 high, 20 wide, pyramidal to oval, dense and symmetrical.</td>
<td>Variable in autumn.</td>
<td>Possible storm damage given branch angles and density; fireblight.</td>
<td></td>
</tr>
<tr>
<td>Pyrus calleryana v</td>
<td>Whitehouse</td>
<td>Callery Pear</td>
<td>5a</td>
<td>≥6.3</td>
<td>Mod</td>
<td>341</td>
<td>30 high, 15 – 20 wide, narrow pyramidal.</td>
<td>Early autumn color reddish purple.</td>
<td>Possible storm damage given branch angles and density; fireblight.</td>
<td></td>
</tr>
<tr>
<td>Syringa reticulata</td>
<td>Japanese Tree Lilac</td>
<td>Japanese Tree Lilac</td>
<td>3a</td>
<td>≥6.3</td>
<td>Xeric to Mod</td>
<td>314</td>
<td>20 high, 15 wide, spreading rounded vase</td>
<td>Green leaves, no autumn color. Showy, white flowers in early summer.</td>
<td>Needs pruning for single trunk.</td>
<td></td>
</tr>
</tbody>
</table>

*Moisture requirements are based on average overall species performance after root establishment period.*
# Prohibited Trees

<table>
<thead>
<tr>
<th>Prohibited Trees</th>
<th>Common Name</th>
<th>Management Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acer negundo</td>
<td>Box elder</td>
<td>Structural issues</td>
</tr>
<tr>
<td>Acer platanoides</td>
<td>Norway maple</td>
<td>General health and structural issues.</td>
</tr>
<tr>
<td>Acer rubrum</td>
<td>Red maple</td>
<td>General health and structural issues.</td>
</tr>
<tr>
<td>Acer saccharinum</td>
<td>Silver maple</td>
<td>General health and structural issues.</td>
</tr>
<tr>
<td>Acer x freemanii</td>
<td>Autumn Blaze maple</td>
<td>General health and structural issues.</td>
</tr>
<tr>
<td>Ailanthus altissima</td>
<td>Tree of Heaven</td>
<td>Structural issues</td>
</tr>
<tr>
<td>Elaeagnus angustifolia</td>
<td>Russian olive</td>
<td>Invasive species and safety.</td>
</tr>
<tr>
<td>Evergreens/conifers</td>
<td>Various trees</td>
<td>General health, safety, and clearance issues.</td>
</tr>
<tr>
<td>Fagus sp.</td>
<td>Beech</td>
<td>Poor tree health performance.</td>
</tr>
<tr>
<td>Fleshy fruit-bearing species</td>
<td>Various trees</td>
<td>Safety and litter issues.</td>
</tr>
<tr>
<td>Multi-stemmed species</td>
<td>Various trees</td>
<td>Structural and clearance issues.</td>
</tr>
<tr>
<td>Populus sp.</td>
<td>Poplars, cottonwoods, elms</td>
<td>Root and structural issues.</td>
</tr>
<tr>
<td>Rhus sp.</td>
<td>Sumac</td>
<td>Invasive and safety issues.</td>
</tr>
<tr>
<td>Salix sp.</td>
<td>Willow</td>
<td>Structural and root issues.</td>
</tr>
<tr>
<td>Thorn bearing species</td>
<td>Various trees</td>
<td>Safety issues.</td>
</tr>
<tr>
<td>Ulmus pumila</td>
<td>Siberian elm</td>
<td>General health and structural issues.</td>
</tr>
</tbody>
</table>

Also prohibited is any shrub or hedge growth which by its habit of growth would obstruct, restrict, or conflict with necessary and safe use of the public rights-of-way.
EXECUTIVE ORDER NO. 87

DATE: March 2, 1993
TO: ALL AGENCIES UNDER THE MAYOR
FROM: MAYOR
SUBJECT: WATER CONSERVATION

This Executive Order establishes the policy of the City and County of Denver as to Water Conservation.

WHEREAS, the Denver Board of Water Commissioners has recently adopted an expanded water conservation plan which provides for a variety of water saving measures, including efforts to reduce water use in the maintenance and operation of parks, open space and other public spaces and buildings; and

WHEREAS, water conservation represents responsible public policy in connection with the management of a scarce natural resource in a semi-arid region; and

WHEREAS, water conservation can result in additional water supplies to supplement Denver’s reserves and defer the need for more costly sources of supply by reducing water demand; and

WHEREAS, the most cost-effective manner in which to conserve water in public spaces and buildings is to integrate conservation considerations in the planning and design of new construction or major modifications of public buildings and landscaping;
Appendix E  Executive Order No. 87

March 2, 1993

It is therefore ordered:

1. That the Manager of the Department of Parks and Recreation, the Manager of the Department of Public Works, and the Manager of the Department of General Services for the City and County of Denver shall coordinate with all affected City agencies in the planning of new buildings or landscaped areas or major modifications of plumbing systems or landscaped areas by seeking advice on water conservation techniques including, but not limited to, low water use appliances and plumbing devices, selection of landscape materials, soil preparation and landscape irrigation techniques. Planning of these areas and facilities shall be sensitive to and consistent with the urban design concepts and objectives of Denver’s history and urban form, the integrity of its parks and open space system, and the significance of the settings of major public buildings and facilities in keeping with the Denver 1989 Comprehensive Plan.

2. That a representative group of personnel from affected departments and agencies of the City and County of Denver be convened by the Manager of the Department of Parks and Recreation, the Manager of the Department of Public Works, the Director of Planning and Community Development, and the Manager of the Department of General Services, to work with Denver Water to review and update, as necessary, the guidelines regarding the planning and design of public buildings and landscapes with respect to water use. The Denver Landmark Preservation Commission shall be consulted when guideline changes that may affect historic landscapes are being considered. See the Denver Landscape Design and Maintenance Guidelines.

3. That as part of these guidelines, minor and major projects shall be defined as follows: A major project includes new parks or projects including landscape and irrigation projects in existing park renovation projects over one acre. A minor project includes renovation on projects under one acre and projects that don’t include landscape and irrigation modification.

4. That for all minor projects, the appropriate Department Manager, Agency Director or his/her designee shall certify to the Denver Water Department that the project meets the guidelines.
5. That for all major projects, all plans shall be reviewed in a timely fashion for water conservation considerations by the Manager of Denver Water prior to any contracts being let for construction. The Manager of Denver Water will provide written comments on the plans for each major project submitted for review to the appropriate Department Manager or Agency Director, with a copy provided to the Mayor's Environmental Issues Coordinator within ten working days of receipt of the project plans.

6. This order presumes that the guidelines shall be incorporated in project plans. Suggestions deemed inappropriate by the responsible agency shall be negotiated between departments. Summaries of these issues, and of their proposed resolution, shall be provided to the Mayor's Environmental Issues Coordinator or her designee. The proposed resolution shall be implemented unless the Environmental Issues Coordinator advises otherwise within five working days.

7. That the Mayor's Environmental Issues Coordinator, the Manager of the Department of Parks and Recreation, the Manager of the Department of Public Works, the Director of Planning and Community Development, and the Manager of the Department of General Services, and other appropriate officials of the City and County of Denver, in cooperation with Denver Water, shall evaluate areas of potential water savings including, but not limited to, retrofitting existing buildings with low water use fixtures, and improving irrigation system efficiencies, renovating large open spaces to encourage reduced water use, and developing alternative water sources, such as retention and use of storm runoff, grey water utilization and well systems.

8. That strategies for accomplishing water conservation improvements be developed under the direction of the Mayor's Environmental Issues Coordinator, Manager of Parks and Recreation, the Manager of the Department of Public Works, the Director of Planning and Community Development, and the Manager of the Department of General Services, that include those alternatives identified as feasible and desirable. These activities shall include an annual review and update of this Executive Order.
9. That the Mayor's Office shall work with all affected departments and agencies of the City and County of Denver and Denver Water to ensure the effective and timely implementation of this order.

Approved for Legality:

Attorney for the City and County of Denver

Approved:

Wellington E. Webb, Mayor

Manager of General Services

Manager of Health and Hospitals

Manager of Parks and Recreation

Manager of Public Works

Manager of Revenue

Manager of Safety

Manager of Social Services
Appendix F  DPR Structures
Appendix F  DPR Structures
Regional Path
Typical Section

3.0' (Min.)
Clearance to obstruction

10.0'-12.0''

3.0' (Min.)

REDUCE SPEED ON WET PAVEMENT

4.0' Min. - 5.0' Max.

Drainage Swale
(1' min. invert)

2% Cross Slope

6'' Concrete (1)
with sawn or zip strip joints

Compacted Subgrade

6:1 Max

(1) Concrete Specifications for Cast in Place Concrete Trail
Concrete Class A or B
Minimum 28 Day Compressive Strength (field) 4000 psi
Minimum Cementitious Materials Contents 6.10 lbs/C.Y.
Air Content 5-8%
Maximum Water/Cement Ratio 0.45
Maximum Slump (Hand Placement) 4''
Maximum Slump (Machine Placement) 3''
Coarse Aggregate (Size No.) (Machine Placement) 467 or 357
Coarse Aggregate (Size No.) (Hand Placement) 57 or 67
Fine Aggregate (Maximum % of Total Aggregate) 45%
* Total percent of fly ash allowable by weight
of cement plus fly ash 20%
* Fly ash may be Class C or Class F
Fibrous reinforcement 1.5 lbs/C.Y.

Fibrous reinforcement to be 100% virgin polypropylene
fibrillated fibers containing no olefin materials.

Platte River Trail Concrete shall be tinted Davis Dye Color 5084
(5032 Tan) or approved equal, at an addition rate of one pound
per bag of Type I or II Portland cement.

NOTE: ALL WORK SHALL BE ADA COMPLIANT

Path width shall be 12’ along Platte River from I-25 north to City of Cuernavaca Park and along Cherry Creek.
Regional Path With Recovery Zone
Typical Section

Concrete Trough* or recovery zone (2)

2% Cross Slope

6" Concrete (1) with sawn or zip strip joints

Compacted Subgrade

*Concrete trough to be applied to north facing walls only 3.0'

(1) Concrete Specifications for Cast In Place Concrete Trail
Concrete Class: A or B
Minimum 28 Day Compressive Strength (field): 4000 psi
Minimum Cementitious Materials Contents: 510 lb/C.Y.
Air Content: 5-9%
Maximum Water/Cement Ratio: 0.45
Maximum Slump (Hand Placement): 4"
Maximum Slump (Machine Placement): 3"
Coarse Aggregate (Size No. 3 Machine Placement): 467 or 357
Coarse Aggregate (Size No.) Hand Placement: 57 or 67
Fine Aggregate (Maximum % of Total Aggregate): 45%
*Total percent of fly ash allowable by weight of cement plus fly ash: 20%
*Fly ash may Class C or Class F
Fibrous reinforcement: 1.5 lbs/C.Y.
Fibrous reinforcement to be 100% virgin polypropylene fibrillated fibers containing no olefin materials.

(2) Recovery zones shall be tinted Davis Dye color 1117 (Tile Red) at a rate of three pounds per bag of Type I-III Portland Cement. Recovery zones shall be scored to 3/8" depth at 12" on centers.
Two-Way Path -- Bridge
Typical Section

10.0' (Min.)

42" (Min.)
Railing

Bridge Deck (project specific)
Bridge Structure (project specific)

Project specific design loading (AASHTO H5 loading min.)
Two-Way Path -- Low Water Crossing
Typical Section

(2) Recovery zones shall be tinted Davis Dye color 1117 (Tile Red) at a rate of three pounds per bag of Type I-II Portland Cement. Recovery zones shall be scored to 3/8" depth at 12" on centers.

(1) Concrete Specifications for Cast in Place Concrete Trail
Concrete Class.............................................. A or B
Minimum 28 Day Compressive Strength (field) ..... 4000 psi
Minimum Cementitious Materials Contents........... 610 lb./C.Y.
Air Content................................................. 5-8%
Maximum Water/Cement Ratio.......................... 0.45
Maximum Slump (Hand Placement)...................... 4"
Maximum Slump (Machine Placement)............... 3"
Coarse Aggregate (Size No.) (Machine Placement) 407 or 357
Coarse Aggregate (Size No.) (Hand Placement)..... 67 or 67
Fine Aggregate (Maximum % of Total Aggregate)..... 45%
* Total percent of fly ash allowable by weight of cement plus fly ash................. 20%
* Fly ash may be Class C or Class F
Fibrous reinforcement.................................... 1.5 lbs./C.Y.
Fibrous reinforcement to be 100% virgin polypropylene fibrillated fibers containing no olefin materials.
Two-Way Path -- Tunnel
Typical Section

Minimum cover to Roadway Pavement (project specific)

150-watt High Pressure Sodium Vapor Wallpack Light Fixtures with lexan enclosures (2 footcandle min. lighting level)

Thickness of box (project specific)

10.0' Vertical Clearance

12.0' Horizontal Clearance

Slope to Drain

6" Concrete
Two-Way Path -- Bridge Underpass
Typical Section

150-watt High Pressure Sodium Vapor Wellback Light Fixtures with lexan enclosures (2 footcandle min. lighting level)

3.0' Recovery Zone

10.0' 2% Cross Slope

3.0' Recovery Zone

Bike Path Surface (project specific)
Two-Way Path -- Bridge Underpass
Typical Section

- Recovery Zone
- 3.0'
- 10.0'
- 10.0'
- 3.0'
- 2.5'
- 12.0'
- Recoverable Light Fixtures with fascia enclosures (2 footcandle min. lighting level)
- 2% Cross Slope
- Bike Path Surface (project specific)
Recreational Loops/Local Parks Paths
Typical Section

Appendix G  Trail Information
Pedestrian Walking Path/Garden Path
Typical Section

see 3.3.1 walkways for appropriate widths

2.0' Min.

2% Cross Slope

4" Crusher Fines

Compacted Subgrade

3.1 Max.

1.0"
Typical Trail Details
CONCRETE TRAIL
SECTION

SCALE: NTS

APPENDIX G  TRAIL INFORMATION

3:1 MAX. SLOPE UNLESS NOTED OTHERWISE.

6" THICK CONCRETE TRAIL

COMPACTED SUBGRADE TO 95% STD. PROCTOR
FINISHED GRADE OF LANDSCAPED AREA TO BE 1" BELOW TRAIL (TYP BOTH SIDES)

SAW CUT OR ZIP STRIP CONTROL JOINT 1/4 OF SLAB THICKNESS

CONCRETE PAVEMENT

SUBGRADE-COMPACTED TO 95% STD. PROCTOR

NOTE:
CONCRETE TRAIL TO HAVE LIGHT BROOM FINISH PERPENDICULAR TO THE CENTERLINE OF THE TRAIL
CONCRETE SET FLUSH WITH ADJACENT SLAB. MAX 1/16" VERTICAL DISPARITY BETWEEN SLABS.

DRILL & INSTALL GREASED SMOOTH DOWELS INTO EXISTING CONCRETE (3 PER JOINT - INSTALL 1' FROM TRAIL EDGES AND AT CENTER LINE)

SEALANT TO BE FLUSH WITH CONCRETE APPLY AFTER CONCRETE HAS CURLED

HOLD EXPANSION MATERIAL 1" BELOW FINISH GRADE
**Appendix G**  Trail Information

**5 RAILING**
**D1 PLAN, SECTION, AND ELEVATION**

**SCALE:** NTS

**NOTE:**
1. ALL METAL INCLUDING HARDWARE TO BE PAINTED FEDERAL GREEN - COLOR #14056, STANDARD PAINT SPECIFICATION 5956.
2. CONTRACTOR TO PROVIDE SHOP DRAWINGS.
Appendix G  Trail Information

RAILING WITH RUB RAIL
PLAN, SECTION, AND ELEVATION

NOTE:
1. ALL METAL INCLUDING HARDWARE TO BE PAINTED FEDERAL GREEN - COLOR #14056, STANDARD PAINT SPECIFICATION 595B.
2. CONTRACTOR TO PROVIDE SHOP DRAWINGS.

SCALE: NTS
Appendix G  Trail Information

**RAILING EMBED PLAN - N.T.S.**

- **Direction of Railing**: 3/4" DIA. x 2.5" EMBED HILTI Kwik Bolts or EQ.
- **PL-1/2"x6"x9"**
- **3-1/2" STD.**
- **TYP.**

**RAILING FLAIR END PLAN - N.T.S.**

**Typ. Each End**

**Section**

- **3-1/2" Dia. Nom. Std. Schedule 40 Pipe**
- **2-1/2" Dia. Nom. Std. Schedule 40 Pipe**
- **Concrete Trail**
- **RAILING EMBED**

**Elevation**

- **10'-0" O.C. (TYP.)**
- **3-1/2" Dia. Nom. Std. Schedule 40 Pipe**
- **Weld All Connections and Grind Smooth (TYP.)**
- **2-1/4" Dia. Nom Std. Schedule 40 Pipe**
- **Concrete Trail**
- **RAILING EMBED**
DPR Future Dog Off-Leash Area Application Process

Premise:
Applications can come from interest groups or neighborhood groups. Applications are accepted on an annual basis – deadline is March for implementation in following calendar year (if City funds are required)
Applications will be rated by responsiveness to site and design criteria, by location in the City (need) and by implementation/maintenance budget required by City
Goal is to have good distribution of off-leash areas city-wide that service neighborhoods in 1-2 mile radii.
Staff (District planner, maintenance superintendent, CW maintenance, Animal Control rep.) will review applications and make recommendations to manager of DPR and ES, who will make final determination.

Requirements for Application:
Clear description of area type (fenced, times of day..)
Map of area with boundaries, size, needed amenities etc.
Proposed area has to meet off-leash site and design criteria (to be confirmed by DPR prior to any other step)
Public process has to occur (at least one public meeting) – provide record and results of process Letters of support and opposition – a petition showing that over 50% of the residents in the area are supportive (‘area’ means service area and is one mile radius around proposed site)
Statements of opinion from registered neighborhood organizations, City Council office Firm commitment by applicant group on stewardship of proposed area. (group members & contact info and plan for monthly meetings and outreach activities)
Financial/volunteer support is encouraged as an extra incentive

Public Process/meeting:
- **Invitations** – two weeks prior to meeting (Parks planner to receive summary of all sent out invitations)
  - Mailing to all registered neighborhood organizations within a mile of proposed area
  - Posting at proposed area
  - Newspapers/newsletters
  - Hand delivery/ US postal service mailing to all directly adjacent neighbors (property owners and renters if applicable)
  - Posting at bulletin boards in highrises
  - Mailing to council office
  - Mailing to other park user groups (sports, permits, etc.)
  - Parks planner, Animal Control

- **Meeting**
  - At public facility
  - create a meeting record
  - appropriate City staff (project manager) should be present

Process
Preliminary application for specific area – meeting with appropriate City staff to outline requirements and process
Review of area by off-leash project manager, park maint. staff, district planner, animal control
Provisionary approval of site (triggers public process…)
Public process (organized by applicant) but to include City staff
Written application and support documents to off-leash project manager
Review by project manager, parks maint. staff, district planner, animal control
Determination of cost, feasibility, time line
If warranted, discussion/negotiation with the applicant
Recommendation by project manager to DPR and EH managers
Public meeting (by City staff) to inform public of recommendation (last opportunity for public input)
Approval/Denial by DPR and EH managers (or designee)
Public notice/meeting by City staff (for information only)
Implementation
Quarterly review by City staff (training of volunteers and other assistance provided on on-going basis as needed) for first year
Monthly monitoring by applicant group and annual review by City staff for duration of program

Application Package
DPR Park map
Off-leash area site criteria
List of Registered Neighborhood Associations
Relevant City Staff contact information
Council Office Information/district map
Process outline
See Signage Coordinator for further information on additional signage and in-depth signage details.
Proposal No. SIGNAGE_PARKS__0130A (DRAWINGS)

1 1/8" x 1 1/2" x 3/16" thick aluminum angle frame with routed, welded corners and 5/16" holes as dimensioned. Welds to be finished smooth. (2) frames required per sign, attached back to back with 1/4" vandal resistant, corrosion resistant screws and nuts thru 3/8" wire bails.

Metal Finishes:
- All poles, posts, bands, wire fabric, frames, mounting angles and message panels to be powder coated.
- Powdercoating: To match Federal Green as per approved sample.
- Powdercoating: Iron phosphate dip process.
- Aluminum Powdercoating: chromate conversion process.

5/16" holes for message panel Installation

1 1/2" x 1 1/2" x 3/16" aluminum mounting angle with 5/16" holes. Attach to sign's 1 1/2" angle frame with 1/4" vandal resistant, corrosion resistant screws and nuts. Attach to wall with appropriate 1/4" vandal resistant, corrosion resistant anchors.

FRONT VIEW

SIDE VIEW, ANGLE FRAMES & WIRE FABRIC ASSEMBLED

MOUNTING ANGLE

FRONT VIEW, WIRE FABRIC

Logo mediation - 7 1/2" h - screenprinted three colors and white on aluminum edge painted to match Federal Green.

Assembly:
- All pole caps secured to pole with tamper resistant fasteners into throughholes in pole. Minimum two fasteners per cap. Seal caps to pole with 25 year clear silicone adhesive. Silicone adhesive shall not be visible.
- All surfaces shown mounted to poles attached using 1" steel bracket. Bending bands with divider holes and through bolt with nylon washers, as required.
- All fasteners shall be vandal and corrosion resistant. All exposed fasteners to be touched up with paint to match background, after final assembly.

FRONT VIEW, WIRE FABRIC
Proposal No. SIGNAGE_PARKS__0130A (DRAWINGS)

TOP VIEW

1 1/2" x 1 1/2" aluminum angle frame, attached back to back with 1/4" vandal resistant, corrosion resistant screws and nuts thru 3/8" wire fabric, see section below

message panel shall be 1/8" aluminum face with 1-1/2" aluminum angle, milled and welded to form returns, spot welded into place, flush with edge of face.

BARNUM PARK
RECREATION CENTER

1 1/2" x 1 1/2" x 3/16" aluminum mounting angle. see 20 of 22

3/8" wire fabric, see section below

1 1/2" x 1 1/2" x 3/16" aluminum mounting angle with 5/16" holes. see 20 of 22, attach to sign's 1 1/2" angle frame with 1/4" vandal resistant, corrosion resistant screws and nuts, attach to wall with appropriate 1/4" vandal resistant, corrosion resistant anchors

wall

SIDE VIEW

1 1/2" x 1 1/2" aluminum angle frames, attached back to back with 1/4" vandal resistant, corrosion resistant screws and nuts thru 3/8" wire fabric.

1/8" alum. message panel with 1-1/4" alum. angle returns; spot weld in place. tack weld nuts to brackets of returns to accept 1/4" vandal and corrosion resistant screws.

SECTION

washer spacers as needed

see specifications for material and finish descriptions

slip lines shown are for example only, verify sign size and legend prior to fabrication.
Proposal No. SIGNAGE_PARKS__0130A (DRAWINGS)

**Assembly:**
- All pole caps secured to pole with temper resistant fasteners into through-holes in pole. Minimum two fasteners per cap. Seal caps to pole with 20 year clear silicone adhesive. Silicone adhesive shall not be visible.
- All signaces shown mounted to poles attached using "Band-it" brand stainless steel strap, clamps and fixed-leg "Eye-it" with threaded nut and through bolt with nylon washer as required.
- All fasteners shall be vandal and corrosion resistant. All exposed fasteners which are not part of the "Band-it" system to be touched up with paint to match background, after final assembly.

**Metal Finishes:**
- All wire fabric, frames, mounting angles and message panels to be powdercoated.
- "Band-it" fastening system will not be powdercoated.
- Powdercoating: To match Federal Green as per approved sample
- Steel Powdercoating: Iron phosphate dip process
- Aluminum Powdercoating: chromate conversion process

**Footings:** Minimum 12" Dia. all Soils
3" dia. pole and cap.

Legend shown is for example only. Use legend prior to fabrication.

Attach sign(s) with stainless steel strap and fasten leg "Black-It" clamping system, size appropriate to size of sign(s).

Message panel shall be 1/8" aluminum.

Fabricator shall provide own plot of actual sign/panel layout for approval prior to fabrication.

See specifications for material and finish descriptions.
Attatch sign fixture with vandal and corrosion resistant fasteners. Drill holes through pipe at appropriate position to size of sign. All exposed fasteners shall be touched up with paint to match their backgrounds, after final assembly.

White, reflective, self-adhesive, exterior engineering grade tape; 1" wide; seams at back.

Fabricator to provide footing shop drawings.
Department Policy and Procedures

Policy Name: **Naming of Parks and Recreational Facilities**

Policy

1.0 Purpose

These policies and procedures are intended to guide a) any individual or community group that is interested in having a park, building, or major feature named for a significant person, event, or place, b) any individual, group, or business that is interested in having their significant donation (park, building, major feature) named, c) the Parks and Recreation Advisory Board that will be making a recommendation to the Manager in regard to these requests, d) City Council members that will be holding public hearings and approving any Ordinances associated with the names of parks and buildings, and e) the DPR Manager and his/her staff.

2.0 Definitions

2.1 “**Parks and Recreational Facilities**” will include the following:

2.1.1 Parks. All traditional designed parks, natural open spaces, historic sites, golf courses, specialized parks (e.g. Skate Park), and trails under the department’s jurisdiction or management, including Mountain Parks.

2.1.2 Buildings. Significant park and recreation structures that house parks and
recreational programs (e.g. recreation centers, enclosed pavilions, lodges, etc.).

2.1.3 **Major Features.** Major, permanent components of park and recreational facilities, e.g. ball fields, swimming pools, tennis courts, playgrounds, fountains, artwork or physical features (lakes). Rooms within Buildings are considered to be Major Features.

2.2 **Amenities.** Smaller furnishings and facilities in the parks and recreation system (e.g. benches, small fountains, tables, etc.) Amenities are not formally named. Recognition for donated amenities is covered under the *DPR Gift Policy*.

**3.0 Authority**
Under section 2.4.4(A) of the City Charter, the management, operation and control of all facilities owned by the City and County of Denver for park and recreational purposes are under the exclusive control of DPR and its Manager. Under section 2.4.3 of the City Charter, the Parks and Recreation Advisory Board reviews and advises the Manager with respect to the policy and operation of DPR.

**4.0 Background and Principles**

Naming or renaming parks and recreational facilities in the City and County of Denver (the City) is often complex and emotionally evocative since naming is a powerful and permanent identity for a public place. The names of Parks, Buildings, and Major Features tell the important stories of Denver’s history. In addition, Denver has limited public resources for changing names on signs, maps, and literature, and excessive naming of individual features in parks and recreational facilities can be confusing to the public. Approval of naming requests is a prestigious, cautious process that typically involves the DPR Advisory Board, DPR Manager, and (for parks and buildings) Denver City Council. Consequently, the process for naming or renaming these public places needs to be carefully and thoughtfully undertaken and only when appropriate.

The policy of the department is to reserve the naming or renaming of parks and recreational facilities to those circumstances which tradition and practice have shown to best serve the interests of the City and assure a worthy and enduring legacy for the City’s parks and recreation system. To this end, the department supports consideration of naming requests in the following three broad categories:

**Exceptional individuals.** Sometimes recognition of an exceptional City leader or a dedicated supporter of the City parks and recreation system can result in a community supported renaming of an existing or naming of a new park or recreational facility.

**Historic Events, Places, and Persons.** The history of a major event or place or historic persons can play an important role in the naming or renaming of parks and recreational facilities. The public often expresses a strong desire to preserve and honor the history of the City, its founders, pioneers, and other historical
figures, its Native American heritage, and its local landmarks and prominent geographical locations by giving certain parks and recreational facilities names of historic, social and cultural significance. Denver also has established ties to a number of international cities through the Denver Sister Cities Program.

**Major Gifts.** The City and the department have benefited from a rich legacy of community generosity. Over the decades Denver residents and businesses have given gifts of their time and skills, their resources and products, and their money. Public and private foundations, too, have invested deeply in the parks and recreation system. There are occasions when, upon the request of the donor, another party, or the department itself, an extraordinary gift may be acknowledged by permanent naming.

4.1 **General Principles.** In considering any proposal to name or rename a Park, Building, or Major Feature, the following questions should be considered individually and collectively:

a) Will the name have historical, cultural and social significance for generations to come?
b) Will the name engender a strong and positive image?
c) Will the name memorialize or commemorate people, places or events that are of enduring importance to the community or the nation?
d) Will the name engender significant ties of friendship and mutual recognition and support within the community or with those outside of the community?
e) Will the name be identified with some major achievement or the advancement of the public good within the community or the nation?
f) Will the name be particularly suitable for the park or recreational facility based on the location or history of the park, recreational facility or the surrounding neighborhood?
g) Will the name have symbolic value that transcends its ordinary meaning or use and enhance the character and identity of the park or recreational facility?
h) Will the naming request that accompanies a corporate gift result in the undue commercialization of the park or recreational facility?

4.2 **Renaming Parks and Recreational Facilities.** Proposals to rename parks and recreational facilities are not encouraged and should be entertained only after fully investigating and considering the potential impact of dropping the current name. Names that have become ingrained or widely accepted in the community should not be abandoned unless there are compelling reasons and strong public sentiment for doing so. Historical or commonly-used place names should be preserved wherever possible.

4.3 **Naming or Renaming for Exceptional Individuals.** The following guidelines apply to naming or renaming requests that result from either a community process or major gift.

4.3.1 Naming of parks and recreational facilities is encouraged only for persons...
who are deceased. Typically, such naming after a person should not occur until the person has been deceased for at least seven (7) and that person’s historical significance and good reputation have been secured in the history and lore of the community or the nation.

4.3.2 Priority for naming parks and recreational facilities after deceased persons should be given in the following order to those who have significant and lasting contributions 1) to the Denver parks and recreation system, 2) to the City; or 3) to the nation. Naming Parks and Buildings after national or international figures should be rare and only upon a substantial demonstration of the figure’s connection to or special importance in the Denver community or the State of Colorado.

4.3.3 Naming of parks and recreational facilities after people or a group of people who perish in or survive a tragic event or war should be considered only well after the public shock generated by the tragic event or war has lessened. Potential sites for such memorials should be focused on parks or recreational facilities that are more known for their serene and contemplative nature rather than active recreational locations, such as playing fields and recreation centers. Emphasis should be placed on the contributions or heroic actions of these people during their lifetime, rather than the circumstances of their death or survivorship.

4.3.4 Exceptions for naming of Major Features for living persons may occur as described in section 4.5 on Major Gifts.

4.4 Naming and Renaming for Historic Events, Places, and Persons. When a park or recreational facility is located near or otherwise associated with events, places, and people of historic, cultural, or social significance, it is appropriate to consider naming such park or recreational facility after such events, places, and people. The relationship of the park or recreational facility to the events, places, and people of historic, cultural, or social significance should be demonstrated through research and documentation. The appropriateness of naming the park or recreational facility after such an event, place, or people is further supported if people of Denver or the surrounding neighborhood have already identified the park or recreational facility with the name of the event, place, or people.

4.5 Naming and Renaming for Major Gifts. Typically, the donation of gifts to the Denver parks and recreation system should be reward in itself, with recognition being given as set forth in the DPR Gift Policy. On a rare occasion, a gift will be made to the City of a parks and recreational facility that is of such magnitude and generosity that naming of such new park or recreational facility in honor of or at the request of the benefactor will be considered. Any request to rename an existing park or facility that associated with a major gift to expand or refurbish that park or facility must meet the guidelines in 4.2 and is discouraged.

4.5.1 Threshold. As a guideline but not a limitation, the threshold for naming
rights on Parks and Buildings would include one or preferably more of the following: 1) deeding to the City most if not all of the land on which the Park or Building to be named will be situated; 2) payment of one-half or more of the capital costs of constructing a Park or a Building to be named (depending on the availability of matching funds or grants); 3) some long-term endowment for the repair and maintenance of the donated Park or Building; and 4) the provision of significant program costs for facilities that will serve parks and recreation program needs.

Likewise, as a guideline but not a limitation, the threshold for naming rights on Major Features would include one or preferably more of the following: 1) payment of the capital costs for constructing and installing a Major Feature; 2) some long-term endowment for the repair and maintenance of the donated Major Feature; and 3) the provision of significant program costs for any Major Feature giving rise to or supporting a parks and recreation program.

4.5.2 Other Requirements. In no case shall naming or renaming be considered unless the major gift is deemed acceptable in accordance with the DPR Gift Policy and ultimately satisfies the Charter requirements of section 2.4.4(E).

4.5.3 Naming for Persons. Benefactors seeking naming rights for major gifts will be encouraged to follow the guidelines in section 4.3 on Persons with respect to naming of Parks and Buildings after persons. An exception will be considered on its own merits. A Major Feature that has been donated or refurbished may be named for a living person(s) provided that said person(s) is of good reputation. Whatever contract accompanies the gift and naming rights should address all conditions applying to the naming, including time limits for naming of features. However, in addition, DPR reserves the right to rename any Park, Building, or Major Feature if the person for whom it is named turns out to be disreputable or subsequently acts in a disreputable way.

4.5.4 Naming for Entities. A corporation, association, and other legally created entity making a major gift may request that the name of that entity be associated with the name of the Park, Building, or Major Feature which is the subject of the major gift. Each request is evaluated on its own merits and requires public input. In making a recommendation for a corporate name, the reputation of the company and community support should be considerations. No corporate logos, brands, insignias, or direct advertising text may be used as part of any name association or naming. As noted in 4.2, renaming of any existing Park or Building is discouraged even when associated with a major enhancement gift. The City reserves the right to remove an entity name association on a Park or Building or to rename a Major Feature if the entity turns out to be disreputable or subsequently acts in a disreputable way.
4.6 Sister City Parks. Ten parks have been named for the international cities associated with Denver’s Sister Cities program. The department generally considers that an appropriate number of parks and at this time is not encouraging further proposals.

4.7 Other Considerations.

4.7.1 Typically, a Park should not be subdivided for the purposes of naming unless there are readily-identifiable physical divisions (major roads, waterways, etc.) in the Park and other compelling reasons for having more than one name for a Park. This limitation on naming a Park should not prevent giving a different name for a trail, Building, or Major Feature located in or near the Park. However, care should be taken in giving a name to a trail, Building, or Major Feature that is different from the name of the Park so that confusion is not caused for the users of said differently named facilities.

4.7.2 Facilities that are held by the department through a short-term lease or use agreement or improvements that have a limited life span or occupancy should not be named.

4.7.2 All signs on parks and recreational facilities must meet the department’s graphic and signage standards. No specialized signage will be displayed.

4.7.4 If a new park or building is completed and no suggestion for a name has come from the community or in association with a gift, the DPR Advisory Board will recommend a name, using any organized public process (i.e. nominations, contest, etc.) that they decide upon.

5.0 Procedures for Community or Citizen Requests to Name or Rename a Park or Building.

5.1 Applicant’s Process. An applicant must compile a petition and make a presentation to the Parks and Recreation Advisory Board (the “Board”) to recommend naming or renaming a park or recreational facility. Applicants should refer to section 4.0 of this Policy to ensure that the request meets the criteria for proposed names. Details of the process include:

- Written notification to the DPR Manager's Office to start the process. It should include a condensed version of the reasons for the request. Those 2-3 sentences will be included in the petition language and template prepared by the department. The petitions can be picked up, mailed, or emailed.

Board of Parks and Recreation

c/o Manager of Denver Parks and Recreation
201 West Colfax, Department 606
Denver, Colorado 80202
720-913-0696

Authors: Susan Baird (DPR) and Patrick Wheeler (City Attorney)
File name: 6
• A request to the appropriate City Council member or the DPR Manager's Office (720-913-0696) for the name of his or her Parks and Recreation Advisory Board member. Citizens should work closely with their Advisory Board representative and keep the councilperson informed.

• A formal filing of the petitions with the Board at the above address as soon as necessary signatures have been gathered. Registered Neighborhood Associations (RNOs) will be notified of the proposed action. The following criteria for the petition must be met:

  a) The petition should state the reasons for the proposed name.
  b) The petition should show community support for the proposed name.
  c) The petition should contain a description and/or map depiction of the boundaries of the Park or Building to be named or renamed.
  d) The petition may only be signed by persons living in the City and County of Denver.
  e) The petition should show the name, address and telephone number of each signer.
  f) The number of signatures required should be a minimum of 300 for small neighborhood parks and their Major Features; 500 for community parks (generally over 20 acres) and their Major Features; and 1,000 for regional parks (over 50 acres or regional draw) and their Major Features. Major buildings must have a minimum of 500 signatures.
  g) The person or group should file the petition with the DPR Manager within ninety (90) days of receipt of the forms from the Board, unless the Manager grants in writing additional time for submitting the completed petition.

• A formal request to the Manager’s Office or Board representative that the proposal be put on the agenda for the next possible Advisory Board meeting. Notice to all Registered Neighborhood Associations (RNOs) of the meeting.

• A formal presentation to the Advisory Board of the naming or renaming proposal.

5.2 DPR Advisory Board Action:

• Within 45 days after the completed petitions are filed, the Board will determine whether or not to recommend the proposed new name to the DPR Manager and the Denver City Council.

• The Board will not recommend a proposed name to the DPR Manager and the Denver City Council unless the criteria set forth in section 4.0 are met. An affirmative vote of a majority of a quorum of the Board is necessary to recommend approval of a new name.

• No Naming Ordinance shall be drafted unless the DPR Manager accepts the recommendation of the Board. The DPR Manager may opt to send the
recommendation back to the Board for further consideration in light of concerns or issues the DPR Manager raises.

5.3 Naming Ordinance:

- After the Board takes action (if the vote is favorable) and the DPR Manager approves the action, the department will request an ordinance for the naming/renaming (the Naming Ordinance). The applicant should keep in contact with the department to track that process. RNOs will be notified.

- After the Naming Ordinance is written, the department will take it to the assigned City Council Committee (such as Public Amenities). The applicant should attend and be prepared to speak briefly about the request. Other interested persons can be invited to attend as well. The applicant should ensure that his or her Council representative can attend the meeting.

- If the Naming Ordinance is deemed acceptable, the Committee then sends the Naming Ordinance to City Council for introduction (1st Reading) and a vote (2nd Reading). A public hearing is strongly recommended and the councilperson should request it at the 1st reading and the applicant will need to coordinate speakers. After the 2nd reading and any public hearing, City Council will vote on the Ordinance.

6.0 Procedures for Community Requests to Name or Rename Major Features

- The same petition and Board procedures for Naming Parks and Buildings (section 5.0) apply to Major Features, except City Council action is not required. The DPR Manager may elect to make an informational presentation to the City Council Committee.

7.0 Procedures for the Naming and Renaming of Parks, Buildings, and Major Features Associated with Major Gifts

- The DPR Manager will submit a proposal to the Board for the naming or renaming of any Park, Building, or Major Feature that is associated with a major gift to the City and the department. A petition process is not necessary. Registered Neighborhood Associations (RNOs) will be notified of the proposed action and Board meeting.

- For naming or renaming a Park or a Building, City Council approval through a Naming Ordinance is required (as provided above) following a favorable recommendation by the Board and the DPR Manager’s approval. A Public Hearing is strongly recommended.
• For naming or renaming Major Features, only Board action and the DPR Manager’s approval is required.

8.0 Sample Petition to the Advisory Board of Parks & Recreation

In accordance with the procedure established by the Denver Board of Parks & Recreation, the undersigned hereby petition the Board to recommend the naming of park between Ivanhoe Street, and Jersey Street, north of 10th Avenue approximately 300' “MAYFAIR PARK”. In support of this petition, each of the undersigned affirms and states:

1. That he/she is lives in the City and County of Denver (at time of signature).
2. That the reasons for the proposed name are as follows:
   “In honor of the neighborhood (Mayfair) that surrounds the park and its residents who worked for more than 20 years to make this park a reality. The park will be a continuing tribute to both the neighborhood and its residents
3. That there is community support for the proposed name as illustrated by the signatures below.

Sample Petition

<table>
<thead>
<tr>
<th>NAME</th>
<th>STREET ADDRESS</th>
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<th>PHONE NO.</th>
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Circulated by: ____________________________

This Naming of Parks and Recreational Facilities Policy has been duly adopted in accordance with the rule-making requirements of section 39-2 of the Denver Revised
Municipal Code and is in accordance with the authority of the Manager of the Denver Department of Parks and Recreation under section 2.4.4 of the Denver City Charter.

This *Naming of Parks and Recreational Facilities Policy* is effective this ____ day of ________________, 2006.

In accordance with section 39-2(e), D.R.M.C., copies of this *Naming of Parks and Recreational Facilities Policy* were filed with the Denver Clerk and Recorder and the Denver City Attorney within seven (7) days of the effective date set out above, and a notice of the adoption of this *Naming of Parks and Recreational Facilities Policy* was published in _____________________________ on the ____ day of ________________, 2006. The notice included a statement that a copy of the *Naming of Parks and Recreational Facilities Policy* is on file with the Manager of Parks and Recreation and is available for public inspection.

APPROVED AND ADOPTED:

________________________________
Kim Bailey
Manager of Parks and Recreation

APPROVED FOR LEGALITY:

________________________________
Cole Finegan
City Attorney
Department Policy and Procedures

Policy Name: Gifts

Number: Effective: Supersedes: 1991

Contents
Policy
1.0 Purpose
2.0 Definitions
3.0 Authority
4.0 Philosophy and Background
5.0 Principles
6.0 Guidelines for Accepting Gifts
7.0 Procedures for Accepting Gifts
8.0 Procedures and Guidelines for Gift Recognition
9.0 Sample plaque

Policy
It is the policy of Denver Parks and Recreation (DPR) to actively encourage gifts that reinforce its mission and core services. Acceptance and recognition of gifts (property, goods or cash) must comply with the guidelines and procedures set forth in this policy.

1.0 Purpose
This policy is intended to help potential donors understand how the department decides whether to accept a proposed gift and how that donor can be recognized and thanked; to guide decisions of the Parks and Recreation Advisory Board, elected officials, and staff.

2.0 Definitions

2.1 Gift: A gift is a freely given donation of property, goods, or cash to the department, preferably with no expectation of return. If the gift is contingent upon a special request or restriction, the gift is considered as being subject to a “condition”. Property can range from land and buildings to smaller goods. Cash could include actual cash, discounts, or investments. Gifts may be donated for a specific purpose or may be general in nature.

2.2 Naming Benefits. Naming is the permanent name associated with a park, facility, or feature within a park or facility and is an exceptional way in which to recognize a substantial gift. See the Naming of Parks and Recreational Facilities Policy.

2.3 Corporate Sponsorship. Corporate sponsorship differs from gifts; it is financial or in-kind support from a for-profit entity for a specific department event, project, program and site in exchange for tangible and intangible marketing benefits to both the sponsor and the department. See the Corporate Sponsorship Policy.
3. Authority
Under section 2.4.4(E) of the City Charter, the management and control of all gifts of real or personal property used for park and recreational purposes come under the exclusive control of DPR and its manager, except that such gifts must be accepted with the prior approval of the Mayor and City Council. Under City ordinance, financial grants must be approved by ordinance, and gifts of fine art must be approved by the Office of Cultural Affairs.

4.0 Philosophy and Background
Denver Parks and Recreation has benefited from a rich legacy of community generosity. Over the decades Denver residents and businesses have given gifts of their time, their materials and products, and their money. Public and private foundations, too, have invested deeply in the system. A donation can dramatically increase the quality of a program, park, or facility or make the difference during economically lean times. The department wants to encourage and facilitate public and private gifts, bequests, and such contributions that enhance and support our parks and programs and goals of equity. The department also would like to be able to assure donors that their gift will be well-maintained and recognized. These policies outline the criteria for accepting gifts and recognizing donors.

5.0 Principles
The following principles are intended to help potential donors understand the process and complexity for the City in accepting a gift.

5.1 The department wants to work closely with each donor to provide recognition that is meaningful to the donor. The final decision, however, is the City’s and is guided by established recognition and signage guidelines and any applicable policies. Recognition of gifts in a variety of other ways is encouraged and naming benefits are reserved for the most compelling contributors to the city or major donors.

5.2 The department must have adequate operating budget and staffing to accept, implement, and maintain the gift. Consequently, gifts that require levels of service, maintenance, or staffing beyond current levels should be accompanied by an operating endowment.

5.3 Gifts are encouraged that help eliminate any disparity in the quality of facilities and services across the city.

5.4 In order to promote departmental priorities and the goal of equity, the department and its partners will proactively offer potential donors a variety of meaningful and relevant gift programs or ideas, such as the established Tribute Tree and bench programs, and work to ensure wide geographic distribution.

5.5 Gifts must be given with the understanding that:
   a) they become the property of the City and are subject to the laws, policies and procedures that govern the City and the department.
   b) the department is not obligated to replace the gift if it is stolen, vandalized, worn out, irreparably damaged or destroyed.
c) gifts must be given from private individuals, for-profit corporations, not-for-profit organization and public entities which bear no emblem of, or reference to, firearms, tobacco, alcohol, or sexually explicit materials.

5.6 Once accepted, the department has the following rights with respect to the gift:
   a) to remove or return any donated item
   b) to determine where the improvement will be located and when it will be installed (unless a specific location is agreed upon in advance)
   c) to determine the life span of the improvement and to remove it when appropriate
   d) to determine style and design of the improvement to fit departmental specifications, historic and environmental context
   e) to require the groups or individuals involved to meet City standards of liability and insurance coverage if volunteer labor is used.

6.0 Guidelines for Accepting Gifts
6.1 The department welcomes these generous gifts as an opportunity to enhance our services as long as they are consistent with City and departmental policies and regulations; respect the physical beauty of public spaces; and reaffirm the department’s mission and core services. In considering any proposed gifts, the following questions should be considered individually and collectively:

   a) Is the gift consistent with the mission, values, priorities, and master plans of the department?
   b) Is there community or neighborhood support for the gift?
   c) Does the gift meet departmental specifications, such as construction quality?
   d) Does the gift enhance existing programs and facilities?
   e) Does the gift reinforce the City’s priorities?
   f) Does the gift address the department’s goal of equity of services and facilities across the city?
   g) Is there an accompanying condition (preferential access or a specific recognition) that conflicts with the department’s mission, values, or services?
   h) Is there adequate budget and staffing to maintain the gift?

6.2 Conditional gifts may include requests for naming parks or recreational facilities (see Naming of Parks and Recreational Facilities Policy for details on naming) or requests for permitting priority or access to facilities built or improved as a gift. When considering requests for permitting priority or access, the following questions should be asked individually and collectively:

   a) Would this priority permitting negatively impact public access in a way that exceeds the value of the gift or the public good served by the gift?
   b) Would this priority permitting negatively impact equity of services across the city?
   c) Would the priority have the effect of turning a public facility into essentially a private one?
   d) Would the priority support or be consistent with existing programs, activities, and uses?
6.3 Other gifts subject to conditions will be considered on a case by case basis. These types of gifts include but are not limited to the following:

a) Any monetary gift that is time limited or requires subsequent donor approval of project plans
b) Any monetary gift that is restricted to a specific use.
c) A real property gift subject to defeasible fee, reversionary interest, or life estate
d) Any gift that requires or restricts the public use or access to the gift in a manner not in conformance with federal or state law, City Charter or Ordinances, or department policies and rules and regulations;
e) Any gift that requires action by a City department or agency other than Parks and Recreation; and
f) Any gift that requires a substantial financial commitment or a “maintenance of effort” by the City or department as a prerequisite for or in association with a gift.

7.0 Procedures for Accepting a Gift

- The DPR Manager may approve or decline any proposed gift.
- In addition, any gift of real or personal property must be approved by City Council and the Mayor.
- Gifts of artwork must also be approved by the Office of Cultural Affairs and City Council. (See Sections 2-256 through 258, Denver Revised Municipal Code, which cover approval by the commission on Art, Culture, and film; approval by City Council through Ordinance; and need for donor endowments for maintenance of the gifts.)
- Any proposed major gift that substantially impacts the public use of parks or recreational facilities, impacts the department’s resources, or has an accompanying condition requested with it must be reviewed by the DPR Advisory Board before approval by the DPR Manager. If a gift includes the request to name a public park, building, or major feature, it must follow the Naming of Parks and Recreational Facilities Policy.
- The process for donating a gift to the department is to:
  a) contact the department directly about any proposed gift (with the exception of trees)
  b) contact The Park People, a non-profit dedicated to Denver’s park and recreation system and urban forest (303-722-6262) to donate a tree
The appropriate staff member will work directly with the donor for the appropriate reviews and recognition and will establish a separate gift account for each gift.

8.0 Procedures and Guidelines for Recognition of a Gift

- The department wants to recognize the generosity of its donors in as meaningful a way as possible. At the same time, the department strives to minimize visual impacts in parks and facilities. Consequently, working with the donor, the staff will select a variety of avenues in which to thank and recognize them for their gift. That can include recognition in marketing materials, City website, collective gift walls, or small plaques. The following guidelines apply to recognition of all gifts:

- All forms of recognition must meet departmental design and maintenance guidelines.

- The department will establish and follow guidelines for the size, material, color and location of a plaque or other name recognition media.

- Often many people may be “behind the scenes” of a major gift (e.g. elected officials, staff members, or community leaders). However, permanent recognition, by name, usually should be limited to the donors themselves to avoid the difficulties and awkwardness of deciding who to include/exclude, political issues, etc.

- Any permanent recognition of donors in public spaces and parks must have minimal visual impact, be tasteful, and appropriate to the scale of the place and gift. Plaques will be directly connected to the gift or in a collective display area.

- Permanent recognition in a park or facility can include the name of individuals, organizations, and corporations. However product names and company logos are considered advertising and therefore are not acceptable. ¹

- If a gift is for a series or group of improvements (e.g. new signs, trail markers, all the play equipment) recognition will be limited to one primary location.

- Other visible recognition objects will be limited to areas of the park system recognized as “built” environments (e.g. benches, picnic tables, buildings, play areas, ball fields, tennis courts).

- Overall guidelines for accepting gifts and naming requests are covered in separate departmental policies: Gift Policy, Corporate Sponsorship Policy, and Naming of Parks and Recreational Facilities Policy.

- Procedures and Guidelines for Permanent Recognition. These are guidelines for permanent, public recognition of gifts. The department also will recognize donors and gifts in a variety of meaningful ways: printed materials, etc. All recognition of gifts in departmental publications or media will be coordinated and approved by the Marketing
Denver Parks and Recreation Policy and Procedures

Gift Policy

and Communications Division. See the following matrix.

### Internal Department Process and Materials for Recognition of Gifts

<table>
<thead>
<tr>
<th>Gift</th>
<th>Design Lead</th>
<th>Location approval</th>
<th>Materials/type</th>
<th>Guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tribute Tree Program</td>
<td>Forestry</td>
<td>Forestry w/ planner and superintendent</td>
<td>Bricks at Eugene Field House</td>
<td>Program coordinated by The Park People; Forestry is the liaison. No logos.</td>
</tr>
<tr>
<td>Gift Benches</td>
<td>Planner</td>
<td>Planner w/ superintendent or recreation supervisor</td>
<td>Brass plaque attached to bench</td>
<td>Simple wording:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Use DPR template for all graphic details</td>
<td>“Dedicated to...” “In honor of...” “In celebration of....”.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Standard park bench</td>
<td>No logos</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td>(exceptions when park of a larger landscape gift)</td>
<td>Dates:</td>
</tr>
<tr>
<td>Other material gifts</td>
<td>Planner</td>
<td>Planner w/ park superintendent or recreation supervisor</td>
<td>Designed specifically for the site and gift.</td>
<td>Date of dedication or installation (no birth/death dates)</td>
</tr>
<tr>
<td>(shelters, equipment,</td>
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<td></td>
<td>Recognition for multiple gifts (e.g. a series of</td>
<td>Each park/trail should have a master plan of general areas where benches</td>
</tr>
<tr>
<td>plazas, playgrounds,</td>
<td></td>
<td></td>
<td>trail markers, many signs, all the equipment) will be consolidated into one primary place.</td>
<td>could be added</td>
</tr>
<tr>
<td>flower beds, etc.)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Signs for Naming/</td>
<td>Planner</td>
<td>Planner with park superintendent or recreation supervisor</td>
<td>For park or Recreation Center name: Standard Park Sign (standard font, text, and no logos)</td>
<td>Recognition attached to gift if possible</td>
</tr>
<tr>
<td>renaming of park or</td>
<td></td>
<td></td>
<td>Park Feature/Room Name: Standard park feature sign (standard font, text, and no logo)</td>
<td>Kept in scale to not detract from the gift or context</td>
</tr>
<tr>
<td>recreation center</td>
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<td>Connected to an architectural element (in the wall, pavement, boulder)</td>
</tr>
<tr>
<td>Signs for Naming of large</td>
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<td></td>
<td></td>
<td>Details (materials, font, graphics determined by Planning Division)</td>
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<tr>
<td>park feature or room</td>
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<td></td>
<td>Logos: no company logos or brands incorporated into permanent recognition on display in a park or recreation facility</td>
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<td></td>
<td>If features are too small to have a standard park sign, the feature will be recognized off-site.</td>
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</table>

If a building or feature is named or renamed, no additional plaque is needed to announce the change. Interpretative materials (brochures, etc.) will tell the story to the public.
See *Naming of Parks and Recreational Facilities Policy* for more details on naming.

### 9.0 Sample Plaque

![Sample Plaque Image]

- **Material:** brass
- **Size:** (varies) 2” x 4” on benches
- **Details:** Screwed and tack welded in place

Brass Bench Plaque Template (typical): to be designed by Planning/Marketing

(3” x 5”)

- **Approximately 2-3”**
- **Approximately 4-5”**
This Gift Policy has been duly adopted in accordance with the rule-making requirements of section 39-2 of the Denver Revised Municipal Code and is in accordance with the authority of the Manager of the Denver Department of Parks and Recreation under section 2.4.4 of the Denver City Charter.

This Gift Policy is effective this ___ day of ________________, 2006.

In accordance with section 39-2(e), D.R.M.C., copies of this Gift Policy were filed with the Denver Clerk and Recorder and the Denver City Attorney within seven (7) days of the effective date set out above, and a notice of the adoption of this Gift Policy was published in __________________________ on the ___ day of ________________, 2006. The notice included a statement that a copy of the Gift Policy is on file with the Manager of Parks and Recreation and is available for public inspection.

APPROVED AND ADOPTED:

_____________________________
Kim Bailey
Manager of Parks and Recreation

APPROVED FOR LEGALITY:

_____________________________
Cole Finegan
City Attorney
Department Policy and Procedures

Subject: Co-Sponsorship

1.0 Policy
It is the policy of Denver Parks and Recreation to actively support the efforts of non-profit organizations, other governmental agencies, and sister agencies whose events held in DPR parks and facilities further DPR core program goals and services. All permit fee waivers and reductions, reduced facility rentals, and co-sponsorship agreements must comply with the guidelines and procedures set forth below.

2.0 Definitions

2.1 Fees. DPR charges everyone a fee to permit and have priority use of any park, permitted amenities, stages, or recreation facility. This is to cover extra operational expenses associated with the event and to guarantee the space for the permittee. Fees are based upon the purpose and size of the event. Additional fees are charged as a damage deposit.

2.2 Non-profit level fee. Any official non-profit that meets the guidelines set below can receive a 50% reduction in fees or rentals.

2.3 Co-sponsorship. DPR co-sponsorship is when the department further reduces or waives an outside organization’s permit or rental fees for an event on city property that a) has close association with the department’s core program goals and services and b) provides the department with marketing exposure.

2.4 Rental Fees. The public is charged a rental fee to use recreation facilities (such as the Washington Park boathouse, recreation center rooms, pools, or the Molkery) for their own functions.
2.5 Sister Agency. These are the local government agencies who are traditional partners with the department (i.e. Denver Water, Denver Public Schools).

3.0 Philosophy and Background
Frequently an outside organization, City department, or sister agency wanting to provide an event in a park or recreation facility approaches the department to support their efforts. The City wants to help the many non-profits in Denver and allied governmental agencies deliver their services to as wide an audience as possible. Sometimes these events (such as music concerts, art festival, theater performances, sport events, health fairs) also directly further the department’s core programs. Consequently, reducing or waiving permit and rental fees can be an opportunity to leverage the department’s ability to provide these programs while marketing the department to a wider audience.

The primary financial form of support is a fee reduction for non-profits who meet the department’s criteria. Co-sponsorship indicates a higher level of City support and close connection between the department’s goals and the organizers’ mission. Co-sponsorship can result in even lower or waived permit fees and some technical assistance (such as helping to publicize the event).

4.0 Guidelines for a non-profit level fee.
Any non-profit applying for a DPR permit or facility rental may be granted a 50% reduction in fees if the following criteria are met:

4.1 The event or program should be provided by a registered 501(c)(3) non-profit.

4.2 The mission of the non-profit or organization should not conflict with City or departmental laws, mission, or policies.

4.3 There should be no fund-raising activities or aspects of the program/event. Any exceptions must be approved by the Manager.

4.4 The non-profit permit-holder must remain responsible for damage fees and other costs, such as general liability insurance, police coverage, player/TEAM fees, electrical fees, lights, overnight security, concessions, toilet/trash service agreements, fencing, and any other additional needs and agreements pertaining to the event. Damage deposits are never waived for events organized by outside organizations. Skate Park events require an additional damage deposit in addition to the regular park permit procedure.

4.5 Any fee reductions for athletic field permits should be limited to youth tournaments and events only. Youth programs must be based in Denver and primarily serve Denver residents. The permit-holder is responsible for the damage deposit and any light/press box fees.

5.0 Guidelines for DPR Co-Sponsorship of Outside Organizations.
The department has a limited in-kind budget each year to actively co-sponsor events. Primarily the department can waive fees (except damage fees), rental fees, and provide some staff coordination and technical assistance. Organizations still must fund other associated costs, such as the cost of additional dumpsters, portable toilets, lighting, etc. When evaluating proposals from organizations, the following criteria are used:

5.1 The event/program should promote beneficial use of the park, recreation center, or program.

5.2 The event/program should be free and open to the public.

5.3 The event/program should support the department’s core recreation programs, mission and goals.

5.4 The event/program should demonstrate community pride and involvement.

5.5 The event/program should not have a religious or political purpose.

5.6 Priority should be given to events/programs that support or positively impact youth.

5.7 The sponsoring organization should clearly recognize DPR as a co-sponsor (including logo) on all materials and announcements associated with the event or program. DPR should be able to display its departmental banner at all co-sponsored events.

6.0 Guidelines for DPR Co-Sponsorship of Other Governmental and Sister Agency Events

6.1 If another City department, City Council office, or sister agency (i.e. Denver Water, Denver Public Schools) is only a supporting sponsor for another outside organization, that primary organization still must apply for DPR sponsorship.

6.2 If another City department, City Council office, or sister agency is the primary organizer for a public program or event, generally DPR will be a co-sponsor. Like sponsorship of outside organizations, the City agency, Council office, or sister agency still is responsible for all other costs associated with the event.

6.3 City agencies (including City Council offices) are exempt from liability insurance. However, City agencies/Council offices must:
   a. hold the event on Denver Parks and Recreation property,
   b. arrange for, pay for, and prepare any documents required for logistics (such as Portable toilet/trash agreements, site/race diagrams, police agreement, deposits, fencing, parking plan etc)

6.4 Events that are coordinated by Federal, State, County, or Special Districts may request co-sponsorship when the event meets the above criteria.
6.5 The governmental agency, office, or department holding the event must clearly acknowledge DPR as a co-sponsor on all written materials associated with the event.

7.0 Procedures

7.1 City Council members set all fees for use of parks and facilities and programs.

7.2 The Manager must approve any request for co-sponsorship.

7.3 The process for requesting a non-profit fee level is as follows. At the time of applying for the permit, applicants should include: 1) a copy of the required proof of non-profit status and 2) a cover letter that indicates how the organization meets the criteria in 3.0.

7.4 The process for requesting co-sponsor is as follows. All outside organizations and governmental agencies requesting co-sponsorship must submit the Co-Sponsorship Request with a cover letter a minimum of 60 days before the event. Requests can be made as early as by November 1st of the year that precedes the event. Any requests made after that date will be considered by the department on a case by case basis, depending upon availability of co-sponsorship budget. Requests should be sent to:

Denver Parks and Recreation
Permitting Director
201 West Colfax, Department 20x
Denver, Colorado 80202

7.5 The requests will be reviewed by staff, with a recommendation to the Manager.

7.6 Requests for co-sponsorship must be made on a yearly basis.
Signature Page

This Co-Sponsorship and Non-Profit Fee Policy has been duly adopted in accordance with the rule-making requirements of section 39-2 of the Denver Revised Municipal Code and is in accordance with the authority of the Manager of the Denver Department of Parks and Recreation under section 2.4.4 of the Denver City Charter.

This Co-Sponsorship and Non-Profit Fee Policy is effective this ____ day of __________________, 2005.

In accordance with section 39-2(e), D.R.M.C., copies of this Co-Sponsorship and Non-Profit Fee Policy were filed with the Denver Clerk and Recorder and the Denver City Attorney within seven (7) days of the effective date set out above, and a notice of the adoption of this Alcohol Policy was published in ________________________________ on the ____ day of _______________, 2005. The notice included a statement that a copy of the Co-Sponsorship and Non-Profit Fee Policy is on file with the Manager of Parks and Recreation and is available for public inspection.

APPROVED AND ADOPTED:

_______________________________
Kim Bailey
Manager of Parks and Recreation

APPROVED FOR LEGALITY:

_______________________________
Cole Finegan
City Attorney
Policy

It is the policy of Denver Parks and Recreation (DPR) to actively pursue sponsorships from for-profit entities for department programs, events, projects, and sites in order to enhance and sustain Denver’s park and recreation system in a manner that respects the noncommercial nature of public places. All such sponsorships must comply with the guidelines and procedures set forth in this policy.

1.0 Purpose
This policy and its guidelines and procedures are intended to guide the DPR manager, staff or any allied park conservancy organization responsible for sponsorship business agreements and to help potential sponsors understand the opportunities and constraints of a parks and recreation sponsorship.

2.0 Definitions

2.1 Sponsorship. Sponsorship is financial or in-kind support from a for-profit entity for a specific program, event, project or site in exchange for tangible and intangible benefits to the sponsor. For the sponsor that can include but is not limited to:

a) marketing opportunities (product promotion and temporary advertising) on City property,
b) authorization by the department for the business to promote its investment with the
department and association with department programs, and
c) name association ("name title") for an event or program. Sponsorship is a negotiated
business agreement between the sponsor and the department.

2.2 Gifts. A gift is a freely given donation of goods, cash, or real property to the
department, preferably with no expectation of return (a "condition" to the gift). Gifts
may be designed for a specific purpose or may be general in nature. Recognition for
donors and donations is determined by the City. Guidelines for gifts and naming are
detailed in the DPR Gift Policy and the DPR Naming and Renaming of Parks and
Recreational Facilities Policy.

2.3 Advertising. Advertising is the signage created by the for-profit entity (usually
placed in designated, purchased space) to promote a product. Advertising generally is
not allowed in designated parks, parkways, Mountain Parks, natural areas, outside
recreation facilities, or outside other park buildings. The permanent placement of a
corporate logo, brand, or product placement in a public park or facility is considered
advertising and not allowed. Paid advertisements are allowed in the department’s printed
materials and publications.

2.4 Temporary Advertising. Temporary advertising is the temporary display of
corporate logos, branding, or advertising copy at a department event or on collateral
materials associated with an event or program.

2.5 Events. Events are one-time activities for the public organized by the department and
held on City property that generally last less than a week.

2.6 Projects. Projects are one-time departmental efforts, often with a product as the end
result.

2.7 Programs. Programs are on-going, organized activities led by the department for the
public and generally involve staff supervision.

2.8 Sites. Sites are specific places, varying in scale from individual features or areas (e.g.
the Barnum dog off leash area, the interactive water feature) to entire park or center, and
even to an entire system, such as all of Denver’s flower beds.

2.9 Marketing benefits. These are opportunities given to the for-profit sponsor to have
their branding, their products, their name and logo given temporary visibility on City
property or materials. The details of those opportunities are specific to each sponsorship,
detailed in the agreement, and must meet City laws and departmental policies.

3.0 Authority
Under section 2.4.4(A) of the City Charter, the management, operation and control of all
facilities owned by the City and County of Denver for park and recreational purposes are
under the exclusive control of DPR and its Manager. However, under section 2.4.5 of the
City Charter, parks and recreation facilities, and space within these facilities, may not be leased except “for a park purpose”. Any agreement for a corporate sponsorship for a DPR program, event, project, and/or site may require City Council approval, if so required by the Charter or ordinance.

4.0 Background

The City and County of Denver and its citizens pride themselves on their extensive park and recreation system. That is evident, too, in the decades of generous support shown by Denver’s business community. Today, financial and in-kind support is even more critical as the investment needed to sustain and expand the parks, facilities, and programs continues to climb. Like other park and recreation departments across the nation, the department is pursuing more sophisticated business partnerships with the for-profit sector, in the form of event, program, project, and site sponsorships. These mutually beneficial business agreements provide an important marketing venue for businesses and an opportunity for them to align themselves with the department’s public mission. In turn, the City is able to build new and exciting new programs and places while sustaining the system.

5.0 Sponsorship Categories

5.1 Sponsorships are appropriate for four broad types of department activities and places:

**Event Sponsorship.** Event sponsorship is the financial or in-kind support for a department organized event on City property. An event includes a one-time occasion (e.g. a sports clinic at a recreation center, a dance, a volunteer project) and usually lasts less than a week. Sponsors may be recognized vis-à-vis anything relating to the event. Depending upon the details of the agreement, the sponsor’s name may be directly associated with the event (e.g. “title” sponsorship) and the sponsor may have a variety of temporary advertising and marketing opportunities.

**Project Sponsorship.** Project sponsorship is financial or in-kind support of a specific department project which is usually a one-time effort. Results often include a product being developed for the department and for the public (e.g. department facility map, master plan for a park). Depending upon the details of the agreement, the sponsor’s name and logo could be attached directly to the product and other marketing opportunities are available.

**Program Sponsorship.** Program sponsorship is financial or in-kind support of a department led program for the public. A program includes a series of ongoing activities (e.g., youth sports leagues, after-school classes, or summer interns) organized by the department. Recognition of the sponsor may continue throughout and even after the program’s duration. Depending upon the details of the agreement, a sponsor’s name can be associated directly with the program.
(e.g. “Spinelli’s Safety First Program”) and other marketing opportunities are available.

**Site Sponsorship.** Site sponsorship is financial or in-kind operating support of a specific department place or feature (e.g. Civic Center flower beds, Berkeley Dog Off-Leash Area, a new playground). Marketing opportunities and recognition of the sponsorship are negotiated in the agreement.

5.2 This policy also impacts a number of associated sponsorships:

**Community sports teams.** These sponsorship policies do not apply to teams and leagues that often solicit their own sponsorship and enter into private agreements. However, written approval must be obtained from the department for any public display within parks and recreation facilities of private sponsorships (e.g. banners, flags, signs), with the exception of team uniforms.

**Cultural Institutions.** Many of the City’s educational, cultural, and recreational institutions are located in or adjacent to designated parks (e.g. DCPA, Denver Zoo, Botanic Gardens, Denver libraries, museums) and have sponsorship programs of their own. Any marketing materials (e.g. banners, etc.) displayed outside of the physical boundary of the institution but within a park must be approved by the department.

**Concessionaires.** Some City facilities are operated by private Concessionaires such as golf course restaurants, etc. As private entities, these Concessionaires are permitted to obtain corporate sponsorships as they relate to their operation. However, any marketing materials (e.g. banners, etc.) displayed outside of the physical boundary of the Concession site but within a park must be approved by the department.

**Associated park conservancies, foundations, and friends’ groups.** A number of “friends” of the park organizations have formed in order to enhance and advocate for specific parks (e.g. Civic Center Conservancy, City Park Alliance, Mountain Parks Foundation). The level of management responsibility by the group for the specific park is detailed in each individual agreement with the City. Most of these groups will be implementing their own sponsorship, gift, and naming efforts. With respect to the Denver parks and recreation system, these individualized plans must meet departmental and City policies.

### 6.0 Guidelines for accepting sponsorships

6.1 The department welcomes sponsorships as an opportunity to enhance our services as long as the sponsorships are consistent with City policies and regulations; respect the physical beauty of public spaces; and reaffirm the department’s mission and core services. In considering any proposal for sponsorship of a department activity or place
by a for-profit entity, the following questions should be considered individually and collectively:

a) Are the for-profit’s products, services, and marketing goals compatible with the department’s mission, values, and policies?
b) Are the products and services of the for-profit entity compatible with the policies and laws of the City?
c) Does the proposed sponsorship enhance current priorities, programs, and core services of the department?
d) Do the conditions of the sponsorship (especially in terms of marketing benefits and temporary advertising) compromise the design standards, visual integrity of our parks and recreation facilities or the experience of users?
e) Does the sponsorship commit the department to additional operating and maintenance responsibilities and costs?
f) Are the tangible and in-tangible benefits balanced for both the sponsor and the department?
g) Would the sponsorship create a conflict of interest for the department or City?
h) What is the for-profit’s past record on community involvement with City projects and agencies?

6.2 Products and businesses generally ineligible for sponsorships include: for-profits whose primary products or services are substantially derived from the sale of alcohol, drugs, tobacco, gambling, firearms, or sexually explicit materials.

7.0 Marketing Benefits and Recognition Guidelines

7.1 Marketing benefits for the sponsor are negotiated and detailed in each specific sponsorship agreement. The department usually will offer a choice of sponsorship levels, with appropriate benefits associated with each level. Guidelines include:

7.1.1 All sponsorship marketing materials, including but not limited to banners, signs, brochures, cards, signs, posters and newsletters, labels on products such as t-shirts, must be approved by the department.

7.1.2 Specific outdoor park facilities (e.g. fenced ball fields, Skate Park) and indoor recreation centers will have established areas for temporary advertising and sponsorship recognition. Visual impact will be considered.

7.1.3 An unlimited number of corporate sponsorship recognition and logos printed on “walk-away” products (e.g. t-shirts, water bottles) is acceptable. Visual impact will be considered.

7.1.4 The department’s Marketing Division must approve the use of the City’s or department’s logo by the sponsor in their own business publications. All logo use must be associated with the specific program or sponsorship.
8.0 Procedures

- Sponsorships are arranged primarily through two processes: a) self-initiated by the potential sponsor or b) initiated by the department through a formal or informal “RFS” (Request for Sponsors) process.

- Interested sponsors are encouraged to contact the department at any time to discuss a potential sponsorship or can submit an “Interest in Corporate Sponsorship” application.

- If initiated by the potential sponsor, the procedure is:
  a) Completion of an application (interest in sponsorship)
  b) Meeting with assigned department staff
  c) Sponsorship drafted, with levels of sponsorship, benefits to the department, and program details evaluated. Sponsorship draft evaluated against policies.
  d) Approval by the Manager.
  e) Legal agreement

- At times, the department will issue requests for sponsorship (RFS) through various media, such as direct mail, website, or publications. A pre-application meeting may be scheduled. Depending on the nature of the opportunity, the Manager may select one or more interested sponsors who meet the policy requirements set forth with a sponsorship opportunity.

9.0 Terms of Agreement

- The department will use current market research data to calculate the value for each tangible and intangible asset offered by the department or the City to the sponsor. Costs related to the sponsorship incurred by the department (maintenance, staffing, materials) will be incorporated into the sponsorship costs.

- Determining sponsorship costs and values will be a mixture of “value-based” system (e.g. based upon the value of the tangible and intangible marketing and brand benefits to the sponsor) and a “cost-based” system, where the goal is to recover at least the costs of an event, program, project, or site operations.

- Agreements should include the following at a minimum:
  a) Clear statement of how the department is improving services through this funding and how the sponsorship supports the mission and vision of the department.
  b) The financial value, benefits associated, costs of the sponsorship, including any exclusivity or other hierarchy of benefits.
  c) Type and time limit for each sponsorship.
  d) Clear statement of the department’s and the sponsor’s responsibilities and roles.
Specific plan for marketing and branding opportunities-- display, type, location, size, design, content and duration.

f) Term and termination provisions.

10.0 Sample of “Level of Sponsorship Benefits”

Each sponsorship is negotiated and tailored to the particular program, event, project, and site, and to the sponsor themselves. However, a hierarchy of benefits is associated with different levels of sponsorship, often providing more branding visibility and exclusivity with the higher levels of support. Some sponsorships may involve other City departments and agencies and require wider approval. The following hierarchy illustrates the types of benefits that can be provided by Parks and Recreation:

Lowest sponsorship level may include:

- Banners/”walk-aways” (e.g. bottles, etc.) at an event with sponsor name or logo
- Sponsorship recognition (without logo) in department publications/website
- Sponsorship mention in media releases
- Right to promote the partnership through corporate publications and marketing
- Recognition at the event

Mid-level sponsorships may include the above plus:

- Corporate logo included in publications/website
- Additional DEPARTMENT benefits (memberships to recreation centers; use of park building; golf passes, etc.)
- Right to make promotional offers to the public and city employees
- Right to use city property for product sampling

High-level sponsorships may include the above plus:

- Designation as the “official” , “exclusive”, or “preferred” community partner
- Title sponsorship of an event
- Naming rights for a program
- Exclusivity of category for event/program
- Corporate visibility in public parks and facilities (small signs, ball field fences and row banners with logos)
This Corporate Sponsorship Policy has been duly adopted in accordance with the rule-making requirements of section 39-2 of the Denver Revised Municipal Code and is in accordance with the authority of the Manager of the Denver Department of Parks and Recreation under section 2.4.4 of the Denver City Charter.

This Corporate Sponsorship Policy is effective this ___ day of ________________, 2006.

In accordance with section 39-2(e), D.R.M.C., copies of this Corporate Sponsorship Policy were filed with the Denver Clerk and Recorder and the Denver City Attorney within seven (7) days of the effective date set out above, and a notice of the adoption of this Alcohol Policy was published in _____________________ on the ___ day of ________________, 2006. The notice included a statement that a copy of the Corporate Sponsorship Policy is on file with the Manager of Parks and Recreation and is available for public inspection.

APPROVED AND ADOPTED:

________________________________
Kim Bailey
Manager of Parks and Recreation

APPROVED FOR LEGALITY:

________________________________
Cole Finegan
City Attorney
The following standards and guidelines are intended for both new and fully funded reconstructed fountains under the supervision of the Department of Parks and Recreation. This document does not address aesthetic or artistic issues of the fountain structure or water features.

Before construction drawings are produced, a review of this document with the Fountain Review Committee is required to determine which provisions shall be applicable to a particular project. Construction drawings must be submitted to this Committee for final review before submission to the Building Department for approval.

General Considerations

- Safety is the utmost priority when remodeling or building a fountain, both in the public water display as well as in the equipment vault. This point cannot be overemphasized. The general public and maintenance personnel must be protected from the unique hazards created by fountains.
- A dry environment is the goal for the fountain vault. Standing water and streams of water on the floor from operating equipment are not acceptable.
- All current City of Denver and UBC codes (structural, electrical, plumbing, etc.) shall be followed in the design and construction of a fountain.
- Permits must be pulled before construction and a final inspection by the Denver Building Department will be required before a fountain is placed into operation.
- All equipment shall be designed and installed with careful attention to serviceability and long-life. Access for maintenance, type of service connections and selection of materials shall all be important considerations in this process.
- Finishes, materials and devices that do not rust or are rust-resistant are to be used whenever possible, as long as the cost of such items is not prohibitive.
- All valves and electrical controls shall be clearly and permanently marked.
- A plan for filling, draining, cleaning and operating the fountain shall be developed with the assistance of the DPR and posted in the fountain equipment vault.
- Crusher fines and other landscape material that can be kicked or blown into a fountain should never be installed in close proximity to a fountain basin.

Extent of Application

These guidelines will usually have broader application in new construction than in the remodeling of an existing facility. Size, complexity and site conditions will determine the extent of the requirements applied to a specific project. However, all fountain projects will be subject to certain core code and facility upgrades.

NOTE: Items marked with a “C” are considered critical to all fountain construction, whether remodel or new construction.

Vault Access

- C: Access for personnel shall be designed to accommodate safe and swift egress in case of emergency. Confined-space designation should be avoided if possible.
- C: The vault access opening shall also be designed to be large enough to allow convenient and safe movement of all fountain equipment into and out of the vault for installation, service, and future replacement.

Fountain Suction Lines

- C: Anti-vortex/anti-entrapment devices designed to prevent human entrapment must protect all main fountain suction lines. (Skimmers are not considered main fountain suction lines.) These protective devices must require a tool to be removed for service.

Appendix K  Fountain Requirements for Equipment and Vault Facilities
- C: Screens or trash baskets should be installed on all suction lines – properly sized for the expected level of environmental debris. Screens must be accessible for service on a regular basis and require a tool to be removed. Non-rusting material must be used for any submerged screening devices.

**Plumbing**
- The fresh water supply line shall be of adequate size to facilitate a quick re-filling of the fountain.
- C: The fresh water supply line shall be protected with an RPZ valve that meets all local codes.
- C: The RPZ valve shall be isolated with ball valves and installed with unions on each side to facilitate easy removal for service.
- C: The RPZ valve drain line must be plumbed so as not to interfere with personnel mobility or equipment access in the vault.
- C: If a solenoid-operated valve is used for automatic makeup water, it shall be isolated with ball valves and installed with unions on each side to facilitate easy removal for service. In addition, a by-pass loop with a ball valve for manual filling shall also be installed.
- Specifications for water level sensors and valves for automatic makeup water shall be submitted to the Department of Parks and Recreation for approval prior to construction. Electronic sensing devices (not mechanical) are required.
- Fountain drain lines should be of adequate size to expedite the draining process.
- Whenever possible, all fountain basins should be capable of being drained with permanent plumbing rather than requiring a portable pump.
- C: Fountain pumps and plumbing shall be installed with drain cocks installed at all low points to allow for complete draining of the system in the winter. All drain lines from fountain plumbing should be piped directly to the sewer or sump.
- Floor drains shall be installed and the floor sloped toward the drains.
- If the fountain vault has an elevation above grade, an emergency drain to daylight shall be installed to prevent flooding of the vault. This emergency drain shall not take the place of floor drains plumbed to the vault sump or sewer.
- C: Ball valves, gate valves and butterfly valves shall be used for all fountain plumbing; globe valves are not desirable due to internal restrictions.
- A drain line to a sanitary sewer shall be provided for draining the fountain and carrying the effluent from the equipment vault floor drains and sump.
- Sumps and sump pump(s) shall be installed whenever the elevation of the fountain vault requires a lift for the floor drains and fountain drain to meet the elevation of the sanitary sewer.
- Dual sump pumps shall be installed when the electronics and water processing equipment in the fountain vault represent a significant investment that needs to be protected against single pump failure. This will be typical of interactive and other computer-controlled fountains.

**Water Clarity and Sanitizing**
The size of the fountain, volume of water contained within the fountain system, flow rate of the water features and amount of public contact with the fountain water will all be factors in determining whether a separate fountain filtration system will be required or if it is an integral part of the fountain water display system.
- C: A high-rate NSF-approved sand filter with either manual or automatic backwash (as specified by the DPR) will be required for all fountains. The sand filter shall be of commercial grade and have square footage and flow matched to turn the volume of the fountain water system at a rate to be determined by the amount of public contact with the water and local conditions. This turnover rate shall not exceed two hours for fountains with large volumes of water.
- If the filtration system is integral with the water display system, the flow rate will be determined by the requirements of the water display.
- If the filtration system is separate from the water display system, skimmers, return inlets and a separate filtration pump shall be part of this filtration package. Return inlets should be located to direct surface debris to float towards the skimmers.
- C: The filtration pump shall be equipped with a strainer with a removable basket.
- If the fountain basin is likely to attract people to have significant contact with the water (as opposed to occasional and casual contact) it will be critical to install a water sanitizing system. Swimming pool water quality standards should be applied to the design. Automatic feeding of bromine is the preferred chemical treatment. However, bromine systems are not acceptable if the water drained from the fountain runs into a storm sewer instead of a sanitary sewer. Ultraviolet and ozone treatment systems should be considered as desirable sanitizing technologies.
- Like a swimming pool, proper water balance is essential to maintain the plumbing, stone, statuary and concrete of the fountain in good condition. Provision for either manual or automatic monitoring of water balance is required.
- Each installation will require individual discussion with the DPR and the Denver Health Department as to exact requirements for water treatment.

**Electrical**
All provisions of the current National Electrical Code applicable to fountain installations shall be followed. As part of and in addition to these requirements, the following items are to be included:
• C: All electrical equipment in the fountain shall either be UL listed or be manufactured by a UL 508 certified shop and have a UL508 sticker. Low-voltage control systems are the exception to this requirement.
• C: All electrical enclosures shall be at least NEMA 3R rated.
• C: All electrical conduits inside fountain vaults shall be Schedule 40 PVC or flexible PVC liquid-tight conduit with appropriate connectors. Any conduits run outside the fountain vault shall be Schedule 80 PVC.
• C: J-boxes and pull boxes should be made of PVC or other non-metallic material.
• C: An electrical disconnect for all power in the fountain equipment vault shall be provided external to the vault and near the entrance to the vault. If this is not practical, a shunt-trip mechanism for the power feed at the main panel board or load center shall be provided with control stations at the entrance to the vault and inside the vault near the entrance.
• C: A sign shall be posted at the entrance to the vault indicating the location of the electrical disconnect(s) for all fountain vault power.
• C: No voltages higher than 480-Volts shall be allowed inside fountain vaults.
• C: All panel boards and load centers shall have bus bar feed connections at the top of the enclosure, not at the bottom.
• C: All electrical equipment shall be mounted as high as practical on the walls of the equipment vault and in compliance with NEC requirements for maximum height. In no case shall electrical equipment be located within 18” of the floor.
• C: At least one GFCI receptacle(s) on a separate 20-Amp circuit shall be provided for maintenance purposes inside the vault and mounted at 48” height.
• C: All conduit penetrations of fountain vault concrete shall be properly grouted to prevent water seepage. Spray-in foam insulation is not acceptable.

All pumps shall be mounted a minimum of one foot off the floor. Service pads shall be provided for all pumps.
• Full-size copper grounds shall be used for all equipment and circuits; conduit grounds are not acceptable.

Shared neutrals are not acceptable wiring practice for single-phase circuits; every circuit must have an associated neutral wire. Two pole and three pole breakers servicing individual pieces of equipment may use a single neutral wire.
• All operating equipment shall be protected with safety disconnects.

Motor controllers and fused safety switches shall be used to protect pump motors. If a VFD is installed, it will substitute for the motor controller.
• All electrical equipment shall be labeled with permanent labels that match the designations used on the construction drawings.

Fountain Lighting
• C: All fountain lighting shall be UL listed for underwater use unless it is distant from the fountain basin and water features.
• C: All fountain lighting shall be equipped with factory-installed cordsets long enough to reach to a junction box.

Vault Environmental
• Decking and other thick materials on the floor of the vault that would trap water are to be avoided. Safety coatings, treads and other anti-slip treatments are recommended.
• C: All vault lighting shall be wet-location fluorescent fixtures with electronic ballasts and T-8 lamps. Sufficient lighting should be installed to illuminate all equipment areas and walkways. The recommended level in all equipment areas is 30-foot candles at floor level. A wet location light switch shall be located at the vault entrance.

Safety railings, grab bars and other protective devices shall be installed, as needed, to provide a safe operating environment for maintenance personnel.
• One or more electrical unit heaters shall be permanently installed, sized to maintain a minimum temperature of 40-degrees at 18” off the floor. An external thermostat with clear markings shall be installed at a height of 36” off the floor.

A fresh-air ventilation system shall be installed with a minimum airflow of 350-cfm. This fan shall be thermostatically controlled to turn off if the incoming air is below 45 degrees. Fans should operate at all times to keep the air in the vault from becoming stagnant. Air intakes should not be located where fountain spray will humidify the incoming air. A suitable air discharge vent shall be installed.

Emergency lighting pack(s) shall be installed to facilitate safe personnel exit in case of a power failure.

Water Alarms
• A water sensor and alarm shall be installed that will provide indication of water on the floor of the vault in excess of one inch.
• If practical, provision shall be made for a telephone line to be brought into the fountain vault for remote alarm monitoring.

A visible and audible water alarm shall be installed external to the fountain vault when practical.

Miscellaneous
• Prints of as-built drawings shall be submitted for archival purposes
• Copies of all fountain-related drawings shall be submitted in an electronic file format compatible with AutoCad .dwg files.
<table>
<thead>
<tr>
<th>Fountain</th>
<th>Park</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>City Park Interactive Water Feature</td>
<td>City Park</td>
<td>This bronze and granite fountain, located in City Park, was designed by Chicago Sculptor Laredo Taft. Joseph Thatcher purchased the fountain as a gift to the city in 1917 for $100,000. It was supposed to be put in Civic Center Park, but the people of Denver decided to put it in City Park instead. The three bronze assemblies of the fountain represent the virtues of the state: Loyalty, Learning, and Love.</td>
</tr>
<tr>
<td>Thatcher Fountain</td>
<td>City Park</td>
<td>Located at 20th &amp; Logan, this fountain was purchased by J.B. Benedict, an architect who donated it to the City. It was designed by Maurice Bardin of France and dedicated in 1932.</td>
</tr>
<tr>
<td>Babi Yar</td>
<td>Babi Yar</td>
<td></td>
</tr>
<tr>
<td>Benedict Fountain</td>
<td>Benedict Park</td>
<td>This fountain, located in Civic Center Park, depicts kids sitting on the backs of seals, with the seals spouting water. It was created by Robert Garrison in 1922. Although it is in good shape mechanically, its popularity with skateboarders has left it with some needed work.</td>
</tr>
<tr>
<td>Hungarian Freedom</td>
<td>Hungarian Freedom Park</td>
<td></td>
</tr>
<tr>
<td>Seal Fountain</td>
<td>Civic Center</td>
<td>At the intersection of Colfax &amp; Broadway, sits the Pioneer Fountain. This fountain was supposed to honor the early Europeans. The sculptor, Frederic MacMonnies of Paris, originally proposed an Indian standing on top of the fountain. But, the people of Denver were outraged that an Indian would be honored along with the pioneers. He ended up replacing the Indian with &quot;Kit Carson on horseback.&quot;</td>
</tr>
<tr>
<td>Stapleton Interactive Water Feature</td>
<td>Central Park</td>
<td>Built in 1910 by George Kessler, a landscape architect from Kansas City, this fountain was fully restored in 1999 at a cost of $500,000.</td>
</tr>
<tr>
<td>Cheesman Fountain</td>
<td>Cheesman Park</td>
<td>Sometimes called the Sullivan Fountain, given in honor of Dennis Sullivan by a friend, it was purchased in 1917 for $35,000 and is located in front of East High School. Good care was not taken of the fountain, and it stopped functioning in 1955. Denver Parks &amp; Recreation, with the help of the Denver Water Department, restored it four years ago at a cost of $500,000. It was designed Chicagoan Edward Bennett.</td>
</tr>
<tr>
<td>Pioneer Fountain Pioneers</td>
<td>Monument Park</td>
<td>Located in City Park, this marble fountain was purchased in 1912 by Mayor Speer. Mayor Speer went to Dusseldorf, Germany, saw the fountain, and decided Denver needed one. Mayor Speer tracked down the French sculptor, May Blodet, and commissioned another for Denver. It was restored 5 years ago.</td>
</tr>
<tr>
<td>Cherry Creek 1</td>
<td>Cherry Creek at x</td>
<td></td>
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<tr>
<td>Cherry Creek 2</td>
<td>Cherry Creek at y</td>
<td></td>
</tr>
<tr>
<td>Electric Fountain</td>
<td>City Park</td>
<td></td>
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<tr>
<td>Year</td>
<td>TITLE OF ART WORK</td>
<td>ARTIST(S)</td>
</tr>
<tr>
<td>------</td>
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<tr>
<td>0</td>
<td>Abundant Joy</td>
<td>Gerald Balciar</td>
</tr>
<tr>
<td>0</td>
<td>Arctic Sojourn</td>
<td>Kenneth Bunn</td>
</tr>
<tr>
<td>0</td>
<td>Frog</td>
<td>Susan Raymond</td>
</tr>
<tr>
<td>0</td>
<td>Pool Mural</td>
<td>Jerry Jaramillo</td>
</tr>
<tr>
<td>0</td>
<td>Rima/ Bird Lady</td>
<td>Edgar Britton</td>
</tr>
<tr>
<td>0</td>
<td>Two Cranes</td>
<td>Unknown</td>
</tr>
<tr>
<td>1898</td>
<td>The Boy and a Frog</td>
<td>Elsie Ward Herpin</td>
</tr>
<tr>
<td>1906</td>
<td>Sundial</td>
<td>Unknown</td>
</tr>
<tr>
<td>1909</td>
<td>Robert Burns Memorial</td>
<td>Grant Stevenson</td>
</tr>
<tr>
<td>1912</td>
<td>Children's Fountain</td>
<td>Max Blondet</td>
</tr>
<tr>
<td>1918</td>
<td>Joseph Addison Thatcher Memorial</td>
<td>Lorado Taft</td>
</tr>
<tr>
<td>1919</td>
<td>Wynken, Blynken &amp; Nod</td>
<td>Mabel Landrum Torrey</td>
</tr>
<tr>
<td>1920</td>
<td>Broncho Buster</td>
<td>Alexander Phimister Proctor</td>
</tr>
<tr>
<td>1920</td>
<td>Elk Group and Buffalo</td>
<td>Allen True</td>
</tr>
<tr>
<td>1920</td>
<td>The Trapper</td>
<td>Allen True</td>
</tr>
<tr>
<td>1920</td>
<td>The Prospector</td>
<td>Allen True</td>
</tr>
<tr>
<td>1922</td>
<td>On The War Trail</td>
<td>Alexander Phimister Proctor</td>
</tr>
<tr>
<td>1922</td>
<td>Sea Lions Fountain</td>
<td>Robert Garrison</td>
</tr>
<tr>
<td>1925-1906</td>
<td>Elizabeth Allen Sopris Mem; Sundial and Flagpole</td>
<td>Unknown</td>
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<tr>
<td>1925-26</td>
<td>The Story of a Pike's Peaker</td>
<td>Robert Garrison</td>
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<tr>
<td>1930</td>
<td>Grizzly's Last Stand</td>
<td>Louis Paul Jones</td>
</tr>
<tr>
<td>1932</td>
<td>Benedict Fountain</td>
<td>Maurice Bardin</td>
</tr>
<tr>
<td>1953</td>
<td>Fountain</td>
<td>Edgar Britton</td>
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<tr>
<td>1961</td>
<td>Elephant Mural</td>
<td>Eva Brand</td>
</tr>
<tr>
<td>1961</td>
<td>Waterhole Mural</td>
<td>Eva Brand</td>
</tr>
<tr>
<td>1962</td>
<td>Seal Fountain</td>
<td>Louis Paul Jones</td>
</tr>
<tr>
<td>1965</td>
<td>Unknown (Red Abstract &quot;U&quot;)</td>
<td>Anthony Magar</td>
</tr>
<tr>
<td>1965</td>
<td>Bears</td>
<td>Louis Paul Jones</td>
</tr>
<tr>
<td>1968</td>
<td>Homage To The Pioneer</td>
<td>Susan Pogzeba</td>
</tr>
<tr>
<td>1968</td>
<td>Unknown</td>
<td>Roger Kotoske</td>
</tr>
<tr>
<td>1968</td>
<td>Burns Park, 18'</td>
<td>Wilbert Verhelst</td>
</tr>
<tr>
<td>1968</td>
<td>Unknown</td>
<td>Robert Morris</td>
</tr>
<tr>
<td>1969</td>
<td>Unknown</td>
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Appendix M DPR Art in Parks
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