ITEM:	LMCA-000576-2025
PLANNER:	Emily Cline-Gibson, Planner II
REQUEST:	Approval of Resolution 19, Series 2025 recommending to the City Council approval of an ordinance amending the City's Development Design Standards and Title 17 of the Louisville Municipal Code to prohibit nonfunctional turf, artificial turf, and invasive plant species for certain developments to address new state laws.

SUMMARY:
The Colorado General Assembly recently adopted Senate Bill (SB) 24-005 and House Bill (HB) 25-1113, which prohibit nonfunctional turf, nonfunctional artificial turf, and invasive plant species in new non-residential development, certain redevelopment projects, and multifamily residential projects with twelve or more units, while allowing functional turf only in designated recreational areas by January 1, 2026.The legislation also requires local governments to regulate turf installation for all new residential properties by January 1, 2028. To comply with these requirements and ensure consistency across City regulations, staff propose adding a new section to Louisville Municipal Code (LMC) Chapter 17.16 and making related terminology updates to Chapters 17.16, 17.28, and the Sign Code.

BACKGROUND:
Senate Bill (SB) 24-005
The purpose of SB 24-005 is to conserve Colorado's water resources by prohibiting the installation of nonfunctional turf, artificial turf, and invasive plant species for landscaping purposes. Under the bill, *turf* is defined as continuous plant coverage consisting of nonnative grasses or grasses not hybridized for arid conditions. *Nonfunctional turf* is turf that is installed for ornamental purposes instead of for designated recreational use.

The prohibition on nonfunctional turf applies to commercial, institutional, and industrial properties, community properties, street rights-of way, medians, and transportation corridors. This requirement also applies to redevelopment projects where more than 50% of the existing landscape area will be removed or disturbed.

Recreational use areas, such as athletic fields, playgrounds, picnic areas, parks, and other spaces that are regularly used for civic, community, or recreational purposes may allow turf as an acceptable material, as this is considered *functional turf*. Turf used as part of an approved water-quality treatment solution with no irrigation and no pesticide application is also considered functional turf. The bill does not prohibit the continued maintenance of nonfunctional turf, artificial turf, or invasive species that were planted prior to January 1, 2026.

The City's Parks, Recreation, and Open Space (PROS) Department manages landscaping at City facilities, within rights-of-way, and along medians. PROS is actively implementing a median conversion program to replace bluegrass turf with water-wise plantings, which aligns with the requirements of SB 24-005. The amendments proposed in this ordinance apply specifically to LMC Title 17 and the adopted development design standards.

House Bill (HB) 25-1113

HB 25-1113 expands the implementation of SB 24-005 by extending the same turf limitations outlined in SB 24-005 to multifamily residential developments of 12 or more dwelling units. The House Bill also clarifies that artificial turf may be used as a permitted material in functional recreation use areas. Both of these measures from HB 25-1113 are included with the proposed ordinance.

The House Bill also requires local governments to adopt regulations that address the installation of turf in all new residential developments, including single-family properties, by January 1, 2028. This section of the bill is not part of this proposal and is anticipated to be addressed in the municipal code re-write, which is scheduled to begin in 2026.

Currently, the proposed ordinance applies only to new non-residential developments, certain redevelopments if over 50% of the total landscaped area is disturbed, and new multi-family and mixed-use developments with 12 or more dwelling units.

Title 17 and Adopted Design Standards

Title 17 of the LMC establishes zoning and development requirements, including yard and bulk standards, allowable uses, and criteria for Planned Unit Development review. Landscaping standards are not located within Title 17 and are instead contained in the City's adopted development design standards and guidelines.

The Commercial Development Design Standards and Guidelines (CDDSG), Industrial Development Design Standards and Guidelines (IDDSG), and the Mixed-Use Design Standards and Guidelines (MUDDSG) were adopted by City Council between 1997-2007. Each design standard includes a landscaping chapter which references turf, sod, lawn, and grass as acceptable plant materials, without distinguishing between native and non-native species. To comply with SB 24-005 and HB 25-1113, staff proposes to amend these documents only to remove references to plant materials that constitute nonfunctional turf and to replace them with allowable grass species that are native to Colorado or hybridized for arid conditions. The Design Standards for Downtown Louisville do not address landscaping. The Development Code update planned to begin in early 2026 will also more comprehensively address each of these design standards and guidelines.

The City of Louisville Sign Code, adopted in 2019, regulates all signage within the city. The section pertaining to freestanding signs includes landscaping requirements that reference turf as an acceptable material (Sign Code p. 33). Only this section of the Sign Code is affected by the State bills.

PROPOSAL:

Proposed Addition to Title 17

A new section is proposed for Chapter 17.16 – General Regulations to implement the requirements of SB 24-005 and HB 25-1113. This section establishes clear prohibitions on nonfunctional turf and nonfunctional artificial turf for all new commercial, industrial, mixed-use, and institutional development, new multifamily residential developments of 12 or more dwelling units, and development on common property, like areas maintained by homeowners' associations. The new section also prohibits the planting of invasive species, as defined by state law, on any property.

Summary of Changes to Design Standards

The CDDSG, MUDDSG, and IDDSG are amended through the attached draft ordinance to comply with state law. The revisions remove outdated references to sod, grass, turf, and lawn where these terms previously referred to nonfunctional turf and replace them with terms that clarify that the grass must be native to Colorado or hybridized for arid conditions. These amendments are limited to the landscaping chapters of each document, which are Chapter 5 of the CDDSG and IDDSG and Chapter 7 of the MUDDSG. No other chapters of the design standards are affected. These amendments do not modify the amount of landscaping required, the landscape buffer widths, or any other design or landscaping standards.

Below is a summary of all locations in each design standard that include proposed amended language. The proposed language to be added is underlined, and language to be removed is ~~stricken~~.

Table 1. Design Standards Guide for Page / Section Amendments	
Design Standard	Page(s) / Section(s) Containing Amendments
MUDDSG	P. 20
CDDSG	Landscape Design 5-2, 5-3, 5-4, 5-8, 5-9
IDDSG	P. 36, 38, 42, 43, 44

Proposed Amendment to Sign Code

Section 4.10.5 of the sign code is proposed to be amended as follows:

> *When required, landscaping shall include shrubs, ornamental grasses, perennials, ground covers and other enhancements. Landscaping areas shall not consist of more than twenty-five (25) percent ~~turf or~~ native grasses.*

ANALYSIS:

The proposed addition to Chapter 17.16 places the new turf and invasive plant species restrictions in a central section of the Louisville Municipal Code, rather than within the development design standards. This ensures that the requirements of SB 24-005 and HB 25-1113 are applied consistently to all qualifying development types, including multifamily residential developments containing 12 or more dwelling units, since there are no adopted comprehensive design standards for residential developments.

Providing these regulations in Title 17 allows for a clear framework that can be applied uniformly for all new qualifying development and redevelopment.

The amendments to the CDDSG, IDDSG, and MUDDSG are complementary updates to the new Title 17 section. These changes remove outdated references to turf, sod, lawn, and grass where those terms previously implied the use of plant materials that are now prohibited under state law. Replacing these terms with references to grass species native to Colorado or hybridized for arid conditions aligns the City's design standards with the State's definition of turf, which is defined only as nonnative grasses or grasses not hybridized for arid conditions. The revisions are limited in scope and do not alter landscape quantities, buffer requirements, screening standards, or other elements of the design standards. These terminology updates provide clarity for applicants and staff while preserving flexibility for compliance with the adopted landscape design standards.

The proposal is also supported by the City of Louisville's Sustainability Action Plan, which includes strategies to expand water-conservation education for residents and businesses (Action Plan p. 37). The City's Drought Management Plan further outlines the need for water-efficient landscaping by establishing drought response strategies and conservation goals that include reducing unnecessary outdoor water use and discouraging the installation of landscapes with higher water use (Drought Plan p. 6).

Under SB 24-005, redevelopment is defined as a project requiring a building permit or design review in which more than 50% of the existing landscaped area is disturbed. Staff anticipate that most commercial and industrial redevelopment projects in Louisville will not trigger this threshold. Projects that do meet the threshold typically involve full-site redevelopment where existing landscaping would be replaced regardless of the state requirement.

Landscape compliance for commercial and industrial projects will continue to be evaluated during staff review of Planned Unit Development applications, which require detailed landscape plans and full plant material lists. New freestanding signs requiring sign permits will also be reviewed for compliance with the amended landscaping provisions. Staff will apply the updated regulations and design standard terminology to ensure all new development and redevelopment proposals are consistent with the requirements of SB 24-005 and HB 25-1113.

PUBLIC COMMENTS:
Public comments can be found in Attachment 5.

STAFF RECOMMENDATION:
Staff recommend approval of Resolution 19, Series 2025 recommending to the City Council approval of an ordinance amending the City's Development Design Standards and Title 17 of the Louisville Municipal Code to prohibit nonfunctional turf, artificial turf, and invasive plant species for certain new development and redevelopment.

ATTACHMENTS:

1. Resolution 19, Series 2025
2. Draft Ordinance
3. Senate Bill 24-005
4. House Bill 25-1113
5. Public Comments

RESOLUTION NO. 19
SERIES 2025

A RESOLUTION RECOMMENDING APPROVAL OF AN ORDINANCE AMENDING TITLE 17 OF THE LOUISVILLE MUNICIPAL CODE AND DEVELOPMENT DESIGN STANDARDS TO PROHIBIT NONFUNCTIONAL TURF, ARTIFICIAL, TURF, AND INVASIVE PLANT SPECIES FOR CERTAIN NEW DEVELOPMENT AND REDEVELOPMENT

WHEREAS, the City of Louisville (the "City"), is a Colorado home rule municipal corporation duly organized and existing under laws of the State of Colorado and the City of Louisville Home Rule Charter (the "City Charter");

WHEREAS, the Colorado General Assembly enacted Senate Bill 24-005, which added a new Article 99 to the Colorado Revised Statutes, prohibiting nonfunctional turf, artificial turf, and invasive plant species, and which requires local entities, including the City, to prohibit the installation, planting, or placement of any nonfunctional turf, artificial turf, or invasive plant species as part of a new non-residential development project or redevelopment project within the City; and

WHEREAS, the Colorado General Assembly enacted House Bill 25-1113, which supplements Senate Bill 24-005 by expanding the definition of "applicable property" to include multifamily residential housing of more than 12 dwelling units, and further requires local entities, including the City, on or before January 1, 2028, to enact or amend its laws regulating new development and redevelopment projects within its jurisdiction so as to limit the installation of turf to reduce irrigation water demand for residential real property; and

WHEREAS, the Planning Commission finds it is in the interest of the public health, safety and welfare of the City and its residents to prevent the installation, planting or placement of nonfunctional turf, artificial turf, and invasive plant species on certain properties as set forth herein.

NOW THEREFORE, BE IT RESOLVED that the Planning Commission of the City of Louisville, Colorado does hereby recommend approval of an ordinance amending Louisville Municipal Code to prohibit nonfunctional turf, artificial turf, and invasive plant species for certain new development and redevelopment.

PASSED AND ADOPTED this 11th day of December, 2025.

By: _____
Steve Brauneis, Chair
Planning Commission

Attest: _____
Cullen Choi, Secretary
Planning Commission

ORDINANCE NO. XXXX
SERIES 2025

AN ORDINANCE AMENDING THE CITY'S DEVELOPMENT DESIGN STANDARDS AND TITLE 17 OF THE LOUISVILLE MUNICIPAL CODE TO PROHIBIT NONFUNCTIONAL TURF, ARTIFICIAL TURF, AND INVASIVE PLANT SPECIES FOR CERTAIN NEW DEVELOPMENT AND REDEVELOPMENT

WHEREAS, in order to mitigate the impacts of climate change, green urban spaces such as urban tree canopies are a vital adaptation tool, especially for mitigating the urban heat island effect, which can increase energy costs, air pollution, and heat-related illnesses and deaths; and

WHEREAS, water supply in the western United States is under increasing pressure due to climate change and increasing demand; and

WHEREAS, the City Council finds the overuse of nonnative grass for landscaping purposes requires large amounts of water to maintain; and

WHEREAS, the City Council further finds that, while there are appropriate and important uses for turf, including for civic, community, and recreational purposes such as use in parks, sports fields, and playgrounds, much of the turf in the non-residential and certain multifamily areas of the City is nonfunctional, located in areas that receive little, if any use, and could be replaced with landscaping that adheres to water-wise landscaping principles without adversely impacting quality of life or landscape functionality; and

WHEREAS, prohibiting the installation, planting, or placement of nonfunctional turf in non-residential areas and certain multifamily areas of the City can help conserve the City's water resources; and

WHEREAS, installed vegetation that adheres to water-wise landscaping principles can help reduce outdoor demand of water; and

WHEREAS, installation of artificial turf can cause negative environmental impacts, such as exacerbating heat island effects in urban areas and releasing harmful chemicals, including plastics, microplastics, and perfluoroalkyl and polyfluoroalkyl chemicals, into the environment and watersheds; and

WHEREAS, the Colorado General Assembly enacted Senate Bill 24-005, which added a new Article 99 to the Colorado Revised Statutes, prohibiting nonfunctional turf, artificial turf, and invasive plant species, and which requires local entities, including the City, to prohibit the installation, planting, or placement of any nonfunctional turf, artificial turf, or invasive plant species as part of a new non-residential development project or redevelopment project within the City; and

WHEREAS, the Colorado General Assembly enacted House Bill 25-1113, which supplements Senate Bill 24-005 by expanding the definition of "applicable property" to include multifamily residential housing of more than 12 dwelling units, and further requires local entities, including the City, on or before January 1, 2028, to enact or amend its laws regulating new development and redevelopment projects within its jurisdiction so as to limit the installation of turf to reduce irrigation water demand for residential real property; and

WHEREAS, the City Council has adopted ordinances amending Title 17 of the Louisville Municipal Code to implement the Louisville Commercial Development Design Standards and Guidelines (the "CDDSG"), the Louisville Industrial Development Design Standards and Guidelines (the "IDDSG"), and the Louisville Mixed Use Design Standards and Guidelines ("MUDSG"), all of which contain certain regulations regarding landscaping for commercial, industrial, and mixed-use development; and

WHEREAS, the City Council has adopted a Sign Code, which is set forth in Appendix B to Title 17 of the Louisville Municipal Code, and which Sign Code establishes the requirements, standards, and guidelines applicable to signs within the City; and

WHEREAS, after a duly noticed public hearing held _____, at which evidence and testimony were entered into the record, including the Louisville Planning Commission Staff Report dated _____, the Louisville Planning Commission has recommended the City Council adopt the amendments to the Louisville Municipal Code set forth in this ordinance; and

WHEREAS, City Council has provided notice of a public hearing on said ordinance by publication as provided by law and held a public hearing as provided in said notice; and

WHEREAS, the City Council finds it is in the interest of the public health, safety and welfare of the City and its residents to prevent the installation, planting or placement of nonfunctional turf, artificial turf, and invasive plant species on non-residential property as set forth herein.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF LOUISVILLE, COLORADO:

Section 1. Louisville Municipal Code Chapter 17.16 – General Regulations is hereby amended by the addition of a new Section 17.16.370 as follows:

Sec. 17.16.370 – Water Efficient Landscaping Standards.

A. *Applicability*. The requirements of this section apply to:

1. All new commercial, industrial, mixed-use, and institutional development;
2. All new multifamily residential development containing twelve (12) or more dwelling units;
3. All new development on common property; and
4. Any redevelopment of the above properties where more than 50% of the existing landscaped area is proposed to be removed or disturbed.

B. *Turf limitations.* Turf and artificial turf may be installed only within functional recreational use areas, including playgrounds, sports fields, picnic areas, and other spaces that are regularly used for civic, community, or recreational purposes. All turf and artificial turf located outside of these areas is considered nonfunctional and is prohibited. Functional recreational use areas do not include decorative lawn areas, narrow landscape strips, parking lot islands, or rights-of-way.

C. For the purpose of this section, "turf" is defined in C.R.S. § 37-60-135 (2)(i) as continuous plant coverage consisting of nonnative grasses or grasses not hybridized for arid conditions and "artificial turf" shall be interpreted consistent with state law definitions for functional and nonfunctional artificial turf as set forth in C.R.S. § 37-99-102.

D. Invasive plant species. Invasive plant species, as defined in C.R.S. *§* 37-60-135 (2)(e), are prohibited in all landscaped areas.

E. In the event that this section conflicts with landscaping requirements set forth in any other applicable section of Title 17, including all adopted design standards, the provisions of this section shall control.

Section 2. Section 4.10.5 of the Sign Code adopted by reference in Section 17.24.010 and set forth in full as Appendix B to the Louisville Municipal Code is hereby amended to read as follows (words to be added underlined; words to be deleted ~~stricken~~):

4.10 Freestanding Signs.

5. When required, landscaping shall include shrubs, ornamental grasses, perennials, ground covers and other enhancements. Landscaping areas shall not consist of more than twenty-five (25) percent ~~turf or~~ native grasses.

Section 3. The Mixed-Use Development Design Standards and Guidelines referenced in Appendix A to Chapter 17.16 of the Louisville Municipal Code is hereby amended to read as set forth in Exhibit A to this ordinance, attached hereto and incorporated herein by this reference (words to be added underlined; words to be deleted ~~stricken~~).

Section 4. The Commercial Development Design Standards and Guidelines referenced in Appendix A to Chapter 17.28 of the Louisville Municipal Code is hereby amended to read as set forth in Exhibit B to this ordinance, attached hereto and incorporated herein by this reference (words to be added underlined; words to be deleted ~~stricken~~).

Section 5. The Industrial Development Design Standards and Guidelines referenced in Appendix C to Chapter 17.28 of the Louisville Municipal Code are hereby amended to read as set forth in Exhibit C to this ordinance, attached hereto and incorporated herein by this reference (words to be added underlined; words to be deleted ~~stricken~~).

Section 6. If any portion of this ordinance is held to be invalid for any reason, such decision shall not affect the validity of the remaining portions of this ordinance. The City Council hereby declares that it would have passed this ordinance and each part hereof irrespective of the fact that any one part be declared invalid.

Section 7. The repeal or modification of any provision of the Municipal Code of the City of Louisville by this ordinance shall not release, extinguish, alter, modify, or change in whole or in part any penalty, forfeiture, or liability, either civil or criminal, which shall have been incurred under such provision, and each provision shall be treated and held as still remaining in force for the purpose of sustaining any and all proper actions, suits, proceedings, and prosecutions for the enforcement of the penalty, forfeiture, or liability, as well as for the purpose of sustaining any judgment, decree, or order which can or may be rendered, entered, or made in such actions, suits, proceedings, or prosecutions.

Section 8. All other ordinances or portions thereof inconsistent or conflicting with this ordinance or any portion hereof are hereby repealed to the extent of such inconsistency or conflict.

INTRODUCED, READ, PASSED ON FIRST READING AND ORDERED PUBLISHED this __ day of _____, 2025.

_____
Christopher M. Leh, Mayor

ATTEST:

_____
Genny Kline, Interim City Clerk

APPROVED AS TO FORM:
Kelly PC

_____
Kathleen Kelly, City Attorney

PUBLIC HEARING AND SECOND READING WILL BE THE ____ DAY OF _____, 2025, AT 6:00 P.M. AT LOUISVILLE CITY HALL, 749 MAIN STREET, LOUISVILLE, CO 80027.

PASSED AND ADOPTED ON SECOND AND FINAL READING, this __ day of _____, 2025.

_____
Christopher M. Leh, Mayor

ATTEST:

_____
Genny Kline, Interim City Clerk

Exhibit A
Mixed Use Development Design Standards and Guidelines

LOUISVILLE, COLORADO
IMPLEMENTATION OF THE HIGHWAY 42 REVITALIZATION AREA PLAN

Appendix A
MIXED USE DEVELOPMENT DESIGN STANDARDS AND GUIDELINES

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CITY OF LOUISVILLE MIXED USE DESIGN STANDARDS AND GUIDELINES

INTRODUCTION

PURPOSE AND INTENT

Major improvements to U.S. Highway 42 and the potential development of a commuter rail station in Louisville are creating the conditions for significant development and change in the Highway 42 Revitalization Area. In anticipation of such change, the City of Louisville hereby declares that it is the purpose and intent of these Mixed Use Development Design Standards and Guidelines (MUDDSG) to:

1. Implement the Highway 42 Revitalization Area Comprehensive Plan;
2. Strengthen and enhance adjacent residential neighborhoods while protecting them from potential adverse impacts associated with new development;
3. Complement and integrate the area with historic downtown Louisville through the establishment of strong pedestrian, and multimodal connections;
4. Capture the potential for high-quality, mixed use development that will serve adjacent neighborhoods and the citizens of Louisville and enhance the city's long-term tax base;
5. Avoid incompatible industrial and large-scale or heavy commercial growth;
6. Adopt a regulatory framework that promotes and encourages redevelopment to integrate principles of sustainable architecture and energy conservation.
7. Adopt design standards for the development of a commuter rail station that promote the public health and safety, adequate ingress and egress, and parking.
8. Decentralized surface parking shall be constructed in a manner so that it does not overwhelm the redevelopment area.
9. Capture the potential for highway commercial development adjacent to State Highway 42 providing a restricted range of retail sales and services.

APPLICABILITY

The regulations and requirements of this manual shall apply to all land, existing development, and proposed development in the Residential Mixed Use Zone District (MU-R), and the Commercial Community Zone District (CC). All new development, changes in use, or substantial alterations or expansions of an existing use in these zone districts shall comply with these Mixed Use Development Design Standards and Guidelines.

HOW TO USE THIS MANUAL

1. *Who Uses This Manual.*

These Mixed Use Development Design Standards and Guidelines are to be used by property owners/applicants and their design consultants in the planning of development in the MU-R or CC Zone District within the City of Louisville. The MUDSG will also be used by city staff, the planning

commission, and the city council as part of their review of development proposals in the MU-R and CC Districts.

2. *How to Use the Mixed Use Development Design Standards and Guidelines.*

The MUDDSG are generally organized in a descending order of scale, from overall site planning concerns, to circulation issues, to building and site details, and then to signs and lighting. When first developing overall planning concepts for a development in the MU-R and CC Districts, the earlier sections of the manual will be most relevant. At advanced stages of project design, when architectural details and specific landscaping ideas are being developed, sections appearing later in the manual will be most relevant.

3. *How the Manual is Organized.*

This manual is organized into sections, with the first five sections comprising this introduction and explaining the manual's intent, how to use this document, and how other city regulations apply and interplay with this Manual. The fifth section in this introduction provides definitions of terms of art used in the Manual and not otherwise defined in the city's Zoning Ordinance (Title 17) of the city's municipal code.

The remainder of the sections each addresses a different substantive area, such as blocks and streets, off-street parking, pedestrian circulation, and architectural and building design. In many cases, the section may refer back to the City of Louisville Commercial Development Design Standards and Guidelines (CDDSG) and direct the user to apply the standards and guidelines in that document to the proposed project in the mixed use zone district. In other cases, the user is directed to apply the relevant CDDSG standard or guideline, but with specific variations appropriate to implementing the vision for the MU-R and CC Districts.

The remaining sections, which are especially applicable to development in the MU-R and CC Districts, are generally comprised of the following components:

A. **Intent and purpose statement**, which is a broad statement explaining the general or specific reasons and goals for the approach taken and substance found in the particular standard or guideline.

B. **Standards**, which mandate the specific course of planning and design action that the applicant must incorporate in its project application. Compliance with standards is mandatory. Statements of standards are indicated by use of the word "shall" in the rule or directive. A failure to meet a standard may be used as a basis for the city's denial of a project application.

C. **Guidelines**, if any, follow the standards and are indicated by the words "may" or "should." Guidelines are voluntary and not mandatory; however, compliance is strongly encouraged to fulfill the intent of the section. A failure to meet a guideline cannot be used by the city as a basis for project denial.

D. **Graphic illustrations** showing one or more suggested design solutions that would be appropriate or inappropriate with respect to the standards and guidelines. Graphics may include photographs or drawings, and are intended to be illustrative of the text and not regulatory. In the event of a conflict between a graphic illustration and the text of a MUDDSG standard, the text shall control.

RELATIONSHIP TO OTHER REGULATIONS

1. *Relationship to the Louisville Commercial Development Design Standards and Guidelines and Downtown Design Handbook for Downtown Louisville.*

The City of Louisville Commercial Development Design Standards and Guidelines (CDDSG) shall not apply to development subject to these Mixed Use Development Design Standards and Guidelines except as expressly cross-referenced or provided in this manual. The standards and guidelines set forth in the Downtown Design Handbook for Louisville and the yard, bulk, and other requirements applicable to Downtown Louisville (including but not limited to Section 17.12.050 and Section 17.20.025 of this Zoning Ordinance) shall not apply to development subject to these Mixed Use Development Design Standards and Guidelines except as specifically cross-referenced or provided in this manual.

2. *Relationship to General Zoning Regulations.*

When these Mixed Use Development Design Standards and Guidelines state a development or design standard specific to the MU-R or CC Zone District, such standards shall apply in lieu of any general regulation stated in Chapter 17.16 or in other parts of Title 17 that addresses the same subject. When the general development or design regulations in Chapter 17.16 or in other provisions of Title 17 regulate a subject that these standards and guidelines do not clearly address, the general regulation shall apply to development in the MU-R District.

DEFINITIONS

1. Maximum Extent Feasible

No feasible and prudent alternative exists, and all possible efforts to comply with the regulation or minimize potential harm or adverse impacts have been undertaken. Economic considerations may be taken into account but shall not be the overriding factor in determining "maximum extent feasible."

2. Maximum Extent Practicable

Under the circumstances, reasonable efforts have been undertaken to comply with the regulation or requirement, that the cost of additional compliance measures clearly outweigh the potential benefits to the public or would unreasonably burden the proposed project, and reasonable steps have been undertaken to minimize any potential harm or adverse impacts resulting from the noncompliance.

1. Street and Block Design Standards.

1.1. *Intent.*

In order to encourage a synergistic mix of uses within the MU-R and CC Districts and to complement existing Downtown development, clear pedestrian and automobile links and safe pedestrian movements within the districts and between the districts and Downtown Louisville are essential. With the districts organized into regular-sized blocks, an internal public street system is created that can work to disperse and distribute project-generated traffic to multiple access points, rather than funneling such traffic through a single primary access way. The street and block standards are a fundamental cornerstone in creating a pedestrian-oriented and pedestrian-friendly district. Finally, the street and block standards purposely model the existing street grid and block system in Downtown Louisville to encourage the MU-R and CC Districts to mature as an extension of Downtown, and to enable present and future vehicle, pedestrian, and visual access between the areas.

1.2. *General Street and Block Layout Standards.*

A. To the maximum extent practicable, the general layout of blocks and streets within the Highway 42 Revitalization Area shall conform to an interconnected traditional grid pattern similar in layout, scale, and function as found in the Louisville Downtown Area. (S)

B. Street alignment within the MU-R and CC Districts shall generally conform to the street pattern adopted in the Highway 42 Plan to the maximum extent practicable. To ensure both visual and physical connections top the Downtown, east-west streets in the MU-R and CC Zone Districts shall align with the east-west streets found in the Louisville Downtown Area to the maximum extent feasible. (S)

C. The street grid pattern may be modified to accommodate changes in natural grade, existing property boundary lines, utility easements, or important visual elements within the district (e.g., a street may terminate at a "T" intersection to accentuate a key building or feature). (S)

1.3. *Allowed Block Dimensions.*

The following block standards apply to all new development:

A. Permitted Block Width: (Generally, the east and west sides of block)

1. MU-R District: 270-320 feet. (S)
2. CC-District: 400 feet (S)

B. Permitted Block Length (Generally, the north and south sides of block)

1. MU-R District: 300-400 feet. (S)
2. CC District: 600 feet (S)

C. All block dimensions shall include area devoted to alleys. (S)

1.4. *General Street Design Standards.*

A. *Internal Public Street System.*

All development sites shall provide for multiple blocks and an internal street system according to the street and block standards in this section, and according to the Louisville Public Works Department's general policies, standards, and guidelines governing street design**.** (S)

B. *Internal Streets.*

Internal streets provided according to this section are to be dedicated to the public. All internal streets shall be constructed according to the Louisville Public Works Department's general policies, standards, and guidelines governing public street construction. On a case-by-case basis, the city may approve alternative private street design that varies from the city's adopted public street cross-sections, based on the city's consideration of the proposed intensity of vehicle and pedestrian use, adequacy of emergency safety access, drainage requirements, and similar issues. (S)

C. *General Street Design Standards.*

Accent paving materials located within the public right-of-way shall meet Louisville Public Works Department criteria. (S)

D. *Mid-Block Alleys Encouraged.*

Guideline: The city encourages the provision of mid-block through alleys to serve both residential and nonresidential uses. For nonresidential uses, alleys may be used to enable secondary vehicle access and service access. (G)

2. Vehicle Access, Circulation, and Connections.

2.1. Intent.

The vehicle access, circulation and connection standards in this section are intended to minimize the number of curb cuts; maximize the amount of on-street parking available for residents, employees, and visitors to the district; encourage the use of shared access ways to off-street parking areas (including the use of alleys for this purpose).

2.2 Site and Vehicular Access Standards and Guidelines.

All new development in the MU-R and CC Districts shall comply with the following **standards** and **guidelines**:

A. Site access to the MU-R and CC Districts from Highway 42 shall be from dedicated public streets only. (S)

B. New curb cuts along Highway 42 to provide direct access to individual parcels via entrance drives are prohibited. Existing curb cuts and entrance drives along Highway 42 that directly access individual parcels shall be closed or consolidated to the maximum extent feasible as parcels are developed or redeveloped. As applicable, applicants shall reference the adopted Access Control Plan as amended from time to time for additional Highway 42 access regulations. (S)

C. Street intersections providing site access to the district shall be enhanced by incorporating signs, accent paving, special landscaping, and lighting. Materials used in entry features shall be consistent with other materials used in the development. (S)

D. A minimum separation of fifty (50) feet shall be maintained between adjacent curb-cuts along private streets. (S)

E. A minimum separation of eighty (80) feet shall be maintained between a public or private street and a parcel curb-cut that is created after the effective date of these standards. (S)

F. Vision clearance areas shall not be required except with respect to fences, walls, landscaping and service enclosures. (S)

G. Applicants for development are strongly encouraged to provide mid-block through alleys to provide primary or secondary access to the site for off-street parking or services. (G)

2.3. *Vehicular Circulation and Connection Standards.*

The policy, standards, and guidelines for vehicular circulation stated in Section 2.1.2 of the CDDSG shall apply in the MU-R and CC Districts, except as varied by the following standard for vehicle connections:

A. *Street Connections to Adjacent Uses.*

Connections between adjacent development parcels shall be provided by aligning new perimeter and internal streets to connect with existing and planned external streets of equivalent functional classifications to create through-street connections from mixed-use development to adjacent development. Where it is necessary to prevent cut-through traffic from entering existing residential areas, street alignments may be discontinuous and traffic calming improvements shall be utilized. (S)

2.4. *Service/Delivery, Emergency and Utility Access.*

The policy, standards, and guidelines for service/delivery, emergency and utility access stated in Section 2.1.4 of the CDDSG shall apply in the MU-R and CC Districts. Shared service and delivery access ways between adjacent parcels and/or buildings shall be employed to the maximum extent feasible. The city shall require cross access easements whenever necessary to ensure that adjacent parcels have adequate access if ownership patterns change. (S)

2.5. *Mass Transit Facilities.*

Transit facilities shall be provided in a manner to make transit an attractive mode of travel for residents and employees.

A. Locate bus shelters close to significant clusters of buildings. Provide a concrete pad in front of bus shelters. Provide protection for bus shelters from prevailing winds. (S)

B. Coordinate any shelter design and locations with RTD. (S)

3. Site Planning.

3.1. *Intent.*

The orientation of a principal building is a major influence on the public realm environment created at the public sidewalk or street edge. When buildings are set back far from the public sidewalk or street, or when a building turns its back on the primary abutting street, the pedestrian experience at the sidewalk or on the street suffers in quality. These building orientation and siting standards are intended to accommodate and invite pedestrians to walk to and between destinations within the MU-R, and CC Districts, to feel safe and comfortable doing so, and to support the use and security of the commuter rail line and transit station located in the Highway 42 plan area.

3.2. *Building Orientation and Building Entrances.*

The policy, standards, and guidelines for building siting and orientation stated in Section 1.1 of the CDDSG shall apply in the MU-R and CC Districts. In addition, the following building orientation standards and guidelines shall apply:

A. *Principal Buildings on Parcels With Highway 42 Frontage.*

1. Principal buildings on parcels with Highway 42 frontage shall have primary facades and entrances oriented either:

a. Toward Highway 42 subject to the standard in subsection 2 below;

b. Toward an abutting internal or perimeter street other than Highway 42, or

c. Toward an adjacent public plaza, park, or on-site amenity. (S)

See Figure 1.

2. If the primary façade and entrance to a principal building orients toward Highway 42, a second primary building entrance of equal size, scale, and prominence shall be provided on a different elevation of the building that orients toward an abutting internal or perimeter street other than Highway 42. (S) **See Figure 1.**

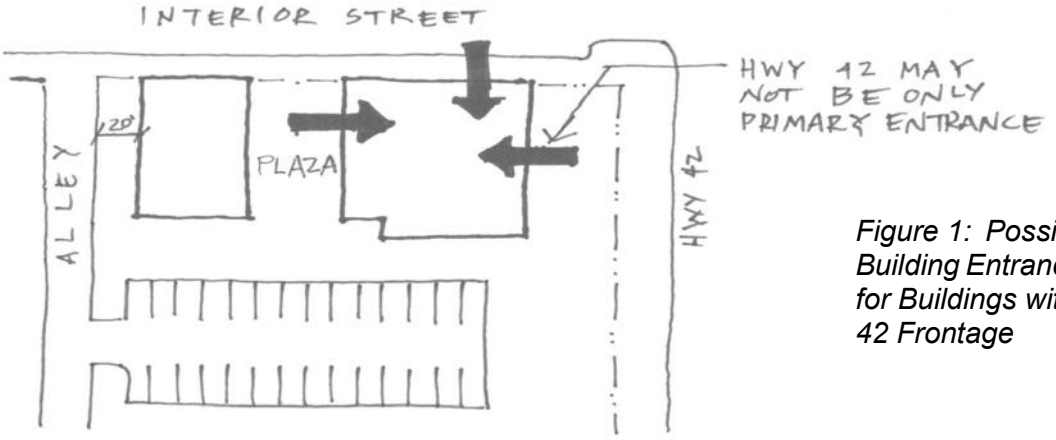


Figure 1: Possible Primary Building Entrance Locations for Buildings with Highway 42 Frontage

3. All primary building entries shall comply with the prominent entry design standards in Section 9.3 below. (S)

4. Secondary building entrances may orient toward and face Highway 42. (G)

B. *All Other Buildings.*

1. All principal buildings shall have their primary façades and entrances oriented toward public street frontages and shall not face parking lots or alleys. The building's primary façade and entrance shall face the primary abutting access street or an adjacent public plaza, park, or on-site amenity. Primary building entries shall comply with the prominent entry design standards in Section 9.3 below. (S)

2. Secondary entrances may face a rear parking area, or other streets with sidewalks or walkways. (G)

3.3. *Utilities, Mechanical, and Telecommunications Equipment.*

The policy, standards, and guidelines for utilities, mechanical, and telecommunications equipment stated in Section 1.5 of the CDDSG shall apply in the MU-R and CC Districts, except that utility meters and other above-ground utility boxes and similar equipment shall be located where they will be least visible from an abutting local street. (S)

3.4. *Water Quality Control and Drainage.*

The policy, standards, and guidelines for water quality control and drainage stated in Section 1.7 of the CDDSG shall apply in the MU-R and CC Districts.

3.5. *Site Grading, Excavation and Erosion Control.*

The policy, standards, and guidelines for site grading, excavation, and erosion control stated in Section 1.8 of the CDDSG shall apply in the MU-R and CC Districts.

4. Off-Street Parking and Loading.

4.1. *Off-Street Parking.*

A. *Intent.*

An adequate supply of off-street parking is necessary for the commercial viability and success of new development in the MU-R and CC Districts. However, commuter rail located within easy walking distance of the entire Highway 42 Revitalization Area may reduce the amount of off-street parking required or supplied in developments where the only travel mode option is the automobile. The city's adopted street design for the Highway 42 Revitalization Area will also ensure that on-street parking spaces can serve the district's visitors and users.

B. *Amount of Off-Street Parking Required.*

1. The amount of off-street parking required for permitted uses in the MU-R and CC Districts is set forth in Table 1 below. Credits and reductions may be allowed according to subsection 4.1.C. below. (S)

2. Unless otherwise specifically noted, all square footage-based parking standards shall be computed pursuant to Section 17.20.025 of the Louisville Municipal Code on the basis of gross floor area, which shall be measured as the floor area primary to the functioning of the particular use of the property and shall exclude stairwells, elevator shafts, hallways, bathrooms, ornamental balconies, space occupied by heating, air conditioning or other utility equipment, common area open spaces (e.g., courtyards), and space devoted to off-street parking or loading. Additionally, the area measured with respect to a restaurant use shall not include floor area designed primarily for use by service and food preparation staff. (S)

3. In all calculations of the minimum or maximum amount of parking, all fractions shall be rounded down to the nearest whole number. (S)

4. Pursuant to Section 17.20.025 of the Louisville Municipal Code, if an off-street parking space has been provided in connection with existing floor area or is added in connection with existing floor area, the existing parking space shall not be eliminated if elimination would result in fewer spaces for the existing floor area than the required ratio set forth in Table 1. Therefore, existing parking may be credited to the parking requirement of Table 1 only if the existing parking space exceeds the required ratio. If the use of a freestanding building occupied solely by a restaurant is changed in whole or part to another use, parking for the floor area changed in use shall be calculated and provided as set forth in this section. (S)

TABLE 1		
	AMOUNT OF OFF-STREET PARKING SPACES REQUIRED *GLA = Gross Leasable Area*	
USE CATEGORY ▼	**CC DISTRICT**	**MU-R DISTRICT**
All Retail Sales, Service, and Office Uses:		
Professional and Business Office	**Minimum:** 1 space per 400 square feet of GLA **Maximum:** 125% of minimum required spaces	**Minimum:** 1 space per 500 square feet of GLA **Maximum:** 125% of minimum required spaces
Eating/Drinking Establishments	**Minimum:** 1 space per 300 square feet of GLA **Maximum:** 125% of minimum required spaces	**Minimum:** 1 space per 300 square feet of GLA **Maximum:** 125% of minimum required spaces
All Other Retail Sales, Service,	1 space per 300 square feet.	**Minimum:** None **Maximum:** 1 space per 300 square feet.
All Residential Uses [Note 1]:		
1-bedroom unit	**Minimum:** 1 space per unit **Maximum:** 1.25 spaces per unit	**Minimum:** 1 space per unit **Maximum:** 1.25 spaces per unit
2-bedroom unit	**Minimum:** 2 spaces per unit	**Minimum:** 2 spaces per unit
3-or-more-bedroom unit	**Minimum:** 2.0 spaces per unit	**Minimum:** 2.0 spaces per unit
Additional guest parking **[Note 2]**	1 space per 8 dwelling units in addition to the minimum off-street parking spaces.	1 space per 8 dwelling units in addition to the minimum off-street parking spaces.
Civic, Institutional, and Public Uses:		
Educational Institutions	**Minimum and Maximum:** 1 per 4 seats or 1 per 1,000 square feet of floor area, whichever requires the greater amount.	**Minimum and Maximum:** 1 per 4 seats or 1 per 1,000 square feet of floor area, whichever requires the greater amount.
All Other Permitted Public, Institutional, and Civic Uses	**Minimum:** One 1 per 400 square feet of floor area **Maximum:** 3 per 1,000 square feet of floor area	**Minimum:** One 1 per 400 square feet of floor area **Maximum:** 3 per 1,000 square feet of floor area
Notes to Table 1: **1.** Off-street parking spaces located in an enclosed parking garage, including in an accessory residential garage, and which comply with these Mixed Use Development Design Standards and Guidelines, shall not be counted toward the maximum amount of spaces permitted. **2.** On-street parking spaces abutting the property line(s) of the primary building housing the use may be counted toward the required number of residential guest parking spaces.		

C. *Credits and Reductions.*

1. *Credit for On-Street Parking.*

On-street parking spaces abutting the property line(s) of a primary nonresidential building may be credited toward meeting the minimum required off-street parking spaces. On-street parking

spaces abutting the property line(s) of a primary residential building may be counted toward the required number of guest parking spaces only. On-street parking allowed by this provision shall not be counted toward the maximum amount of off-street parking allowed. (G)

2. *Reduction for Shared Parking.*

The amount of off-street parking required may be reduced by an amount determined by the Planning Director when it can be shown through a parking demand study that sufficient parking is or can be met by the subject uses through shared parking. The parking demand study shall provide information and evidence about the anticipated parking demand at peak times during a day and the distance relationship between available shared parking spaces and the specific uses served. A shared parking agreement shall be executed and recorded prior to the issuance of a certificate of occupancy or prior to the issuance of a certificate of completion by the Building Safety Division. (S)

3. *Maximum Total Reductions.*

Total cumulative reductions to the minimum off-street parking requirements through application of this subsection shall not exceed twenty-five (25) percent. (S)

4.2. *Parking Lots and Structures.*

A. *Intent.*

To ensure a more pedestrian-oriented and pedestrian–friendly environment, off-street parking facilities, especially surface parking lots, must not dominate the street front, but should instead be sited, designed, and screened to be as unobtrusive as possible. Perimeter and interior landscaping shall be required for screening and/or to break up hard-surfaced parking lots and soften their edges.

B. *Remote Parking Allowed.*

The city may permit all or a portion of required off-street parking to be located off-site subject to the following standards:

1. *Location.*

Remote off-street parking spaces shall be located no farther than six hundred (600) feet away from the principal building they are intended to serve, as measured from the nearest point of the remote off-street parking facility to the nearest point of the building or structure served. (S)

2. *Zoning Classification.*

Remote parking areas shall be considered accessory to the principal use that the parking spaces are intended to serve. Parking areas shall require the same or a more intensive zoning classification than that required for the most intensive of the uses served by the remote parking area, provided that remote parking facilities may be located in any zoning district that allows commercial parking lots and garages. (S)

3. *Remote Parking Agreement.*

If a remote parking area is not under the same ownership as the principal use served, an executed and recorded written agreement among the owners of record shall be required. A remote parking agreement may be revoked by the parties to the agreement only if off-street parking is provided under this Section. (S)

C. *Surface Parking Lot Development and Design Standards.*

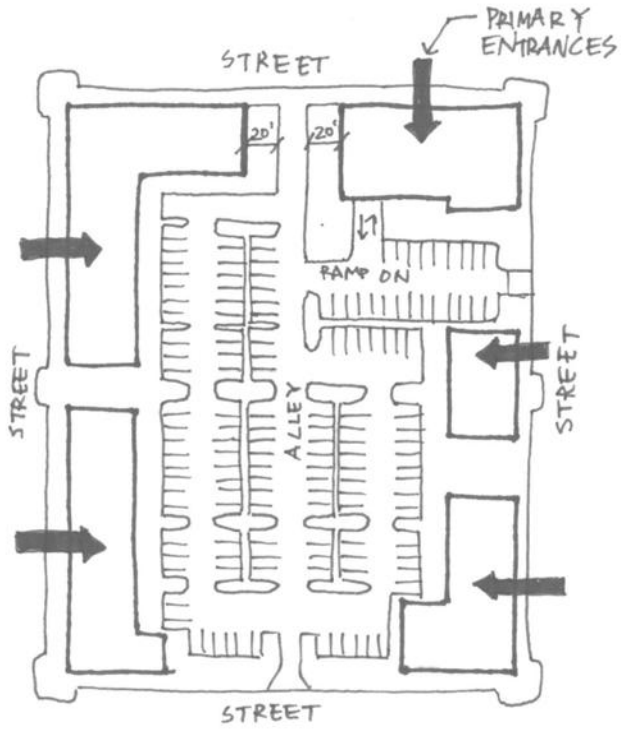


Figure 2: Location of Accessory Surface Parking Lots in the MU-R District.

The policy, standards, and guidelines for surface parking lots stated in Section 2.2.1 of the CDDSG shall apply in the MU-R and CC Districts, except for the minimum parking ratios stated therein. The off-street parking amount standards in Section 4.1.B. shall apply in the mixed use districts. In addition, the following standards and guidelines shall apply in the mixed-use zone districts:

1. *Location of Surface Parking Lots.*

   On-site, off-street accessory surface parking lots shall be located to the side or to the rear of a building face that contains a primary building entrance. No on-site, off-street parking lots shall be located between a building's front facade and the adjacent street in the MU-R District. **See Figure 2.** Off-street parking may be permitted between the building's front façade and Highway 42 frontage, subject to parking lot landscape screening requirements for properties zoned CC. (S)

2. *Parking Lot Landscaping and Screening.*

   See Section 7 for parking lot landscaping and screening requirements.

D. *Parking Structures and Parking Beneath Buildings.*

The policy, standards, and guidelines for parking structures and parking beneath buildings stated in Section 2.2.2 of the CDDSG shall apply in the MU-R and CC District, except for the standard stated therein regarding ground-level parking structure use and design (Standard 2.2.2.D.) Instead, the use and design of the ground floor of all above-ground parking structures, including a commuter parking structure, are subject to the following standards:

1. *Design of Entries/Access.*

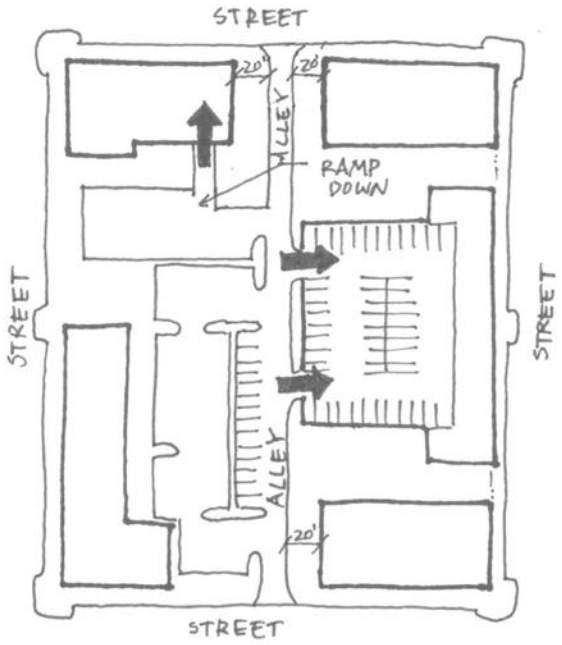


Figure 3: Parking Structure Access

Vehicle entries to off-street parking structures shall be internalized in building groupings or oriented away from the primary street frontage, to the maximum extent practicable. At a minimum, parking structures facilities shall have user vehicle access from alleys or from secondary streets at locations that do not conflict with pedestrian circulation. (S) **See Figure 3.**

2. *Ground Floor Parking Structure Use.*

The following standard shall apply to all parking structures, but not including parking structures used exclusively as parking for transit riders and commuters:

a. When structured parking occupies the ground floor of a building or structure, the length of the street-facing wall for that portion of the building/structure containing the parking spaces shall not be credited toward compliance with the "Minimum % of Street-Facing Property Front Lot Line that Must Contain a Building or Building Wall" standard stated in Section 17.14.060.B (Table 3: Mixed Use Zoning Districts Dimensional and Bulk Standards). (S)

b. In order to maintain an active and attractive street presence, when a parking structure provides commercial or accessory parking, or is integrated into a building containing principal permitted uses, commercial or other nonresidential use of the ground-floor street frontage is strongly encouraged. (G)

3. *Ground Floor Parking Structure Design.*

In order to maintain an active, attractive, and safe street presence for pedestrians, when a parking structure provides parking on the ground floor, and the ground floor does not contain ground-floor commercial or other nonresidential "active" uses the ground-level façade of the parking structure (at least the first 12 vertical feet of the structure) shall include at least two (2) of the following design features:

a. Facade articulation and modulation through changes in vertical wall plane and/or a change in building material;

b. Use of real windows with glazing that may be translucent, but shall not include black or mirrored glass or similar opaque glazing;

c. Use of false windows defined by frames, lintels, or sills;

d. Integration of multiple building entrances;

e. Buffering of the street edge with landscaping, berms, or landscaped built-in or movable planters; or

f. Similar architectural detailing consistent with the intent to maintain an attractive and safe streetscape for pedestrians. (S)

See Figure 4.

Figure 4: Example of Ground Floor Parking Structure Design

4. *Motorcycle Parking.*

The policy, standards, and guidelines for motorcycle parking stated in Section 2.2.4 of the CDDSG shall apply in the MU-R and CC Districts.

4.3. Off-Street Loading.

A minimum of one (1) dedicated, off-street loading space is required for nonresidential uses greater than 50,000 square feet in gross leasable area and for multi-family residential uses containing more than fifteen (15) units. All other uses should have adequate alleys, private drives, or on-street parking spaces available for intermittent loading/delivery needs. If the city determines, based on experience with similar uses, that a particular use typically has a demonstrated need for a dedicated loading area, the city may require the applicant to make provision for an off-street loading area on-site. (S)

5. Pedestrian and Bicycle Circulation.

5.1. *General Connectivity Standards.*

All new development shall provide pedestrian and bicycle systems that provide continuous connections with off-site destinations according to the following standards:

A. Provide well-identified and differentiated bicycle and pedestrian access from the development site. Access shall be provided to existing and designated public bike paths or greenways located on or adjacent to the development site. (S)

B. On-site connections shall be made at points necessary to provide direct pedestrian and bicycle travel from within the development to residential areas and to major pedestrian destinations located within the adjacent neighborhood(s), including, but not limited to adjacent parks, schools, and the Louisville Downtown area. In order to provide direct pedestrian connections to these adjacent destinations, the city may require additional sidewalks, walkways, or bike paths not associated with a street, or the extension of a sidewalk from the end of a dead-end street to another street or walkway. (S)

C. Connections from a perimeter public sidewalk system to the on-site sidewalks and walkways shall be made at the same block length intervals as exists within the development site. (S)

D. Separate pedestrian and vehicle movement to the extent practical with the use of landscaping, barriers or other appropriate design solutions recommended in Section 3.3 of the CDDSG.

5.2. *Internal Pedestrian Circulation and Connections.*

All new development shall provide and contribute to an on-site system of pedestrian walkways and/or public sidewalks throughout the district. The on-site pedestrian circulation system shall provide the most efficient access routes between intended points of travel. Specifically, on-site pedestrian connections shall be provided to and between the following points:

A. The primary entrance or entrances to each building housing a principal use;

B. Existing or planned transit stations, shelters, and park and ride locations;

C. Any sidewalks or walkways on adjacent properties that extend to the boundaries shared with the development site;

D. Any public sidewalk system along the perimeter streets adjacent to the development site; and

E. On-site amenities, as provided according to Section 6.3.

F. On-site and remote surface parking lots. (S)

5.3. *On-Site Pedestrian Walkway Design Standards.*

In the MU-R and CC Districts, all on-site pedestrian walkways shall maintain a minimum unobstructed pathway of five (5) feet at all times. (S) **See Figure 5.**

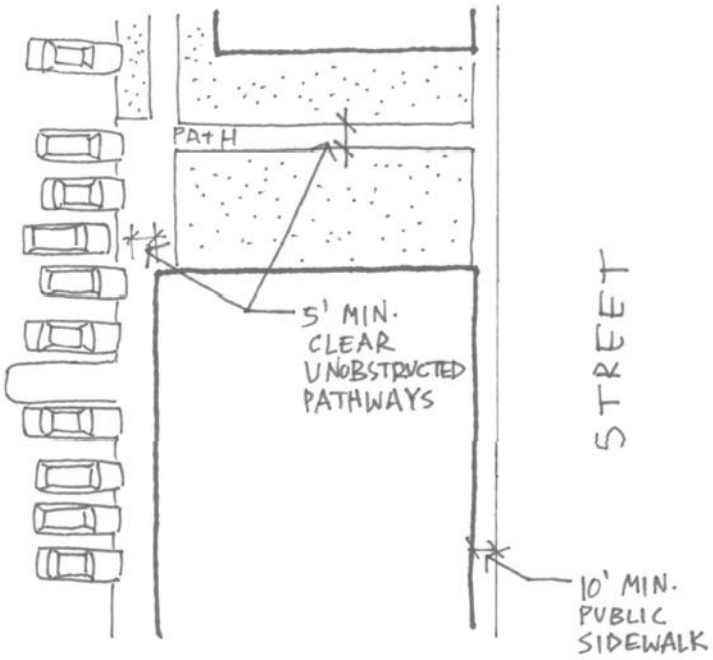


Figure 5: 5-Foot Unobstructed On-Site Pedestrian Pathways

5.4. *Public Sidewalk Design Standards.*

A. Sidewalks provided within a public street right-of-way shall comply with the City of Louisville public street standards and the standards stated in this subsection. In the case of conflict between the city's public street standards and this subsection's public sidewalk standards, the public sidewalk standards in this Section shall apply and control. (S)

B. In the MU-R and CC Districts, all public sidewalks shall be a minimum of ten (10) feet wide incorporating tree planting within the right-of-way. The right-of-way shall be landscaped with street trees and other living plant material or, as an alternative, tree grates for street trees combined with decorative paving and/or moveable planters may be utilized. (S)

1. Provide a minimum of one (1) tree per twenty (20) lineal feet of public and private street frontage. (S)

2. Place annual and perennial planting areas at project entries. (G)

3. Trees shall be irrigated from subsurface irrigation. (S)

5.5. *Bicycle Parking Standards*.

A. Functional and convenient bike parking shall be provided in adequate numbers for both customers and employees.

1. Provide one (1) bicycle parking space for every ten (10) required off-street automobile parking spaces up to a total of twenty (20) bicycle parking spaces. (S)

2. Providing protection from the elements for bicycle parking is encouraged. (G)

3. Coordinate the design of the bicycle shelter with adjacent buildings or other street furniture designs. (G)

4. Do not position bicycle racks or shelters where they will obstruct building entrances or the flow of pedestrian traffic. (S)

6. Open Space and On-Site Amenities.

6.1. *Intent.*

An attractive public realm is a fundamental ingredient in the success of a mixed use development. Open air and semi-enclosed public gathering spaces can act as central organizing elements in a mixed use district. They can also help to shape the relationship between different uses and provide focal points and anchors for pedestrian activity. On-site amenities can create a strong image and unique character for a mixed use development, making it a special place for the community, instead of just a project.

This subsection is intended to create on-site amenities and features, such as outdoor plazas, parks, and public art. Such amenities and features provide desirable open space, create an inviting image for customers, visitors, and employees, enhance the pedestrian environment and streetscape in a zone district, offer attractive spaces for people to gather, interact, rest, shop, and eat, and contribute to the character of the city.

6.2. Applicability.

This section shall apply to all commercial and mixed-use development in the MU-R and CC Zone districts.

6.3. Provision of On-Site Amenities.

A. Pedestrian amenities should be incorporated into both overall and individual site development plans.

1. Furnish spaces with pedestrian amenities such as benches, landscaping, fountains and play areas. These outdoor spaces should be 'functional' and accessible for a substantial part of the year. (S)

2. Delineate areas of pedestrian activity with accent paving, landscaping, lighting and furnishings. (S)

3. All common amenities within commercial developments shall be owned and maintained by the developer or by an organization established for such purpose. (S)

B. In addition, development on sites smaller than one (1) acre shall incorporate at least one (1) of the following on-site amenities or features, and developments on sites one (1) acre or larger shall incorporate at least two (2) of the following on-site amenities or features, as highly-visible, easily-accessible, focal points or gathering places for residents, employees, or other visitors to the development site: (S)

1. Patio or plaza with seating area, provided such patio or plaza has a minimum depth and width of ten (10) feet, and a minimum total area of one hundred fifty (150) square feet.

2. For outdoor patios or plazas, asphalt is prohibited as a paver; use of decorative pavers or textured, colored concrete is required.

3. Patios and plazas shall include pedestrian amenities intended to support these places as gathering areas. Amenities may include, but are not limited to, seating, lighting, special paving, planting, food and flower venders, artwork, and/or special recreational features.

4. Landscaped mini-parks, squares, or greens, provided such park or green has a minimum depth and width of ten (10) feet and a minimum total area of two hundred fifty (250) square feet. Such parks, squares, or greens shall include pedestrian amenities intended to support these places as gathering areas. Amenities may include, but are not limited to, seating, lighting, additional landscaping and plantings, food and flower venders, artwork, and/or special recreational features.

5. Protected pedestrian walkways; arcades; recessed corner entries with a minimum area of 100 square feet; or easily identifiable building pass-throughs containing window displays and intended for general public access.

6. Water feature, such as a pond or fountain, provided the feature is easily accessed by pedestrians and includes or integrates seating areas for pedestrians.

7. Outdoor public art, as approved by the city, in an area that is:

a. Visible from an adjacent public sidewalk or street, and

b. Easily accessed for viewing by pedestrians (e.g., a sculpture mounted to an exterior building wall).

8. Any other, well-designed area and/or focal feature that, in the city's judgment, is consistent with the intent of this section, and adequately enhances such development and serves as a gathering place for visitors, customers, and employees. (S)

C. On-site amenities provided according to this Section 6.3 may be located on the interior of the development site, and need not be accessible or visible to the general public, unless a provision in Section 6.3.B expressly states otherwise. (G)

D. Credit for one (1) on-site amenity otherwise required in Section 6.3.B. may be taken for any park dedicated to the City by the developer located within one hundred (100) feet of the development site's boundary. (G)

6.4. *Buildings Adjacent to Outdoor Amenities.*

Providing good public visibility of outdoor amenities is intended to encourage pedestrian use of on-site outdoor amenities, while at the same time enhancing the security of such places. Accordingly, when a building will be adjacent to a pedestrian plaza, patio, or park provided under this subsection, the building wall facing such outdoor amenity shall contain at least one (1) of the following elements: (S)

A. A building entry;

B. Windows facing onto the outdoor amenity;

C. Arcades along the edges of the outdoor amenity;

D. Outdoor seating areas or cafes; or

E. A similar feature that the city finds will, to at least the equivalent degree, bolster security and encourages pedestrian use of the outdoor amenity.

6.5. *Maintenance.*

The property owner shall be responsible for the continued maintenance and repair of all on-site amenities provided according to this subsection. (S)

7. Landscaping and Buffers.

7.1. Perimeter Landscaping Adjacent to Public and Private Roads.

A. *Applicability in the MU-R and CC Districts.*

The perimeter landscaping standards and guidelines shall apply only to parcels adjacent to Highway 42 and South Boulder Road as set forth in Section 7.2.

B. *Applicability of Parking Lot Buffer Provisions.*

In the MU-R and CC Districts, the perimeter of all surface parking lots adjacent to a public plaza, park, or public or private street (including alleys) shall be screened from view. Visual buffering shall be incorporated by the provision of planting strips between public right-of-way and edge of the parking lot pavement. The following parking lot buffer standards and guidelines shall apply:

1. The buffer area shall be installed between the parking lot edge and the back of the public sidewalk or right-of-way, and shall have a minimum five (5) foot width. (S)

2. As applicable, screening materials shall be installed to align with the adjacent front building lines to continue the prevailing street wall on a block face. (S)

3. Raised planters and masonry screen walls may be incorporated to provide parking lot screening. (G) Bermed turf areas shall be avoided due to their tendency to waste irrigation water. (S)

4. The minimum width of a buffer area may be reduced from five (5) feet to three (3) feet when used to screen a parking lot. A three (3) foot wide buffer area shall incorporate an ornamental fence or masonry wall. Permitted fence and wall materials shall be limited to brick, stone, and other masonry materials, and to decorative metals (e.g., wrought iron). Use of an ornamental fence or wall shall be combined with live landscaping material such as flowering and evergreen shrubs, grasses native to Colorado or hybridized for arid conditions, vines, and ground cover. The maximum height of a fence or wall shall be no taller than three (3) feet when used to screen the parking lot All landscaping material shall be installed on the outside of the screening wall (closest to the sidewalk). (S)

7.2. *Highway 42 and South Boulder Road Buffer Area.*

The required landscaped buffer is intended to convey a uniform and high-quality image of the CC District to persons traveling and using Highway 42 and South Boulder Road, and to screen from public view conditions such as parking or ground-mounted utilities or equipment that might adversely affect the district's image.

A. On all properties adjacent to Highway 42 and South Boulder Road within the CC District, a minimum ten (10) foot wide landscaped buffer shall be provided adjacent to the Highway 42 or South Boulder Road right-of-ways. (S)

B. The buffer area shall be landscaped with a combination of deciduous and evergreen trees, shrubs, and ground covering.

1. Provide a minimum of one (1) tree per 40 lineal feet of public street frontage within ten (10) feet outside the sidewalk, internal to the development. (S)

2. Provide a minimum of one (1) shrub per five (5) lineal feet plus ground cover or native or hybridized grass ~~turf~~ outside the sidewalk, internal to the development. ~~Turf~~ Grass should be limited in this area and when use should be planned in a manner that can be efficiently irrigated. Low water using species should be chosen, providing a green appearance. (S)

3. Landscaping within public easements is limited to shrubs, ground covers, and small ornamental trees. No canopy/shade trees may be planted within such easements. (S)

7.3. *Parking Lot Landscaping.*

A. *Intent.*

These standards are intended to encourage landscaped surface parking lots, including the planting of trees, that will improve the aesthetics of a development site by breaking up expanses of paved areas; will reduce the significant solar heat gain ("urban heat island effect") from parked automobiles and paved parking areas; and will provide a more pedestrian-friendly environment.

B. *Interior and Perimeter Parking Lot Landscaping.*

The policies, standards, and guidelines for parking lot landscaping shall apply in the MU-R and CC Zone Districts.

1. *Perimeter Landscaping.*

Except for the parking lot buffer required by subsection 7.1.B. above, perimeter parking lot landscaping is not required in the MU-R District.

2. *Interior Parking Lot Landscaping.*

a. Applicability.

The parking lot interior landscaping requirements shall apply to all new off-street surface parking lots with more than five (5) parking spaces and to existing lots that are expanded by more than twenty-five percent (25%) of existing spaces.

b. Minimum Standards.

i. Parking lots with six (6) to one hundred (100) spaces shall have 5% of the total interior area landscaped. (S)

ii. Utilize landscaped islands and medians to improve the definition of circulation patterns, provide shading for paved areas and break up continuous rows of parking. (S)

iii. No landscaped area within a parking lot shall be less than one hundred (100) square feet. (S)

iv. Surface parking lots with more than one hundred (100) spaces shall have 10% of the interior area landscaped. (S)

C. *Parking Lot Buffer Credit.*

Surface parking lot buffer landscaping in excess of the dimensions required in subsection 7.1.B. may be credited towards meeting the interior landscaping standards. (G)

D. *Spacing of Internal Landscape Islands.*

Internal planting islands shall be spaced no farther than fifteen (15) parking spaces apart. (S)

E. *Spacing of Required Trees.*

One (1) tree shall be provided for every 300 square feet of internal landscaped area. (S)

F. *Landscaping Used to Break Up Large Parking Lots.*

Surface parking lots with more than 50 spaces shall be broken up into blocks of no more than 25 spaces. Each block shall be separated from other parking blocks by a landscaped area that is at least six (6) feet wide, by a pedestrian walkway or sidewalk within a landscaped median with a minimum width of ten (10) feet, or by a low decorative fence or wall with a maximum height of four (4) feet bordered by landscaping on at least one side. (S)

7.4. *Building Site Landscaping.*

A. *Intent.*

Landscaping at the individual building site scale is intended to provide respites from the overall higher densities and intensities of development encouraged in the MU-R and CC Zone Districts, and to provide public and community gathering places.

B. *Applicable Standards.*

The policy, standards, and guidelines for building site landscaping shall apply in the MU-R and CC Zone Districts.

1. *Minimum Landscape Area.*

a. The minimum landscape area required within each building site shall be ten (10) percent in the MU-R District, and twenty (20) percent in the CC Zone District including hardscaped plazas, outdoor seating/serving areas, walkways within on-site open space areas, and other similar hardscaped on-site amenities. (S)

b. Hardscaped elements such as those listed in this provision shall account for no more than two-thirds of the minimum landscape area requirement. (S)

c. In a development proposal including multiple building sites, the percent area required for each building site may be transferred between individual building sites, provided the aggregated landscape area enhances the connection to transit facilities or provides a more centralized landscaped area(s) convenient to the development's residents, employees, and visitors, enhances the pedestrian environment, and creates a publicly accessible space. (S)

d. Protect landscaping from vehicular and pedestrian encroachments with raised planting surfaces, depressed walks, and /or curbs. (S)

e. Landscaping within public easements is limited to shrubs, ground covers, and small ornamental trees. No canopy/shade trees may be planted within such easements. (S)

7.5. *Landscape Irrigation/Water Conservation.*

The policy, standards, and guidelines for landscape irrigation/water conservation stated in Section 5.5 of the CDDSG shall apply in the MU-R and CC Zone Districts. Xeriscape concepts shall be incorporated into landscape design without compromising the intent to establish significant visual amenities through landscaping.

A. *Applicable Standards.*

1. Incorporate a 'zoned planting scheme' to reduce water demand by grouping similar varieties of plants that are drought and disease tolerant. (S)
2. For all irrigated areas, potential runoff should be avoided through the proper selection of irrigation devices. (S)

7.6. *Landscape Materials Standards, Maintenance, and Replacement.*

The policy, standards, and guidelines for landscape standards and plant material selection, for planting size standards, and landscape maintenance and replacement stated in Section 5.6 through Section 5.8 of the CDDSG shall apply in the MU-R and CC Zone Districts.

7.7. *Existing Vegetation.*

The policy, standards, and guidelines for preserving existing vegetation stated in Section 5.9 of the CDDSG shall apply in the MU-R and CC Zone Districts.

8. Residential Protection and Transitional Standards.

8.1. *Intent.*

This section is intended to ensure that site planning and building design of new development in the MU-R and the CC Zone Districts mitigate to the maximum extent possible any potential adverse visual or operational impacts on adjacent residentially zoned properties in adjacent neighborhoods.

8.2. *Applicability.*

This section's standards are applicable to development or redevelopment in a MU-R or CC zone district as a more intensive use adjacent to an existing, less-intense residential use located in an R-L or R-M Residential Zone District. For purpose of this Section, "adjacent" shall include properties separated only by a local or collector street.

8.3. *Building Setback and Height Transitions Required.*

A. *MU Development Across a Street from Residential Zone District (Front Transition).*

When new development in a MU-R or CC Zone District is separated from an existing residential use in an R-L or R-M District by a local or collector street, the following transition standards shall apply:

1. *Required Building Setbacks.*

All buildings and structures on the MU-R, or CC zoned property shall be setback from the street-facing property line at least ten (10) feet. The maximum building setback applicable in the zone district, as stated in Section 17.14.060 of the Zoning Ordinance, shall apply. (S) **See Figure 6.**

2. *Transition Building Heights Required.*

Within fifty (50) feet from the edge of the street right-of-way, the average height of a building shall not exceed thirty-five (35) feet. (S) **See Figures 6 and 7.**

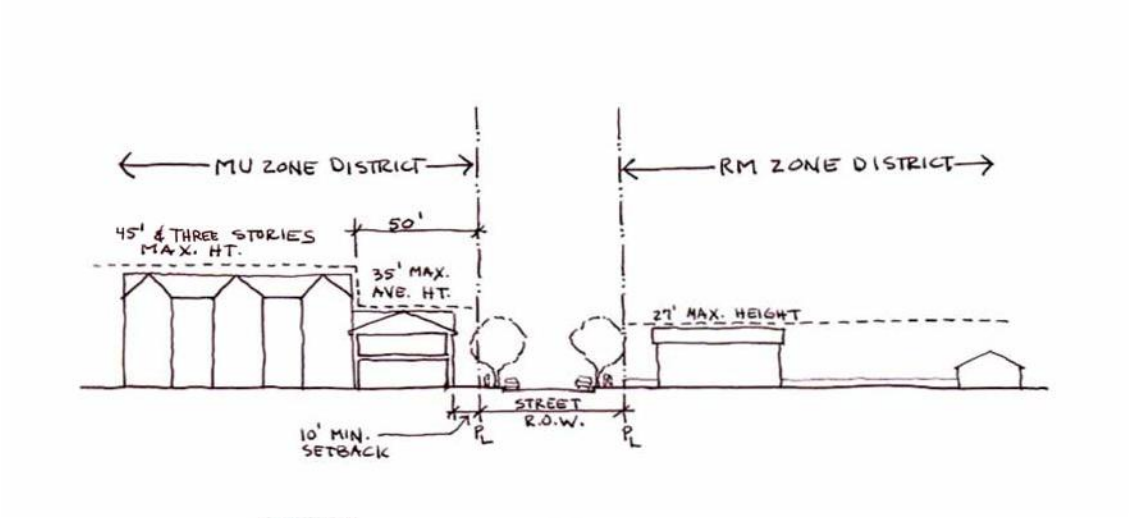


Figure 6: Transition to RM Zone District Across a Street

Figure 7: Example of 35 Feet Average Height

B. *Development Abutting Residential Zone District or Separated by Alley (Rear or Side Transition).*

When new development in a MU-R or CC Zone District is separated from an existing residential use in an R-L or R-M District by only an alley, or abuts the rear or side property line of the protected residential use, the following transition standards shall apply:

1. *Required Building Setbacks.*

All buildings and structures on the MU-R or CC zoned property shall be setback a minimum of fifteen (15) feet from the rear property line of the R-L or R-M residential use. If the MU-R or CC zoned property abuts the residential use's side yard or property line (rather than its rear yard), the minimum setback for a building or structure on the MU-R zoned property shall be five (5) feet. The maximum building setback applicable in the zone district, as stated in Section 17.14.060 of the Zoning Ordinance, shall apply. (S) **See Figure 8.**

2. *Transition Building Heights Required.*

Within fifty (50) feet from the alley centerline, or from the rear or side property line of the protected residential use, the maximum height of a building shall not exceed twenty-seven (27) feet. (S) **See Figure 8.**

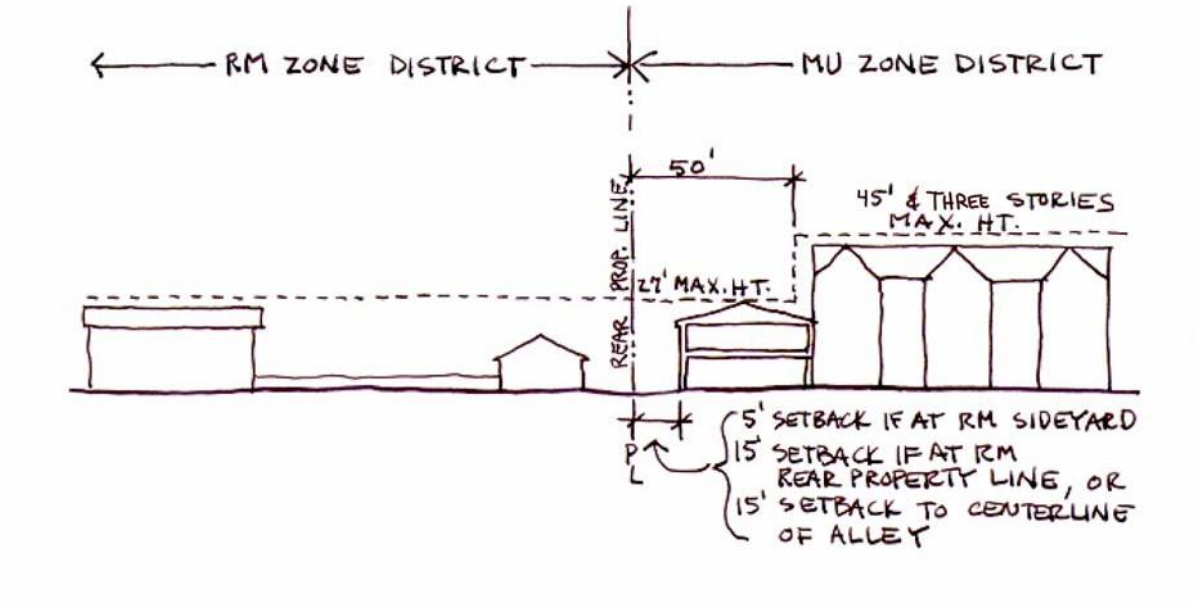


Figure 8: Transition to RM District Across Rear Alley or Rear/Side Property Line

8.4. *Conditions for Operational Compatibility.*

The city may impose conditions upon the approval of rezonings, PUD development plans, site plans, special review uses, and other development actions to ensure that development in a mixed use zone district will be compatible with existing and planned neighborhoods and uses, including but not limited to conditions on the following:

A. As a condition of rezoning approval only, the availability or ability to develop specific uses otherwise allowed by Chapter 17.14;

B. Hours of operation;

C. Hours of deliveries and other similar activities;

D. Location, intensity, and hours of operation of exterior lighting, including security lighting;

E. Placement of trash receptacles;

F. Amplification of music in a commercial place of entertainment;

G. Location of delivery and loading zones;

H. Placement and illumination of outdoor activity areas and equipment, including outdoor vending machines;

I. Venting of nuisance fumes and vapors from non-residential uses;

J. Illumination of signage and, or architectural building features.

9. Architectural and Building Design.

9.1. *Intent.*

The architectural and building design standards and guidelines of this section are intended to promote high-quality building, streetscape, and open area design and construction that will give the MU-R and CC Zone Districts an identifiable character and unique physical image.

More specifically, to create the appearance of development that occurred over a period of time, architectural features of new developments, including rooflines, materials, colors, door and window patterns, and decorative elements, should vary in form and style. Especially important is the ground-floor design of buildings and its interaction with adjacent public streets, sidewalks, and open spaces. The ground-floor is the portion of a building that, if designed well, can create high-quality visual interest and a human scale that pedestrians find comforting, inviting, and safe. Key elements that contribute to such a pedestrian environment include first-floor openings (doors and windows), emphasized customer/user entrances, materials, targeted landscaping, and continuity of the front building line along a block (to heighten the sense of "enclosure").

9.2. Applicability.

The architectural and building design standards and guidelines in this subsection shall apply to all new development in the MU-R and CC Zone Districts. Development of residential uses in the MU-R District shall also comply with the residential site and building design standards in subsection 10 that follows.

9.3. *Building Massing, Forms, Prominent Entries, and Pedestrian Scale.*

The policy, standards, and guidelines for building massing, forms, and pedestrian scale shall apply in the MU-R and CC Zone Districts.

A. *General Standards and Guidelines*.

1. Variations in façade elements should be incorporated to reduce perceived scale and mass. (S)
2. Variations in color and/or texture shall be used. (S)
3. Step downs and step backs shall follow the terrain and be tiered and reinforced by landscape or hardscape elements. (S)
4. Variation in roof forms and height of roof elements should be used. (G)

B. *Ground Floor Façade Design—Doors and Windows.*

The following standards shall apply to the facades of all buildings in the MU-R District.

1. *Amount of Openings Required—Ground Floor Facades.*

In the MU-R Zone District, a minimum of thirty-five (35) percent of the total wall area of each street-facing ground floor building façade shall be comprised of pedestrian entrances (doors), windows, and/or vehicle entry drives. The thirty-five (35) percent shall be measured using elevation views of the building plan, and "ground floor" shall be measured from floor plate to floor plate. In the CC Zone District, the minimum shall be twenty (20) percent. (S)

2. *Minimum Glazing Requirements.*

a. *Nonresidential Uses on Ground Floor.*

Glazing on all ground floor windows shall be transparent. (S)

C. *Building Entries and Doorways.*

The standards, and guidelines for building entrances shall apply in the MU-R and the CC Zone Districts.

1. *Placement of Entries.*

a. Locate main entrances to be clearly identifiable from the adjoining road or drive. (S)

b. Design building entrances to contrast with the surrounding wall plane. (S)

c. Design primary entrances to be accessible to handicapped users without complex ramp systems. (S)

2. *Entry Emphasis Required.*

All building entrances shall be emphasized through incorporation of a building recess, projection, canopy, or similar design element. (S)

3. *Primary Entry Emphasis.*

a. The primary entry should be recessed through the incorporation of a building recess or projection, or similar design element. (G)

b. Corner buildings should provide a prominent corner entrance to street level commercial retail uses or common residential or office lobby space in a manner consistent with primary entries, as described in Section C.1.a. As applicable, corner building entries should be anchored at the sidewalk edge and beveled, recessed, and/or sheltered by a covered arcade structure, canopy, or awning to provide an area for retail displays. Recessed entries should be illuminated. (G)

D. *Equal Treatment of Visible Building Facades.*

All sides of a building or structure that face a public street, other than an alley, or that are visible from any commuter rail line, shall be finished with the same mix of primary building materials and the same degree of articulation that is used on the building's primary façade. (S)

9.4. *Roof Forms and Materials.*

The policy, standards, and guidelines for roof forms and materials stated in Section 4.4 of the CDDSG shall apply in the MU-R and CC Zone Districts.

9.5. *Building Materials and Colors.*

Exterior materials and colors should be of a high quality and compatible with materials and colors of nearby structures. The following standards and guidelines shall apply:

A. All sides of building visible to the public from a street, park, public open space, or other public right-of-way shall be finished to an equivalent quality with the primary façade. (S)

B. Large, blank, featureless walls are not allowed. (S)

C. Use materials manufactured in units and measurable in human proportions such as brick, tile and modular stone. Other appropriate materials include: stucco, wood, metal accents, glass and decorative tiles. (S) Painted block or concrete is not an acceptable building material. (S)

9.6. *Service Entrances and Loading Areas.*

The policy, standards, and guidelines for service entrances and loading areas shall apply in the MU-R and CC Zone Districts.

A. *General Standards and Guidelines.*

1. Orient service entrances, loading docks, dumpster enclosures, and other similar uses away from local, collector, and arterial roadways. (S)
2. All dumpster and service enclosures shall be fully screened by masonry wall construction using building materials consistent with materials as employed elsewhere on the building or site. (S)
3. Coordinate the location of service areas with adjacent development, so that shared service drives may be feasible. (G)

B. *Provision of Recycling Centers.*

All new and significantly remodeled structures where refuse is generated by the use for the structure shall provide adequate space for the collection and storage of refuse and recyclable materials per Section 17.16.265 of the Louisville Municipal Code.

9.7. *Energy Conservation Measures.*

New development should evaluate increased opportunities to implement resource conservation and sustainable building practices. Local climate conditions afford the opportunity to incorporate passive and/or active solar energy applications. Buildings should be designed and sited to maximize the use of solar gain.

The policy, standards, and guidelines for energy conservation measures shall apply in the MU-R and CC Zone Districts.

A. Builders and contractors are encouraged to be members of a national green program which promote construction practices and products and materials which improve energy efficiency, and conservation of resources. (G)

B. The following energy design concepts are encouraged but not limited to: (G)

1. Types of materials and insulation characteristics.
2. The arrangement of windows and doors.
3. Direct solar or photovoltaic energy.
4. Daylighting concepts.
5. Recycling of construction materials.
6. Water conservation.
7. The provision of a sustainable roof.
8. Providing an on-premise shower facilities for bicycle commuters.
9. Use of recycled building products

10. Multi-Family Residential Site and Building Design.

All development of buildings that are predominantly multi-family in terms of gross square footage or that provide garages serving multi-family units shall comply with this section's standards and guidelines, as applicable.

10.1. *Siting of Accessory Parking Lots and Structures.*

A. *Intent.*

These siting standards for accessory parking lots and structures (private parking garages or carports) are intended to reduce the visual prominence of the garage and open parking lots along multi-family streetscapes and common areas; to encourage a more varied multi-family streetscape through the use of a variety of garage orientations and types; and to emphasize the prominence of primary pedestrian and vehicular entrances, open spaces, and residential units along multi-family streetscapes and common areas.

B. *Applicability.*

The following standards shall apply to development of new multi-family dwellings in the MU-R District.

C. *Residential Alleys Encouraged.*

Private garages, carports, and parking lots accessory to a principal multi-family residential dwelling use should be accessed from a street or alley other than the primary abutting access street. (G)

D. *Multi-Family Dwellings Other than Attached Townhomes.*

The following standards and guidelines shall apply to development of new predominantly multi-family dwellings in the MU-R District, except that new multi-family townhome dwellings shall comply with the following standards.

1. To the maximum extent feasible, garage entries, carports, parking lots, and parking structures shall be internalized in building groupings or located away from street frontages. (S)

2. When access to parking lots, carports, or common garages is **not** from an alley, the following limitations shall apply. *See also* the limitation on garage parking wall that may occupy a street-facing property line stated in Section 17.14.060 (Dimensional and Bulk Standards) of the Zoning Ordinance.

a. Carports and garages shall be limited to sixty-five (65) feet in length. (S)

b. Parking lots and freestanding parking structures (detached garages or carports) shall not occupy more than thirty percent (30%) of each perimeter public street frontage. (S)

c. To the maximum extent practicable, freestanding parking structures (detached garages or carports) that are visible from perimeter public streets shall be sited perpendicular to the perimeter street in order to reduce visual impacts on the streetscape. (S)

d. Garage doors of attached garages shall not comprise more than thirty-three percent (33%) of the total length of a multi-family building's front façade, and the plane of a garage door shall be offset by at least four (4) feet from the plane of an adjacent garage door. (S)

e. Rear walls of detached garages over forty (40) feet in length that back onto the perimeter street shall be articulated or punctuated through the use of two or more of the following options:

i. Six (6) or more window openings defined by frames, sills and lintels;

ii. Three (3) one-hundred (100) square feet trellis structures spaced along the rear wall, planted with an approved vine or creeping plant to cover the trellis structure at maturity;

iii. Change in wall plane of at least six (6) inches every ten (10) feet;

iv. Vertical change in material or masonry pattern; or

v. One (1) roof dormer for each ten (10) feet of length. (S)

f. Detached garages and carports shall incorporate compatible materials, scale, colors, architectural details, and roof slopes similar to those of the primary multi-family buildings. (S)

E. *Parking Lot/ Structure Design for Townhome Dwelling Developments.*

The following standards and guidelines shall apply to development of new townhome dwellings. For purposes of this provision, a "townhome dwelling" is defined as a residential multi-family dwelling containing two (2) or more dwelling units attached by common vertical walls, with each dwelling unit located on its own legal lot.

1. *Access Requirements.*

   Residential garages accessed from the public street adjoining the front lot line ("front-loading garages") are allowed only when access from an adjoining side street or rear alley to a garage is not feasible. (S)

2. *Front-Loading Garages.*

   Front-loading garages that protrude towards the street in front of the primary façade of the principal structure are prohibited. Garage doors on all front-loading (street-oriented) garages shall be either:

   a. Recessed a minimum of four (4) feet behind the front façade of the dwelling portion of the structure (including side-loading garages), or a front porch that is at minimum of five (5) feet wide by eight feet long; or

   b. Recessed a minimum of two (2) feet beneath a second floor bay. (S)

3. *Side-Loading Garages.*

   Side-loaded garages shall provide windows or other architectural details that mimic the features of the living portion of the dwelling on the side of the garage facing the front street. (S)

4. Front-loading (street-oriented) garage doors shall not comprise more than 45% of the front façade of the principal dwelling structure. (S)

10.2. *Multi-Family Building Design.*

A. *Intent.*

These building design standards and guidelines are intended to improve the appearance of multi-family developments through the incorporation of architectural detailing, façade articulation, and other features designed to provide a more distinct character and human scale for multi-family buildings of all sizes.

B. *Applicability and Conflicting Regulations.*

The building design standards in this subsection shall apply to all new multi-family development in the MU-R District. In case of conflict between a specific multi-family building design standard in this subsection and a more general architectural and building design standard stated in Section 9 of this manual, the more specific multi-family standard in this subsection shall apply.

C. *Building Design Standards.*

1. All sides of a multi-family building visible from a public right-of-way (not including an alley) shall display a similar level of quality and architectural detailing. The majority of a building's architectural features and treatments shall not be restricted to a single façade. Building details, including roof forms, windows, doors, trim, and siding materials, shall reflect the architectural style of the building. (S)

2. The maximum length of any multi-family building shall be 200 feet. (S)

3. The facades of all multi-family buildings shall be articulated through the incorporation of two (2) or more of the following:

a. Balconies,

b. Bay or box windows,

c. Insets or other relief in the wall plane,

d. Porches,

e. Dormers,

f. Variations in materials; or

g. Variations in roof forms. (S)

4. Horizontal variations in materials along the façade of a multi-family building shall occur in conjunction with a change in wall plane, preferably at the inside corner of a wall. (S)

10.3. *Architectural Variety.*

A. *Intent.*

The architectural variety standards and guidelines in this subsection are intended to ensure that individual groupings of multi-family buildings within a larger development exhibit a distinct variation in size and mass that allows them to be easily distinguished from surrounding building groupings. The standards are specifically intended to avoid the bleak, "barracks-type" appearance associated with large concentrations of identical or very similar structures.

B. *Design Standards.*

1. *Apartments.*

a. Apartment developments shall incorporate a variety of distinct exterior building designs according to the scale of the development, as follows: (S)

i. 3-10 buildings: 2 models minimum;

ii. 11-20 buildings: 3 models minimum;

iii. 21 or more buildings: 1 model for every 6 buildings minimum.

b. Distinct building designs, as required above, shall be easily distinguished through a minimum of three (3) of the following: (S)

i. A variation in length of 30% or more;

ii. A variation in the footprint of the building of 30% or more;

iii. A distinct variation in color and use of materials;

iv. A variation in the type of dwelling unit contained in the building that results in a significantly different scale and mass, e.g., apartments vs. attached townhomes; or

v. A distinct variation in building height and roof form.

c. Apartment buildings shall provide concentrated unit access points. Monotonous access balconies and corridors running the length of the exterior of a building are prohibited. (S)

2. Townhomes.

Within each townhome row or cluster of more than ten (10) attached units, individual units shall be differentiated through two (2) or more of the following methods: (S)

a. Use of distinct variations in materials between individual units;

b. Use of distinct variations in architectural style or features, such as a porch or similar feature, between individual units;

c. Use of distinct variations in roof form,

d. Variation in garage orientations; or

e. A variation in the plane of the front façade to provide a minimum three-foot variation between individual units.

11. Site Furniture and Features.

The policy, standards, and guidelines for site furniture and features stated in Section 5.10 of the CDDSG shall apply in the MU-R and CC Zone Districts.

12. Screen Walls and Fences.

The policy, standards, and guidelines for screen walls and fences stated in Section 6 of the CDDSG shall apply in the MU-R and CC Zone Districts, except as varied by the following provisions:

12.1. *Retaining Walls.*

Use of retaining walls is encouraged to reduce the steepness of man-made slopes and to provide planting pockets conducive to vegetation. Retaining walls shall comply with the following standards:

A. Retaining walls shall not exceed three (3) feet in height from the finished grade. (S)

B. Terracing shall be limited to three (3) tiers, except that the city may approve more than three (3) tiers when a greater number of tiers will result in less land disturbance and less steep man-made slopes. The width of any terrace between any two retaining walls shall be a minimum of four (4) feet with a maximum slope of 3:1. Terraces created between retaining walls shall be permanently landscaped or revegetated. (S)

C. Retaining walls shall be constructed from durable materials such as stone, brick or metal with dark finishes (wrought iron or similar), or a combination of these materials. Wood is not an acceptable material for retaining walls. Concrete walls are permitted if faced with masonry or stone or earth-colored materials similar to the surrounding natural landscape. (S)

13. Sign Design. *Repealed pursuant to Ord. 1779, Series 2019 and replaced with the City of Louisville Sign Code*

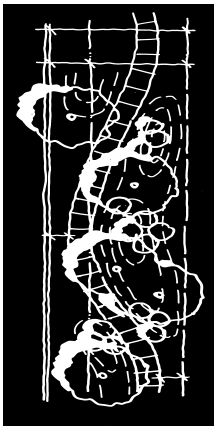
14. Exterior Site Lighting.

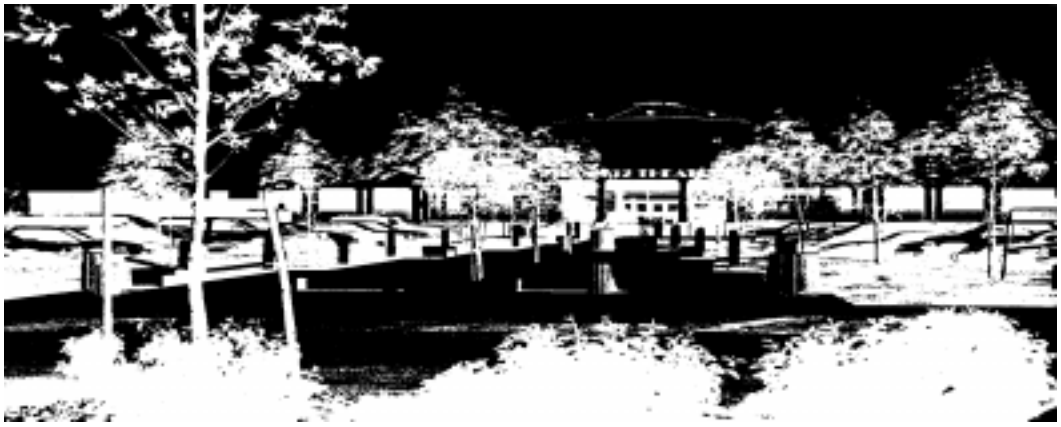
The policy, standards, and guidelines for exterior site lighting stated in Section 8 of the CDDSG shall apply in the MU-R and CC Zone Districts.

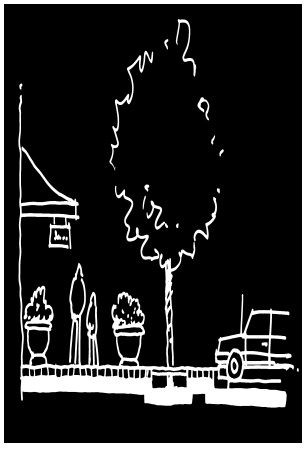
Exhibit B
Commercial Development Design Standards and Guidelines

City of Louisville

COMMERCIAL DEVELOPMENT DESIGN STANDARDS AND GUIDELINES







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COMMERCIAL DEVELOPMENT DESIGN STANDARDS AND GUIDELINES

Adopted 17 JUNE 1997 by Ordinance 1242, Series 1996
Amended by Ordinance 1287, Series 1998 &
Ordinance 1341, Series 2000

PREPARED FOR:
CITY OF LOUISVILLE, COLORADO

PREPARED BY:

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LANDSCAPE ARCHITECTURE
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COMMERCIAL DEVELOPMENT DESIGN STANDARDS AND GUIDELINES

June 17, 1997

Acknowledgments and Credits

Honorable Mayor and Members of the City of Louisville City Council

Chairman and Members of the City of Louisville Planning Commission

Downing, Thorpe & James, Inc. (Assisted by: Blackwood & Company)

City of Louisville Departments of Administration, Public Works and Planning

Griffiths & Tanoue, P.C.

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Chapter 7 repealed pursuant to Ordinance 1779, Series 2019 and replaced with the City of Louisville Sign Code

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APPENDICIES

"A" Recommended Plant Materials List

INTRODUCTION

A. Purpose

The Commercial Development Design Standards and Guidelines (**"CDDSG"**) establish design criteria and minimum standards for commercial developments within the City of Louisville. The purpose of the CDDSG is to:

1) Enhance and protect Louisville's quality of life and community image through clearly articulated commercial development design goals and policies, design guidelines and minimum design standards; and
2) Protect and promote Louisville's long-term economic vitality through commercial design standards which encourage and reward high quality development, while discouraging less attractive and less enduring alternatives; and
3) Minimize adverse impacts of vehicular circulation to existing neighborhoods and to the surrounding physical environment; and
4) Enhance and protect the security and health**,** safety and welfare of all residents of the City of Louisville.

B. Applicability

The provisions of the Guidelines shall apply to all commercial development within the City, except commercial development for which there exists a vested property right to develop under other approved design guidelines and/or development standards.

The CDDSG provide general design guidelines, as well as mandatory minimum development standards. The CDDSG will be utilized by staff, planning commission, and city council to review commercial development applications submitted under the City's PUD Development Plan review process.

The goals and policies set forth in this document are expected to be met through compliance with all mandatory design standards and consideration of design guidelines. Modifications to or waivers of mandatory design standards may be recommended by the Planning Commission and authorized by City Council as part of the PUD Development Plan Review process.

C. Who Uses the CDDSG

The CDDSG are to be used by property owners/ applicants and their design consultants in the planning of commercial development projects within the City of Louisville. The CDDSG will also be utilized by staff, planning commission, and city council as part of the PUD Development Plan process in their reviews of commercial projects to which the CDDSG apply.

D. Desirable Elements of Commercial Project Design

The city considers the following design features to be desirable elements of commercial development, and the standards and guidelines set forth in the following chapters are intended to facilitate the incorporation of these features into a commercial project:

1. Prominent access driveways with clear visibility of entrances and retail signage
2. Multi-modal transportation
3. Landscaped and screened parking
4. Quality of exterior building materials, surfaces, and textures
5. Significant landscape and hardscape elements
6. Building locations which provide pedestrian courtyards and common gathering areas with coordinated site furniture and lighting
7. Visual compatibility with development on adjacent sites
8. Visual connections between entrances and associated pedestrian areas of individual buildings to encourage visual and physical integration into a strengthened "sense of place"
9. Step-down of building scale adjacent to pedestrian routes and building entrances
10. Pedestrian-oriented ornamentation and detail at ground level
11. Multi-planed, pitched roofs with meaningful overhangs and arcades
12. Regular or traditional window rhythm
13. Articulated building forms and massing with significant wall articulation (e.g. insets, canopies, wing-walls, trellises)
14. Preservation of natural site features
15. Enhancement of view corridors to open areas and mountain vistas

E. Undesirable Elements of Commercial Project Design

The city considers the following design features to be undesirable elements of commercial development:

1. Poorly defined site access points
2. Disjointed parking areas, or confusing or unsafe circulation pattern
3. Square, "box-like" structures with large, blank, unarticulated wall surfaces
4. Highly reflective surfaces or heavily-tinted glass storefronts
5. Metal siding on primary facades
6. Mix of unrelated styles (such as rustic wood shingles or siding and polished chrome)
7. Strongly thematic architectural styles including some forms of "franchise" architectural styles associated with some chain commercial developments
8. Visible outdoor storage, loading, and equipment areas
9. Signage which is redundant or out of scale with building architecture

F. Relation of the CDDSG to Other City Regulations, Ordinances and Private Development Covenants

The CDDSG are a supplement to the City of Louisville's Zoning and Subdivision Regulations, PUD Ordinance, City of Louisville Department of Public Works Engineering Division Design and Construction Standards, and City of Louisville Storm Drainage Design and Technical Criteria.

Where a mandatory standard in this document is in conflict with any provision of the City of Louisville municipal code, the most restrictive requirement shall take precedence and shall apply. Building and life safety codes and the City of Louisville Department of Public Works Engineering Division Design and Construction Standards, and the City of Louisville Storm Drainage Design and Technical Criteria take precedence over the standards in this document in cases where the standards in this document require action that is in conflict with those codes.

All commercial development within the City of Louisville shall meet the guidelines of the Americans with Disabilities Act (ADA).

G. How to Use the CDDSG

The CDDSG are generally organized in a descending order of scale, from overall site planning concerns, to circulation issues, to buildings, site details, and then signs. When first developing overall planning concepts for a parcel, the earlier sections will be most relevant. At advanced stages of design, when architectural details and specific landscaping ideas are being developed, sections appearing later in the document will be most relevant.

This document has nine chapters and one appendix. Each chapter has four basic components:

1. A goal statement, which sets forth the city's overall design goal to be achieved in the PUD Commercial Planned Unit Development Plan review process with regard to the subject matter of the chapter.
2. A policy statement, which establishes a more specific design goal with regard to a more specific subject matter.
3. The statements of **standards,** indicated with an (S), and **guidelines,** indicated with a (G), which establish the specific design standards with which compliance is mandatory, and the design guidelines with which compliance is strongly encouraged. A failure to meet a mandatory standard may be used as a basis for denial of an application. A failure to meet a guideline shall not be a basis for denial of an application.
4. Graphic Illustrations showing one or more suggested design solutions that would be appropriate or inappropriate with respect to the standards and guidelines. These may be photographs or sketches. In the event of conflict between a graphic illustration and the text of the CDDSG, the text shall control.

H. Definitions

For purposes of this document, the following terms shall have the following meanings:

“Commercial Development”: Any land development activity in the city, including but not limited to retail and office development, but not including development activity intended solely for residential, industrial or light industrial use. Commercial development also includes any addition, remodeling, relocation or construction requiring an amendment to an approved, Final Commercial Planned Unit Development Plan.

“Open Space”: Land that is undeveloped or developed that can support plant materials; or has decorative landscape treatment; or that may be used by customers for recreation, circulation, or may be viewed by them. Walkways, plant beds, lawns, and terraces within an open space area may be included as part of such open space area. Paved parking lot areas used for auto circulation or parking do not qualify as Open Space.

“Parcel”: A parcel is the minimum amount that a single user may occupy. In many cases, more than one parcel will be combined for development of a single building or cluster of buildings to be used by a single user.

“Pedestrian Scale/Human Scale”: The relationship between the dimensions of a building, street, outdoor space, or streetscape element to the average dimensions of the human body.

1. SITE PLANNING

Goal:

Locate buildings to be visible from major roadways and entries, to provide clear orientation and access for both vehicles and pedestrians and to facilitate internal pedestrian circulation. Place structures in consideration of the existing built context, the location of adjoining uses, and the location of major roads. Include an analysis of the site's physical and natural characteristics and other influences. Create pedestrian courtyards and common gathering areas through creative design solutions. Create walkable, well-landscaped environments that encourage pedestrian movement between uses and gathering places.

1.1 Building Siting and Orientation

Policy:

Buildings should be sited so that the character of existing land forms and site features is enhanced; the relationships between buildings are strengthened; and pedestrian and vehicular circulation is facilitated.

Standards and Guidelines:

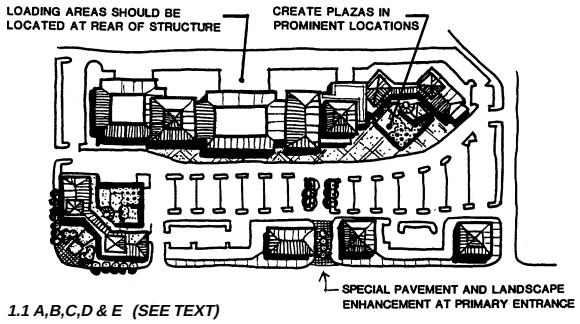
A. Provide pedestrian connections from buildings to public walkways and between buildings to buffer pedestrians from vehicle circulation areas. (S)

B. Locate retail buildings to create plazas and pedestrian gathering places which are of a sufficient size and scale to buffer the pedestrian areas from traffic and circulation areas. (G)

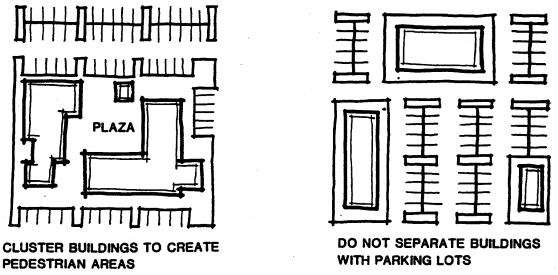
C. Orient buildings to promote views through and into each commercial development. (G)

D. Orient single free-standing buildings and their primary facades and primary pedestrian entrances toward streets. (G)

E. Position entries to buildings so they are easily identifiable from the interior drives and parking lots. (G)



1.1 A,B,C,D & E (SEE TEXT)



1.1 B CLUSTER BUILDINGS TO CREATE PLAZAS AND PEDESTRIAN GATHERING PLACES.

1.2 Building and Parking Setbacks

Policy:

Provide a well-landscaped and pedestrian-friendly character along major streets which promotes a comfortable walkable environment. To attain this objective, all buildings and parking should be set back from perimeter and interior streets a sufficient distance to create a distinct landscape zone between buildings, parking, and adjacent roadways. Varying building setbacks to enhance visual interest along the streetscape is strongly encouraged.

Parking setbacks from all streets should allow for adequate visual buffering or screening.

Surrounding buildings or wrapping the project perimeter with parking lots, especially along the street front is strongly discouraged; orienting some buildings closer to the street to screen parking in the interior of the site and provide strong pedestrian connections to buildings is encouraged.

Standards and Guidelines:

A. Minimum Building Setbacks *EXCEPT WITHIN THE OLD TOWN CC-DISTRICT* **(for building footprints less than or equal to 30,000 gross square feet): (S)**

- Street R.O.W. Line:
  - Arterial Street 30 ft.
  - Collector Street 20 ft
  - Local Street 15 ft.
  - Internal/Common Property Boundary 10 ft.
  - Internal/Private Driveway 10 ft.
    (to back of curb)

B. Minimum Building Setbacks *EXCEPT IN OLD TOWN CC-ZONE DISTRICT* **(for building footprints greater than 30,000 gross square feet): (S)**

- Street R.O.W. Line:
  - Arterial Street 50 ft.
  - Collector Street 40 ft.
  - Local Street 35 ft.
  - Internal/Common Property Boundary 25 ft.
  - Internal/Private Driveway 10 ft.
    (to back of curb)

C. Minimum Parking Setbacks *EXCEPT IN OLD TOWN CC-ZONE DISTRICT* **(from all perimeter property lines or rights-of-way): (S)**

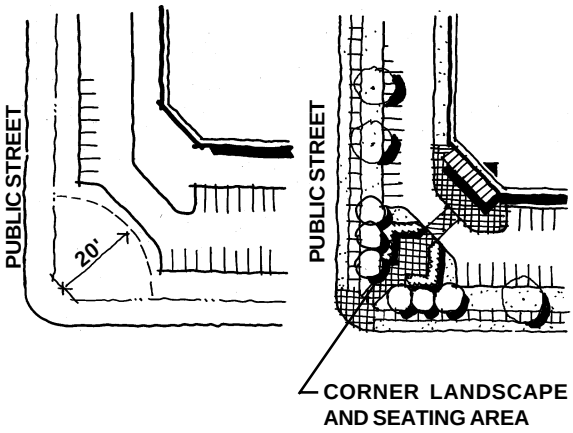
- Property Lines Adjacent to U.S. 36 40 ft.
- Arterial Street R.O.W. 25 ft.
- Collector & Local Street R.O.W. 15 ft.
- Internal/Common Property Boundary 10 ft.

D. No portion of any building, including canopies, overhangs, or other projections shall encroach into the above setbacks. (S)

E. Building and Parking Setbacks at Street Corners - If an intervening parking or a drive aisle is located between a building and the street corner, a corner landscape area must be provided. (S) In addition, no parking may be located within a radius of 15 feet measured from the point of intersection of the required parking setback lines. (S)

F. The clustering of buildings within larger master planned and multiple building projects is strongly encouraged, and the minimum building setbacks may be waived or modified for such purpose. (G) However, all fire and emergency access and building code requirements must be met. (S)

G. Consider orienting buildings, including some of the buildings in multiple building projects, to perimeter streets, rather than orienting all buildings to internal parking lots. (G)



1.2 E TREATMENT OF STREET CORNERS WITH PARKING

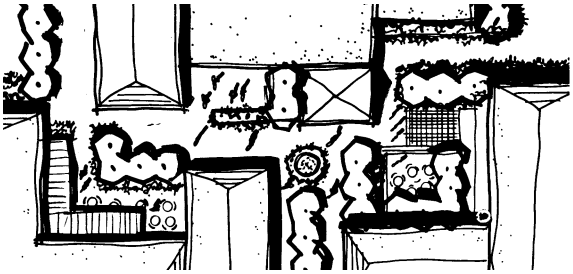
1.3 Pedestrian Amenities

Policy:

Plazas, courtyards or similar pedestrian amenities should be incorporated into both overall and individual site development plans. These areas should be easily accessible and comfortable for a substantial part of the year.

Standards and Guidelines:

A. Furnish spaces with pedestrian amenities such as benches, landscaping, fountains and play areas. These outdoor spaces should be "functional" and should not appear as "left-over" spaces. (S)
B. Aggregate open space areas for pedestrian use. (G) Do not distribute them in low impact areas, such as building peripheries, areas behind structures, or where barely visible. (S)
C. Delineate areas of pedestrian activity with accent paving, landscaping, lighting and furnishings. (S)
D. Provide seating that is useable year-round. Position seating which is buffered from exposed areas and takes advantage of sunny locations. (S)
E. All common amenities within commercial developments shall be owned and maintained by the developer or by an organization established for such purpose . (S)
F. Where feasible, create a sense of enclosure for outdoor seating areas. (G)
G. Orient open spaces to views of activities, architectural landmarks or distinctive natural land forms. (G)



1.3 A FURNISH OUTDOOR SPACES WITH PEDESTRIAN AMENITIES.

1.3 C DELINEATE AREAS OF INTENSE PEDESTRIAN ACTIVITY.

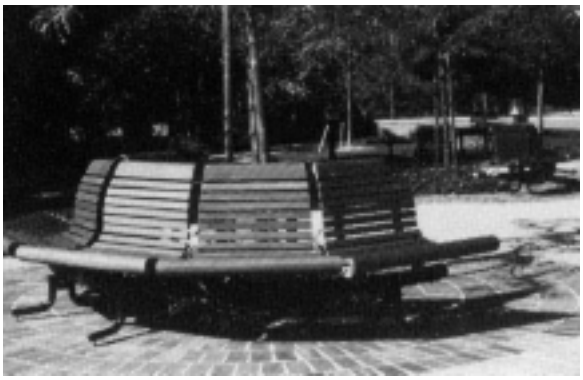
1.4 Site Coverage Requirements

Policy:

Open space is a valued amenity. Building, parking, and driveway site coverage within each parcel should be limited.

Standards and Guidelines:

A. The maximum building, parking, and driveway coverage within each parcel and for the entire development is 70%. (S)
B. The minimum amount of open space provided within a commercial development parcel or cluster of parcels is 30%. (S) Open space can include "pedestrian-oriented" areas such as sidewalks and hardscape plazas within open space areas and pedestrian gathering places. (G) This open space area is in addition to any required public land dedication. (S)



1.3 D PROVIDE SEATING THAT IS USABLE YEAR ROUND.

1.5 Utilities, Mechanical, and Telecommunications Equipment

Policy:

The visual and noise impacts of utilities, mechanical equipment, data transmission dishes, towers, and similar antennas and equipment should be mitigated.

Standards and Guidelines:

A. Install all permanent utility lines underground. (S)
B. Temporary overhead power and telephone facilities are permitted during construction only. (S)
C. Locate transformers away from major pedestrian routes and outdoor seating areas. (S)
D. Buffer all transformers, telecommunications devices, equipment switching boxes and other utility cabinets from street and pedestrian areas with landscaping or architectural screens. (S) Do not leave meters exposed where visible to the public. (S) (See also Section 6. Screen Walls and Fencing). (S)

1.6 Service, Delivery and Storage Areas

Policy:

Service, delivery and storage areas can be visually obtrusive. The visual impact of service and delivery areas should be minimized, especially views of such areas from public ways and along designated view corridors.

Standard and Guidelines:

A. Locate loading docks and service areas a minimum of 20 feet from any public street in areas of low visibility such as the rear of buildings. (S)
B. Combine loading docks and service areas between multiple sites. (G) Screen from public view with fencing, walls and/or landscaping. (S) (See also Section 6. Screen Walls and Fencing).
C. Clearly identify service entrances with signs to discourage the use of main entrances for deliveries. (G)

1.7 Water Quality Control and Drainage

Policy:

Storm water and snow-melt from rooftops, paved areas, and lawns carry plant debris, soil particles, and dissolved chemicals into the City's storm drainage system. Site development plans should employ management and engineering practices to protect stormwater from these undesirable elements, before releasing water into the City's storm drainage system.

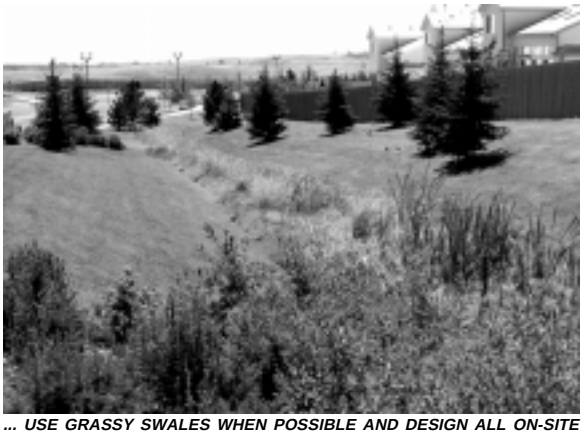
Site drainage should be designed to minimize water collection near building foundations, entrances and service ramps. In addition to the City of Louisville's Storm Drainage and Technical Criteria, the following standards and guidelines apply:

Standards and Guidelines*:*

A. Storm water should not drain directly into the public storm drainage system without first going through a detention pond and a grassy swale. (G)
B. Design and maintain all grassed swales and other drainage channels in accordance with City of Louisville Storm Drainage Design and Technical Criteria. (S)

C. Avoid hard concrete-lined channel designs. If a hard channel design is required use a more natural approach that incorporates river rock or natural rock channel lining when possible. (G)
D. Utilize accepted design criteria and recommendations of the Urban Drainage and Flood Control District (UD & FCD) and the City of Louisville for detention pond design to enhance water quality. (S)
E. The use of consolidated detention pond facilities is encouraged. (G)
F. Design on-site drainage and detention facilities with attractive, landscape features and amenities. (S)

1.7 C AVOID HARD CHANNEL DESIGNS...



... USE GRASSY SWALES WHEN POSSIBLE AND DESIGN ALL ON-SITE DRAINAGE AND DETENTION FACILITIES WITH ATTRACTIVE, YEAR-ROUND SITE FEATURES AND AMENITIES.

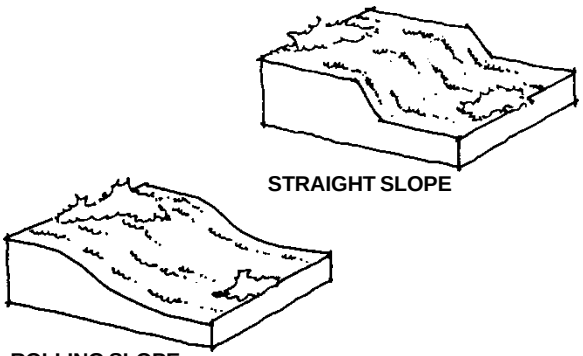
1.8 Site Grading, Excavation and Erosion Control

Policy:

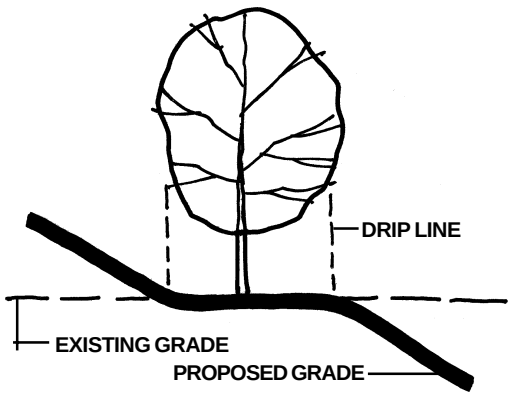
The design of site improvements should minimize cut-and-fill in order to preserve each site's natural terrain to the maximum extent possible. Site grading designs should be executed in such a manner to avoid drainage impacts (such as erosion and road damage), both on-site and downstream.

Standards and Guidelines:

A. Preserve the natural setting with grading designs that are sensitive to existing land forms and topography. (G)
B. In developing sites, limit slopes to 4:1 or less. (G) Slopes in excess of 4:1 may be allowed when engineering or site constraints dictate a steeper slope. (G)
C. In general, transition grades between old and new elevations should be rolling rather than one continuous straight slope. (G)
D. Avoid grade changes within the drip-line of existing trees that are to be maintained. (G)
E. Stockpile and protect topsoil during construction. (S)
F. Preserve existing site vegetation, to the extent possible, during over-lot grading activities. (G) Replant all disturbed soil and slopes with an approved grass mixture or ground cover. (S) Prepare the soil prior to seeding. (S)



1.8 C TRANSITION GRADES SHOULD BE ROLLING RATHER THAN ONE CONTINUOUS STRAIGHT SLOPE.



1.8 D AVOID GRADING WITHIN THE DRIPLINE OF EXISTING TREES.

2. VEHICULAR CIRCULATION AND PARKING

Goal:

The on-site vehicular circulation and parking system is a critical factor in the safety and success of a commercial development. The parking/access/circulation system should provide for the safe, efficient, convenient, and functional movement of multiple modes of transportation both on and off the site where pedestrian/bicycle/vehicle conflicts are minimized. Alternate modes of transportation, including public transit, bicycles and pedestrians should be given priority in the site design.

2.1 Site Access and Vehicular Circulation

2.1.1 Vehicular Access

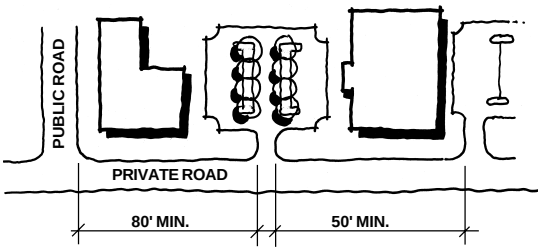
Policy:

Promote the safety and mobility of through traffic by minimizing the number of access points to private property from public streets. Design vehicle entrances as Gateways.

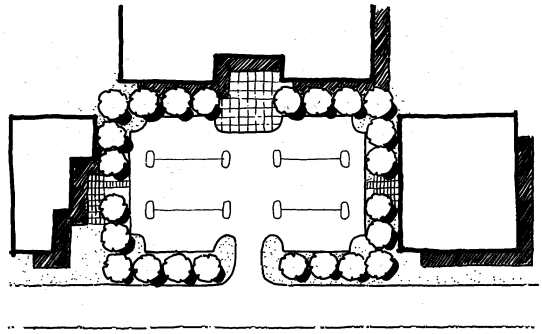
Standards and Guidelines:

A. Enhance the intersections of entrance drives with arterial and collector streets by incorporating signs, accent paving, special landscaping and lighting. (S)
B. Materials used in entry features shall be consistent with other materials used in the development. (S)
C. Utilize street intersections for access into commercial developments. (G)
D. Locate site access points as far as possible from street intersections to provide adequate vehicle stacking room. (G) More than one access to a site may be permitted when it will not be hazardous to the safety and operation of the street or to pedestrians. (G)
E. Maintain a minimum 50.0' separation between adjacent curb cuts along private roadways. (S)
F. Maintain a minimum 80.0' separation between a public or private road intersection and a parcel curb cut. (S)
G. When the opportunity exists, provide common or shared entries. (G) (See Section 5.2.C for landscaping details)
H. Locate site entries to minimize pedestrian/vehicular conflicts. (G)
I. Design entrances to align with focal points within the development such as landmark towers or landscape features. (G)
J. Entrances that lead directly into head-in parking are not allowed. (G)
K. Design internal roadways to incorporate design elements of gateway entries. (G)
L. Accent pavement materials located within the public right-of-way must meet City of Louisville Public Works Department criteria. (S).

2.1.1 DESIGN VEHICLE ENTRANCES AS ENHANCED "GATEWAYS".



2.1.1 D, E & F MINIMUM SEPARATION BETWEEN INTERSECTIONS AND CURB CUTS



2.1.1 G PROVIDE COMMON OR SHARED ENTRIES WHEN POSSIBLE.

2.1.1 I DESIGN ENTRANCES TO ALIGN WITH FOCAL POINTS SUCH AS LANDMARK TOWERS.

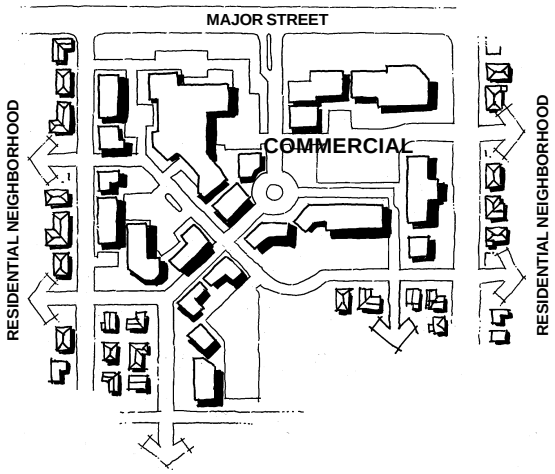
2.1.2 Vehicular Circulation

Policy:

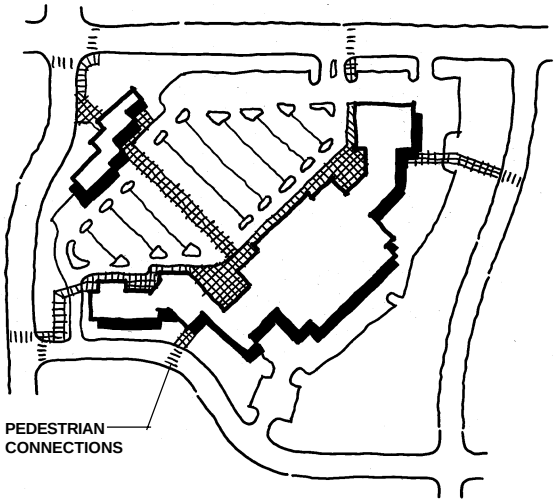
Projects with multiple building sites or parcels should include a hierarchy of internal roadways such as: 1) Internal Collector 2) Internal Drives and Parking Aisles; and 3) Service Drives. This hierarchy should be implemented by engineering and landscape treatments. The street, access and parking network shall provide for the smooth, safe, convenient and functional movement of all modes of transportation, including vehicles, public transit, bikes and pedestrians, with priority to the pedestrians.

Standards and Guidelines:

A. Link developments with surrounding areas and uses by extending streets, drives and sidewalks directly into and across the development, and across property lines, thereby providing convenient, direct pedestrian, bicycle, and vehicular access to adjoining development. (G)
B. Provide separate vehicular and pedestrian circulation systems with a strong emphasis on pedestrian linkages between uses. (S)
C. Separate parking aisles from vehicle circulation routes and entry drives. (G)
D. Avoid conflicts between adjacent parking lots by maintaining similar directions of travel and parking designs. (G)
E. Design drive-thru lanes to allow for a vehicle stacking distance that accommodates anticipated demand without impairing traffic circulation. (S) For drive-thru restaurants, the vehicle staking distance must anticipate and accommodate periods of peak demand. (S)
F. Drive-thru facilities and lanes shall be separated from parcel access points. (G)
G. Drive-thru facilities and stacking lanes shall not be located within the front yard setbacks, and when located adjacent to public right-of-ways, residential zone districts, or pedestrian gathering areas shall be adequately screened from view. (S)
H. One-way access ways require a minimum 12 foot wide (FL to FL) driveways, a minimum 15 foot radius intersection, and a maximum 100 foot length. (S)



2.1.2 A LINK DEVELOPMENTS WITH SURROUNDING AREAS.



2.1.2 B PROVIDE SEPARATE VEHICULAR AND PEDESTRIAN CIRCULATION SYSTEMS WITH A STRONG EMPHASIS ON PEDESTRIAN LINKAGES.

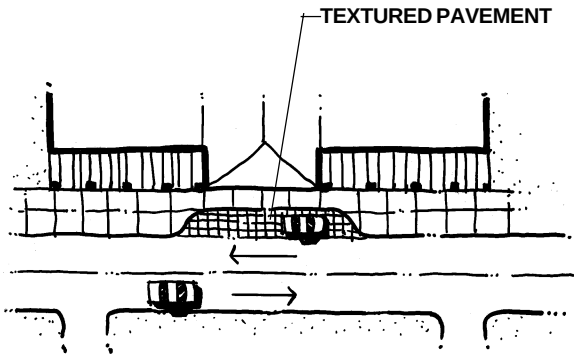
2.1.3 Passenger Drop-Off Areas

Policy:

Passenger drop-off areas should provide for safe and convenient access to building entries.

Standards and Guidelines:

A. Passenger drop-off areas should be incorporated into all projects. (G)
B. All schools and child care facilities having a capacity greater than 25 students shall incorporate drop-off areas. (S)
C. Provide a clear separation of vehicular traffic between drop-off zones and accesses to either parking lots or parking structures. (S)
D. Design drop-off lanes so as not to obstruct traffic flow when motorists are stopped to discharge passengers. (S)
E. Use a textured paving material that is distinguishable from the travel lane at the drop-off. (G)
F. Use signs to indicate “drop-off zone” or “passenger loading only”. (S)



2.1.3 D & E DESIGN DROP -OFF LANES SO AS TO NOT OBSTRUCT TRAFFIC FLOW AND USE TEXTURED PAVEMENT TO DELINEATE THIS ZONE.

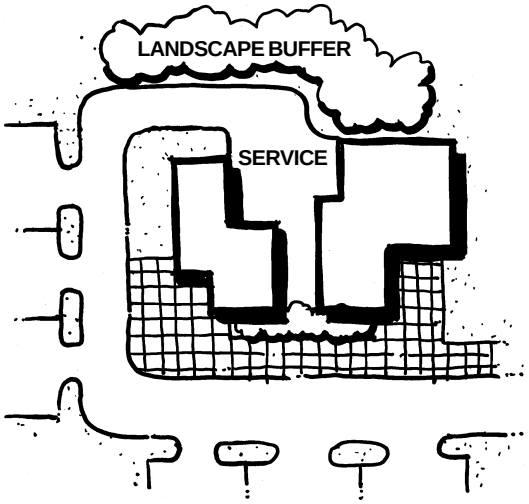
2.1.4 Service/Delivery, Emergency and Utility Access

Policy:

Routes for service, emergency and utility access should be clearly marked. Service circulation within a development shall be designed to provide safe movements for all anticipated vehicles. The design of individual parcels to accommodate truck access shall meet all regulatory requirements for turning radii without sacrificing other important goals and policies of the CDDSG.

Standards and Guidelines:

A. Meet all Louisville Fire Protection District regulations in the design and provision of emergency access to buildings for fire suppression, police, ambulance and other emergency vehicles. (S)
B. Avoid the creation of “blind areas” that cannot be patrolled by police or security staff. (G)
C. Provide shared service and delivery access ways between adjacent parcels and/or buildings. (G)

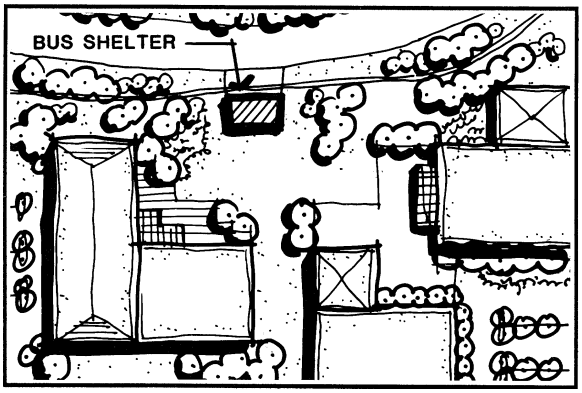


2.1.4 C PROVIDE SHARED SERVICE AREAS BETWEEN BUILDINGS OR PARCELS.

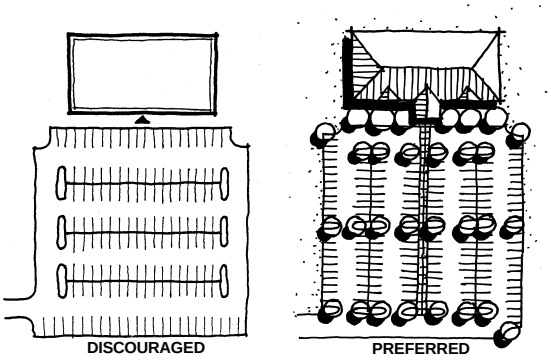
2.1.5 Mass Transit Facilities

Policy:

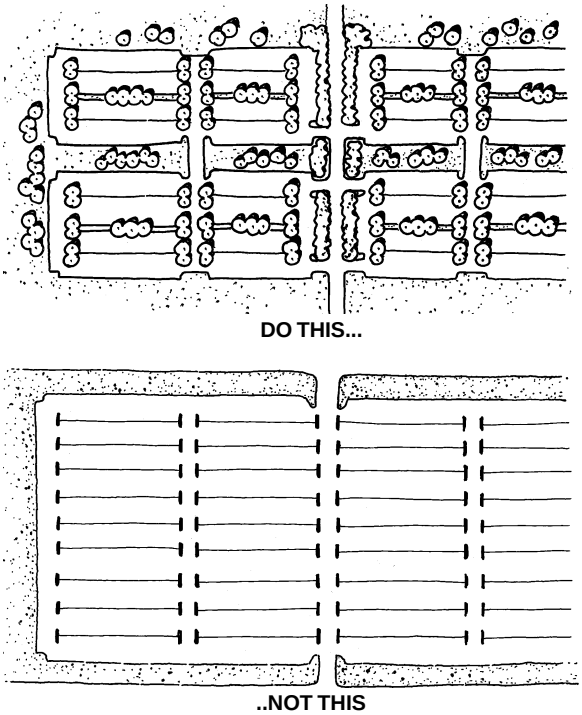
Mass transit facilities should be accommodated within all major commercial developments that could generate high volumes of transit use. Transit routes, access points and shelter locations should be addressed along major roadways within and on the perimeter of such projects. Transit facilities shall be provided in a manner to make transit an attractive mode of travel for both employees and patrons.



2.1.5 A LOCATE BUS SHELTERS CLOSE TO SIGNIFICANT CLUSTERS OF BUILDINGS.



2.2.1 E ORIENT PARKING AISLES PERPENDICULAR TO BUILDING ENTRANCES SO PEDESTRIANS WALK PARALLEL TO MOVING CARS.



2.2.1 G DIVIDE LARGE PARKING AREAS INTO A SERIES OF SMALLER, CONNECTED LOTS.

Standards and Guidelines:

A. Locate bus shelters close to significant clusters of buildings. Provide a concrete pad in front of bus shelters. Provide protection for bus shelters from the prevailing winds. Consider incorporating passive solar heating features. (G)
B. Coordinate any shelter design and locations with RTD. (S)

2.2 Parking Lots and Structures

This section provides standards and guidelines for the siting and layout of parking lots and structures. Specific landscape standards for parking areas are included in Section 5.3, Parking Lot Landscaping.

2.2.1 Surface Parking Lots

Policy:

Vehicle parking should be provided to meet the location and quantity requirements of specific uses without undermining the function of other modes of transportation or detracting from the creation of attractive pedestrian environments.

Standards and Guidelines:

A. Design parking lots to avoid dead-end aisles. (G)
B. Where a dead-end aisle is authorized, adequate space for unimpeded turn-around must be provided. (S)
C. Separate parking areas from buildings by either a raised concrete walkway, pedestrian plaza or landscaped strip. (S)
D. Avoid head in parking, except handicap parking, which causes hazardous backing movements into major drive aisles. (G)
E. Orient parking aisles perpendicular to buildings so pedestrians walk parallel to moving cars. Minimize the need for pedestrians to cross multiple parking aisles and landscape areas. (G)
F. Design parking areas that incorporate pedestrian walkways in a manner that links buildings to the street sidewalk system. (S)
G. Divide parking areas which accommodate more than 125 vehicles into a series of smaller, connected lots. (S)
H. Landscape and offset portions of the lot to reduce the visual impact of large parking areas. (G)
I. Avoid aligning all travel lanes in parking lots in long straight configurations. (G)
J. Provide cross-access easements between adjacent lots to facilitate the flow of traffic between complementary users. (G)

K. Minimum Parking Ratios:
Except for uses in the area designated as *Downtown Louisville,* the minimum number of parking spaces required per parcel/ use is based on the following ratios (# Parking Spaces/Floor Area as defined in Section 17.08.165) (S):

• Retail Uses	4.5 spaces/1000 SF
• Restaurants	15 spaces / 1000 SF
• Theaters	1 spaces / 3 seats
• Professional Offices	4 spaces/1000 SF
• Medical/Dental Offices	6 spaces/1000 SF
• Warehouse	1 / 1000 SF
• Showroom	4.5 / 1000 SF
• Hotel/Motel/Extended Stay Lodging/ Bed & Breakfast	1space/guest room
plus	1 space/2 employees

The minimum number of parking spaces required for any construction, expansion or modification in Downtown Louisville that creates additional floor area is one space per 400 square feet of new floor area, rounded to the nearest 400 square feet. See Section 17.20.025 of the Louisville Municipal Code for additional requirements regarding parking in Downtown Louisville.

L. Locate special parking spaces for van pool and car pool parking close to building entrances. (G)

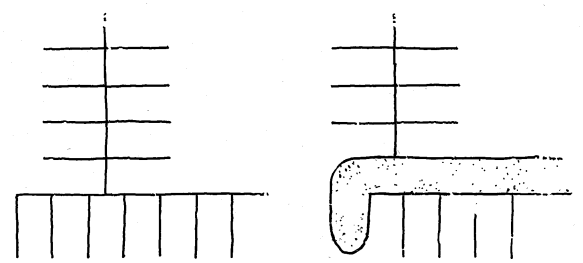
M. When opportunities exist for shared parking between different uses with staggered peak parking demand, make every effort to take advantage of this opportunity to reduce the total number of parking spaces within the development, especially in multi-tenant and mixed-use commercial centers. (G)

N. Use curbed landscaped islands to designate a change in direction of parking stalls and aisles. (S)

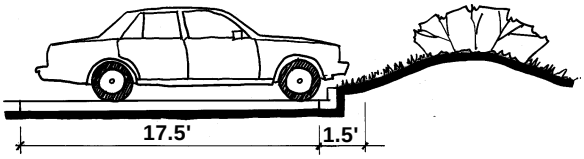
O. Provide landscaped islands at the ends of all rows of parking. (S) (See Section 5 for required sizes.)

P. Parking bumpers in surface lots are prohibited. (S)

Q. Where parking spaces abut landscaped islands, medians, or perimeter curbs or sidewalks, the length of spaces may be shortened by 1.5 feet to account for the car overhang, and the width of the sidewalk or landscape strip increased by that same amount. (G)

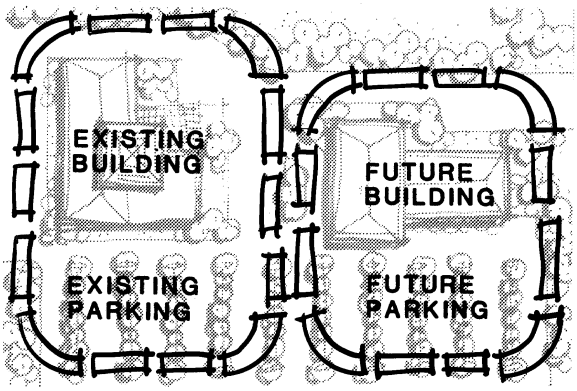


2.2.1 N USE CURBED LANDSCAPED ISLANDS TO DESIGNATE A CHANGE IN DIRECTION OF PARKING STALLS AND AISLES.



2.2.1 Q PARKING SPACES MAY BE SHORTENED BY 1.5' WHERE THEY ABUT LANDSCAPED ISLANDS.

2.2.2 D THE GROUND LEVEL OF PARKING STRUCTURES SHOULD BE INTERESTING TO THE PEDESTRIAN.



2.2.3 WHERE EXPANSION OF A BUILDING IS PLANNED, RESERVE APPROPRIATE AMOUNTS OF LAND FOR THAT PURPOSE.

2.2.2 Parking Structures and Parking Beneath Buildings

Policy:

The appearance of parking structures, whether free-standing or attached, should relate to the buildings they serve, and contribute to the character of the development. The incorporation of parking structures in a commercial development is encouraged in order to minimize site coverage.

Standards and Guidelines:

A. The general architectural criteria shall apply to all parking structures. (S) (See Section 4 Architectural Design Criteria)
B. Provide convenient pedestrian connections between parking structures and main buildings. (S)
C. Separate vehicular access to parking structures from access to general surface parking lots, and clearly identify the access with signs. (G)
D. Where the ground level of the parking structure fronts a public way, provide decorative screens, murals, or plant materials to create interest for pedestrians. (S)

2.2.3 Provisions for Future Parking Lots and Structures

Policy:

Many large projects which are expected to be developed in phases should anticipate and accommodate such phasing in the parking lot design. Provision should be made for increased parking demands related to anticipated expansions, and for possible changes in use of a building or complex of buildings.

Standards and Guidelines:

A. Where expansion of a building is planned, appropriate amounts of unimproved land for additional parking should be reserved at the outset. (G)

2.2.4 Motorcycle Parking

Policy:

Motorcycle parking should be designed and sited in such a way that it is clearly distinguishable from automobile parking. Parking stalls should be identified to encourage orderly positioning of parked motorcycles. Adequate security for parked motorcycles and visibility of motorcyclists by automobile drivers is also a concern.

Standards and Guidelines:

A. Locate motorcycle parking bays separately from automobiles. (G)
B. Use concrete paving in these parking areas to support kickstand pressure. (S)
C. Provide 1 motorcycle space/40 vehicle parking spaces up to a total of 10 spaces. (G)

3. PEDESTRIAN AND BICYCLE CIRCULATION

Goal:

Pedestrian and bicycle systems should be incorporated into all developments and designed to be safe and invite walking and bicycling throughout the project. Individual parcels and sites (within larger projects) should be integrated with adjacent properties design to form a comprehensive system and to provide convenient access to the adjacent neighborhoods as well as the regional systems.

3.1 Overall Pedestrian and Bicycle Circulation

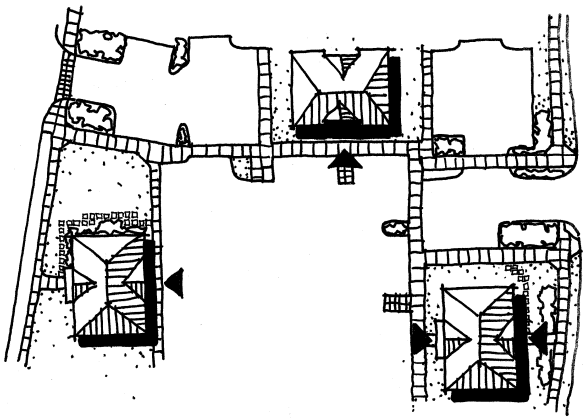
Policy:

Pedestrian spaces and routes should be designed to invite walking throughout and around each commercial development. Routes should be integrated to form a comprehensive circulation system providing convenient, safe and visually attractive access to all destinations on the site. Ease of maintenance should be considered.

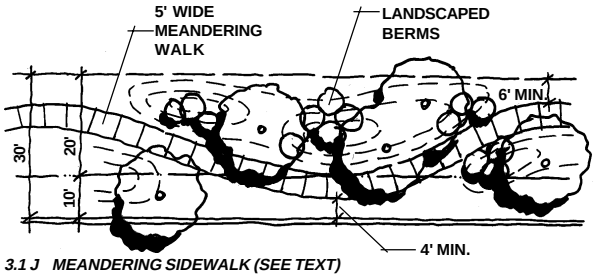
Standards and Guidelines:

A. Locate buildings and design on-site circulation to minimize pedestrian/vehicle conflicts. (S)
B. Separate pedestrian and vehicle movements with the use of landscaping, barriers or other appropriate design solutions. (G) (See also Section 3.4)
C. Differentiate areas of pedestrian and bicycle/vehicle interface with accent pavement and signage to alert drivers to potential conflicts. (S)
D. Where a driveway crosses a walkway, make the walkway continuous in grade without a ramp down to the road bed. (G)
E. Provide well-identified connections from the primary pedestrian and bicycle paths within the development to the perimeter sidewalks and bikepaths. (S)
F. Align walkways directly and continuously to connect pedestrian destinations. (S) Avoid following the outline of parking lots that do not provide direct pedestrian access. (G)
G. Locate pedestrian access and walkways away from the north sides of buildings. (G)
H. Sidewalks shall be at least 5 feet wide and detached from all arterial, collector and local public streets by a minimum 6 foot wide landscaped parkway, except at intersections where acceleration & deceleration lanes are provided. (S)
I. Sidewalks should be aligned parallel to the adjacent street. (G)

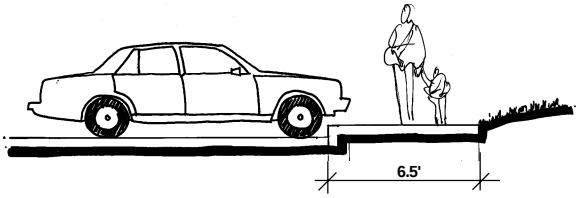
3.1 B SEPARATE PEDESTRIAN AND VEHICULAR MOVEMENTS WITH LANDSCAPING, BARRIERS, OR OTHER APPROPRIATE DESIGN SOLUTIONS.



3.1 F ALIGN WALKWAYS DIRECTLY AND CONTINUOUSLY TO PEDESTRIAN DESTINATIONS.

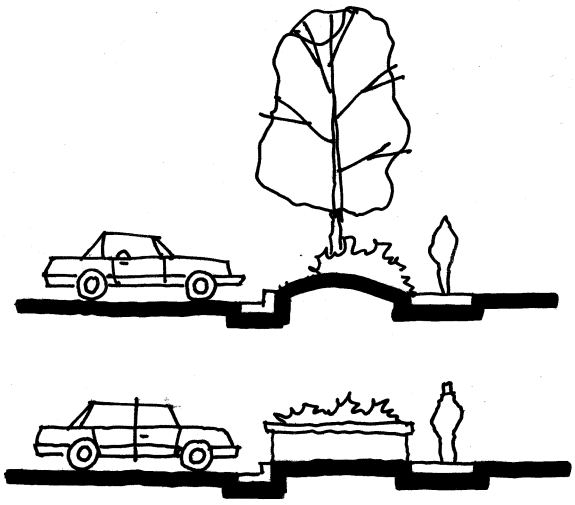


3.1 J MEANDERING SIDEWALK (SEE TEXT)



3.1 L WALKWAYS SHOULD BE 6.5' WIDE WHERE ATTACHED TO END OF HEAD-IN PARKING STALLS.

3.2 PROVIDE CLEARLY DEFINED PEDESTRIAN PATHWAYS THROUGH PARKING LOTS TO BUILDINGS.



3.3 USE ATTRACTIVE BARRIERS TO SEPARATE PEDESTRIAN AND VEHICULAR TRAFFIC.

J. In cases where a meandering sidewalk is desired along an arterial street, provide adequate width within which to accommodate berming and landscaping that enhances the meander and defines the walkways. (G) If the appropriate width is not provided within the public right of way to meet this guideline, a sidewalk easement will be required. (G)
K. Attached sidewalks are permitted only adjacent to acceleration and deceleration lanes, internal drives, the front of parking stalls and designated drop-off areas outside of the traffic flows. (S)
L. Attached sidewalks shall be a minimum of 5 feet wide, except those sidewalks attached to head in parking stalls shall be 6.5 feet in width. (S)

3.2 Pedestrian Connections through Parking Lots

Policy:

Bikeways and pedestrian walkways should be separated and buffered from external and internal automobile circulation within parking lots. Walkways should lead pedestrians from parking areas to building entrances to facilitate convenient movement and to minimize conflicts with cars. Pedestrians should feel comfortable that they are in a clearly defined pathway to the building.

Standards and Guidelines:

A. Internal pedestrian walkways should be designed to avoid the crossing of drive through lanes, and service drives. (S)

3.3 Site Barriers

Policy:

Barriers are intended to separate vehicular and pedestrian traffic for safety purposes, or to restrict access for security reasons. Barriers should be designed as visual assets to the development, and where barriers are used, the following standards and guidelines apply:

Standards and Guidelines:

A. Barriers may include fences, walls, gates, curbs, bollards, low shrubbery, and berms. (G)
B. Barrier materials shall be consistent with site furniture and building materials. (S)
C. Steel post, chain, cable and wire barriers are prohibited. (S)
D. These alternatives to conventional barriers may also be considered (G) :
   1) Change the level between a walkway and the surrounding area as an effective means to keep pedestrians on walks.

2) Install benches, seating walls, bike racks, or raised planters along the edge of a designated route to discourage cross-cutting.

E. The use of movable vehicle barriers such as gates, barricades, and mechanical devices that fold down or recess into the pavement is discouraged.

3.4 Bicycle Parking

Policy:

Functional and attractive bike parking shall be provided in convenient locations and in adequate numbers for both customers and employees.

Standards and Guidelines:

A. Locate bicycle parking spaces near both customer and employee building entrances. (S)
B. Provide sufficient lighting levels to facilitate evening bicycle use. (S)
C. Do not position racks where they will obstruct building entrances or the flow of pedestrian traffic. (S)
D. Provide bicycle parking spaces at bus shelter locations. (S)
E. Provide bicycle parking spaces in the following minimum ratio:
One (1) bicycle space for every ten (10) required off-street automobile parking spaces up to a total of 20 bicycle parking spaces. (S)
F. Providing protection from the elements for bicycle parking is encouraged. (G) Consider the use of shelters. (G) Coordinate the design of the bicycle shelter with adjacent buildings or other street furniture designs. (G)
G. Use bicycle racks that accommodate a range of bicycle types and a variety of security devices. (G)

3.4 A LOCATE BICYCLE PARKING CLOSE TO BUILDING ENTRANCES.

3.4 G PROVIDE RACKS THAT ACCOMMODATE A VARIETY OF BICYCLE TYPES.

4. ARCHITECTURAL DESIGN

Goal:

Architectural design should seek to blend in rather than stand out from adjacent structures. All elements including the scale and mass of buildings, materials, colors, roof styles, door and window openings, and details should be responsive to existing architectural design. New buildings should add to community character without rigid uniformity of design.

All buildings should be energy efficient to conserve natural resources.

Building masses should respond to "human scale" with materials and details that are proportionate to human height and provide visual interest at the street and sidewalk level. Buildings should be reduced in apparent mass or articulated to avoid large monolithic, box-like shapes.

Strongly thematic architectural styles associated with some chain restaurants and service stores are strongly discouraged and if utilized must be modified to be compatible with nearby structures and uses.

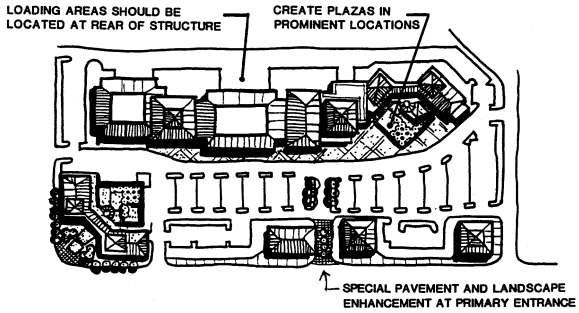
4.1 Building Relationships and Compatibility

Policy:

All buildings within a proposed development should be visually and physically compatible with one another, and with existing buildings on adjacent sites.

Standards and Guidelines:

A. Locate buildings so they will not obscure desired views from existing or proposed buildings nearby. (G)
B. Locate the building(s) to create pedestrian plazas and gathering places. (G) (See Sec 1.1.A)

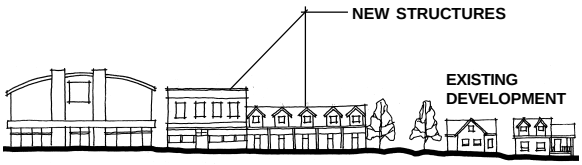


4.1 B LOCATE AND ORIENT BUILDINGS TO CREATE COMFORTABLE PEDESTRIAN PLAZAS AND GATHERING PLACES.

4.2 Building Heights

Policy:

Building heights should be minimized and should not be out of scale with existing or planned development. Buildings should appear "anchored" closely to the ground, although building heights are expected to vary, especially along the perimeter edges, adjacent to the major roadways.



4.2 B TRANSITION THE HEIGHT OF NEW BUILDINGS TO BE COMPATIBLE WITH ADJACENT DEVELOPMENT.

Standards and Guidelines:

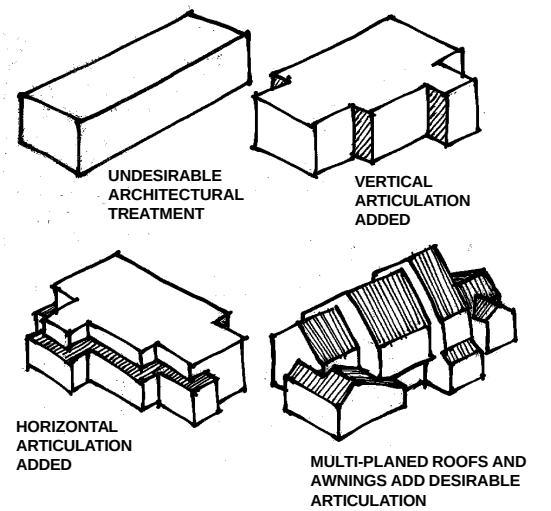
A. Relate building heights to adjacent open spaces to allow maximum sun and ventilation and to provide protection from prevailing winds. (G)
B. The height of new development should be compatible with and transition from the height of adjacent development. (G)
C. The maximum height of all commercial buildings (as measured pursuant to the Louisville Municipal Code) is 35.0', and 42.0' to the top of the rooftop mechanical screen. (S)
D. Architectural elements such as domes, spires, towers, etc. may exceed the 42.0' height limit up to 50.0', when authorized through the PUD process. (S)

4.3 Building Massing, Forms, and Pedestrian Scale

Policy:

Buildings should relate to the terrain and each other in their massing and forms. Square "box-like" structures with large, blank, unarticulated wall surfaces are not an acceptable form.

Facades with a high level of visual interest from auto and pedestrian views are encouraged. The exterior character of buildings should respond to pedestrian scale in the immediate vicinities. Buildings should have features and patterns that provide visual interest at the scale of the pedestrian, that reduce apparent mass, and that relate to local architectural character.



4.3 BREAK LARGE BUILDINGS INTO MODULES OR SUB-PARTS TO REDUCE PERCEIVED SCALE.

Standards and Guidelines:

A. In cases of facades more than 50 feet in length, incorporate significant architectural features and treatments to diminish the building mass. (S)
B. Additional techniques shall be used to reduce scale and apparent massing of buildings. (S) Utilization of the techniques set forth in the following guidelines C thru I, as well as other techniques proposed by the applicant, will be used in determining compliance with this standard.
C. Variations in facade elements can reduce perceived scale and mass. For example:
   1) Variations in color and/or texture should be used. (G)
   2) Step downs and step backs should follow the terrain and be tiered and reinforced by landscape elements. (G)
   3) Variation in roof forms and height of roof elements should be used. (G)
D. Compositions that emphasize floor lines or that express rhythms and patterns of windows, columns, and other architectural features are encouraged. (G)
E. Express the position of each floor in the external skin design:
   1) Consider terracing, articulated structural elements, or a change in materials as methods of defining floors. (G)

4.3 B & C USE A VARIATION IN FACADE ELEMENTS TO REDUCE PERCEIVED SCALE.

2) Consider using belt courses or other horizontal trimbands of contrasting color and materials to define floor lines. (G)

F. Avoid blank walls at ground-floor levels. Use windows, trellises, wall articulation, arcades, material changes, awnings or other features. (G)

G. Use materials manufactured in units and measurable in human proportions such as brick, tile, and modular stone. Other appropriate materials include: stucco, glass, and decorative tiles. (G)

H. Architectural features such as columns, pilasters, canopies, porticos, awnings, brackets or arches should be included. (G)

I. Windows that can reveal indoor amenities and activities and displays are encouraged. (G)

4.3 G USE BUILDING MATERIAL THAT CAN VISUALLY BE MEASURED TO GAIN A SENSE OF HUMAN SCALE.

4.4 Roof Forms and Materials

Policy:

Rooftops should contribute to the unified appearance of each development and should be considered as seen from: higher areas, ground level, other buildings, and roadways.

Standards and Guidelines:

A. Avoid roof lines running in continuous planes of more than fifty (50) feet. (G)

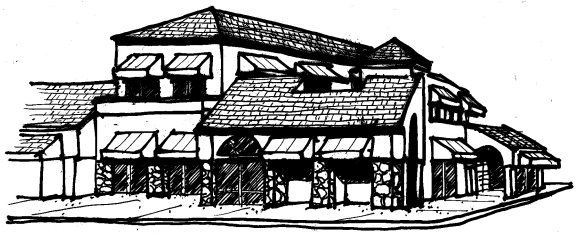
B. Flat roofs are not encouraged. (G)

C. Roof materials should be high quality, durable and consistent with local architectural themes. (S) Concrete tile, asphalt shingles, and standing-seam metal are examples of appropriate roof materials. (G)

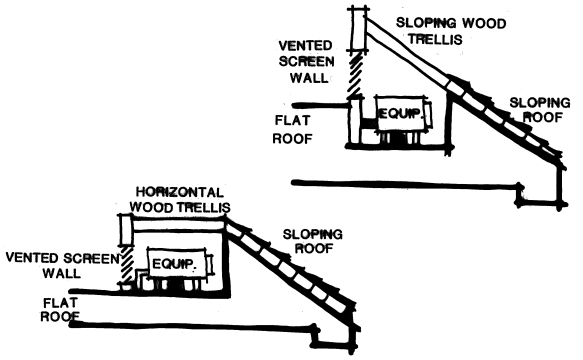
D. Screen roof top mechanical units from view with architecturally integrated screening units, roof parapets, or sloped roof forms. (S)

E. Design roof forms to correspond to and denote building elements and functions such as entrances, arcades, and porches. (S)

F. Roof forms should relate to adjacent buildings or developments. (G)



4.4 MIX ROOF FORMS TO CREATE VARIETY IN THE "ROOFSCAPE".



4.4 D SCREEN ALL ROOF EQUIPMENT WITH MATERIAL CONSISTENT WITH THE MAIN STRUCTURE.

4.5 Building Materials and Colors

Policy:

Exterior materials and colors should be aesthetically pleasing, of a high quality and compatible with materials and colors of nearby structures. Compatibility of building materials is desired throughout a development project consisting of multiple buildings.

4.5.1 F USE HEAVIER MATERIALS AT LOWER PORTIONS OF BUILDINGS.

4.5.1 Building Materials

Standards and Guidelines:

A. Exterior wall materials must be muted. (S) As such:
   1) Matte textures are encouraged. (G)
   2) Masonry, brick, stone and stucco, are strongly preferred. (G)
   3) Textured concrete may also be considered. (G)
   4) Wood is also appropriate in the context of similar adjacent development. (G)
B. Utilize materials in their natural texture and color. (G)
C. Use the same materials and colors on all elevations of a building. (S)
D. Highly reflective materials such as bright aluminum and glass are not permitted as the primary building material, especially at the pedestrian level. (S)
E. Combine building materials in patterns that create a sense of human scale. (G)
   1) Cast or scored concrete that gives a sense of proportion may be appropriate as well as conventional modular materials such as brick or stone. (G)
   2) Avoid large blank featureless or uniform surfaces. (G)
F. Use heavier materials such as natural stone and masonry materials on the lower 3 to 4 feet of buildings to help visually anchor them to the ground. (G)
G. High quality, low-maintenance materials are encouraged. Select durable building materials that will age well. (G)
H. Painted metal, painted concrete, plain unfinished concrete block or large expanses of unarticulate stucco are not acceptable materials. (S)
I. Do not use plexiglass, glossy metal and backlit vinyl awnings. (S)

4.5.2 Building Colors

A. Do not use paints or other covering materials with unproven durability. (S) Do not use bright colors, (including bright white) that may streak, fade or generate glare. (S) While subdued or muted colors generally work best as a dominant, overall color, a bright or primary color can also be appropriate for accent elements, such as door and window frames, and architectural details. (G)
B. Choose color palettes for new buildings that are compatible with the colors of adjacent structures. (S)
C. Minimize the number of colors appearing on a structure's exterior. (G)
D. Paint architectural detailing to complement the facade and coordinate with adjacent buildings. (S)
E. Roof colors shall be muted and compatible with the dominant building color. (S)

4.6 Building Entrances

Policy:

Primary building entrances should be easily identifiable and relate to human scale.

Standards and Guidelines:

A. Locate main entrances to be clearly identifiable from primary driveways and drop-offs. (S)
   For example:
   1) Design building entrances to contrast with the surrounding wall plane. (G)
   2) Consider tinted glass, painted doors, or recessed features that will create a shaded effect. (G)
   3) Create a frame around doorways, by changing materials from the primary facade material. (G)
   4) Design primary entrances to be accessible to handicapped users without complex ramp systems. (G)
B. All building entrances shall be well-lit. (S) (See Chapter 8)
C. Consider using building entrance ways as a transition from the building to the ground. Incorporate walls, terraces, grading and plant materials to accomplish this transition. (G)
D. Consider using terraces or porticos to define entrances. (G)

4.6 A LOCATE AND DESIGN MAIN ENTRANCES TO BE CLEARLY IDENTIFIABLE.

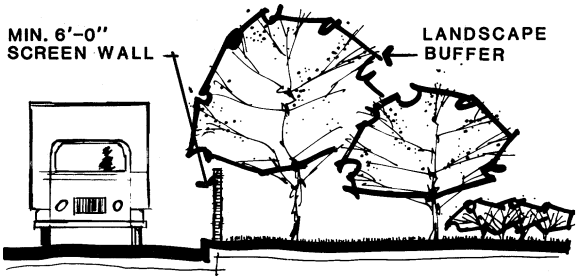
4.7 Service Entrances and Loading Areas

Policy:

Service areas should be visually unobtrusive and integrated with the project site design and architecture.

Standards and Guidelines:

A. Orient service entrances, loading docks, waste disposal areas and other similar uses toward service roads and away from arterial and collector streets and residential areas, unless adequately screened. (S)
B. Screen service entrances and trash dumpsters from public streets, pedestrian gathering areas and primary entrances with fencing, walls and/or landscaping. (S) Use the same materials as employed elsewhere on the building or site. (S)
C. Coordinate the location of service areas with adjacent developments, so that shared service drives may be feasible. (G)
D. Do not place service areas where they will be readily visible from adjacent buildings or where they will negatively impact important/identified view corridors. (S)



4.7 B SCREEN SERVICE ENTRANCES AND TRASH DUMPSTERS WITH FENCING, WALLS, AND/OR LANDSCAPING.

4.8 Energy Conservation Measures

Policy:

Local climate conditions afford the opportunity to take significant advantage of passive and active solar energy applications. Buildings should be designed and sited to maximize the use of solar gain for energy savings, and respect the solar access requirements of adjacent (existing and proposed) buildings.

Standards and Guidelines:

A. Applicants are encouraged to consider energy conserving design concepts, including but are not limited to the following: (G)
   1) Proper orientation and clustering of buildings to take advantage of the prevailing summer winds and to buffer against adverse winter wind conditions.
   2) Types of material and their insulation characteristics.
   3) The arrangement and design of windows and doors.
   4) Direct solar or photovoltaic energy.
   5) Daylighting concepts.
   6) Earth sheltering with creative land forming.
   7) Natural ventilation of outdoor, indoor and attic spaces.

5. LANDSCAPE DESIGN [1]

Goals:

Landscaping for commercial areas is provided within each building site to: 1) enhance the aesthetics of commercial developments, 2) create a pedestrian friendly environment, 3) break up the mass of buildings, 4) soften architectural materials, 5) provide screening of service structures, 6) enhance the streetscape/parkway environment, 7) define building and parking area entrances, 8) provide shade and climate control, 9) control airborne particulates and 10) provide buffers between incompatible land uses or site areas. Drought tolerant plant species that are native to the region or suitable to this climate should be used.

This chapter addresses 4 distinct zones corresponding to the 4 major design influences on each commercial site:

1) Perimeter Landscaping Adjacent to Public and Private Roads
2) Perimeter Landscaping Adjacent to Abutting Property
3) Parking Lot Landscaping
4) Individual Building Landscaping

On smaller sites, there may be overlap between the four (4) planting zones that could result in over planting. Please consult with Planning Division staff to determine whether the requirements of one zone may take precedence over those of another zone.

The City shall strive to:

- Inspect all plant material prior to planting
- Inspect all irrigation designs and implementations
- Inspect installation at one and five year intervals

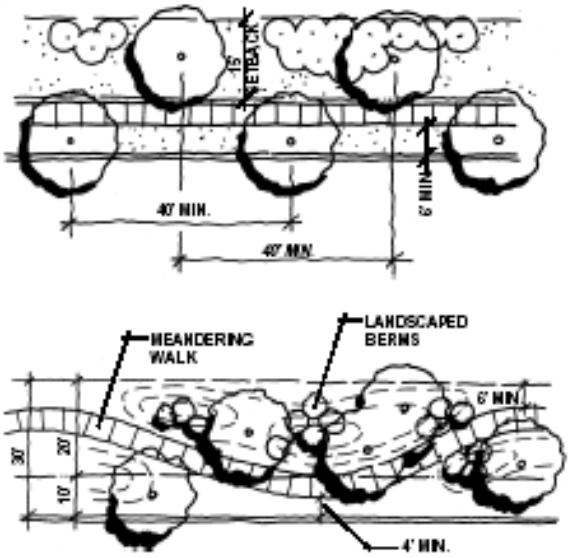
5.1 Perimeter Landscaping Adjacent to Public and Private Roads

Policy:

The corridors along perimeter arterial streets and internal collectors should provide a visually cohesive open space system. Similar landscape treatments should be used at all entrances and intersections. Plant materials, massing, spacing, and height characteristics should reinforce the hierarchy of roadways. Planting and grading should work together to create a variety of experiences along these roadways and to call attention to open space amenities. Perimeter edge treatments should establish identity for the project and convey a high-quality image.

5.1.A INCLUDE A COMBINATION OF MANICURED AND ENHANCED NATURAL LANDSCAPE AREAS.

5.1.D CREATE LANDSCAPE POCKETS IN LONG EXPANSES OF FENCES AND WALLS.



5.1.E2 & E4 LANDSCAPE REQUIREMENT DIAGRAMS

Standards and Guidelines:

A. Include a combination of manicured and enhanced natural landscape areas. (G)
B. Place annual and perennial gardens at entries. (S)
C. Place project identification markers along the perimeter edge of all commercial developments. (G)
D. Design long expanses of fence and wall surfaces to create landscape pockets. In cases of walls or fences over 50 feet in length, provide structural offsets, insets or landscape pockets to break monotony, provide visual interest and reduce heating effects. (S)
E. Parkway and Median Plantings:
    1) Vary street tree planting species in medians and parkways. (S) However, maintain the desired rhythm of plantings by selecting street trees with similar characteristics (i.e., height and branching patterns). (S)
    2) Where detached walks parallel to the street are proposed:
        a. Provide a minimum of 1 tree per 40 lineal feet of public and private street frontage between the sidewalk and curb in a minimum 8-foot width strip (S) Also in this area, provide durable, low growing shrubs at a minimum ratio of 1 shrub per 5 lineal feet, durable ground covers or a combination of the two. Irrigated ~~turf~~ grass that is native to Colorado or hybridized for arid conditions may also be placed in these areas. However, if the width of the area between sidewalk and curb is less than 10 feet, it would require subsurface irrigation. (S)
        b. Provide an additional 1 tree per 40 lineal feet of street frontage within 10 feet outside the sidewalk, internal to the development. (S)
        c. Provide a minimum of 1 shrub per 5 lineal feet plus ground cover or ~~turf~~ grass that is native to Colorado or hybridized for arid conditions outside the sidewalk, internal to the development. ~~Turf~~ Native or hybridized grass should be limited in this area and when used should be planned in a manner that can be efficiently irrigated. Low water using ~~turf~~ species should be chosen, provided they will typically provide a green appearance. (S)
    3) Where attached sidewalks are proposed:
        a. Provide a minimum of 1 tree per 20 lineal feet of public and private street frontage within 15 feet of the edge of the sidewalk. Tree spacing should be evaluated relative to the mature canopy size, as provided in the Recommended Plant Materials List maintained by the

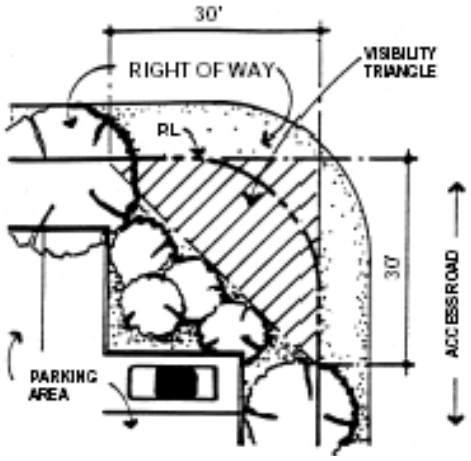
City and on file with the Planning Division. (S)

b. Provide a minimum of 5 shrubs per 20 lineal feet plus perennial flowerbeds, ground cover or grass that is native to Colorado or hybridized for arid conditions ~~lawn~~ within 20 feet of the edge of curb. ~~Lawn~~ grass areas that are less than 10 feet wide in any one dimension and bordered by impervious (or paved) surfaces, may ~~not~~ be ~~turf, unless~~ irrigated with a subsurface (no pop up or spray heads) system. (S)

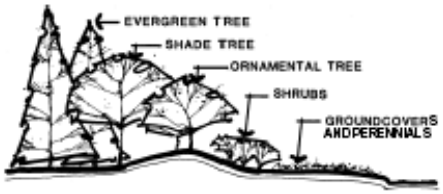
4) Where meandering sidewalks are proposed:
   1) Provide a minimum of 1 tree per 20 lineal feet of public and private street frontage. Tree spacing should be evaluated relative to the mature canopy size, as provided in the Recommended Plant Materials List maintained by the City and on file with the Planning Division. (S)
   2) Accompany the trees with a variety of shrubs and ground covers. Terracing of landscape area may also be appropriate in this area; however, berming should be avoided, as it tends to lead to inefficient irrigation and water waste. (G)
   3) Provide a minimum of 8 shrubs per 20 linear feet plus perennial flowerbeds, ground cover or grass that is native to Colorado or hybridized for arid conditions ~~l~~lawn. Grass ~~L~~lawn areas that are less than 10 feet wide in any one dimension and bordered by impervious (or paved) surfaces, may ~~not~~ be ~~turf, unless~~ irrigated with a subsurface (no pop up or spray heads) system. (S)
5) To prevent interference with motorist visibility, plant parkway trees a minimum of 3 feet from the back of curb and choose shrubs that do not exceed 24" mature height. (S)

F. Visually buffer all parking lots adjacent to perimeter roadways with adequate screening within a planting strip between the public right of way and the edge of the parking lot pavement. (S) Provide adequate shrub plantings to create a dense visual buffer between parking lots and perimeter roadways. (S) When using Juniper shrubs to create said buffer, a variety of species should be used to avoid the appearance of a single mass. (S) A maximum ratio of 1 Juniper per 3 deciduous shrubs is suggested. (G) Raised planters and screen walls are also encouraged to provide parking lot screening. Bermed turf areas should be avoided due to their tendency to waste irrigation water. (G)

G. Sight-lines at Intersections and within Medians
   1) Provide adequate sight lines for an effective 30-foot sight triangle measured from the right



5.1.G TYPICAL SIGHT LINES AT INTERSECTIONS



5.1.H.1 PROVIDE A MINIMUM OF 3 LEVELS OF LANDSCAPE SCALE AT ENTRY DRIVES

of way. (S) Plants and signage are allowed within the sight triangle if:

a. plants do not exceed 30" in height at full maturity; and
b. signs do not exceed 30" in height (measured from top of curb height) unless they are more than 80 percent open. (S)

H. Provide a diversity of landscaping materials at entry drives to development parcels. (S) Therefore:
   1) Provide a minimum of 3 levels of scale, including shade, evergreen, and/or ornamental trees, shrubs, annual and perennial flowers, and ground covers. (S)
   2) Plant clusters that appear as a cohesive visual element, and that complement the overall landscape theme and palette. (G)
   3) Integrate the plant design with the entry sign. Plantings should frame or provide a visual base for the signs. (S)

5.2 Perimeter Landscaping Adjacent to Abutting Property

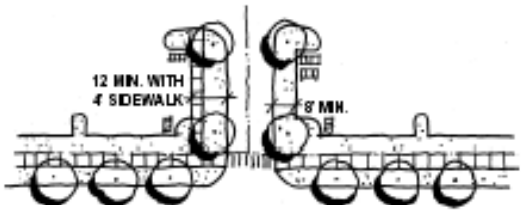
Policy:

Visual buffers should be provided between similar land uses to accomplish transitions and to mitigate potential conflicts between dissimilar uses.

Standards and Guidelines:

5.2.B PROVIDE A 30' WIDE PLANTING STRIP BETWEEN DISSIMILAR USES.

A. Between similar uses (i.e., where the adjoining uses are each permitted in the underlying zone district): Provide a minimum 10 foot wide buffer planting strip next to a perimeter or internal property line containing 1 tree for every 40 lineal feet of property line and appropriate shrubs, ground cover and/or native or hybridized grass ~~turf~~ areas. (S) This may not apply to internal property boundaries within a multiple-lot development to the extent the lots are developed under a single Planned Unit Development Plan and achieve other site design policies of these guidelines.
B. Between dissimilar uses (i.e., where the adjoining uses are not both permitted as a use by right in the underlying zone district(s)): Provide a minimum 30-foot wide buffer planting strip containing a minimum of 1 tree for every 20 lineal feet of property line and a screen hedge incorporating both deciduous and evergreen shrubs a minimum of 3 feet in height (at maturity) along a minimum of 50% of this perimeter area. (S)
C. Common/Shared Access Drives:
   1) Provide a minimum 8-foot wide buffer strip along both sides of a shared access drive when no sidewalk is included. (S)



5.2.C COMMON/SHARED ACCESS DRIVES.

2) Provide a minimum 12-foot wide buffer strip along both sides of a shared access drive where a sidewalk is included. (S)

5.3 Parking Lot Landscaping

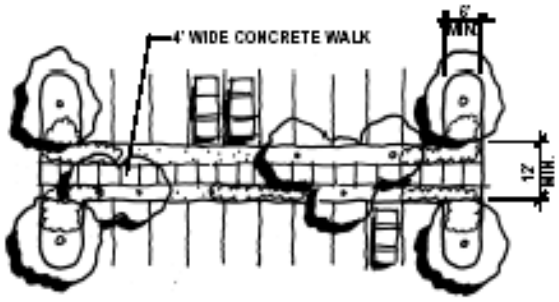
Policy:

Parking lots are necessary features of building sites that can, if not designed properly, visually detract from the overall development character. Parking lots should be designed to blend with each building site's character using landscape plantings and grading.

Standards and Guidelines:

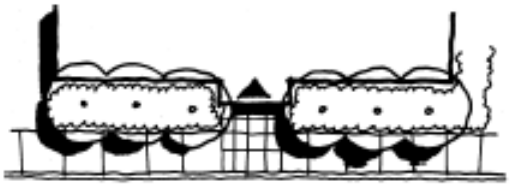
A. Use low, opaque walls and/or flowering plants combined with raised planters to create a dense visual buffer of parking areas from peripheral streets or frontages. (S)
B. Lower the grades of parking lots below existing street elevations to aid in obscuring views of automobiles, while promoting views of architectural elements of the structures beyond. (G)
C. A minimum of 1 canopy shade tree per 8 parking spaces is required in all parking lots, to be planted in islands, medians, and perimeter areas adjacent to lots (excluding streetscape tree plantings). (S)
D. Physical shade structures that incorporate live planting may also be an appropriate means of shading parking lot areas. (G)
E. No Evergreen Tree with a mature width greater than 20 feet, as noted in the Recommended Plant Materials List, should be planted within 15 feet of a hardscaped area. (S)
F. Utilize landscaped islands and medians to improve the definition of circulation patterns, provide shading for paved areas and break up continuous rows of parking. (G)
G. No landscaped area within a parking lot shall be less than 100 square feet. (S)
H. Landscaped Islands
    1) Provide a minimum 6-foot wide landscaped island at the end of every row of parking, equal in length to the length of the parking space(s). (S)
    2) Provide a minimum of 2 canopy shade trees in each island with a minimum mature canopy of 20 feet. (S)
    3) In addition to the trees, plant each island with either a minimum of 8 shrubs, not exceeding 3 feet in height at maturity or a durable and hardy ground cover. (S)
I. Landscaped Medians
    1) Place landscape medians between every other parking bay in lots for more than 100 cars. (S)
    2) Landscape medians should be 12 feet wide, including a 4-foot concrete sidewalk. (S)

5.3.A USE LOW WALLS AND LANDSCAPING TO SCREEN PARKING



5.3.H & I LANDSCAPE MEDIAN AND ISLAND (SEE TEXT)

5.4.B EMPHASIZE AND INTENSIFY LANDSCAPE AT BUILDING ENTRANCES INCLUDING FLOWER BEDS WITH A VARIETY OF PERENNIALS, ANNUALS, GROUND COVERS AND ORNAMENTAL GRASSES.



5.4.C PROVIDE LANDSCAPING AROUND BASES OF BUILDINGS (SEE TEXT)

5.4.D PROTECT LANDSCAPING FROM PEDESTRIAN AND VEHICULAR TRAFFICE WITH ATTRACTIVE BARRIERS.

5.4.E USE CONTAINERS WITH FLOWERING PLANTS TO ENHANCE SIDEWALK SHOPS, PLAZAS AND COURTYARDS.

Where walkways in medians will not be utilized, the medians may be reduced to a width of 8 feet. (G)

3) Provide a minimum of 1 canopy shade tree for each 30 lineal feet of median. (S) In addition to trees, plant each island with either a minimum of 8 shrubs per 30 lineal feet or a durable and hardy ground cover. (S)
4) The use of landscape medians is encouraged as a transition slope between parking bays on hillside parking lots (maximum slope of 4:1). (G)

J. Where head-in parking occurs, locate all shrubs a minimum of 3 feet from the edge of the parking lot curb. (S)

5.4 Building Site Landscaping

Policy:

The coordination of landscape design for individual building sites and larger, multi-parcel projects is essential for creating a consistent, high-quality character. A coordinated design unifies the various buildings and strengthens the cohesiveness of the development. Individual landscape treatments for building sites should compliment the roadway landscapes, create distinctive settings for buildings, reinforce the design of the open space systems, and provide amenities for pedestrians.

Standards and Guidelines:

A. Use landscaping that is of appropriate scale relative to the proposed adjacent structures.
B. Intensify landscaping at building entrances. (G)
C. Provide a minimum planting width of 6 feet adjacent to the building and plant no less than 25% of the building perimeter with multi-stemmed ornamental trees, shrubs, perennial flowers, and ground cover. (S) Emphasis should be given to landscaping along the front building elevation. (G) Provide additional landscaping around the perimeter of buildings to soften the edge between sidewalks/parking lots and structures. (G) To promote irrigation efficiency, no single landscaped area shall be less than 100 square feet, with the exception of deciduous trees planted in grates. (S)
D. Protect landscaping from vehicular and pedestrian encroachments with raised planting surfaces, depressed walks, and/or curbs. (G)
E. Use high quality, durable planters with flowering annual and perennial plants to enhance sidewalk shops, plazas and courtyards. (G)
F. Minimum Landscape Area required within each building site and within the entire development shall be 30% including hardscaped plazas and walkways within open space areas. (S) Hardscape plazas and walkways can account for

a maximum of one-third of the minimum landscape area requirement. (S)

G. Landscaping within Public Easements
   1) Landscaping within public easements is limited to shrubs, ground covers, and small ornamental trees. (G) No canopy/shade trees may be planted within such easements. (S)
   2) Berming is generally acceptable within public easements in conjunction with plant material. (G) Berming is not to be used instead of plant material. (S)

5.5 Landscape Irrigation / Water Conservation

Policy:

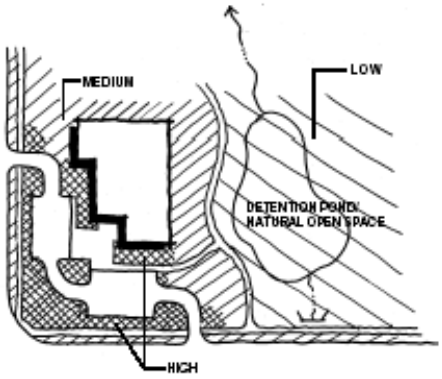
A significant percentage of the City's treated water supply is used to irrigate plant materials and grasses. Every effort should be made to conserve water by utilizing alternative means for maintaining a suitable landscape environment.

Standards and Guidelines:

A. Incorporate Xeriscape Concepts into the landscape design of each commercial development without compromising the intent to establish significant visual amenities through landscaping. Utilize a combination of the following principles to achieve this requirement. (S)
   For Example:
   1) Incorporate a "zoned planting scheme" to reduce water demand by grouping similar varieties of plants that are drought and disease tolerant. (S) The use of water conserving landscapes is encouraged by minimizing manicured grassy areas. (G) The PUD landscape plan should depict what are proposed as low, medium and high water zones. (S) The building permit irrigation plan should calculate GPM/zone. (S)
   2) Use drought tolerant plant species suitable to this climate that have minimum watering and pruning requirements. (G)
   3) For all irrigated areas, potential runoff should be avoided through a combination of locating such areas away from hard surfaces and the proper selection of irrigation devices. (G)
   4) Incorporate heavily mulched planting beds to aid in retaining moisture and to make planting areas easier to maintain. For all grassy areas, soils shall be improved with 3 to 6 yards of organic materials per 1,000 square feet to a depth of 6 to 8 inches. (S)
   5) Incorporate advanced irrigation measures and scheduling. Install an efficient automatic irrigation system that will incorporate water conservation measures. Spray heads are

recommended for lawn and ground cover areas, with drip irrigation for shrubs and trees. (G)

B. The developer is encouraged to investigate alternative sources of irrigation water for all landscaped areas. (G) Alternative sources shall be owned and maintained by the developer or an organization formed for such purpose, unless the City otherwise agrees.



5.6.A LANDSCAPE MAINTENANCE ZONES

5.6 Landscape Standards and Plant Material Selections

Policy:

A. Landscape zones:
Depending on the size and magnitude of an individual parcel, the project's landscape areas should be divided into one or more of the following basic zones (G):

6) High Maintenance Zone (located at site and building entrances and pedestrian areas.) This zone may include:
   a. Manicured grass that is native to Colorado or hybridized for arid conditions ~~lawns which require weekly mowing and regular watering (including blue grass sod or fescue grasses)~~
   b. Formal plantings of trees and shrubs
   c. Planters, with annuals and perennials
7) Medium Maintenance Zone (located along perimeter roadways.) This zone may include:
   a. Drought tolerant native or hybridized grasses, which require less water and maintenance (but still provide a manicured green look during the growing season – including fescue-type grasses)
   b. Large shrubs
   c. Large specimen trees
8) Low Maintenance Zone (located in environmentally sensitive areas, along waterways and the balance of the site.) These may include:
   a. Natural areas and native grasses (which require very low water and maintenance)
   b. Existing vegetation
   c. Drought resistant plant species
   d. Meadow-like, open fields
   e. Wetlands areas

B. The City Manager shall by written order adopt a Recommended Plant Materials List for development subject to the CDDSG, which List may be updated periodically by subsequent written order of the City Manager. Prior to adopting any such order, the City Manager may obtain the input of HFAB, the Planning Department, and any other persons regarding such List, and may notice and hold any public

meetings the Manager deems advisable to assist in formulating any such order or List. The Recommended Plant Materials List shall be maintained on file in the Planning Department. All applicants for development subject to the CDDSG shall be advised as to the existence of the Recommended Plant Materials List and a copy thereof shall be made available to such applicants. Selection of plant materials is preferred from the Recommended Plant Materials List (G), and in light of the following standards and guidelines:

1) Select plan materials on the basis of suitability to climate, setting, long-season of visual appeal (multi-season plants, good architectural appeal, long bloom time, branching structure or ornamental grasses, for instance), and compatibility with other development plantings, character and functions. (G)
2) Select plant materials that are free of disease and harmful insect problems. (S)
3) To avoid the spread of disease, avoid planting more than 20 percent of a site with any single plant species. On small sites (less than 2 acres), some flexibility may be granted to achieve specific design objectives, subject to review and approval of the City Forester. (G)
4) The quality of plant material selected will follow the guidelines of the "American Standard for Nursing Stock" by the American Association of Nurserymen. (S)
5) Proper drainage is required for all major plantings to ensure the establishment of a good root system and healthy growth. (S)
6) The installation of all landscaping shall be done by an established landscape contractor who follows the procedures set forth by the American Association of Landscape Contractors and its local agencies. (S)
7) All landscaping and landscape material shall be backed by a warranty of the owner and the Contractor for a minimum of one year, as detailed in the development agreement. (S)
8) A performance guarantee is required to ensure completion of landscaping. (S)
9) Artificial plants of any type, size or color are not allowed as exterior landscaping within any development parcel. (S)

C. Grasses should provide an immediate cover ~~and sod is recommended~~. In less irrigated/non-irrigated areas, plant drought-tolerant plants. A temporary irrigation system should be maintained for a minimum of one year. (G)
D. Choose plant materials that provide variety and year-round color and screening. Select materials, which highlight each season (G).
   1) Spring: Flowering Plants
   2) Summer: Shade
   3) Fall: Leaf color
   4) Winter: Branch form and texture

5.6.E PLANT FLOWER BEDS IN VISIBLE AREAS

E. Edging is required to separate grass areas from shrubs, ground cover and mulch. (S)
F. Utilize porous paving materials for paths, plazas, etc., such as patio bricks, inter-locking pavers, concrete stepping stones and/or sandstone. (G)
G. Plant annual and perennial flower beds in visible areas such as pedestrian plazas, building entries. (S)
H. Mulching:
    1) All planting beds should be mulched with wood or decorative rock to stabilize soils, control erosion, and conserve water use. (S)
    2) Use organic mulch materials that are best suited and adapted for the local area. (S)
    3) Decorative rock may not constitute more than 50% of the total mulched area. (S)
    4) In parking lot landscape islands, rock mulch may be used as an edger to protect the organic mulch, which should be the primary mulch material. (S)
I. Use landscape or weed barrier fabric within all shrub beds and mulched areas to control weeds. (G)
J. All Landscape Plans should be prepared by a qualified Landscape Architect or landscape designer. (G)

5.7 Planting Size Standards

Policy:

An immediate landscape impact is desired within all commercial developments, and to facilitate this, minimum plant size standards are required. Larger sizes are encouraged for shrubs and perennials.

Standards and Guidelines:

A. Provide landscaping according to the following minimum sizes: (S)
    1) Deciduous shade/canopy trees: 2.0” caliper*
    2) Ornamental trees: 2.0” caliper*, however, 1.5” caliper ornamental trees may be sufficient in some cases.
    3) Evergreen trees: 6’-8’ height (with a minimum of 25% 8’ in height)
    4) Multi-stem Ornamentals: 8’-10’ height
    5) Shrubs: 5 gallon container
    6) Ground Cover/Perennials: 2¼” pots*
    7) Vines: 1 gallon container

    *Measured by ANSI standard Z60.1.

5.8 Landscape Maintenance and Replacement

Policy:

The property owner is responsible for providing, protecting and maintaining all landscaping in a healthy and growing condition.

Standards and Guidelines:

A. The property owner will remove and replace dead plant materials immediately with the same type, size and quantity of plant material as originally installed. If material is diseased or insect-infected, replacement with same species is not advisable unless solution has been found for disease or infestation. Replacement may not be identical, yet should provide same form and function, subject to City Staff review and approval. (S)
B. Avoid replacing landscape materials during the dry winter months between December and February and in midsummer. (G)
C. Contact the Planning Division for specific time requirements for landscape material replacement. (G)

5.8.A REMOVE AND REPLACE DEAD OR DISEASED PLANT MATERIALS IMMEDIATELY.

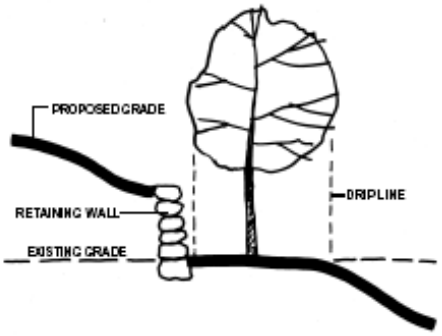
5.9 Existing Vegetation

Policy:

Special attention should be paid to preserving within each commercial development those natural features and vegetation which are significant because of their unique character, history, size, variety, or growth habits. This includes all mature trees greater than 3 inches in diameter and significant understory plants and shrubs.

Standards and Guidelines:

A. Provide an inventory of all existing trees and significant woody vegetation that identifies size, health, and species and trees to be retained and removed. (S) The inventory is to be prepared by a botanist, licensed arborist or landscape architect. (S)
B. Locate site and building improvements to preserve significant natural vegetation. (G)
C. Preserve and incorporate into the landscape plan, any existing health tree 6" caliper or larger, and located more than 20 feet from any proposed building location. (S) Preserve all trees over 24" caliper unless deemed unhealthy or unsuitable for preservation. (S)
D. During construction of site improvements, erect suitable protective barriers (generally located beyond the drip line) around trees to be preserved, making sure trunks, branches and root structures are not damaged by construction equipment. (S)
E. Incorporate tree wells or retaining walls as necessary in the landscape plan to protect existing trees. (G) Maintain historic drip lines. (G)



5.9.E USE TREE WELLS OR RETAINING WALLS TO MAINTAIN GRADE AROUND EXISTING TREES

5.10.A PROVIDE ATTRACTIVE, FUNCTIONAL OUTDOOR SEATNG

5.10.C PROVIDE ATTRACTIVE, HEAVY DUTY TREE GRATES IN PLAZA AREAS.

5.10.D ENCLOSE AND LANDSCAPE AROUND ALL TRASH DUMPSTERS.

5.10 Site Furniture and Features

Policy:

Site furnishings include benches, waste receptacles, planters, railings and bollards. Visual consistency of these elements is desired throughout each development. All components of outdoor site furniture should be low maintenance, highly durable and resistant to vandalism, graffiti, and theft.

Standards and Guidelines:

A. Outdoor Seating
   1) Use outdoor seating that is comfortable, attractive, durable and easy to maintain. (S)
   2) Locate benches at major building entryways, drop-off areas, transit stops, pedestrian courtyards and plazas. (S)
   3) Locate benches in areas that receive direct sunlight in the winter, are sheltered from winds and shaded in the summer. (G)
   4) Where seating is fixed, provide a variety of arrangements (both linear and grouped), which accommodate two (2) to six (6) persons. (G)

B. Planters and Waste Receptacles
   1) Design planters and waste receptacles to coordinate with other furniture. (G)
   2) Use materials and colors similar to those used for benches. (G)

C. Tree Grates
   1) Use of tree grates is discouraged unless used in conjunction with structural soils. If necessary, use tree grates to prevent excessive soil compaction and to give added interest to the pavement. (G)
   2) Choose tree grates that are fabricated of a strong, durable material. (S) In areas which receive heavy use, tree guards may be appropriate to give added protection to young trees. (G)

D. Trash dumpsters
   1) Provide a concrete pad a minimum of 8 feet wide to provide truck access to dumpster locations. (S)
   2) Enclose and landscape around all trash dumpsters. (S) (See also Section 4.7, Service Entrances and Loading Areas and Section 6.0, Screen Walls and Fences.)

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[1] Revised: Ordinance 1422, Series 2003.

6. SCREEN WALLS AND FENCES

Goal:

Fences and walls should be decorative and contribute to the visual quality of the project and the overall development. Walls, fences, and landscape materials shall be used to screen service areas, loading areas, and outdoor storage or sales areas. When not required for security, screening, or grade transitions, the size of walls and fences should be minimized. When required, however, fencing should be as inconspicuous as possible, and walls should be low.

6.1 Wall and Fence Design and Materials

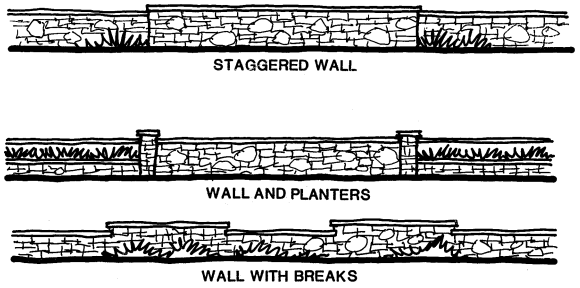
Policy:

Fencing and walls shall be constructed of materials that are compatible with the adjacent building architecture and their appearance softened with landscape materials.

Standards and Guidelines:

A. Avoid using retaining walls in excess of 30 inches in height (G). Where taller retaining walls are required, provide safety protection in the form of railings, fences or hedges, or create a terrace with two (2) shorter walls. (S)
B. Incorporate architectural treatment on both sides of perimeter walls. (S)
C. Provide landscaping in combination with walls and fences to soften their appearances. (G)
D. Chain-link fencing with or without wood slatting is not an acceptable screen material. (S)
E. Break up long expanses of fences or walls, with periodic columns, insets or change in materials. (S)
F. Construct walls and fences from durable materials such as stone, brick, or metal with dark finishes (wrought iron or similar), or a combination of these materials. (G) Wood is not an acceptable fence/screening material. (S)
G. Concrete walls are permitted if faced with masonry or stone, or if the surface is scored or textured. (G)

6.1 A AVOID USING RETAINING WALLS IN EXCESS OF 30 INCHES IN HEIGHT.

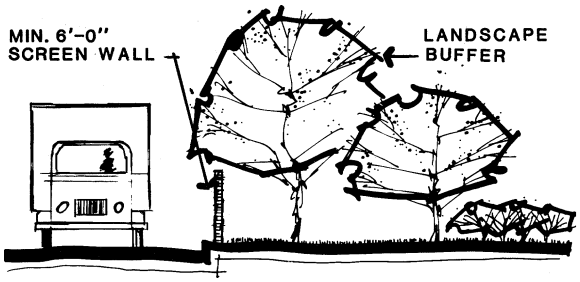


6.1 E BREAK UP LONG EXPANSES OF FENCES OR WALLS WITH COLUMNS, INSETS OR CHANGES IN MATERIAL

6.2 Screening Requirements

Policy:

A project must include adequate screening of meters, transformers, and loading and service areas.



6.2 A MAKE SCREENING FOR LOADING DOCKS AND SERVICE AREAS A MINIMUM OF 6 FEET HIGH.

6.2 B & C ALL AUTHORIZED OUTSIDE STORAGE, UTILITY EQUIPMENT, METERS, AND TRANSFORMERS SHALL BE SCREENED.

Standards and Guidelines:

A. Make screening for loading docks and service areas a minimum of 6 feet high and constructed of the same materials and finishes as the main building. (S)

B. All authorized outside storage shall be screened. (S)
   1) Screen from view all outdoor areas used for the display, storage, or sale of seasonal inventory. (S) Use fencing, walls, and/or landscaping. (S)

C. Screen all utility equipment, meters and transformers from view with fencing, walls, and/or landscaping. (S)

8. EXTERIOR SITE LIGHTING

Goal:

Exterior lighting should be used to provide illumination for the security and safety of entry drives, parking, service and loading areas, pathways, courtyards and plazas, without intruding on adjacent properties. Site lighting shall be architecturally compatible and consistent in design between sites.

8.1 LIGHT FIXTURES SHOULD BE COMPATIBLE AND RELATE TO THE ARCHITECTURAL CHARACTER OF THE BUILDINGS.

8.1 Fixture Design and Illumination Level

Policy:

Exterior light fixtures should be compatible and relate to the architectural character of the buildings on a site. Site lighting should be provided at the minimum level to accommodate safe pedestrian and vehicle movements, without causing any off-site glare.

Standards and Guidelines:

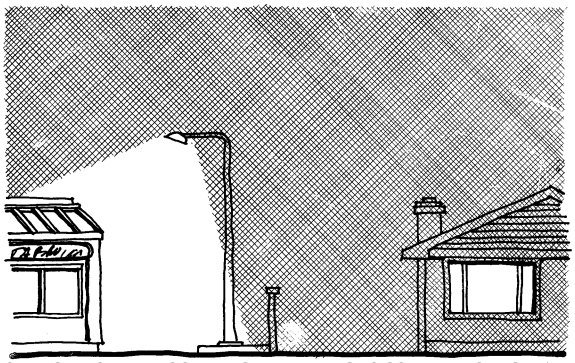
A. Poles and fixtures should be designed to be architecturally compatible with structures and lighting on adjacent properties. (G)
B. Poles and fixtures shall be compatible with all other fixtures on site. (S)
C. Illuminate all intersections with perimeter public roads with similar poles and fixtures used internal to the development. (G)
D. Select and locate all lighting fixtures to shield or confine light spread within a site's boundaries. (S)
E. To facilitate security, specify lighting levels that are adequate for visibility, but not overly bright. All building entrances should be well-lighted. (G)
F. Use metal halide or other white light fixtures. High pressure sodium is not allowed in any application. (S)
G. Maximum height of all poles within landscaped and plaza areas is 20 feet, measured from grade. Poles within these areas may be set on pedestals no more than 8 inches in height. (S)

8.1 A POLES AND FIXTURES SHOULD BE COMPATIBLE WITH ADJACENT STRUCTURES AND LIGHTING.

8.2 Decorative Architectural Lighting

Policy:

Special lighting that accents building features and creates visual interest is permitted in commercial developments, provided that design continuity is maintained among buildings.



8.1 D SELECT AND LOCATE LIGHT FIXTURES TO CONFINE LIGHT SPREAD.

Standards and Guidelines:

A. Lighting fixtures mounted directly on structures may be allowed when utilized to enhance specific architectural elements or to help establish scale or provide visual interest. (G)
B. "Wall paks" are permitted only in loading and service areas, and should be down-lit and shielded from view. (S)
C. Neon tubing is not acceptable as a building accent or to accentuate the building's form. (S)
D. Integrate illuminators or fixtures used to light building mounted signage, building facades, or pedestrian arcades into a building's architectural design. (G)
E. Consider highlighting entrances, art, terraces, and special landscape features. (G)

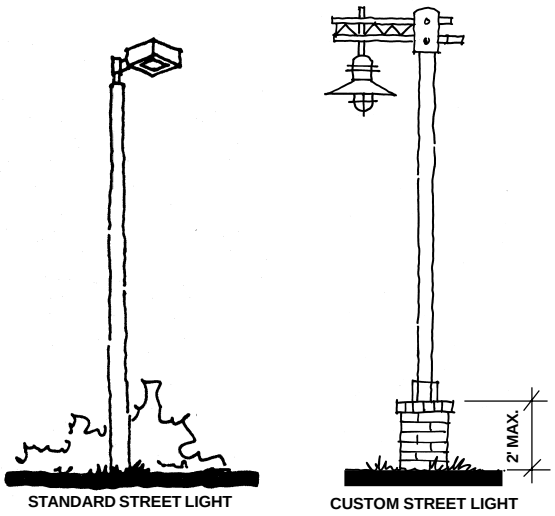
8.3 Parking Lot Lighting

Policy:

Parking lot lighting should be unobtrusive and provide safe light for orderly functions.

Standards and Guidelines:

A. Make all parking lot light fixtures similar in design for all surface parking areas. (S)
B. Select metal halide lighting with a concealed light source of the "cut-off" variety to prevent glare and "light trespass" onto adjacent buildings and sites. (S)
C. Provide separate, pedestrian scale lighting for all pedestrian ways through parking lots. (G)
D. Maximum height of parking lot poles is 24 feet measured from finished grade. (S)
E. Locate poles in medians wherever possible with a maximum base height of two (2) feet. (G)



8.3 PARKING LOT LIGHT FIXTURES (SEE TEXT).

8.4 Pedestrian Area Lighting

Policy:

Walkway lighting should be scaled to the pedestrian and should provide for safe use of pathways and pedestrian areas. Walks should be lighted for the safe passage of pedestrians as should areas which are dangerous if unlit, such as stairs, ramps, intersections, and underpasses.

Standards and Guidelines:

A. Use of lighted bollards or other low level fixtures is encouraged to identify pedestrian walkways and drop-off areas at entrances to buildings. (G)
B. Emphasize pedestrian-to-vehicle intersections with low level decorative street lights. (G)
C. Illuminate all primary walkways, steps or ramps along pedestrian routes. (G)


8.4 A USE LIGHTED BOLLARDS TO IDENTIFY PEDESTRIAN AREAS.

D. Incandescent or metal halide lamps are strongly encouraged. (G)
E. Use building mounted fixtures for walkways or plazas near buildings. (G)

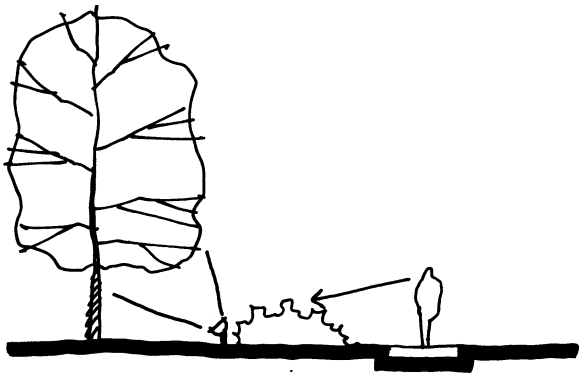
8.5 Landscape Lighting

Policy:

Landscape lighting should enhance and complement, not overpower, the landscape materials.

Standards and Guidelines:

A. Design the landscape lighting to work for all seasons of the year and through the life of the landscape. (G)
B. Conceal fixtures where possible (ie. in trees, by landscape, behind rocks), control glare , and avoid extreme bright spots on the surrounding landscape. (G)



8.5 B CONCEAL LIGHT FIXTURES WHERE POSSIBLE.

8.6 Site Security Lighting

Policy:

Security lighting is anticipated in some sites, but it should not negatively impact the site and building architecture as well as adjacent parcels.

Standards and Guidelines:

A. No light source (bulb) shall be directly visible from adjacent parcels. (S)
B. Provide only as much light/illumination as necessary to provide safety and security of the area. (G)

8.7 Light Intensity

Policy:

The light intensity levels within all areas should correspond to use and potential hazards.

Standards and Guidelines:

A. A photometric lighting plan is required for all proposed commercial developments to ensure adequate and appropriate light levels are provided for each site condition. (S)

B. The following levels of illumination should be maintained for each of the specific locations*: (G)

1)	Building Entrances	5.0 footcandles
2)	Sidewalks	2.0 footcandles
3)	Bikeways	1.0 footcandles
4)	Courts/Plazas/Terraces	1.5 footcandles
5)	Ramps	5.0 footcandles
6)	Stairways	5.0 footcandles
7)	Underpasses	5.0 footcandles
8)	Waiting Areas	1.0 footcandles
9)	Parking Lots	1.0 footcandles
10)	Roadways	1.5 footcandles

* Values given area in minimum average maintained horizontal, footcandles which are measured at the average point of illumination between brightest and darkest areas, 4'-5' above the ground surface. (Source: IES Lighting Handbook - 4th Edition).

C. Site lighting should provide consistent levels of illumination, avoiding pockets of very high or low levels of illumination. (G)

9. SPECIAL DESIGN GUIDELINES FOR LARGE RETAIL ESTABLISHMENTS

Goal:

Large retail establishments, such as "superstores" containing more than 30,000 square feet allocated to a single user, depend on high visibility from major public streets. Correspondingly, the design of these buildings will shape much of the character and attractiveness of the major streetscapes in the commercial areas of Louisville. It is important that these large individual developments contribute to and integrate with the city in a positive way. The following policies, standards and guidelines are meant to provide a means to address the community-wide and regional impacts of large retail store developments and are in addition to the preceding standards and guidelines in this document.

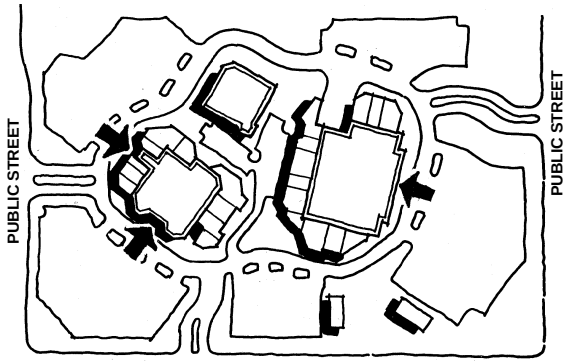
9.1 Parking Lot Orientation

Policy:

Parking should be distributed around large buildings in order to shorten the distance to the buildings and public sidewalks.

Standards and Guidelines:

Locate no more than 75% of the off-street parking area for the entire property between the front facade of the principal building(s) and the primary abutting street. (G)



9.1 DISTRIBUTE PARKING TO MINIMIZE WALKING DISTANCES.

9.2 Rear of Buildings

Policy:

The rear or sides of buildings should be attractive. Architectural and landscape screening techniques should be employed to mitigate the aesthetic impacts of blank walls, loading areas, storage areas, HVAC units and garbage receptacles.

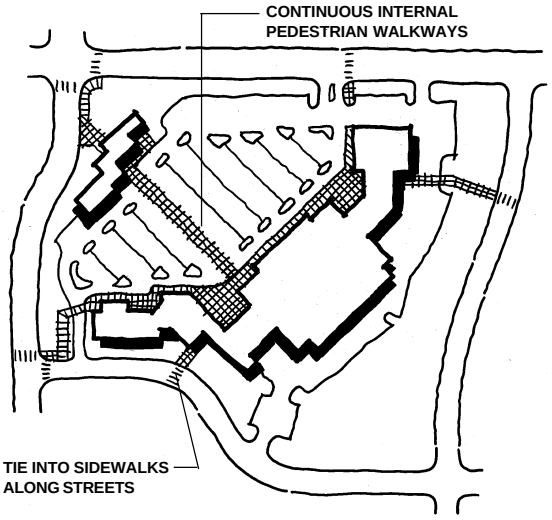
Standards and Guidelines:

A. Provide a minimum 35 foot building setback from the nearest property line along the rear and sides of buildings. (S)
B. Where the parcel is adjacent to a residential use, plant evergreen trees at 15 foot intervals, or in clusters that accommodate mature tree diameter and provides appropriate screening. (S)

9.3 Pedestrian Accessibility

Policy:

Pedestrian accessibility provides linkages with surrounding areas and uses and opens auto-oriented developments to the neighborhood, thereby reducing traffic impacts and enabling the development to project a friendlier, more inviting image.



9.3A PROVIDE CONTINUOUS INTERNAL PEDESTRIAN WALKWAYS WHICH CONNECT ALL FOCAL POINTS OF PEDESTRIAN ACTIVITY.

Standards and Guidelines:

A. Provide continuous internal pedestrian walkways, a minimum of 8 feet wide, from the public sidewalk or right-of-way to the principal customer entrance of all principal buildings on the site. (S) Such walkway can include crosswalks. (G)
B. Provide sidewalks, not less than 8 feet wide along any facade that contains a customer entrance, is adjacent to a parking area, or which would provide functional pedestrian connections. (S)
C. Except where features such as arcades and entry ways are part of the facade, provide a 6 foot wide planting bed between the facade of the building and the adjacent sidewalk. (S)
D. Distinguish all internal pedestrian walkways from driving surfaces with durable, low maintenance surface materials such as concrete or brick pavers. (S)
E. Provide weather protection features such as awnings or arcades within 30 feet of all customer entrances. (G)

9.4 Central Features and Community Spaces

Policy:

Large retail establishments should offer attractive and inviting pedestrian scale features, spaces, and amenities within the overall development area.

Standards and Guidelines:

A. Configure entrances and parking lots to be functional and inviting with walkways conveniently tied to logical destinations. (G)
B. Incorporate bus stops and drop-off/pick-up points as integral parts of the development. (G)
C. Anchor pedestrian ways with special design features such as arcades, porticos, pedestrian-scale light fixtures, bollards, planter walls, towers and other architectural elements that define circulation ways and outdoor spaces. (G)
D. Each large retail establishment within a larger commercial development must contribute to the establishment or enhancement of community and public spaces by providing at least 2 of the following amenities within its site or elsewhere within the overall development: 1) patio/seating area, 2) pedestrian plaza with benches, 3) transit center, 4) bus shelter, 5) window shopping walkway, 6) outdoor playground area, 7) kiosk area, 8) water feature, 9) clock tower, or 10) other such appropriate amenities. (S)

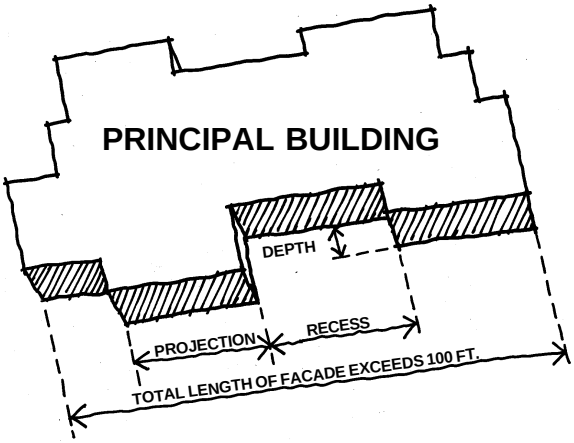
9.5 Facades and Exterior Walls

Policy:

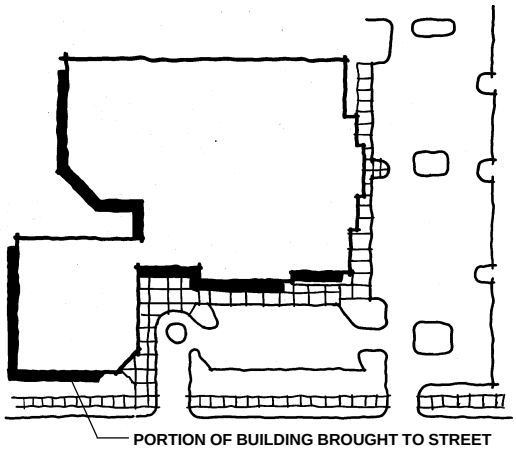
Articulate facades to reduce the massive scale and the uniform impersonal appearances of large retail buildings and provide visual interest that is consistent with Louisville's desired identity, character and scale.

Standards and Guidelines:

A. In cases of facades more than 100 feet in length, incorporate significant architectural features and treatments to diminish the building mass. (S)
B. Incorporate arcades, display windows, entry areas, or other such features along at least 60% of the horizontal length of all the ground floor facade with the primary pedestrian entrance. (S)
C. Incorporate design features that are similar to the front facade in all rear and side facades visible from adjoining properties and/or public streets. (S)
D. In cases of large buildings for employment, storage or auto related uses that have little relationship to pedestrians, or have a need to limit ground floor windows, bring a part of the building to the street. (G) A setback modification may be authorized for such purpose. (G)



9.5A FACADES MORE THAN 100 FEET IN LENGTH SHALL INCORPORATE SIGNIFICANT ARCHITECTURAL FEATURES AND TREATMENTS.



9.5 D IN CASES OF LARGE BUILDINGS BRING A PART OF THE BUILDING TO THE STREET.

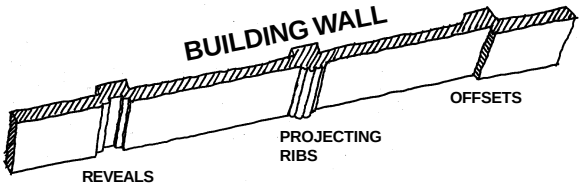
9.6 Detail Features

Policy:

All buildings should incorporate architectural features and patterns that create visual interest, are of a pedestrian scale, and recognize Louisville's desired identity character, and scale.

Standards and Guidelines:

A. Incorporate a repeating pattern in all building facades, to include the following elements: 1) color change, 2) texture change and 3) material module change. (G) Repeat these elements at intervals of no more than 30 horizontal feet. (G)
B. Express architectural or structural bays through a change in plane of at least 12 inches in width, such as an offset, reveal, or projecting rib. (G)



9.6B EXPRESS ARCHITECTURAL OR STRUCTURAL BAYS THROUGH A CHANGE IN PLANE.

9.7 Roofs

Policy:

Variations in roof lines should be used to add interest to, and reduce the massive scale of large retail buildings. Roof features should complement the character of adjoining neighborhoods.

9.7A INCORPORATE A VARIETY OF ROOF FEATURES IN LARGE RETAIL BUILDINGS.

Standards and Guidelines:

A. Incorporate the following features into the roofs of large retail buildings:
   For flat roofs:
   1) Parapets on all building elevations that conceal flat roofs and rooftop equipment. (S)
      If sloping roofs are used, the standards in 2 and 3 below must be applied on all building elevations. (S)
   For sloping roofs:
   2) Overhanging eaves that extend no less than 3 feet past the supporting walls. (S)
   3) Three or more roof slope planes. (S)
B. Design roof slopes within the maximum to minimum range of 1:1 to 3:1. (S)

9.8 Materials and Colors

Policy:

Exterior building materials and colors comprise a significant part of the visual impact of a building. Therefore, they should be aesthetically pleasing and compatible with materials and colors used in adjoining neighborhoods and commercial parcels.

Standards and Guidelines:

A. Incorporate high quality exterior building materials in the design and construction of large retail buildings such as brick, wood, sandstone or other native stone and tinted, textured, concrete masonry units. (G)
B. Avoid using the following exterior building materials: smooth-faced concrete block, tilt-up concrete panels and pre-fabricated steel panels. (G)

9.9 Building Entryways

9.9 A INCORPORATE CLEARLY DEFINED, HIGHLY VISIBLE CUSTOMER ENTRANCES FOR EACH PRINCIPAL BUILDING.

Policy:

Entryway design elements should give orientation and aesthetically pleasing character to a building.

Standards and Guidelines:

A. Incorporate clearly defined, highly visible customer entrances for each principal building on a site. (S)
B. Enhance each entrance with at least 3 of the following features: 1) canopies or porticos, 2) overhangs, 3) recesses/projections, 4) arcades, 5) raised corniced parapets over the door, 6) peaked roof forms, 7) arches, 8) outdoor patios, 9) display windows, 10) architectural details such as tile work and moldings which are integrated into the building structure and design and 11) integral planters or wing walls that incorporate landscaped areas and/or places for sitting. (S)
C. Provide at least 1 exterior customer entrance for each additional store located within a principal building (such as a pharmacy or bank located within a supermarket). (G)

APPENDIX A

RECOMMENDED PLANT MATERIALS LIST

DECIDUOUS TREES

Common Name	Botanical Name	Height[3]	Width[3]	Water Requirement	Maintenance Requirement	Street Tree	Remarks
Western Hackberry	Celtis occidentalis	60’	40’	M-L	L	Yes	Great bird attractant; CO native
Kentucky Coffeetree	Gymnocladus dioica	60’	50’	L	L	Yes	Males have flowers but no seeds; slow growth but superior drought tolerance
Norway Maple	Acer platanoides (2)	50-60’	40-45’	M	L	Yes	Good fall color yellow
Black Walnut	Juglans nigra	50-60’	50-60’	M-L	L	No	Stains sidewalks, streets and cars
American Linden	Tilia americana	50-60’	30-35’	M	L	Yes	
Redmond Linden	Tilia euchlora 'Redmond'	50-60’	30-35’	M	L	Yes	
Horsechestnut	Aesculus hippocastanum	50’	40’	M-L	L		
Western Catalpa	Catalpa speciosa	50’	30’	M-L	M		Fruits can be messy
Swamp White Oak	Quercus bicolor	50’	40’	M-L	L	Yes	
Bur Oak	Quercus macrocarpa	50’	40’	L	L	Yes	Tolerates tough conditions
Northern Red Oak	Quercus rubra borealis	50’	30’	M	L	Yes	
Shumard Oak	Quercus shumardii	50’	40’	M	L	Yes	Red fall color; not fussy; tolerant of high pH
English Oak	Quercus robur	45’	35’	M-L	L	Yes	Good fall color; needs shelter
Red Maple very few	Acer rubrum	40-50’	30-40’	M	L	Yes	Good yellow to red fall color
Texas Shumard Oak	Quercus buckleyi	40’	30’	M-L	L	Yes	More drought tolerant
Honeylocust	Gleditsia triacanthos inermis (2)	36’	25’	L	L	Yes	Shademaster, Imperial & Skyline
Little Leaf Linden	Tilia cordata	35-40’	25-30’	M	L	Yes	
Chinese Catalpa	Catalpa ovata	35’	30’	M-L	M	No	
Turkish Hazel	Corylus colurna	30-40’	20-25’	M-L	L	Yes	Tolerates pollution
Amur Corktree	Phellodendron amurense	30-40’	35-45’	M-L	L	Yes	
Japanese Pagoda Tree	Sophora japonica	30-40’	15-20’	M-L	L	Yes	
Ohio Buckeye	Aesculus glabra	30-35’	26’	M-L	L	Yes	Poisonous seeds, good fall color
Yellow	Aesculus flava	30’	25’	M	L	Yes	Yellow flowers,

Buckeye							smooth fruit
Bigtooth Maple	Acer grandidentatum	20-25’	12-15’	L	L	No	Small tree or large shrub; tolerant of dry & alkaline soils; Ft. Collins selection is cherry-red in fall
Western Soapberry	Sapindus drummondii	20-25’	20-25’	L	M		Native to Baca County, poor soil; watch for co-dominant limbs; small tree
American Hornbeam	Carpinus caroliniana	20’	20-25’	M	L	No	Needs some shade; sensitive to salts; gorgeous winter look
Gambel Oak small tree	Quercus gambelli	15-20’	15-20’	L	L	No	Yellow to orange or red in fall

ORNAMENTAL TREES							
Common Name	**Botanical Name**	**Height**	**Width**	**Water Requirement**	**Maintenance Requirement**	**Street Tree**	**Remarks**
Globe and Purple Robe Locust	Robinia pseudoacacia ‘Globe’ & ‘Purple Robe’	50’	30’	L	L	NA	
Colorado Paper Birch	Betula x andrewsii	40’	20’	M	L	NA	Native of Boulder Cnty., hybrid; white peeling bark
Glen’s Form Callery Pear Aristocrat Pear Chanticleer Pear Stone Hill Pear	Pyrus calleryana (2)	 35’ 35’ 30’	 25’ 15’ 12-15’	M-L	M	NA	Narrower & more cold hardy than Bradford; fruit unimportant; clay ok
Downy Hawthorn	Crataegus mollis	30’	30’	L	L	NA	
White Shield Osage Orange	Maclura pomifera	30’	30’	M	L	NA	No thorns; leathery leaves; fruitless
Mayday Tree	Prunus padus	30’	20’	M-L	L	NA	
Shantung Maple	Acer truncatum	25-30’	20-25’	M-L	L	NA	Replacement candidate for Amur Maple; orange-yellow in fall
Cockspur Hawthorn	Crataegus crus-galli	25’	20’	L	L	NA	Thorns, good fall color orange to red
Des Fontanes Cherry	Prunus x fontanesiana	25’	20’	M	M	NA	Cheyenne USDA Research Station intro. – Ft. Collins Nursery
Thornless Cockspur Hawthorn	Crataegus crus-galli inermis	20-30’	25-35’	L	L	NA	Thornless, good fall color orange to red
Washington Hawthorn	Crataegus phaenopyrum	20-30’	15-20’	M-L	L	NA	Good fall color, red
Amur Maackia	Maackia amurensis	20-30’	25-30’	M	L	NA	Wider than tall; nitrogen fixing; tolerate dry,

							alkaline soils
Peking Lilac	Syringa pekinesis	20-30'	15-25'	M-L	L	NA	Showy flowers
Tatarian Maple 'Hot Wings'	Acer tataricum 'Hot Wings'	20-25'	15-20'	M-L	L	NA	June-pink/brilliant red seeds, fall yellow to orange-red; Fort Collins Nursery introduction 2003
Shadblow Serviceberry	Amelanchier canadensis	20-25'	10-15'	M-L	L	NA	Nice fall color yellow to red
Shubert Chokecherry or Canada Red Cherry	Prunus virginiana 'Shubert'	20-25'	15-20'	M-L	L	NA	Red-purple foliage
Eastern Redbud	Cercis canadensis	20'	15'	M - H	L	NA	Showy flowers
Russian Hawthorn	Crataegus ambigua	20'	20'	M-L	M-L	NA	Some thorns, some suckering, fruit persists through winter; flowers in June
English Hawthorn	Crataegus laevigata	15-25'	15-25'	M-L	L		Tough, good for islands, buffers
Flowering Crab	Malus varieties (2)	15-25'	15-25'	L - M	M	NA	
Amur Maple	Acer ginnala	15-20'	15-20'	M-L	L	NA	Good fall color orange to red
Cornelian Dogwood	Cornus mas	15'	12-15'	M	L	NA	Showy flowers
Gray Dogwood	Cornus racemosa	15'	15'	M-L	L	NA	Very attractive
American Smoketree	Cotinus obovatus	15'	12'	M	L	NA	Plume-like flowers
Wafer Ash or Hoptree	Ptelea trifoliata	15'	15'	M-L	L	NA	Elm-like wafers in late summer; fall-yellow; drought tolerant
Japanese Tree Lilac	Syringa reticulata	15'	12'	M-L	L	NA	Showy flowers, good fall color yellow
American Plum	Prunus americana	10-12'	8-12'	L	M	NA	Suckers

DECIDUOUS SHRUBS

Common Name	Botanical Name	Height	Width	Water Requirement	Maintenance Requirement	Street Tree	Remarks
Thin Leaf Alder	Alnus tenuifolia	15-30'	15-20'	M	L	NA	Nice fall color yellow
Seneca Viburnum	Viburnum sieboldii 'Seneca'	15-20'	10-15'	M-L	L	NA	Hedge, buffer strips, specimen
Yellow-fruited Chokecherry	Prunus virginiana xanthocarpa	12-18'	12'	L	M	NA	Nice flower panicles
Staghorn Sumac	Rhus typhina	10-25'	10-15'	L	M	NA	
Curlleaf Mountain Mahogany	Cercocarpus ledifolius	10-20'	8-12'	L	M	NA	
Wavy Leaf Oak	Quercus undulata	10-20'	8-16'	L	L	NA	
Siberian Peashrub	Caragana arborescens	10-15'	8-12'	L	L	NA	Good windbreak; soil tolerant; many varieties
Beautybush	Kolkwitzia amabilis	10-15'	12-15'	L		NA	
Burning Bush	Euonymus alata (2)	10-12'	8-12'	M	M	NA	Nice fall color red
American Plum	Prunus americana	10-12'	10-12'	L	L	NA	Very fragrant flowers; suckering; good for wildlife
Native	Prunus virginiana	8-20'	8-12'	L - M	M	NA	

Chokecherry	melanocarpa						
Scrub Oak	Quercus gambelii	8-20’	6-12’	L	L	NA	
New Mexico Privet	Forestiera neomexicana	8-15’	8-12’	L	M	NA	Fall: yellow; makes excellent hedge
Smooth Sumac	Rhus glabra	8-15’	8-10’	L	M	NA	Nice fall color orange to red; cismontana is native form
Buffaloberry	Shepherdia sp.	8-15’	6-12’	L	M	NA	Silver, Russet and Round-leaf are best
Hairy Mountain Mahogany	Cercocarpus breviflorus	8-12’	8-12’	L	L	NA	Stays evergreen in protected sites
Tallhedge Buckthorn	Rhamnus frangula columnaris	8-12’	3-4’	M	M	NA	
Siberian Weeping Peashrub	Caragana arborescens ‘Pendula’	8-10’	8-10’	L	L	NA	Yellow flowers; poor soil and wind tolerant
Thimbleberry or Boulder Raspberry	Rubus deliciousus	8’	6’	L	M	NA	Native, prune out older canes every few years
Silver Fountain Butterflybush	Buddleia alternifolia ‘Argentea’	6-8’	6-8’	L	M	NA	Plant Select Winner
Szechwan Fire Cotoneaster	Cotoneaster ignavus	6-8’	4-6’	L	L	NA	Cheyenne USDA Experimental Station intro.; very tough
Forsythia	Forsythia intermedia	6-8’	6-8’	M	M	NA	Showy flowers
Cistena Plum	Prunus cistena	6-8’	4-6’	M	M	NA	
Manchurian Viburnum	Viburnum burejacticum	6-8’	5-7’	M-L	L	NA	Similar to V. lantana in appearance; Cheyenne USDA Station introduction
Singleleaf Ash	Fraxinus anomala	6-20’	6-20’	L	L	NA	Tolerates dry conditions
Saskatoon Serviceberry	Amelanchier alnifolia	6-12’	6-12’	L	L	NA	Nice fall color
Utah Serviceberry	Amelanchier utahensis	6-12’	6-12’	L	L	NA	Native to Western Slope
Butterfly Bush	Buddleia sp. (2)	6-12’	4-8’	M-L	M	NA	

DECIDUOUS SHRUBS							
Common Name	**Botanical Name**	**Height**	**Width**	**Water Requirement**	**Maintenance Requirement**	**Street Tree**	**Remarks**
Hedge Cotoneaster	Cotoneaster lucidus	6-12’	4-6’	M-L	L	NA	
Silverberry	Eleagnus commutata	6-12’	6-12’	M	M	NA	
Smith’s Buckthorn	Rhamnus smithii	6-12’	6-8’	L	L	NA	Tolerates dry; Plant Select Winner
Peking Cotoneaster	Cotoneaster acutifolia	6-10’	6-10’	M-L	L	NA	
Nanking Cherry	Prunus tormentosa	6-10’	6-12’	M-L	L	NA	
Mentor Barberry	Berberis mentorensis	5-7’	5-7’	M-L	M	NA	Thorns, good fall color yellow to red
Western Sandcherry	Prunus besseyi	5-6’	5-6’	L	M	NA	‘Pawnee Buttes’ is very low, wide spreading
Mountain Mahogany	Cercocarpus montanus	4-9’	4-6’	L	M	NA	
Cliffrose	Cowania mexicana	4-8’	4-8’	L	L	NA	
Honeysuckle	Lonicera (2)	4-8’	3-12’	M	M	NA	Honeyrose, Blue

							Velvet, Arnold Red, Clavey's Dwarf & Miniglobe
Yucca sp., Soaptree,	Yucca elata,	4-8'	3-7'	M-L	M	NA	native
Redleaf Japanese Barberry	Berberis thunbergii (2)	4-6'	4-6'	M-L	M	NA	Thorns
Quince	Chaenomeles spp.	4-6'	4-6'	M-L	M	NA	Showy flowers
Spreading Cotoneaster	Cotoneaster divaricata	4-6'	6-8'	M-L	M	NA	
Cliff Fendler Bush	Fendlera rupicola	4-6'	4-6'	L	L	NA	Native, heat & drought tolerant
Privet	Ligustrum (2)	4-6'	3-4'	L	M	NA	Regal, Cheyenne, 'Densiflorum' & 'Lodense'
Mockorange	Philadelphus (2)	4-6'	4-6'	M-L	M	NA	
Golden Currant	Ribes aureum	4-6'	4-6'	L	M	NA	
Crandall Clove Currant	Ribes ordoratum 'Crandall'	4-6'	4-6'	M-L	L	NA	Native; can smell cloves 10-15' away; orange fall color
Emerald Carousel Barberry	Berberis x 'Tara'	4-5'	4-5'	M-L	M	NA	Yellow flowers; very adaptable, cold hardy; persistent red fruit
Privet	Ligustrum vulgare (2)	4-15'	4-15'	M	M	NA	
Viburnum	Viburnum (2)	4-12'	4-15'	M-L	M	NA	Nice fall color varies
Antelope Brush	Purshia tridentata	4'	5'	L		NA	
Gooseberry	Ribes sp. (2)	4'	4'	M-L	M	NA	
Four Wing Saltbush	Atriplex canescens	3-6'	2-4'	L	M	NA	
Apache Plume	Fallugia paradoxa	3-6'	3-6/\'	L	L	NA	Native, silver-pink seed heads all summer
Rock Spirea	Holodiscus dumosus	3-6'	3-6'	M-L	L	NA	Good ornamental winter look
Waxflower	Jamesia americana	3-6'	3-6'	L	L	NA	Prefers good drainage
Threeleaf Sumac	Rhus trilobata	3-6'	3-6'	L	M	NA	Nice fall color orange to red

DECIDUOUS SHRUBS							
Common Name	**Botanical Name**	**Height**	**Width**	**Water Requirement**	**Maintenance Requirement**	**Street Tree**	**Remarks**
Alpine Currant	Ribes alpinum	3-6'	3-6'	L – M	M	NA	
Wood's Rose	Rosa woodsii	3-6'	3-6'	L		NA	
Siberian Spirea	Sibiraea laevigata	3-6'	5-10'	M-L	M	NA	
Littleleaf Mountain Mahogany	Cercocarpus intricatus	3-5'	3-5'	L	L	NA	Very drought tolerant, slow growing, evergreen
Fernbush	Chamaebatiaria millefolium	3-5'	3-6'	L	M	NA	Blooms throughout summer into late fall
Carol Mackie Daphne	Daphne x burkwoodii 'Carol Mackie'	3-5'	3-5'	M-L	L	NA	Part shade; needs good drainage
Fremont's Desert Holly	Mahonia fremontii	3-5'	3-6'	L	L	NA	Very xeric broadleaf evergreen, blue holly foliage
Russian Sage	Perovskia atriplicifolia	3-5'	3-5'	L	M	NA	Must be cut nearly to ground

							in late winter
Blue Mist Spirea	Caryopteris x clandonensis	3-4'	2-3'	L	L	NA	
Blue Stem Joint Fir	Ephedra equisetina	3-4'	5-6'		L	NA	3-4'; red berries against blue foliage
Mountain Ninebark	Physocarpus monogynus	3-4'	3-4'	M-L	M	NA	Orange to red fall color
Aromatic Sumac	Rhus aromatica	3-4'	6-8'	L	L	NA	Non-suckering form; good year-round architecture; 'Gro-low' is low, wide-spreading
Red Lake Currant	Ribes 'Red Lake'	3-4'	3-4'	M-L	M	NA	
Snowberry	Symphoricarpos albus	3-4'	3-5'	M	M	NA	
Lilac	Syringa patula, hyacinthiflora, prestoniae & vulgaris (2)	3-12'	3-12'	M-L	M	NA	All cultivars are drought tolerant
Snowfall Common Ninebark	Physocarpus opulifolius 'Snowfall'	3'	4'	L	L	NA	More compact; larger white-pinkish flowers; fall: yellowish-bronze
Rabbit Brush	Chrysothamnus nauseosus	2-6'	2-6'	L	M	NA	Blue and green varieties
Corallberry	Symphoricarpos sp. (2)	2-6'	3-6'	M-L	L	NA	
Potentilla	Potentilla fruticosa (2)	2-5'	2-5'	M-L	M	NA	Showy flowers
Dwarf Russian Almond	Prunus tenella	2-5'	2-4'	L	L	NA	
Leadplant	Amorpha canescens	2-4'	2-4'	L	M	NA	One of most showy western plants
Broom, Moonlight or Spanish Gold	Cytisus 'Moonlight' & Cytisus purgans 'Spanish Gold'	2-4'	4-6'	L	L	NA	
Wax Currant	Ribes cereum	2-4'	2-4'	L	M	NA	
Rose	Rosa 3	2-4'	2-4'	L – M	M	NA	
Spiraea	Spiraea 3	2-4'	2-4'	M-L	M	NA	
Ponchita Manzanita	Arctostaphylos nevadensis 'Ponchito'	2-3'	3-5'	M-L	L	NA	2-3';Native, drought tolerant; pink-white flowers Apr-May

DECIDUOUS SHRUBS

Common Name	Botanical Name	Height	Width	Water Requirement	Maintenance Requirement	Street Tree	Remarks
Rock Cotoneaster	Cotoneaster horizontalis	2-3'	3-6'	M-L	M	NA	
Royal Gold Woadwaxen	Genista tinctoria 'Royal Gold'	2-3'	2-3'	L	L	NA	Great planted in swaths, blooms twice; bright yellow; holds green leaves into winter
St. Johnswort, Sunburst and Hidcote	Hypericum sp.	2-3'	2-3'	L	L	NA	
Soapweed	Yucca glauca	2.5-3'	3-4'	M-L	M	NA	native
Sagebrush	Artemisia (2)	1-6'	2-3'	L	L	NA	
Winterfat	Ceratoides lanata	1-4'	2-4'	L	L	NA	Needs good drainage
Cascade Manzanita	Arctostaphylos nevadensis 'Cascade'	1-2'	3-5'	M-L	L	NA	1-2' high, Ft. Collins introduction; cascading habit;

							FS-PS
Mock-Bearberry Manzanita	Arctostaphylos x coloradoensis	1-2’	3-5’	M-L	L	NA	1-2’ high; Ft. Collins introduction; red berries; FS-PS
Coral Beauty Cotoneaster	Cotoneaster dammeri ‘Coral Beauty’	1-2’	4-6’	M-L	M	NA	
Creeping Oregon Grape Holly	Mahonia haematocarpa	1-1.5’	3-4’	M-L	L	NA	Red fall color
Cranberry Cotoneaster	Cotoneaster apiculata	1.5-2’	4-6’	M-L	M	NA	
Harriman’s	Yucca harrimaniae	.75-1’	1-1.5’	M-L	M	NA	native

***EVERGREEN TREES* (1)**							
Common Name	**Botanical Name**	**Height**	**Width**	**Water Requirement**	**Maintenance Requirement**	**Street Tree**	**Remarks**
Southwestern White Pine	Pinus strobiformus	80’	40’	M-L	L	No	
Douglas Fir	Pseudotsuga menziesii 'Taxifolia'	75-100’	40’	M	L	No	
Swiss Mountain Pine	Pinus mugo	6-8’	12-15’	L - M	L	No	
Colorado Green Spruce	Picea pungens	60’	30’	M-L	L	No	
Colorado Blue Spruce	Picea pungens 'Glauca'	60’	30’	M-L	L	No	
Serbian Spruce	Picea omorika	50-60’	20-25’	M	L	No	Narrow pyramidal growth; uniform; blue
Austrian Pine	Pinus nigra	50’	20’	M-L	L	No	
Scotch Pine	Pinus sylvestris	50’	30’	M-L	L	No	
Red Cedar	Juniperus virginiana 'Varieties'	40-50’	8-20’	M	L	No	
Ponderosa Pine	Pinus ponderosa	40’	25’	L	L	No	
Rocky Mountain Juniper	Juniperus scopulorum 'Varieties'	30-60’	15’	L - M	L	No	
Bristlecone Pine	Pinus aristata	30’	15’	L	L	No	
Limber Pine	Pinus flexilis	30’	15’	L	L	No	
Pinon Pine	Pinus edulis	25-30’	10-15’	L	L	No	
Smooth Arizona Cypress	Cupressus arizonica var. glabra	20-40’	8-15’	L	L		Blue color
Oneseed Juniper	Juniperus monosperma	10-30’	6-12’	L	L	No	

EVERGREEN SHRUBS

Common Name	Botanical Name	Height	Width	Water Requirement	Maintenance Requirement	Street Tree	Remarks
Yew	Taxus x media 'Hicksii'	8-12’	3-4’	M-L	M	NA	High drought tolerance
Firethorn	Pyracantha coccinea (2)	8’	8’	M	M	NA	
Oregongrape	Mahonia aquifolium	6’	3’	M	M	NA	Nice fall colors red to purple
Euonymus Manhattan	Euonymus kiautschovicus 'Manhattan'	5’	4’	M	M	NA	
Euonymus Sarcoxie	Euonymus fortunei 'Sarcoxie'	4-6’	4-6’	M	M	NA	
Bigleaf Wintercreeper	Euonymus fortunei vegeta	4-5’	4-5’	M	M	NA	
Gnome Firethorn	Pyracantha angustifolia 'Gnome'	4’	4’	M	M	NA	
Juniper	Juniperus sp. (2)	1-30’	4-15’	L	L	NA	Many species; something for any size
Creeping Hollygrape	Mahonia repens	1’	1’	M	M	NA	Nice fall/winter colors red to purple

PERENNIALS, GROUND COVERS, AND ORNAMENTAL GRASSES

Due to the large quantity, variety, and changing availability of these plants, please consult your local nursery preferably a C.N.A. Member.

Height, color, texture, moisture, light requirement, and heartiness need to be considered when specifying these plants.

Most local nurseries provide a yearly catalog of available plants and their descriptions.

Notes:

1. Mature size of all evergreen trees must be considered when determining location for planting. They are not recommended within 8' of any roadway, walkway, entrance, or window as they will eventually obstruct passage or view. Evergreen trees shall not be placed within roadway site triangles. During winter, icy conditions often occur on the north side of evergreen trees. This must be considered for their placement.

2. These plants have numerous different species, varieties and/or cultivars. Consult a local nursery for current availability and proper selection.

3. Heights and widths are anticipated sizes, but will vary due to environmental issues.

Exhibit C
Industrial Development Design Standards and Guidelines

City of Louisville

Industrial Development Design Standards & Guidelines

(IDDSG)

Adopted by Ordinance No. 1322, Series 1999
18 January 2000

ACKNOWLEDGEMENTS

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Jay Keany
Kevin Howard
Thomas Mayer
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INTRODUCTION

A. Purpose

The *Industrial Development Design Standards and Guidelines* (**'IDDSG'**) establish design criteria and minimum standards for industrial developments within the City of Louisville. The purpose of the IDDSG is to:

1. Enhance and protect Louisville's quality of life and community image through clearly articulated industrial development design goals and policies, design guidelines and minimum design standards; and
2. Protect and promote Louisville's long-term economic vitality through industrial design standards which encourage and reward high quality development, while discouraging less attractive and less enduring alternatives; and
3. Minimize adverse impacts of vehicular circulation to existing neighborhoods and to the surrounding physical environment; and
4. Enhance and protect the security and health, safety and welfare of all residents of the City of Louisville; and
5. Facilitate an understanding of the City's expectations and to assist developers in compiling a complete and efficient application.

B. Applicability

The provisions of the IDDSG shall apply to all industrial development within the City, except industrial development for which there exists a vested property right to develop under other approved design guidelines and/or development standards.

The IDDSG provide general design guidelines, as well as mandatory minimum development standards. The IDDSG will be utilized by staff, Planning Commission, and City Council to review *Industrial* development applications submitted under the City's PUD Development Plan review process. All industrial areas must be developed as PUD-I district, including site specific development plans.

The goals and policies set forth in this document are expected to be met through compliance with all mandatory design standards and consideration of design guidelines. Modifications to or waivers from mandatory design standards may be recommended by the Planning Commission and authorized by City Council as part of the PUD Development Plan Review process.

Industrial development applications seeking modifications or waivers to these requirements should anticipate additional review time and must demonstrate a clear benefit to the City in relaxing one or more of these requirements.

C. Who Uses the IDDSG

The IDDSG is to be used by property owners/ applicants and their design consultants in the planning of industrial development projects within the City of Louisville. The IDDSG will also be utilized by staff, Planning Commission, and City Council as part of the PUD Development Plan process in their reviews of industrial projects to which the IDDSG apply.

D. Desirable Elements of Industrial Project Design

The City considers the following design features to be desirable elements of industrial development, and the standards and guidelines set forth in following chapters are intended to facilitate the incorporation of these features into an *Industrial* project:

1. Prominent access driveways with clear visibility of entrances.
2. Multi-modal transportation.
3. Controlled site access.
4. Landscaped and screened parking, and loading and service areas.
5. Service areas located at the rear of buildings.
6. Quality exterior building materials, surfaces, and textures.
7. Significant landscape, streetscape and hardscape elements.
8. Placement of structures that creates

opportunities for plazas, courtyards, or gardens/patio areas which can be utilized as pedestrian gathering places and common employee gathering areas with appropriate site furniture and lighting.
9. A variety of architectural design treatments, including articulated building footprints to reduce massing and to promote architectural definition and interest.
10. Preservation of natural site features.
11. Enhancement of view corridors to open areas and mountain vistas.
12. Support services to industrial development, such as child care accessory to a large corporate campus, may be appropriate in accordance with currently adopted codes and ordinances.
13. Site design and improvements should anticipate the potential re-use of the building for other purposes.
14. Quality architectural designs and building materials should be incorporated into industrial projects.
15. The appearance of both the building and the site landscaping should have a strong emphasis toward public street views, incorporating a concept that emphasizes the 'public zone'.

E. Undesirable Elements of Industrial Project Design

The City considers the following design features to be undesirable elements of industrial development:

1. Poorly defined site access points.
2. Disjointed parking areas, or confusing or unsafe circulation pattern.
3. Square, 'box-like' structures with large, blank, unarticulated wall surfaces.
4. Highly reflective surfaces or repetitious and continuous glazing patterns.
5. Metal siding used as a primary exterior facade treatment.
6. Visible outdoor storage, loading, and equipment areas.
7. Signage which is redundant or out of scale with building architecture.

F. Relation of the IDDSG to Other City Regulations, Ordinances and Private Development Covenants

The IDDSG is a supplement to the City of Louisville's Zoning and Subdivision Regulations, PUD Ordinance, *City of Louisville Department of Public Works Engineering Division Design and Construction Standards*, and *City of Louisville Storm Drainage Design and Technical Criteria*.

Where a mandatory standard in this document is in conflict with any provision of the City of Louisville municipal code, the most restrictive requirement shall take precedence and shall apply. Building and life safety codes, *the City of Louisville Department of Public Works Engineering Division Design and Construction Standards/ and the City of Louisville Storm Drainage Design and Technical Criteria take* precedence over the standards in this document in cases where the standards in this document require action that is in conflict with those codes.

All industrial development within the City of Louisville shall meet the requirements of the Americans with Disabilities Act (ADA).

G. How to Use the IDDSG

The IDDSG is generally organized in a descending order of scale, from overall site planning concerns, to circulation issues, to buildings, site details, and then signs and exterior lighting. When first developing overall planning concepts for a parcel, the earlier chapters will be most relevant. At advanced stages of design, when architectural details and specific landscaping ideas are being developed, chapters appearing later in the document will be most relevant.

Each chapter has four basic components:

1. A goal statement, which sets forth the City's overall design goal to be achieved in the PUD Industrial Planned Unit Development Plan review process with regard to the subject matter of the chapter.
2. A policy statement, which establishes a

more specific design goal with regard to a more specific subject matter.

3. The statements of **standards,** indicated with an **{S)**, and **guidelines,** indicated with a **{G)**, which establish the specific design standards with which compliance is mandatory, and the design guidelines with which compliance is strongly encouraged. **A failure to meet a mandatory standard may be the basis for denial of an application.**
4. Illustrations showing one or more suggested design solutions that would be appropriate or inappropriate with respect to the standards and guidelines. These may be photographs or sketches. In the event of conflict between an illustration and the text of the IDDSG, the text shall control.

H. Definitions

For purposes of this document, the following terms shall have the following meanings:

***nrndustrial Development*"** Any land development activity in the city, including but not limited to non-offensive types of industry, processing and manufacturing activities, but not including development activity intended solely for residential, retail and or office use. Industrial development also includes any addition, remodeling, relocation or construction requiring an amendment to an approved, Final Industrial Planned Unit Development Plan. Specifically, industrial uses as enumerated in Louisville Municipal Code § 17.12.030 and/or in an established Planned Community Zone District-Industrial Plan (PCZD-I).

***nFlex Space or Flex Building*"** A building designed for occupancy by single or multiple, undefined tenants in spaces designed to suit their varied needs. The tenants need significant amounts of fully finished interior space and have employee densities that are higher than the traditional industrial tenant, though the tenant must still have some industrial component, such as warehousing, distribution, assembly, or manufacturing. The building will have more of an office/ commercial appearance on some or all building elevations.

"*Landscape Coverage*" Land that is undeveloped or developed that can support plant materials; or has decorative landscape treatment; or that may be used by customers for recreation, circulation, or may be viewed by them. Paved parking lot areas used for auto circulation or parking do not qualify as landscape coverage.

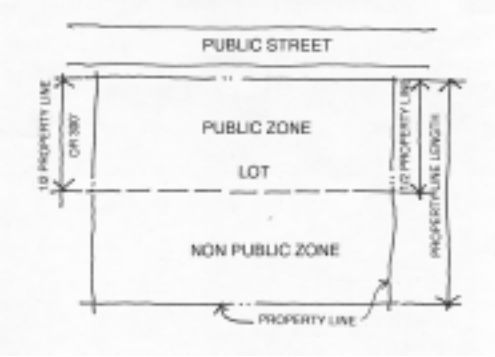
***nParcel*"** A parcel is the minimum amount of real property that a single user may occupy. In many cases, more than one lot will be combined into a single parcel for development of a single building or cluster of buildings to be used by a single user.

***nPedestrian Scale/Human Scale*"** The relationship between the dimensions of a building, street, outdoor space, or streetscape element to the average dimensions of the human body as well as space and the built environment as perceived by the senses of a human being.

***nPublic Zone*"** Building and other associated site improvements located on a development parcel which are within 300-feet of a public right-of-way or within the front half of the parcel (as measured from the front property line to the midpoint of the lot depth) whichever is less.

***nNon-Public Zone*"** Building and other associated site improvements located on a development parcel that is located outside the Public Zone.

***nEffective Landscaping*"** An area is considered landscaped to the extent it provides sufficient quantity and quality of plant materials to screen parking, building, or hardscaped areas of a project and provides color and viewing interest.



1. SITE PLANNING

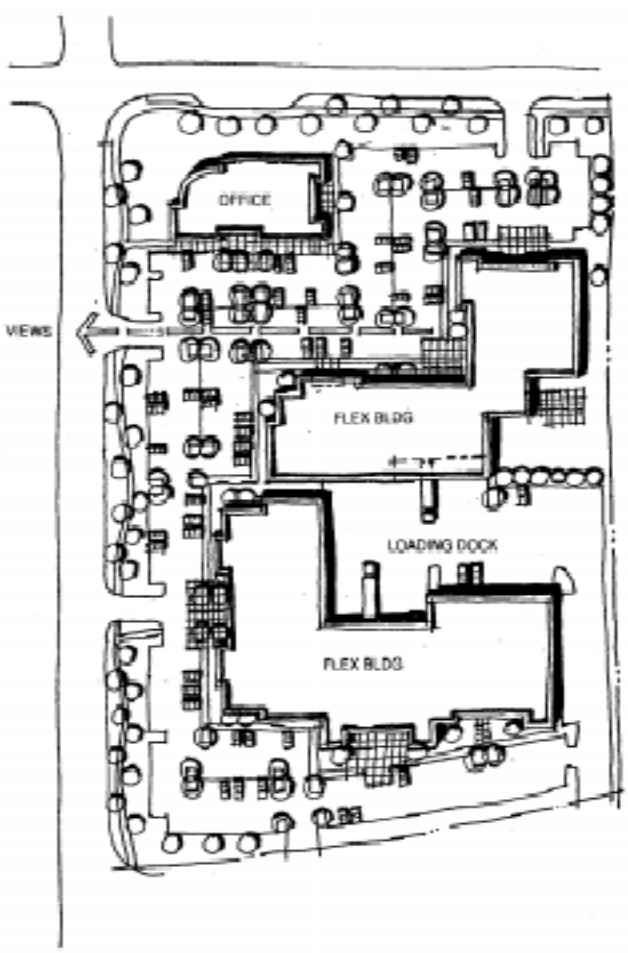
Goal:
Locate buildings so as to maximize the presentation of streetscaping and primary building entries to major roadways/ to provide clear orientation and access for both vehicles and pedestrians and to facilitate internal pedestrian circulation. Place structures in consideration of the existing built context/ the location of adjoining uses/ and the location of major roads. Create pedestrian courtyards and common employee gathering areas.

1.1 Building Siting and Orientation

Policy:
Buildings should be sited so that the character of existing landforms and site features is enhanced; the relationships between buildings are strengthened; and pedestrian and vehicular circulation is facilitated.

Standards and Guidelines:

A. Provide pedestrian connections from building entries and required exits to public walkways to buffer pedestrians from vehicle circulation areas. (S)
B. Provide plazas at primary building entrances as a means of distinguishing primary entries from secondary and service entries. (S)
C. Provide employee-gathering places in areas that are of a sufficient size and scale and buffered from traffic and circulation areas. (S) Employee gathering areas shall not be located in proximity to primary public entrances. (S) Appropriately screened break areas may be considered in proximity to public entrances. (G)
D. Orient buildings to promote views of the mountains through the development. (G)
E. Position entries to buildings so they are easily identifiable from adjoining public right-of-ways and primary access drives. (G)



1.1 POLICY - OVERALL CONCEPT

1.2 Building and Parking Setbacks

Policy:

Provide a well-landscaped image along major streets, which promotes a formal streetscape appearance. To attain this objective, all buildings and parking should be set back from perimeter and interior streets a sufficient distance to create a distinct landscape zone between buildings, parking, and adjacent roadways. Varying building setbacks to enhance visual interest along the streetscape is strongly encouraged. Parking setbacks from all streets should allow for adequate visual buffering or screening.

Standards and Guidelines:

A. Minimum Building Setbacks: (S)

Front, side or rear yards from arterial streets	60-feet
Front yard at a local public street	30-feet
Side yard from a local public street	30-feet
Side yard interior (abutting a similar zoning district)	10-feet
Side yard interior (abutting residential and agricultural zoning districts, or public open space)	25-feet
Rear yard (abutting a similar zoning district)	15-feet
Rear yard (abutting residential and agricultural zoning districts or public open space)	25-feet
Northwest Parkway or other limited access highways	200-feet

B. Minimum Parking Setbacks: (S)

Front, side or rear yards from arterial streets	30-feet
Front yard at a local public street	20-feet
Side yard from a local public street	20-feet
Side yard interior (abutting a similar zoning district)	10-feet
Side yard interior (abutting residential and agricultural zoning districts, or public open space)	10-feet

C. Only architectural projections that do not include floor area, such as roof eaves or other architectural enhancements, may encroach into the above setbacks not more than 3-feet. (S)
D. For multi-building proposals, building setbacks should be varied to enhance visual interest along the streetscape. (S)
E. Building setbacks shall not encroach into platted landscape, drainage and or railroad easements. (S)
F. No portion of any building may encroach or project into any easement. (S)

1.3 Pedestrian Amenities

Policy:

Plazas, courtyards or similar visitor and employee amenities should be incorporated into both overall and individual site development plans. These areas should be easily accessible and comfortable for a substantial part of the year.

Standards and Guidelines:

A. Furnish spaces with pedestrian amenities such as benches, landscaping, and/or recreational areas. These outdoor spaces shall be functional and shall not appear as 'left-over' spaces. (S)
B. Provide seating that is useable year-round. Position seating such that it is buffered from exposed areas and takes advantage of sunny locations. (S)
C. All common amenities within industrial developments shall be owned and maintained by the developer or by an organization established for such purposes. (S)
D. Where feasible, create a sense of enclosure for outdoor seating areas. (G)

1.4 Site Coverage Requirements

Policy:

Open space and landscaped areas are valued amenities. Building, parking, and driveway site coverage within each parcel should be limited.

Standards and Guidelines:

A. The maximum building, parking, walkway and driveway coverage within each parcel and for the entire development is 75%. (S)
B. The minimum amount of landscape coverage provided within an industrial development is 25%. (S) This landscape coverage area is in addition to any required public land dedication. (S)
C. Detention ponds may be included in landscape coverage if located fully within the building lot, and when those areas can be effectively landscaped. Detention ponds that are off-site, but contiguous to the building lot, and that can be effectively landscaped may be credited up to, but not

exceeding one-third of the total required landscape coverage requirement. (G)

1.5 Utilities, Mechanical, and Telecommunications Equipment

Policy:

The visual and noise impacts of utilities, mechanical equipment, data transmission dishes, towers, and similar antennas and equipment should be mitigated.

Standards and Guidelines:

A. Install all permanent utility lines underground. (S)
B. Temporary overhead power and telephone facilities are permitted during construction only. (S)
C. Locate transformers away from major pedestrian routes and outdoor seating areas. (G)
D. Buffer all transformers, telecommunications devices, equipment switching boxes and other utility cabinets from street and pedestrian areas with landscaping or architectural screens. (S) Do not leave meters exposed where visible to the public. (S) (See also Chapter 6: Screen Walls and Fencing). (S)
E. The location of exterior mechanical equipment associated with industrial processing or manufacturing operations shall be such that it minimizes visual and auditory impacts from adjacent property and public streets and shall be mitigated with structural or landscape screening and buffering. (G)

1.5.D - SCREEN THESE AREAS FROM PUBLIC VIEW

1.6 Service, Delivery and Storage Areas

Policy:

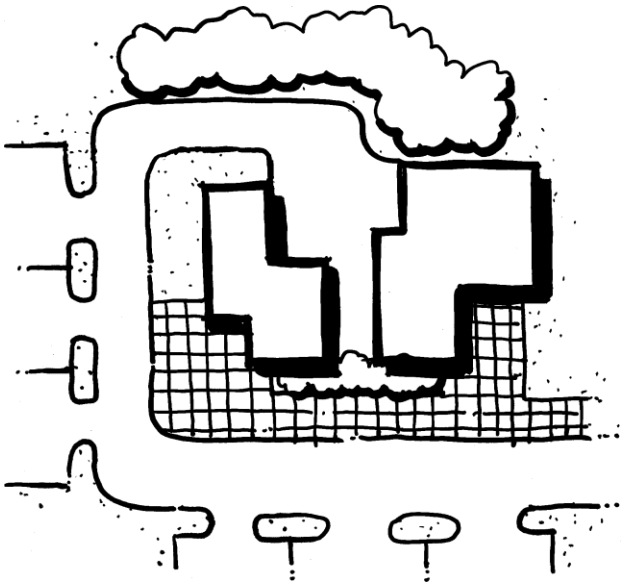
Service, delivery and storage areas should not be visually obtrusive. The visual impact of service and delivery areas should be minimized; especially views of such areas from public ways and along designated view corridors.

Standards and Guidelines:

A. Locate loading docks, outside storage, and service areas in areas of low visibility such

as at the side or at the rear (non-street side) of buildings. (S) Outside storage of any kind in public street rights of way, building setbacks or easement areas is not permitted. (S)

B. With the exception of outside storage areas, when it is not possible to locate loading facilities and service areas on a non-street side of a building, loading docks and doors shall not dominate the building frontage and must be screened from all adjoining public rights of way. Loading and service facilities shall be offset from driveway openings. (S) In no case may outside storage areas be located in the front of a building. (S)
C. Combine loading docks and service areas between multiple sites. (G) Screen from public view with fencing, walls, other structures and/or landscaping. (S)
D. Clearly identify service entrances with signs to discourage the use of main entrances for deliveries. (G)
E. Service and refuse areas shall not encroach into the parking setback. (S) Such areas shall be screened with a minimum six-foot wall height enclosure (as measured from finished grade). (S) Service and refuse areas shall be paved with an impervious surface of asphalt or concrete. (S)
F. Service and outside storage enclosures shall be constructed of materials to match or compliment the building material. No enclosure shall be made of any form of chain link or wood fencing. Gates and/or access doors may be constructed of materials different from the actual enclosure material to facilitate operation of the gates or access doors. (S) Trash enclosures shall enclose an area large enough to accommodate the peak needs of varied potential industrial users of the building. (S)
G. Outside storage areas shall not exceed 10% of the floor area of the principal structure and when authorized must be typically associated with the specific industrial operation proposed for the building. (S)
H. Outside storage areas shall be fully screened by screen wall enclosures. (S) Screen walls shall have a minimum height of 6-feet, and a maximum height of 10-feet. Stored materials may not be stacked or be visible above the enclosure height. (S)



1.6.C - WELL SCREENED SHARED SERVICE COURTYARD

1.6.H - THIS IS NOT PERMITTED - OUTSIDE STORAGE MUST BE FULLY SCREENED

I. Storage areas shall be paved with an impervious surface of asphalt or concrete and designed in accordance with required fire access, and fire lane requirements. (S)
J. Trash compaction and recycling are strongly encouraged and should be accommodated in industrial project design. (G)
K. Sites shall not be designed to accommodate ongoing storage of truck trailers or other cargo storage trailers. (S)

1.6.K - ONGOING PARKING OR STORAGE OF TRUCK TRAILERS IS DETRIMENTAL TO GOOD URBAN DESIGN

1.7 Water Quality Control and Drainage

Policy:

Storm water and snowmelt from rooftops, paved areas, and lawns carry plant debris, soil particles, and dissolved chemicals into the City's storm drainage system. Site development plans should employ management and engineering practices to protect stormwater from these undesirable elements, before releasing water into the City's storm drainage system.

Site drainage should be designed to minimize water collection near building foundations, entrances and service ramps. In addition to the City of Louisville's Storm Drainage and Technical Criteria, the following standards and guidelines apply:

Standards and Guidelines:

A. Storm water shall not drain directly into the public storm drainage system without first going through a natural, landscaped detention pond and/or a grassy swale. (S)
B. Design and maintain all grassy swales and other drainage channels in accordance with City of Louisville Storm Drainage Design and Technical Criteria. (S)
C. Avoid hard concrete-lined channel designs, unless recommended by the City's Public Works Department. If a hard channel design is required use a more natural approach that incorporates river rock or natural rock channel lining when possible. (G)
D. Utilize accepted design criteria and recommendations of the Urban Drainage and Flood Control District (UD & FCD) and the City of Louisville for detention pond design to enhance water quality. (S)

1.7.C - AVOID HARD CHANNELS SUCH AS THIS

1.7.A - GOOD EXAMPLE OF NATURAL GRASSY SWALE

E. The use of consolidated detention pond facilities is encouraged on multi-lot developments. (G)
F. Avoid design of landscape berms that would shed irrigation and stormwater directly onto adjacent paved surfaces. (G)
G. To more effectively implement Best Management Practices (BMPs), detention ponds shall be consolidated on individual developments so there is no more than one pond per five acres, unless otherwise approved by Public Works. (G)
H. Functional detention pond BMPs shall be incorporated to the extent practical, in accordance with Volume III of the Urban Drainage manual, latest edition, and approved by Public Works, or be incorporated in accordance with a comparable design, approved by Public Works. Said BMPs shall be implemented on developments where the surface area tributary to the detention pond is five acres or greater (including the detention pond surface area.) (G) For detention ponds having tributary areas between two and five acres (including the detention pond surface area) grass or cobble lined swales shall be incorporated. Other proposed BMPs shall be reviewed and approved on an individual basis by Public Works. (G)
I. Parking lot detention shall not be permitted, with the exception of development sites smaller than two acres, regardless of the tributary basin size to the detention pond. (G)
J. For developments smaller than two acres, detention up to the 10-year storm event shall be contained completely within a grass lined area of a detention pond. The remainder of the storm water detention volume, between the 10 and 100-year events, may extend into paved areas. The ponding depth may not exceed 8 inches within paved areas. (S)
K. Detention pond landscape materials and planting densities shall be incorporated into the landscape plan in a manner that will minimize the potential for clogging at the outlet structure. Landscaping in and around detention ponds shall not be designed in a manner that would potentially reduce the functionality of the pond. (G) The developer's engineer shall certify in the

drainage report that they have reviewed the landscape plan and that it is consistent in preserving the functionality of the storm water detention system. The proposed landscaping in and around detention ponds shall be subject to Public Works review and approval. (S) Property owner obligations pertaining to detention pond maintenance shall be contained in the final approved drainage report associated with the PUD. (S)

1.8 Site Grading, Excavation and Erosion Control

Policy:

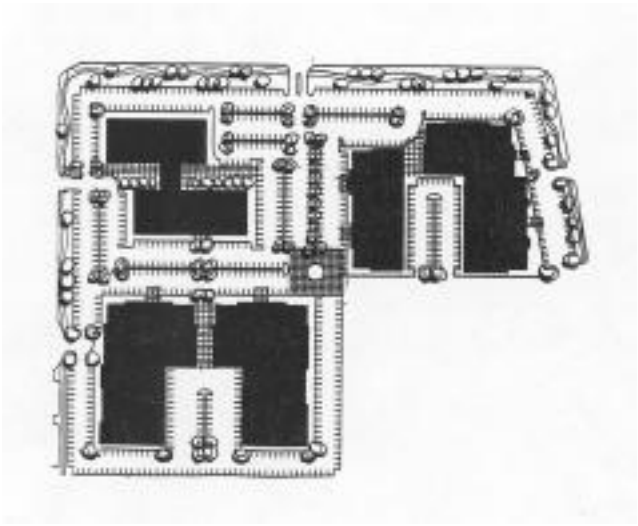
The design of site improvements should minimize cut-and-fill in order to preserve each site's natural terrain to the maximum extent possible. Site grading designs should be executed in such a manner to avoid drainage impacts (such as erosion and road damage), both on-site and downstream.

Standards and Guidelines:

A. Preserve the natural setting with grading designs that are sensitive to existing landforms and topography. (G)
B. In developing sites, limit slopes to 4:1 or less. (G) Slopes in excess of 4:1 may be allowed when engineering or site constraints dictate a steeper slope, and when appropriate erosion control measures are incorporated. (G)
C. In general, transition grades between old and new elevations should be rolling rather than one continuous straight slope. (G)
D. Avoid grade changes within the drip-line of existing trees that are to be maintained. (G)
E. Preserve existing significant site vegetation, to the extent possible, during over-lot grading and construction activities. (G) Replant all disturbed soil and slopes with an approved grass mixture or ground cover. (S) Prepare the soil prior to seeding. (S)
F. Terracing of the finished floor elevations in relation to natural grades on a site should be considered on larger buildings, when appropriate, particularly on multi-tenant flex buildings. (G)

1.8.F - TERRACE BUILDINGS WITH SLOPES

2. VEHICULAR CIRCULATION & PARKING



Goal:

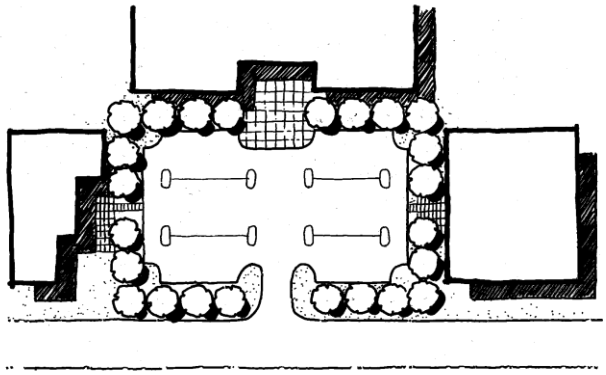
The on-site vehicular circulation and parking system is a critical factor in the safety and success of an industrial development. The parking/access/ circulation system should provide for the safe, efficient, convenient, and functional movement of multiple modes of transportation both on and off the site where pedestrian/bicycle/vehicle conflicts are minimized. The site planning process should make provision for alternate modes of transportation, including public transit, bicycles and pedestrians.

2.1 Site Access and Vehicular Circulation

2.1.1 Vehicular Access

Policy:

Promote the safety and mobility of through traffic by minimizing the number of access points to private property from public streets.



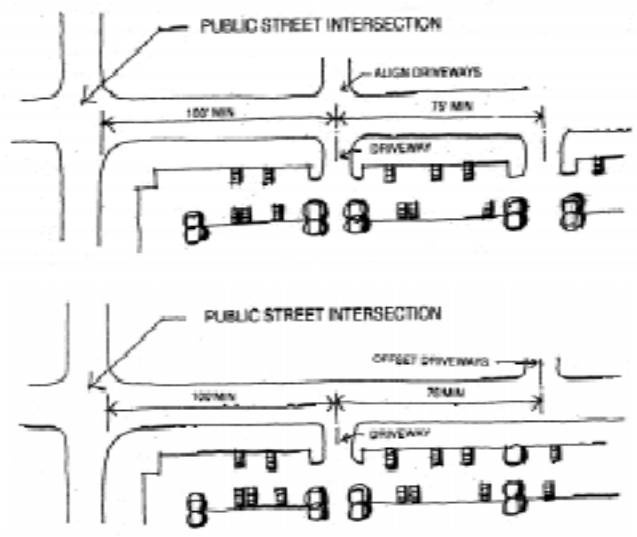
2.1.1 - VEHICULAR ACCESS POLICY

Standards and Guidelines:

A. Enhance the intersections of entrance drives with arterial and collector streets by incorporating signs, accent paving, special landscaping and lighting. (S)
B. Materials used for entry features shall be consistent with other materials used in the development. (S)
C. Two-way access drives shall have a minimum width of 28-feet. (S) One way access drives shall have a minimum width of 18-feet. (S)
D. The number of driveways per street frontage to any building site is determined by the size of building site. Building sites less than two acres shall be permitted **one** driveway, two acres to five acres shall be allowed **two** driveways and greater than five acres shall be permitted **three** driveways. (G)
E. Driveways shall be separated from street intersections by a minimum of 100-feet or by maintaining similar directions of travel and

as required by the Public Works Department. (S)

F. Driveways serving building sites on either side of a public street shall either be aligned or offset to provide a minimum separation of 75-feet when not located adjacent to a public street intersection. (S)
G. Driveways on the same side of a public street shall be separated by a minimum 75-foot distance when not located adjacent to a public street intersection. (S)
H. When possible, shared driveways located on the property line of two building sites are encouraged. (G) If incorporated into the improvements, the City will require evidence that an access easement is in place providing for joint use of the shared driveway. (S)
I. Entrances that lead directly into head-in parking are not allowed. (S)
J. Accent pavement materials located within the public right-of-way must meet City of Louisville Public Works Department criteria. (S).
K. AASHTO site visibility triangles should be considered on parcels located on the inside of horizontal street curves. (G)



2.1.1.E,F,G

2.1.1.K

2.1.2 Vehicular Circulation

Policy:

Projects with multiple building sites or parcels should include a hierarchy of internal roadways, including the following: 1) internal collector, 2) internal private drives serving multiple buildings and parcels, 3) parking aisles, and 4) service drives and truck routes. This hierarchy should be implemented by engineering and landscape treatments. The street, access and parking network shall provide for the smooth, safe, convenient and functional movement of all modes of transportation, including vehicles, public transit, bikes and pedestrians, with priority to the pedestrians.

Standards and Guidelines:

A. Provide separate and safe vehicular and pedestrian circulation systems. (G)
B. For large parking lots, separate parking aisles from truck circulation routes and entry drives. (G)
C. Avoid conflicts between adjacent parking lots

parking designs. (G)

D. Truck and vehicle backing from a public street onto the site for loading or any other purpose is prohibited. (S)
E. Vehicle circulation routes requiring movement onto a public street in order to move from one area to another on the same building site is prohibited. (S)

2.1.3 Service/Delivery, Emergency and Utility Access

Policy:

Routes for service, emergency and utility access should be clearly marked. Service circulation within a development shall be designed to provide safe movements for all anticipated vehicles. The design of individual parcels to accommodate truck access shall meet all regulatory requirements for turning radii without sacrificing other important goals and policies of the IDDSG.

Standards and Guidelines:

A. Meet all Louisville Fire Protection District regulations in the design and provision of emergency access to buildings for fire suppression, police, ambulance and other emergency vehicles. (S)
B. Avoid the creation of 'blind areas' that cannot be patrolled by police or security staff. (G)
C. Provide shared service and delivery access ways between adjacent parcels and/or buildings. (G)

2.1.4 Transit Facilities

Policy:

Transit facilities should be accommodated within all major employment centers that could generate high volumes of transit use. Transit routes, access points and shelter locations should be addressed along major roadways within and on the perimeter of such projects. Transit facilities shall be provided in a manner to make transit an attractive mode of travel for both employees and patrons.

Standards and Guidelines:

A. Locate bus shelters close to significant clusters of buildings. Provide a concrete pad in front of bus shelters. Provide protection for bus shelters from the prevailing winds. Consider incorporating passive solar heating features. (G)
B. Coordinate any shelter design and locations with RTD. (S)
C. Identify locations and define easements for future shelters. (G)

2.2 Parking Lot Design

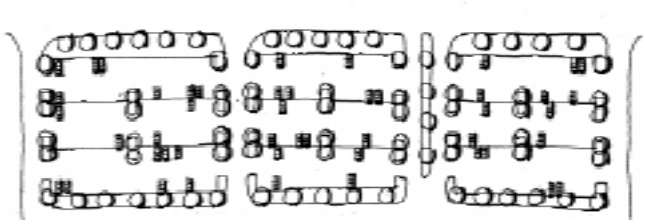
This Chapter provides standards and guidelines for the siting and layout of parking lots. Specific landscape standards for parking areas are included in Section 5.3, Parking Lot Landscaping.

2.2.1 Surface Parking Lots

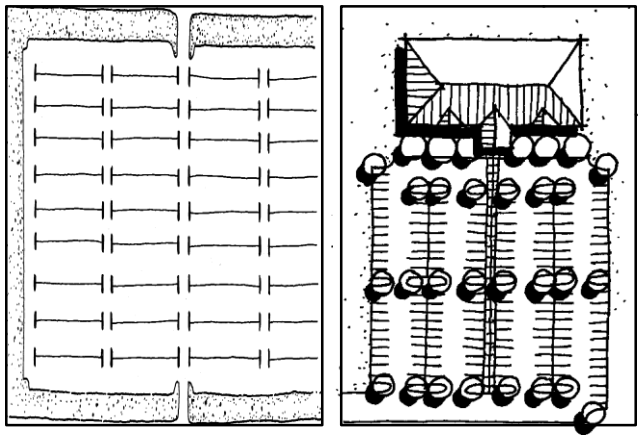
Policy:
Vehicle parking should be provided to meet the location and quantity requirements of specific uses without requiring overflow parking within a public right-of-way, or undermining the function of other modes of transportation.

Standards and Guidelines:

A. Design parking lots to avoid dead-end aisles. (G)
B. Where a dead-end aisle is authorized, adequate space for unimpeded turn-around must be provided. (S)
C. Avoid parking that creates hazardous backing movements into major drive aisles. (G)
D. Design parking areas that incorporate pedestrian walkways in a manner that links buildings to the street sidewalk system. (S)
E. Divide parking areas that accommodate more than 125 vehicles into a series of smaller, connected lots. (S)
F. Landscape and offset portions of the lot to reduce the visual impact of large parking areas. (G)
G. Avoid aligning all travel lanes in parking lots in long straight configurations. (G)
H. Provide cross-access easements between adjacent lots to facilitate the flow of traffic between complementary users. (G)



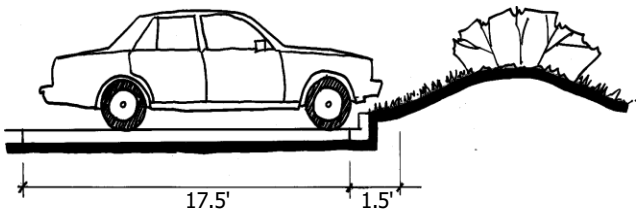
2.2.1.E - PARKING LOTS WITH 125 SPACES OR MORE MUST BE BROKEN UP INTO SMALLER LOTS WITH NO MORE THAN 125 CARS TOTAL



NO YES!

2.2.1.F

I. Each standard parking space located perpendicular to the access drive shall have a minimum width of 9-feet and a minimum depth of 19-feet. A 1.5-foot overhang is permitted for parking spaces adjacent to landscaped areas provided additional width is provided in the sidewalk or landscape area. (S)



2.2.1.I

J. An appropriate number of handicap spaces shall be provided on the building site as required by applicable code and regulations. Handicap parking shall be located in close proximity to building entrances as permitted by the overall design of the improvements. (S)
K. No compact parking spaces are allowed. (S)
L. Minimum Parking Ratios: The minimum number of parking spaces required per parcel is based on the following ratios (# Parking Spaces/Gross Building Floor Area) (S):

Office space	4 spaces/1000 SF (1:250)
Manufacturing and Research and Development space	2 spaces/1000 SF (1:500)
Warehouse space	1 space/1000 SF (1:1000)
Showroom space	4.5 spaces/1000 SF (1:225)

M. 'Flex' buildings shall plan for total parking at a ratio ranging between 4 and 5 spaces/1000 SF and will be authorized for any permitted Industrial building occupancy. (S) For sites/ buildings with parking ratios lower than 4:1000, minimum parking requirements will be reviewed on a tenant finish building permit basis, relative to the average parking ratio provided on the site. All sites shall provide a minimum parking ratio of 2.0 spaces/1000 SF, except that some parking may be deferred when the total parking demand of the intended occupant falls below that ratio. (S)
N. Public on-street parking may not be used to satisfy all or part of a building's required off-street parking. (S)
O. For specific users, additional off-street parking may be necessary to satisfy unusual occupant requirements exceeding the above noted criteria. (G)
P. Locate special parking spaces for vanpool and car pool parking close to building entrances. (G)

Q. Use curbed landscaped islands to designate a change in direction of parking stalls and aisles. (S)
R. Provide landscaped islands at the ends of all rows of parking. (S)
S. Parking bumpers in surface lots are prohibited. (S)

3. PEDESTRIAN & BICYCLE CIRCULATION

Goal:

Pedestrian and bicycle systems should be incorporated into all developments and designed to be sate and invite walking and bicycling throughout the project. Individual parcels and sites {within larger projects} should be integrated with adjacent properties designed to torm a comprehensive system and to provide convenient access to transit stops/ as well as to regional trail systems.

3.1 Overall Pedestrian and Bicycle Circulation

Policy:

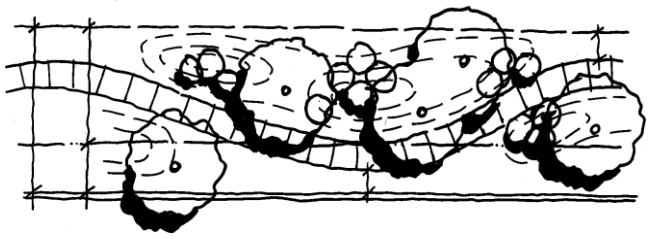
Pedestrian spaces and routes should be designed to invite walking throughout and around each development. Routes should be integrated to form a comprehensive circulation system providing convenient, safe and visually attractive access to all destinations on the site. Ease of maintenance should be considered.

Standards and Guidelines:

A. Locate buildings and design on-site circulation to minimize pedestrian/vehicle conflicts. (G)
B. Separate pedestrian and vehicle movements with the use of landscaping, barriers or other appropriate design solutions. (G)
C. Differentiate areas of pedestrian and bicycle/ vehicle interface with accent pavement and signage to alert drivers to potential conflicts. (S)
D. Provide well-identified connections from the primary pedestrian and bicycle paths within the development to the perimeter sidewalks and bike paths. (S)
E. Locate pedestrian access and walkways away from the north sides of buildings. (G)
F. Sidewalks within the Colorado Technological Center, The Business Center at CTC, and The Park at CTC shall be constructed in accordance with the master sidewalk plan. (S)
G. Sidewalks shall be at least 5-feet wide and detached from all arterial, collector and local

public streets by a minimum 6-foot wide landscaped parkway, except at intersections where acceleration & deceleration lanes are provided. (S)

H. In cases where a meandering sidewalk is desired along an arterial street, provide adequate width within which to accommodate berming and landscaping that enhances the meander and defines the walkways. (G) If the appropriate width is not provided within the public right of way to meet this guideline, a sidewalk easement will be required. (S)



3.1.H

3.2 Bicycle Parking

Policy:

Functional and attractive bike parking shall be provided in convenient locations and in adequate numbers for employees.

Standards and Guidelines:

A. Locate bicycle parking spaces near employee building entrances. (S)
B. Do not position racks where they will obstruct building entrances or the flow of pedestrian traffic. (S)
C. Provide bicycle parking spaces in the following minimum ratio: One (1) bicycle space for every 20 required off-street automobile parking spaces up to a total maximum requirement of 21 bicycle parking spaces. (S) A minimum of 3 bicycle parking spaces shall be provided per parcel or building, regardless of building size. (S)
D. Providing protection from the elements for bicycle parking is encouraged. (G) Consider the use of shelters. (G) Coordinate the design of the bicycle shelter with adjacent buildings or other street furniture designs. (G)
E. Use bicycle racks that accommodate a range of bicycle types and a variety of security devices. (G)

4. ARCHITECTURAL DESIGN

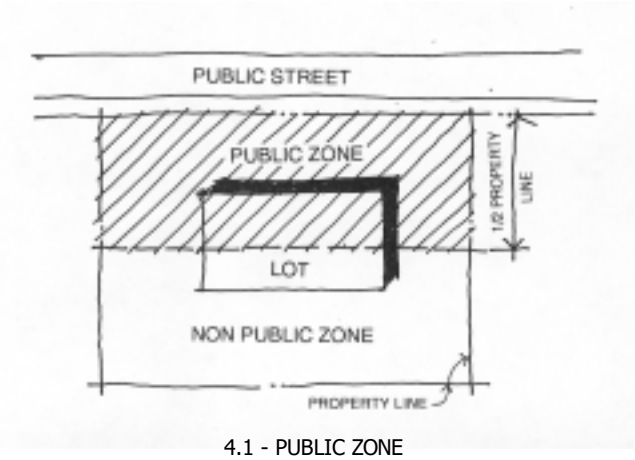
Goal:

Simple rectangular box-type structures, typically of masonry, or concrete 'tilt-up' materials characterize conventional industrial architecture. These relatively low profile, simple shapes comprise a strong element of continuity throughout a light industrial district such as the Colorado Technological Center in Louisville. Given this premise, it is the variations and fenestration details that provide the needed variety.

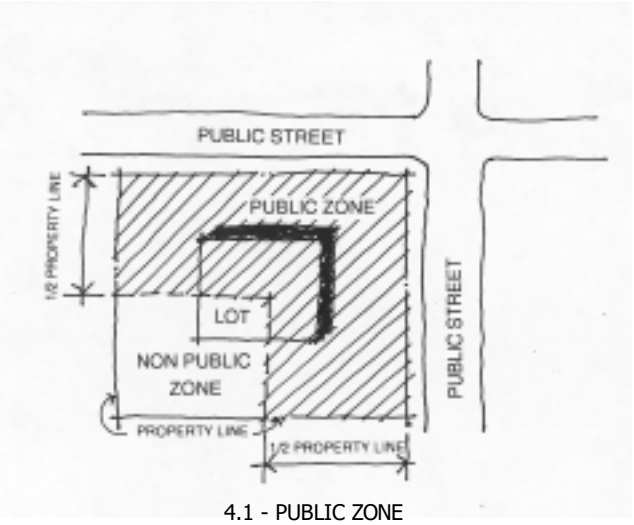
Architectural design should seek to add to community character, while providing flexibility to avoid rigid uniformity of design. While a wide variety of design techniques may be utilized, a basic harmony of architecture shall be developed to promote the quality and attractiveness of the business environment. All elements including the scale and mass of buildings, materials, colors, roof styles, door and window openings, and details should be responsive to functional architectural design and promote a cohesive design statement.

All buildings should be energy efficient to conserve natural resources.

Building masses should respond to a 'human scale' with materials and details that are proportionate to human height and provide visual interest at the street and sidewalk level. Buildings should be reduced in apparent mass or articulated to avoid large monolithic, box-like shapes.



4.1 - PUBLIC ZONE

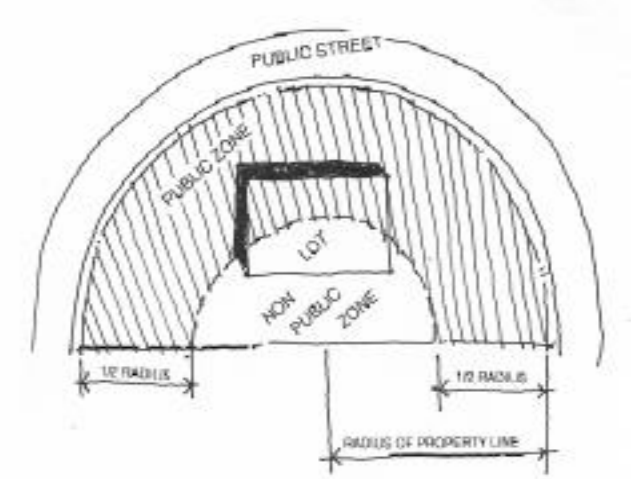


4.1 - PUBLIC ZONE

4.1 Building Relationships and Compatibility

Policy:

Building or portions of buildings within the 'Public Zone' should be oriented on a site to create a strong relationship to adjacent structures, providing visual continuity, and compatibility within the overall development.



4.1 - PUBLIC ZONE

Standards and Guidelines:

A. Building orientation to the site shall maximize from the adjoining public right-of-way identity of building user, primary building character.

entries and plaza areas and formal landscaped areas. (S)

B. Building location should optimize internal efficiencies, especially in multi-building developments, in screening service and loading areas from adjoining public streets, designation of regional facilities for stormwater detention, implementing cross access easements, and providing for common /functional employee recreational areas. (G)
C. Building location shall act to minimize from all adjoining public streets, view of truck parking and loading areas, outside storage areas, ground mounted mechanical equipment, as well as trash and service enclosures. (S)

4.2 Building Height

Policy:

Building heights should be not be out of scale with existing or planned development.

Standards and Guidelines:

A. The height of new development should be compatible with and transition from the height of adjacent development. (G)
B. The maximum building height is 40.0-feet to the top of the building parapet and 50.0-feet for architectural projections. (S)
C. Building height may exceed the 40.0-foot height limit up to 50.0-feet, when authorized through the PUD process for buildings/users that require specialized equipment. (G)

4.3 Building Massing, Forms, and Pedestrian Scale

Policy:

Buildings should relate to the terrain and each other in their massing and forms. Square 'box-like' structures with large, blank, unarticulated wall surfaces are not an acceptable form.

Buildings should respond to pedestrian scale in the immediate vicinities. Buildings should have features and patterns that provide visual interest at the scale of the pedestrian, which reduces apparent mass and that relate to local architectural character.

4.3.1 Public Zone

Standards and Guidelines:

A. Any wall within a Public Zone shall incorporate significant architectural features and treatments to diminish the building mass. (S) Use a combination of the techniques listed in the following sections 1-3 or other appropriate techniques to be reviewed through the PUD process. (S)
   1. Variations in facade elements can reduce perceived mass and scale. For example:
      i. Variations in color and/or texture should be used.
      ii. Step downs and step backs should follow the terrain and be tiered and reinforced by landscape elements.
      iii. Compositions that express rhythms and patterns of windows, columns, and other architectural features are encouraged.
   2. Avoid blank walls at ground-floor levels. (S) Use windows, trellises, wall articulation, arcades, material changes, awnings, canopies, clerestory, or other features. (G)
   3. Architectural features such as columns, pilasters, canopies, porticos, awnings, brackets or arches should be included. (G)

4.3.1.A - NOT DESIRABLE

4.3.2 Non-Public Zones

Standards and Guidelines:

A. All building materials shall comply with accepted materials under these standards and guidelines. (S)

4.4 Roof Forms and Materials

Policy:

Rooftops should contribute to the unified appearance of each development and should be considered as seen from: higher areas, ground level, other buildings and roadways.

Standards and Guidelines:

A. Avoid roof/parapet lines running in continuous planes absent variations in the building footprint. Building architecture may incorporate variation in parapet heights. (G)
B. All mechanical, electrical, optical and electronic equipment attached to or mounted on the building roof shall be set a minimum of a 20-feet from the building parapet. (S)
C. All roof-mounted equipment as described in section 4.4.B, shall be either (1) painted a color compatible with the dominant building color, if the equipment is self contained without exposed ductwork or process piping. (S) or (2) shall be screened if the equipment does not meet the criteria specified in C.1. Screen material shall be compatible with materials and colors utilized on the building and shall be specified with a detail on the PUD plans. (S)
D. Design roof forms to correspond to and denote building elements and functions such as entrances, arcades, and porches. (S)

4.4.A

4.4.A

4.5 Building Materials and Colors

Policy:

Exterior materials and colors should be aesthetically pleasing, of a high quality and compatible with materials and colors of nearby structures. Compatibility of building materials is desired throughout a development project consisting of multiple buildings.

4.4.C - RTU's NOT PROPERLY SET BACK FROM BUILDING EDGE

4.5.1 Building Materials

Standards and Guidelines:

A. Building exterior materials shall be factory finished, stained, integrally colored, or otherwise suitably treated. (S) Materials may include:
    1. split face or fluted concrete masonry unites (CMU)
    2. factory glazed concrete masonry units (CMU)
    3. face brick
    4. stone veneer,
    5. insulated glazing and framing systems

4.4.D

6. architectural pre-cast concrete
7. painted or stained site-cast concrete
8. architectural concrete
9. factory finished, standing seam metal roofing (for application to pitched roof systems only)
10. EIFS
11. architectural metal as building accent only

B. Highly reflective materials such as bright aluminum or metal are not permitted as the primary building material. (S)
C. Do not use glossy metal. (S)

4.5.1A - ACCEPTABLE MATERIAL

4.5.2 Building Colors

A. Do not use paints or other covering materials with unproven durability. (S) Do not use bright colors, (including bright white) that may streak, fade or generate glare. (S) While subdued or muted colors generally work best as a dominant, overall color, a brighter color can also be appropriate for accent elements, such as door and window frames, and architectural details. (G)
B. Choose color palettes for new buildings that are compatible with the colors of adjacent structures. (S)
C. Minimize the number of colors appearing on a structure's exterior. (G)
D. Paint architectural detailing to complement the facade and coordinate with adjacent buildings. (S)
E. Roof colors shall be muted and compatible with the dominant building color. (S)

4.5.1A - ACCEPTABLE MATERIAL

4.6 Building Entrances

Policy:
Primary building entrances should be easily identifiable and relate to human scale.

Standards and Guidelines:

A. Locate main entrances to be clearly identifiable from primary driveways and drop-offs. (S) For example:
   1. Design building entrances to contrast with the surrounding wall plane. (G)
   2. Consider tinted glass, painted doors, or

4.6.A

recessed features that will create a shaded effect. (G)
3. Create a frame around doorways, by changing materials from the primary facade material. (G)
4. Design primary entrances to be accessible to handicapped users without complex ramp systems. (G)

B. All building entrances shall be well-lit. (S) (see also Chapter 8: Exterior Site Lighting.)
C. Consider using building entranceways as a transition from the building to the ground. Incorporate walls, terraces, grading and plant materials to accomplish this transition. (G)

4.6.A

4.7 Energy Conservation Measures

Policy:

Buildings should be designed and sited to maximize the use of solar gain for energy savings, and respect the solar access requirements of adjacent (existing and proposed) buildings.

Standards and Guidelines:

4.6.A

A. Applicants are encouraged to consider energy conserving design concepts, including, but not limited to the following: (G)
1. Proper orientation and clustering of buildings to take advantage of the prevailing summer winds and to buffer against adverse winter wind conditions.
2. Types of material and their insulation characteristics.
3. The arrangement and design of windows and doors.
4. Direct solar or photovoltaic energy.
5. Day-lighting concepts.
6. Earth sheltering with creative land forming.
7. Natural ventilation of outdoor, indoor and attic spaces.

4.6.A

PUBLIC ZONE DESIGNS

4.3.1 - PUBLIC ZONE

4.3.1 - PUBLIC ZONE

4.3.1 - PUBLIC ZONE

4.3.1 - PUBLIC ZONE

4.3.1 - PUBLIC ZONE

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4.3.1 - PUBLIC ZONE

4.3.1 - PUBLIC ZONE

4.3.1 - PUBLIC ZONE

NON-PUBLIC ZONE DESIGNS

4.3.2 - NON-PUBLIC ZONE

4.3.2 - NON-PUBLIC ZONE

4.3.2 - NON-PUBLIC ZONE

4.3.2 - NON-PUBLIC ZONE

5. LANDSCAPE DESIGN

Goal:

Landscaping for industrial areas is provided within each building site to: 1) enhance the aesthetics of industrial developments; 2) create a pedestrian friendly environment; 3) break up the mass of industrial buildings; 4) soften architectural materials; 5) provide screening of service structures and loading areas; 6) enhance the streetscape/parkway environment; l) define building and parking area entrances; 8) provide shade and climate control; 9) control airborne particulates; 10) provide buffers between incompatible land uses or site areas; 11) filter drainage and stormwater runoff from parking areas and streets.

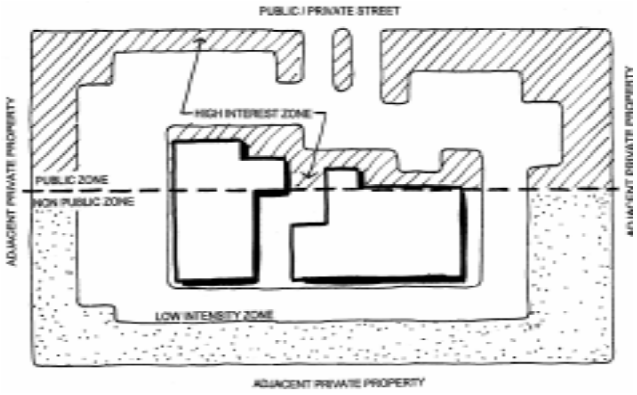
Drought tolerant plant species that are native to the region or suitable to this climate should be used.

This chapter addresses 4 distinct zones corresponding to the 4 major design influences on each industrial site:

1. *Perimeter Landscaping Adjacent to Public and Private Roads*
2. *Perimeter Landscaping Adjacent to Abutting Property*
3. *Parking Lot Landscaping*
4. *Individual Building and Loading and Service Area Landscaping*

Policy:

Water conservation concepts should be considered in all zones. Generally, the highest intensity of materials, including variety, concentration, and interest, is located along a public or private street and the front or entrance to a building, while the rear of a property not abutting a public or private street would be in a less intensive zone.



LANDSCAPE ZONES POLICY

5.1 Perimeter Landscaping Adjacent to Public and Private Roads

Policy:

The corridors along perimeter arterial streets and internal collectors should provide a visually cohesive open space system. Similar landscape treat-

ments should be used at all entrances and intersections. Plant materials, massing, spacing, and height characteristics should reinforce the hierarchy of roadways. Planting and grading should work together to create a variety of experiences along these roadways and to call attention to open space amenities. Perimeter edge treatments should establish identity for the project and convey a high-quality image while seeking to conserve water through appropriate Xeriscape planting selections.

Standards and Guidelines:

A. Include a combination of manicured and enhanced natural landscape areas. (G)
B. Place perennial flower beds at entries. (S)
C. Utility appurtenances should be softened with landscape materials, to the extent practicable. (G)
D. Streetscape Plantings:
    1. Vary street tree planting species in medians and parkways. (S) However, maintain the desired rhythm of plantings by selecting street trees with similar characteristics (i.e., height and branching patterns). (S)
    2. Provide a minimum quantity of 1 tree per 20 linear feet of street frontage within the streetscape landscape setback area. (S)
        i. In the street right of way, deciduous shade trees shall be provided at regular 40-foot intervals, along with fully irrigated ~~sod~~ grass that is native to Colorado or hybridized for arid conditions or other approved ground cover. (S) (These trees count toward the minimum quantity noted in E.2.)
    3. Shrub beds within the streetscape area are limited to 20% of the total area. (G)
    4. Provide a minimum of 6 shrubs per tree plus perennial flower beds, ground cover or ~~grass lawn~~ grass that is native to Colorado or hybridized for arid conditions within the streetscape landscape setback area. (S)
    5. Berming shall be incorporated into the streetscape landscape design. (S)
    6. Placement of plant materials in the right-of-way and in public utility easements

5.1.D - TYPICAL STREETSCAPE

adjacent to the right-of-way shall be subject to review and approval by the City. However, in the event of conflicts, minimum planting requirements shall still be maintained. (S)

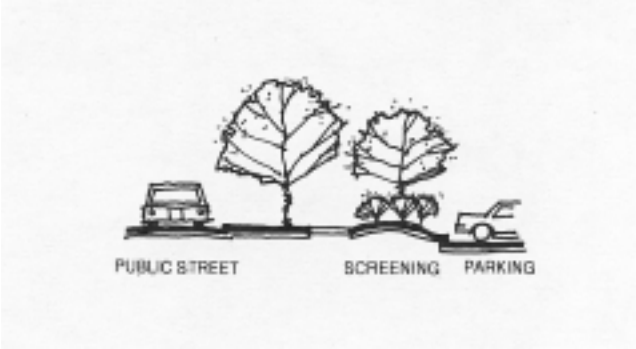
7. To prevent interference with motorist visibility, plant shrubs a minimum of 3-feet from the back of curb and choose shrubs that do not exceed 24-inches mature height. (S)
8. Street trees shall have their branches pruned up to a height of 8-feet to avoid conflict with motorist visibility. (S)

E. Visually buffer all parking lots adjacent to perimeter roadways with adequate screening within a planting strip between the public right of way and the edge of the parking lot pavement. (S) Provide adequate shrub plantings with a variety of seasonal colors to create a dense visual buffer between parking lots and perimeter roadways. (S) Whenever practical, incorporate berming with a maximum 4:1 slope within this planting strip. (G)

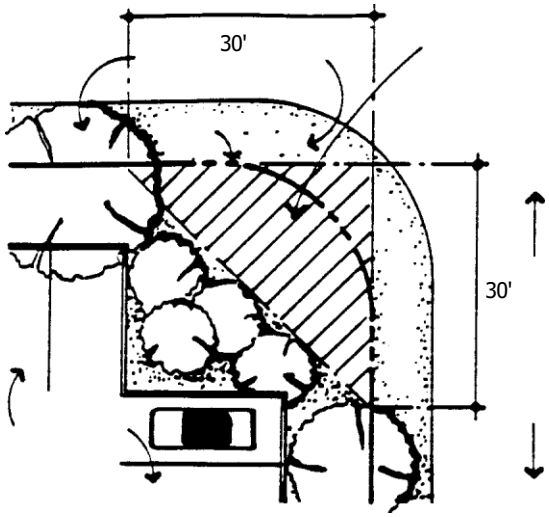
F. Sight Lines at Public Street Intersections and within Medians
   1. Provide adequate sight lines for an effective 30-foot sight triangle measured from the right of way. (S) Plants and signage are allowed within the sight triangle if: 1) plants do not exceed 30-inches in height at full maturity and 2) signs do not exceed 30-inches in height (measured from top of curb height) unless they are more than 80 percent open. (S)

G. Provide a diversity of landscaping materials at entry drives to development parcels. (S) Therefore:
   1. Provide a minimum of 3 levels of scale, including shade, evergreen, and/or ornamental trees, shrubs, annual and perennial flowers, and ground covers. (S)
   2. Plant clusters that appear as a cohesive visual element, and that complement the overall landscape theme and palette (G)
   3. Integrate the plant design with the entry sign. Plantings shall frame or provide a visual base for the signs. (S)

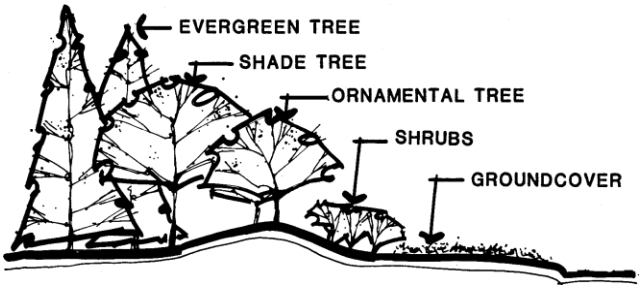
H. Deciduous trees shall be planted a minimum of 5-feet and evergreen trees a minimum of



5.1.E - PARKING LOT SCREENING



5.1.F - SITE VISIBILITY TRIANGLE



5.1.G - ENTRY LANDSCAPE CONCEPT

10-feet from public utilities and public sidewalks, unless modified by PUD street tree plans. (S)

5.2 Perimeter Landscaping Adjacent to Abutting Property

Policy:

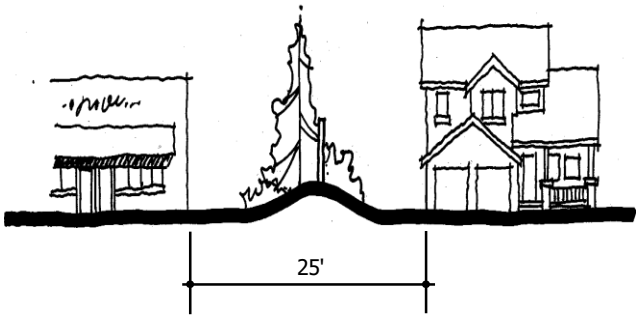
Visual buffers should be provided between similar land uses to accomplish transitions and to mitigate potential conflicts between dissimilar uses.

Standards and Guidelines:

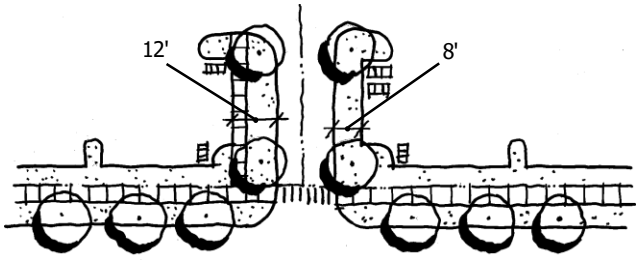
A. Between properties within the same zone district:
   1. Provide a minimum 10-foot wide buffer planting strip along internal side property lines. For the public zone portion of the side property line, provide 1 tree for every 30 linear feet of property line and appropriate shrubs, ground cover and/or ~~turf~~ native or hybridized grass areas. (S) This may not apply to internal property boundaries within a multiple-lot development to the extent the lots are developed under a single PUD Development Plan and achieve other site design policies of these guide- lines. (G)

B. Adjacent to residential and agricultural zoning districts, and/or open space:
   1. Provide a minimum 25-foot wide buffer planting strip incorporating an average 3-foot high berm containing a minimum of 1 tree for every 20 linear feet of property line and a screen hedge incorporating both deciduous and evergreen shrubs a minimum of 3-feet in height (at maturity) along a minimum of 75% of this perimeter area. (S)

C. Common/Shared Access Drives:
   1. Provide a minimum 8-foot wide buffer strip along both sides of a shared access drive when no sidewalk is included. (S)
   2. Provide a minimum 12-foot wide buffer strip along both sides of a shared access drive when a sidewalk is included. (S)



5.2.B - BUFFER PLANTING STRIP



5.2.C - COMMON/SHARED ACCESS DRIVES

5.3 Parking Lot Landscaping

Policy:

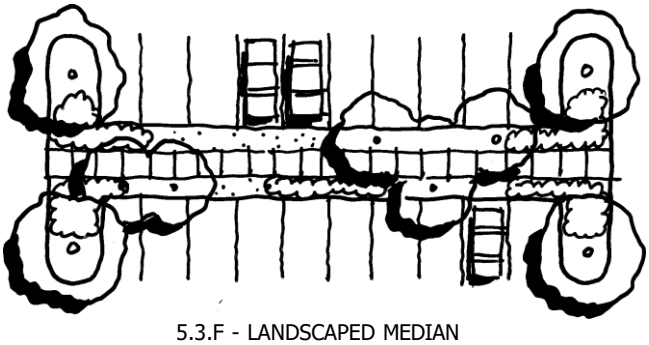
Parking lots are necessary features of building sites which, if not designed properly, can visually detract from the overall develop- ment character. Parking lots should be designed to blend with each building site's character using landscape plantings and grading, and should not be readily visible from public streets.

5.3.A - VISUALLY BUFFER PARKING AREAS

5.3.A - VISUALLY BUFFER PARKING AREAS

Standards and Guidelines:

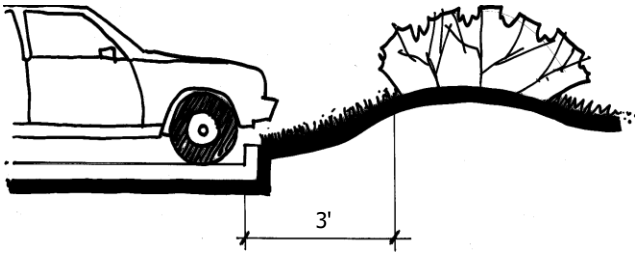
A. Use low, opaque walls and/or flowering plants combined with berming and/or raised planting beds to create a visual buffer of parking areas from peripheral streets or frontages. (S)
B. Lower the grades of parking lots below existing street elevations to aid in obscuring views of automobiles, while promoting views of architectural elements of the structures beyond. (G)
C. A minimum of 1 canopy shade tree per 16 parking spaces is required in all parking lots, to be planted in islands, medians, and perimeter areas adjacent to lots (excluding streetscape tree plantings). (S) To be considered a parking lot shade tree, trees shall be located in a protected landscape area, which are bounded on at least 3 sides by parking area paving (unless the tree is located within a corner island). (S)
D. Utilize landscaped islands and medians to improve the definition of circulation patterns, provide shading for paved areas and break up continuous rows of parking. (G)
   E. Landscaped Islands
   1. Provide a minimum 6-foot wide land- scaped island at the end of every row of parking, equal in length to the parking space(s). (S)
   2. In addition to the trees, plant each island with a minimum of 8 shrubs, not exceed- ing 3 feet in height at maturity. (S)
   F. Landscaped Medians
   1. Place 12-foot wide landscape medians between every other parking bay in lots for more than 125 cars to visually break large parking lots into smaller modules. (S)
   2. Where walkways in medians will not be utilized, the medians may be reduced to a width of 8-feet. (G)



5.3.F - LANDSCAPED MEDIAN

3. Provide a minimum of 1 canopy shade tree and 8 shrubs for each 30 linear feet of median. (S)
4. The use of landscape medians is encouraged as a transition slope between parking bays on hillside parking lots (maximum slope of 4:1). (G)

G. Where head-in parking occurs, locate all shrubs a minimum of 3-feet from the edge of the parking lot curb. (S)



5.3.G - SHRUB SPACING

5.4 Building Site Landscaping

Policy:

The coordination of landscape design for individual building sites and larger, multi-parcel projects is essential for creating a consistent, high-quality character. A coordinated design unifies the various buildings and strengthens the cohesiveness of the development. Individual landscape treatments for building sites should compliment the roadway landscapes, create distinctive settings for buildings, reinforce the design of the open space systems, and provide amenities for pedestrians.


5.4.B - ENTRY LANDSCAPING

Standards and Guidelines:

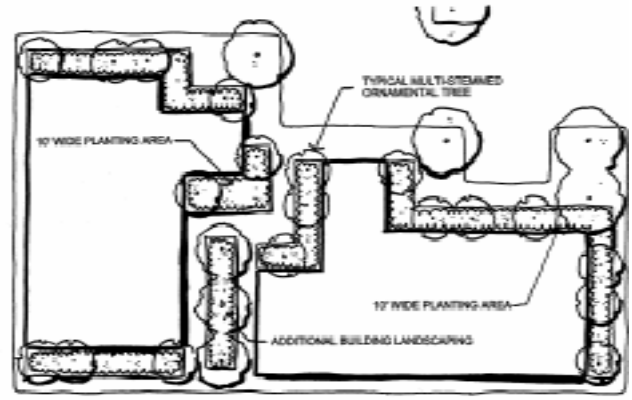
A. Use landscaping that is of appropriate scale relative to the proposed adjacent structures. (G)
B. Intensify landscaping at building entrances. (S)
C. Loading areas shall incorporate evergreen trees and shrubs for screening intermixed with deciduous shrubs for seasonal color. (S)
D. Provide a minimum planting width of 10-feet adjacent to a minimum of 50 percent of the building, with emphasis given to portions of the building visible to the street, or with public entries. These planting areas shall contain the following: deciduous trees at a ratio of one tree per 30 linear feet of building frontage, along with appropriate shrubs, perennial flowers, and ground cover. (S) Provide additional landscaping around the perimeter of buildings to soften the edge between sidewalks/parking lots and structures. (G)
E. Protect landscaping from vehicular and pedestrian encroachments with raised


5.4.C - LANDSCAPE SCREENING OF SERVICE AREAS


5.4.C - LANDSCAPE SCREENING OF SERVICE AREAS

planting surfaces, depressed walks, and/or curbs. (G)

F. Use flowering perennial plants to enhance employee break or other pedestrian gathering areas. (G)
G. Employee break areas or other pedestrian gathering areas shall include a heavy landscape treatment to provide interest, shelter from wind and summer sun, and highlight the area. (S)
H. Minimum Landscape coverage required within each building site and within the entire development shall be 25 percent. (S)
I. In stormwater detention areas, consider landscape materials that help remove debris and potentially toxic substances found in non-point source runoff. (G) Wetland plantings are appropriate in these areas. (G)
J. No organic mulch materials shall be located below the surface level of the 100-year storm detention level. (S)
K. Landscaping within Public Easements
    1. Landscaping within public easements is generally limited to shrubs, ground cover, and small ornamental trees. (G) No canopy/shade trees shall be planted within such easements. (S)
    2. Berming is generally acceptable within public easements in conjunction with plant material. (G) Berming is not to be used instead of plant material. (S)



5.4.D - BUILDING LANDSCAPING

5.4.D - ENTRY LANDSCAPING

5.5 Landscape Irrigation/Water Conservation

Policy:

A significant percentage of the City's treated water supply is used to irrigate plant materials and grasses. Every effort should be made to conserve water by utilizing alternative means for maintaining a suitable landscape environment.

Standards and Guidelines:

A. Low water use and water conservation concepts can be incorporated into the landscape design of each industrial development without compromising the intent to establish significant visual amenities through landscaping. For example:

5.4.G - EMPLOYEE BREAK AREA

1. Incorporate a 'zoned planting scheme' to reduce water demand by grouping plants with similar water requirements. (S)
2. Use drought tolerant plant species suitable to this climate that have minimum watering and pruning requirements. (G)
3. The use of water conserving grasses~~,~~ ~~such as fescue sods,~~ is preferred. Limit the use of blue grass to areas which function as recreation areas or have high foot traffic. (G)
4. Non-irrigated native grasses are encouraged in areas of low visibility from public and private streets. (G) As such grasses only experience short periods of growth, avoid mowing native grasses too low. (G)
5. Incorporate heavily mulched planting beds to aid in retaining moisture and to make planting areas easier to maintain. Improve the soil prior to planting for better water absorption and retention. (G)
6. Incorporate advanced irrigation measures and scheduling. Install an efficient automatic irrigation system that will incorporate water conservation measures. Spray heads are recommended for lawn and ground cover areas, with drip irrigation for shrubs and trees. (S)

5.6 Landscape Standards and Plant Material Selection

Policy:

For a strong visual impact, plants should be used in masses of the same species. Random spotting of many different types is not appropriate. Planting should reinforce the site planning concepts and complement architectural forms. Plant materials selections from the Recommended Plant Materials List (Appendix 'A') are encouraged. Contact the Planning Division for other Xeriscape planting guides.

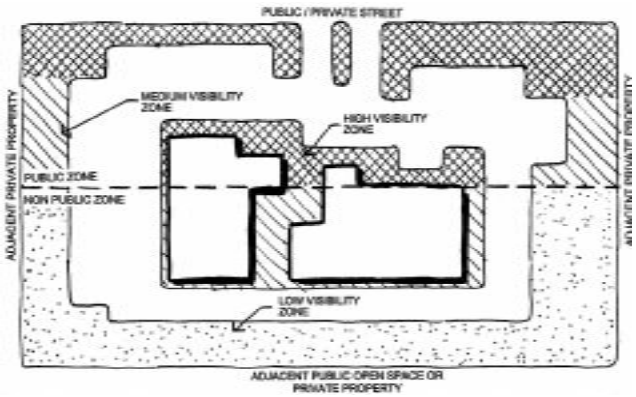
Standards and Guidelines:

A. *Landscape Zones*: Depending on the size and magnitude of an individual parcel, the project's landscape areas should be divided

into one or more of the following basic zones. (G)

1. *High Visibility Zone* (located at site and building entrances and pedestrian areas and within the streetscape planting area) This zone may include:
   i. Manicured ~~lawns~~ grass that is native to Colorado or hybridized for arid conditions that require weekly mowing and regular watering ~~(including blue grass/fescue mixes or other suitable grasses).~~
   ii. Formal plantings of trees and shrubs.
   iii. Perennial beds.
2. *Medium Visibility Zone* (located along side property lines and other interior areas of the site) This zone may include:
   i. Drought tolerant grasses which require less water and maintenance (but still provide a manicured green look during the growing season ~~- including fescue-type grasses~~)
   ii. Shrubs
   iii. Trees
   iv. Irrigated Seed
3. *Low Visibility Zone* (located in environmentally sensitive areas, along waterways; adjacent to public open spaces; and the balance of the site. These may include:
   i. Natural areas and native grasses (which require very low water and maintenance)
   ii. Existing vegetation
   iii. Drought resistant plant species
   iv. Meadow-like/open fields
   v. Wetlands areas

B. Selection of plant materials is encouraged from the *Recommended Plant Materials List* attached as Appendix A, (G), and in light of the following standards and guidelines:
   1. Select plant materials on the basis of suitability to climate, setting and compatibility with other development plantings, character and functions. (G)
   2. Select plant materials that are free of disease and harmful insect problems. (S)
   3. Tree species shall be varied to minimize the impact and spread of disease. (S) A



5.6.A.1,2,3 - VISIBILITY ZONES

given species shall not account for more than 30% of trees on a given site. (S)

4. The quality of plant material selected will follow the guidelines of the "American Standard for Nursing Stock" by the American Association of Nurserymen. (S)
5. Proper drainage is required for all major plantings to ensure the establishment of a good root system and healthy growth. (S)
6. The installation of all landscaping shall be done by an established landscape contractor who follows the procedures set forth by the American Association of Landscape Contractors and its local agencies (S).
7. In situations where installation of landscaping is deferred to after the issuance of the first Certificate of Occupancy, which may be approved, at the City's discretion, due to seasonal planting constraints, a performance guarantee for 125 percent of the value of the work, in a form acceptable to the City, is required to ensure completion of landscaping. (S)
8. Artificial plants of any type, size or color are not allowed as exterior landscaping within any development parcel. (S)

C. Encourage the use of water conserving landscapes by minimizing irrigated ~~sod~~ grass areas ~~(such as blue grass)~~ which require significant watering and maintenance. (G) In general, where grass lawn areas are used, choose a species that will require low maintenance in cutting and low ~~less~~ watering ~~than typical blue grass (fescue sods are preferred).~~ (G)
D. Choose plant materials that provide variety and year-round color and screening. Select materials which highlight each season (G) :
   1. Spring: Flowering plants
   2. Summer: Shade
   3. Fall: Leaf color
   4. Winter: Branch form and texture
E. Edging is required to separate grass areas from shrubs, ground cover and mulch. (S)
F. Utilize porous paving materials for paths, plazas, etc., such as patio bricks, interlocking pavers, concrete stepping stones and/or sandstone and crusher fines. (G)

G. Plant perennial flowerbeds in visible areas such as pedestrian plazas, building entries. (S)

H. Mulching:
   1. All planting beds should be mulched with wood or decorative rock to stabilize soils, control erosion, and conserve water use. (S)
   2. Where rock mulch is used, a minimum of 1 shrub per 25 square feet of mulch shall be provided except as required by an soils engineering report when used adjacent to a building foundation. (S)
   3. Rock mulch shall be varied in size and coloration. (S)
      i. Rock mulch size is restricted to the 1- to 3-inch range. (S)
      ii. Rock mulch shall only consist of river rock, crushed granite and/or Colorado sandstone varieties. (S)

I. Use landscape or weed barrier fabric within all shrub beds and mulched areas to control weeds. (S)

J. Deciduous to evergreen shrub ratio should approach 3:1 unless reduced by exceptional screening requirements. (G)

K. All Landscape Plans should be prepared by a qualified Landscape Architect. (S)

5.7 Planting Size Standards

Policy:

An immediate landscape impact is desired within all industrial developments, and to facilitate this, minimum plant-size standards are required. Larger sizes are encouraged.

Standards and Guidelines:

A. Provide landscaping according to the following minimum sizes*: (S)

Deciduous shade/canopy trees	2.5" caliper
Ornamental trees	2.0" caliper
Evergreen trees	6'-8' height (minimum 25% must be 8')
Multi-Stem Ornamentals	8'-10' height
Shrubs	5 gallon container
Vines	1 gallon container
Ground Cover/Perennials	2 ¼" pots

*Caliper measured by ANSI standard Z60.1.

5.8 Landscape Maintenance and Replacement

Policy:

The property owner is responsible for providing, protecting and maintaining all landscaping in a healthy and growing condition.

Standards and Guidelines:

The following requirements shall be noted on the PUD landscape plan:

A. The property owner shall remove and replace dead or diseased plant materials immediately with the same type, size and quantity of plant material as originally installed. (S)
B. Avoid replacing landscape materials during the dry winter months between December and February and in mid-summer. (G)
C. Contact the Planning Division for specific time requirements for landscape material replacement. (G)
D. Landscape materials located in the public right-of-way are to be maintained by the abutting property owner. (S)

5.9 Site Furniture and Features

Policy:

Site furnishings include benches, waste receptacles, planters, railings and bollards. Visual consistency of these elements is desired throughout each development. All components of outdoor site furniture should be low maintenance, highly durable and resistant to vandalism and theft.

6. FENCES & WALLS

Goal:

Fences and walls should be decorative and contribute to the visual quality of the profect and the overall development. Walls, fences, and landscape materials shall be used to screen service areas, loading areas, and outdoor storage areas. When not required for security, screening, or grade transitions, the size of walls and fences should be minimized. When required, however, fencing should be as inconspicuous as possible and walls should be low.

6.1 Wall and Fence Design and Materials

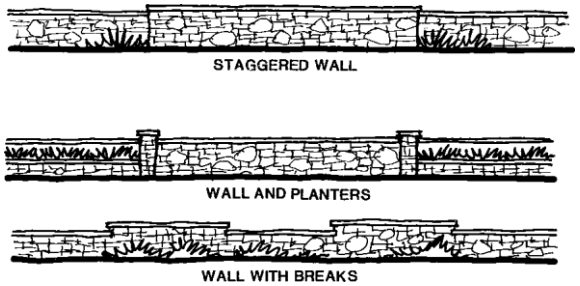
Policy:

Fencing and walls shall be constructed of materials that are compatible with the adjacent building architecture and their appearance softened with landscape materials.

Standards and Guidelines:

A. Avoid using retaining walls in excess of 30-inches in height (G). Where taller retaining walls are required, provide safety protection in the form of railings, fences or hedges, or create a terrace with two (2) shorter walls. (S)
B. Incorporate architectural treatment on both sides of perimeter walls. (S)
C. Provide landscaping in combination with walls and fences to soften their appearances. (G)
D. Chain-link fencing with or without wood slatting is not an acceptable screen material. (S)
E. Break up long expanses of fences or walls, with periodic columns, insets, landscape pockets or changes in materials. (S)
F. Construct walls and fences from durable materials such as stone, brick, or metal with dark finishes (wrought iron or similar), or a combination of these materials. (G)
    1. Wood fences are discouraged, however, if authorized, the following features must be included:
        i. Fence shall be stained. (S)

6.1.A - AVOID RETAINING WALLS IN EXCESS OF 30"



6.1.E

ii. Must include piers and/or pilasters a maximum distance of 15-feet on center that are faced with brick, stone or other appropriate heavy material. (S)
iii. The fence shall include a cap element. (S)

G. Concrete walls are permitted if faced with masonry or stone, or if the surface is scored or textured. (G)
H. Fence or wall runs greater than 50 linear feet shall be articulated with architectural offsets and incorporate landscape pockets. (S)
I. Bring berms up to the outside of a screening wall or reduce the grade on the inside to minimize its visibility. (G)

6.2.A - SCREEN LOADING AND SERVICE AREAS FROM STREET VIEW

6.2 Screening Requirements

Policy:

A project must include adequate screening of meters, transformers, storage and loading and service areas.

Standards and Guidelines:

A. Where located within a side yard, or visible from street view, screen loading docks and service areas with a minimum of 6-feet high screen wall constructed of the same materials and finishes as the main building. (S)
B. All authorized outside storage shall be screened using fencing, walls and/or landscape materials. (S)
C. Screen all utility equipment, including auxiliary power generators, from view with fencing, walls, and/or landscaping. (S)

7. SIGN DESIGN

Goal:
Signs should be consistent with overall project design but should be subordinate to architectural and landscape elements. Signs serve to identify, inform, direct, regulate and interpret. Each industrial building or group of industrial buildings should have a consistent and comprehensive sign program from project identification at the street through individual tenant suite identity. Placement, scale, and readability should be considered in developing a sign package.

TYPICAL MONUMENT SIGN

7.1 Sign Materials

Policy:
Design and construct signs of durable, high quality architectural materials.

Standards and Guidelines:

A. The sign package must utilize materials, colors, and designs that are compatible with the associated structures. (S)
B. Sign materials must be of proven durability. (S)

TYPICAL MONUMENT SIGN

7.2 Sign Number and Area

Policy:
The size of signs should be modest and afford businesses sufficient visibility and identification without becoming a dominant part of the landscape or interfering with vehicular movement along the public streets.

Standards and Guidelines:

A. Number of Signs
    1. The maximum number of flush-mounted signs allowed for freestanding buildings is one per individual tenant building frontage, not to exceed one sign per tenant, nor to exceed one per public entry door. Small informational signs not exceeding 5 square feet in area and 6-feet in height are permitted on rear man and loading door entrances. (S)
    2. One freestanding, ground-mounted,

TYPICAL MONUMENT SIGN

double-faced sign is permitted for each freestanding building. (S)
   i. Where a freestanding office building contains multiple tenants, or multiple accesses off a public right of way, an increase in the number of freestanding ground mounted signs may be permitted through the planned unit development plan process. (G)
3. Window signage is limited to the individual tenant name only. (S)

B. Area of Signs
1. Surface-mounted signs shall not exceed 15 square feet of surface area each, nor exceed 80 square feet total per building. (S)
2. Freestanding, ground-mounted signs shall not exceed 25 square feet per face. (S)
3. Window signage not exceeding 10 percent of the area of the window in which it is located is permitted. (S)

C. Character Height
1. Individual tenant sign characters shall not exceed 18-inches in height regardless of area. (S)
2. If a single building is occupied by a single tenant, the maximum character size may be increased to 24-inches, however, the building is then restricted to one sign per public street frontage. (S)
3. Regardless of area, character heights shall be uniform for each project. (S)

D. Sign Height
1. Monument signs shall not exceed 6-feet in height. (S)
2. Surface-mounted signs should be mounted at a height that helps identify tenant entries. (G) Surface-mounted signs shall not exceed 25-feet in height from grade immediately below the sign. (S)

TYPICAL MONUMENT SIGN


7.2.C.2 - SINGLE TENANT SIGN

7.3 Location/Placement/Visibility

Policy:

Signs should be located to be visible from streets and paths without conflicting with safe vehicular movement and visibility.

Standards and Guidelines:

A. Signs should be sufficiently visible from public streets so that site entrances can be readily identified by both pedestrians and persons in vehicles. (G)
B. Locate monument signs in a planter setting within a landscaped area. (S)
C. Signs shall be set back a minimum of 10-feet from the right of way. (S)
D. Locate signs outside vision clearance areas and easements. (S) (see also 5.1.F.1)
E. Signs on roofs are not allowed. Signs shall not exceed the height of the roof parapet. (S)
F. Signs facing or visible to gateway arterial roadways and off-street multi-use paths are prohibited. (S)

7.4 Sign Illumination

Policy:

In industrial areas, sign illumination should serve to identify individual developments only.

Standards and Guidelines:

A. Monument signs may be illuminated with a maximum of one, ground-mounted 100-watt metal halide fixture per face. (S)
B. Building mounted signs may not be illuminated either directly or indirectly. (S)
C. When external light sources are directed at the sign surface, conceal the light source from the 'lines of sight' of pedestrians and motorists. (S)
D. Window signage shall not be illuminated. (S)
E. Visible neon tubing is not allowed as a method of sign illumination nor shall it be used as an architectural treatment. (S)

7.5 Allowable Sign Types

Policy:

The type of sign used should reinforce the urban environment of industrial developments. Signs should be designed as a 'family', incorporating similar, compatible materials that reinforce the design and style of the project architecture. The following standards and guidelines apply with regard to the listed sign types.

Standards and Guidelines:

A. Monument Signs
   1. Project monument signs, if authorized, may be located at the street or primary entries to industrial developments to provide for overall project identity. (G) Such signs should contain the name of the project that it identifies or the building street number and may include the names of individual tenants, but shall not contain change panels or advertising. (S)
   2. Affix monument signs to the ground in a continuous connection. (S)
   3. All monument signs shall provide the address and street of the building served, with minimum 3-inch text. (S)
   4. For flexible space projects containing multiple tenants, project identity signage requires additional variables that must be considered. Conceptual designs for signs serving these types of facilities must be submitted to the Planning Department. (S)

B. Surface-mounted Signs on Buildings
   1. For multi-tenant buildings, locate wall-mounted signs at the first floor level only. (S) Wall signs shall identify the individual business, building or building complex by name or trademark only. (S)
   2. Wall-mounted signs may not project more than 8-inches from the face of the building and external raceways are not permitted. (S)

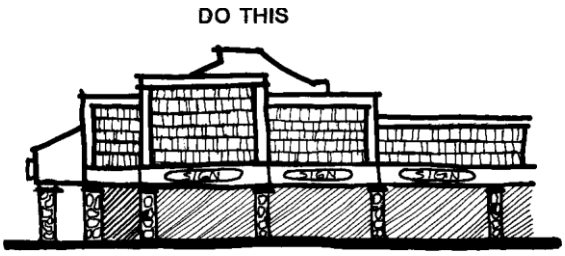
C. Projecting Signs
   1. Projecting signs are not permitted. (S)

D. Pole-mounted Signs
   1. Pole-mounted signs are allowed only as traffic regulation signs or to provide appropriate directions to loading and receiving areas, visitor parking, and other areas within each development site. (S)
   2. Pole-mounted signs shall not exceed 4 square feet in area and 6-feet in height measured from grade. (S)

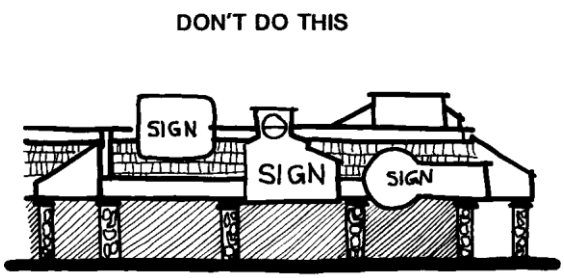
E. Flashing or moving signs are not permitted. (S)

TYPICAL WALL SIGN DESIGN AND LOCATION

TYPICAL WALL SIGN DESIGN AND LOCATION



EMPLOY A CONSISTENT SIGN PATTERN



INCONSISTENT SIGN PATTERNS CREATE CONFUSION. SIGNS WITHIN OR ABOVE ROOF AREA ARE PROHIBITED

8. EXTERIOR SITE LIGHTING

Goal:

Exterior lighting should be used to provide illumination for the security and safety of entry drives, parking, service and loading areas, pathways, courtyards and plazas, without intruding on adjacent properties. Site lighting shall be architecturally compatible and consistent in design between sites.

8.1 Fixture Design

Policy:

Exterior light fixtures should be compatible and relate to the architectural character of the buildings on a site. Site lighting should be provided at the minimum level to accommodate safe pedestrian and vehicle movements, without causing any off-site glare.

Standards and Guidelines:

A. Poles and fixtures should be designed to be architecturally compatible with structures and lighting on adjacent properties. (G)
B. Poles and fixtures shall be compatible with all other fixtures on site. (S)
C. Illuminate all intersections with perimeter public roads with similar poles and fixtures used internal to the development. (G)
D. Select and locate all lighting fixtures to shield or confine light spread within a site's boundaries. (S)
E. To facilitate security, specify lighting levels that are adequate for visibility, but not overly bright. All building entrances should be well-illuminated. (G)
F. Use metal halide or other white light fixtures. High-pressure sodium is not allowed in any application. (S)
G. Maximum height of all poles within landscaped and plaza areas is 20-feet, measured from grade. Pole pedestals (bases) are limited to a minmum of eight-inches in height. (S)
H. Decorative light fixtures, which are appropriately shielded, and provide visual interest, are allowed. (G)

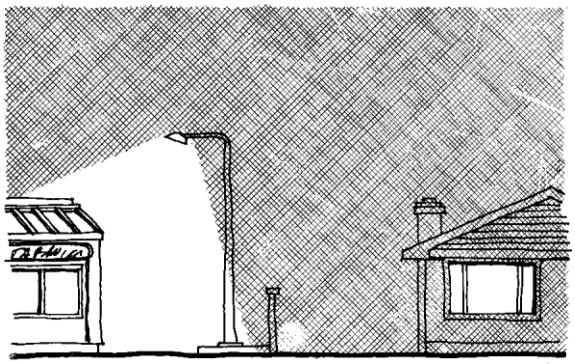
8.2 Parking Lot Lighting

Policy:

Parking lot lighting should be unobtrusive and provide safe light for orderly functions.

Standards and Guidelines:

A. Make all parking lot light fixtures similar in design for all surface parking areas. (S)
B. Select lighting with a concealed light source of the 'cut-off' variety to prevent glare and 'light trespass' onto adjacent buildings and sites. (S)
C. Provide separate, pedestrian scale lighting for all pedestrian ways through parking lots. (G)
D. Maximum height of parking lot poles is 24-feet measured from finish grade. (S)
E. Locate poles in medians wherever possible with a maximum base height of 2-feet. (G)
F. 'Wall packs' are permitted only in loading and service areas, and shall be down-lit and fully shielded from view. (S)



SELECT AND LOCATE LIGHT FIXTURES TO CONFINE LIGHT SPREAD

8.3 Pedestrian Area Lighting

Policy:

Walkway lighting should be scaled to the pedestrian and should provide for safe use of pathways and pedestrian areas. Walks should be lighted for the safe passage of pedestrians, as should areas that are dangerous if unlit, such as stairs, ramps, intersections, and underpasses.

Standards and Guidelines:

A. Bollard light fixtures or other low-level fixtures are encouraged to identify pedestrian walkways and drop-off areas at entrances to buildings. (G)
B. Emphasize pedestrian-to-vehicle intersections with low-level decorative streetlights. (G)
C. Illuminate all primary walkways, steps or ramps along pedestrian routes. (G)
D. Incandescent or metal halide lamps are strongly encouraged. (G)
E. Use building mounted fixtures for walkways and plazas near buildings. (G)

8.4 Site Security Lighting

Policy:
Security lighting may be necessary on some sites, but it should not negatively impact the site and building architecture or adjacent parcels.

Standards and Guidelines:

A. No light source (bulb) shall be directly visible from adjacent parcels. (S)
B. Provide only as much light/illumination as necessary to provide safety and security of the area. (G)

8.5 Light Intensity

Policy:
The light intensity levels within all areas should correspond to use and potential hazards.

Standards and Guidelines:

A. A photometric lighting plan is required for all proposed industrial developments to ensure adequate and appropriate light levels are provided for each site condition. (S)
B. The following levels of illumination should be maintained for each of the specific locations[1]: (G)

Building Entrances	5.0 footcandles	54 lumens/square meter
Sidewalks	2.0 footcandles	22 lumens/square meter
Bikeways	1.0 footcandles	11 lumens/square meter
Courts/Plazas/Terraces	1.5 footcandles	16 lumens/square meter
Ramps	5.0 footcandles	54 lumens/square meter
Stairways	5.0 footcandles	54 lumens/square meter
Underpasses	5.0 footcandles	54 lumens/square meter
Waiting Areas	1.0 footcandles	11 lumens/square meter
Parking Lots	1.0 footcandles	11 lumens/square meter
Roadways	1.5 footcandles	16 lumens/square meter

[1] Values given area in minimum average maintained horizontal, footcandles (lumens/square meter) which are measured at the average point of illumination between brightest and darkest areas, 4'-5' above the ground surface. (Source: IES Lighting Handbook - 4th Edition).

[2] Metric conversion is provided for convenience only. Photometric plans must be submitted using imperial measurement values.

C. Site lighting should provide consistent levels of illumination, avoiding pockets of very high or low levels of illumination. (G)
D. Maximum 400-watt fixtures are permitted for parking lot pole lighting. (S)
E. Wall packs of a full cut-off and fully shielded design shall not exceed a maximum of 70-watts for man doors and 175-watts in loading areas. (S)

{END)

APPENDIX A
RECOMMENDED PLANT MATERIALS LIST

DECIDUOUS TREES

Common Name	Botanical Name	Water Requirement	Maintenance Requirement	Street Tree	Remarks
Norway Maple	(Acer platanoides) (3)	M	L	Yes	Good fall color (yellow)
Red Maple	(Acer rubrum)	M	L	Yes	Good (yellow to red) fall color
Wier's Cutleaf Maple	(Acer saccharinum 'Wier')	M	H	No	Very susceptible to snow storm breakage
Sugar Maple	(Acer saccharum)	H	L	Yes	
Ohio Buckeye	(Aesculus glabra)	M	L	Yes	Poisonous seeds, good fall color
Native Riverbirch	(Betula fontinalis)	H	L	No	
Western Catalpa	(Catalpa speciosa)	M	M	No	Fruits can be messy
Western Hackberry	(Celtis occidentalis)	M	L	Yes	
Autumn Purple Ash	(Fraxinus americana 'Autumn Purple')	M	L	Yes	Good fall color (yellow to red)
Green Ash	(Fraxinus pennsylvanica lanceolata) (3)	M	L	Yes	Good fall color (yellow)
Honeylocust	(Gleditsia triacanthos inermis) (3)	M	L	Yes	
Lanceleaf Cottonwood	(Populus acuminata) (1)	M	H	No	Best used in parks, open space, & riparian areas
Narrowleaf Cottonwood	(Populus angustifolia) (1)	M	H	No	Best used in parks, open space, & riparian areas
Siouxland Cottonwood	(Populus deltoides) (1)	M	H	No	Best used in parks, open space, & riparian areas
Plains Cottonwood	(Populus sargentii) (1)	M	H	No	Best used in parks, open space, & riparian areas
Bur Oak	(Quercus macrocarpa)	M	L	Yes	
Pin Oak	(Quercus palustris)	M	L	Yes	Good fall color (bronze to red)
English Oak	(Quercus robur)	M	L	Yes	Good fall color
Northern Red Oak	(Quercus rubra borealis)	M	L	Yes	
Peachleaf Willow	(Salix amygdaloides) (1)	H	H	No	Best used in parks, open space, & riparian areas
Weeping Willow	(Salix elegantissima) (1)	H	H	No	Best used in parks, open space, & riparian areas
Niobe Weeping Willow	(Salix x blanda 'Niobe') (1)	H	H	No	Best used in parks, open space, & riparian areas
American Linden	(Tilia americana)	M	L	Yes	
Little Leaf Linden	(Tilia cordata)	M	L	Yes	
Redmond Linden	(Tilia euchlora 'Redmond')	M	L	Yes	

ORNAMENTAL TREES

Common Name	Botanical Name	Water Requirement	Maintenance Requirement	Street Tree	Remarks
Amur Maple	(Acer ginnala)	M	L	NA	Good fall color (orange to red)
Shadblow Serviceberry	(Amelanchier canadensis)	M	L	NA	Nice fall color (yellow to red)
Eastern Redbud	(Cercis canadensis)	M - H	L	NA	Showy flowers
Cornelian Dogwood	(Cornus mas)	M	L	NA	Showy flowers
Thornless Cockspur Hawthorn	(Crataegus crus-galli inermis)	L	L	NA	Thornless, good fall color (orange to red)
Cockspur Hawthorn	(Crataegus crus-galli)	L	L	NA	Thorns, good fall color (orange to red)
Downy Hawthorn	(Crataegus mollis)	L	L	NA	
Golden Raintree	(Koelreuteria paniculata)	M	L	NA	Showy flowers
Flowering Crab	(Malus varieties) (3)	L - M	M	NA	
Wild Plum	(Prunus americana)	L	M	NA	Suckers
Newport Purple Plum	(Prunus cerasifera 'Newport')	M	L	NA	Red-purple foliage
Shubert Chokecherry	(Prunus virginiana)	M	L	NA	Red-purple foliage
Bradford Pear	(Pyrus calleryana 'Bradford')	M	M	NA	Not too hearty in this region, showy flowers
Ussurian Pear	(Pyrus ussuriensis)	M	L	NA	Showy flowers
Peking Lilac	(Syringa pekinesis)	M	L	NA	Showy flowers
Japanese Tree Lilac	(Syringa reticulata)	L - M	L	NA	Showy flowers, good fall color (yellow)
Washington Hawthorn	Crataegus phaenopyrum)	M	L	NA	Good fall color, red

DECIDUOUS SHRUBS

Common Name	Botanical Name	Water Requirement	Maintenance Requirement	Street Tree	Remarks
Thin Leaf Alder	(Alnus tenuifolia)	M	L	NA	Nice fall color (yellow)
Serviceberry	(Amelanchier alnifolia)	L	L	NA	Nice fall color
Chokeberry	(Aronia melanocarpa)	H	M	NA	Suckers, good fall color (red)
Sagebrush	(Artemisia) (3)	L	L	NA	
Four Wing Saltbush	(Atriplex canescens)	L	M	NA	
Korean Barberry	(Berberis koreana)	M	M	NA	Thorns
Mentor Barberry	(Berberis mentorensis)	M	M	NA	Thorns, good fall color (yellow to red)
Redleaf Japanese Barberry	(Berberis thunbergii atropurpurea)	M	M	NA	Thorns
Green Japanese Barberry	(Berberis thunbergii)	M	M	NA	Thorns
Blue Mist Spirea	(Caryopteris x clandonensis)	L	L	NA	
Curlleaf Mountain Mahogany	(Cercocarpus ledifolius)	L	M	NA	
Mountain Mahogany	(Cercocarpus montanus)	L	M	NA	
Quince	(Chaenomeies spp.)	M	M	NA	Showy flowers
Rabbit Brush	(Chrysothamnus nauseousus)	L	M	NA	
Variegated Dogwood	(Cornus alba bariegata)	M - H	M	NA	
Colorado Redosier Dogwood	(Cornus sericea coloradense) (3)	M - H	M	NA	Colored twigs provide nice winter color
Yellowtwig Dogwood	(Cornus sericea flaviramea) (3)	M - H	M	NA	Colored twigs provide nice winter color
Kelsey Dwarf Dogwood	(Cornus sericea kelseyi)	M	M	NA	
Redtwig Dogwood	(Cornus stolonifera)	M - H	M	NA	Colored twigs provide nice winter color
Cranberry Cotoneaster	(Cotoneaster apiculata)	M	M	NA	
Spreading Cotoneaster	(Cotoneaster divaricata)	M	M	NA	
Rock Cotoneaster	(Cotoneaster horizontalis)	M	M	NA	
Silverberry	(Eleagnus commutata)	M	M	NA	
Burning Bush	(Euonymus alata) (3)	M	M	NA	Nice fall color (red)
New Mexico Privet	(Forestiera neomexicana)	M	M	NA	
Forsythia	(Forsythia intermedia)	M	M	NA	Showy flowers
Honeysuckle	(Lonicera) (3)	M	M	NA	
Mockorange	(Philadelphus) (3)	L - M	M	NA	
Mountain Ninebark	(Physocarpus monogynus)	M	M	NA	
Potentilla	(Potentilla fruticosa) (3)	M	M	NA	Showy flowers
Sandcherry	(Prunus besseyi)	M	M	NA	
Cistena Plum	(Prunus cistena)	M	M	NA	
Native Chokecherry	(Prunus virginiana melanocarpa)	L - M	M	NA	
Scrub Oak	(Quercus gambelii)	L	L	NA	

Tallhedge Buckthorn	(Rhamnus frangula columnaris)	M	M	NA	
Smooth Sumac	(Rhus glabra)	L	M	NA	Nice fall color (orange to red)
Threeleaf Sumac	(Rhus trilobata)	L	M	NA	Nice fall color (orange to red)
Staghorn Sumac	(Rhus typhina)	L	M	NA	
Alpine Currant	(Ribes alpinum)	L - M	M	NA	
Golden Currant	(Ribes aureum)	L - M	M	NA	
Rose	(Rosa) (3)	L - M	M	NA	
Coyote Willow	(Salix exigua)	M - H	M - H	NA	Best in moist areas
Bluestem Willow	(Salix irrorata)	M - H	M - H	NA	
Dwarf Willow	(Salix purpurea nana)	M - H	M - H	NA	
Arctic Willow	(Salix purpurea)	M - H	M - H	NA	
Elder	(Sambucus canadensis)	M - H	M	NA	
Buffaloberry	(Shepherdia argentea)	L	M	NA	
Spiraea	(Spiraea) (3)	M	M	NA	
Snowberry	(Symphoricarpos albus)	M	M	NA	
Lilac	(Syringa) (3)	M	M	NA	
Viburnum	(Viburnum) (3)	L - M	M	NA	Nice fall color (varies)
Privet	(Vulgare) (3)	M	M	NA	

EVERGREEN TRE (2)

Common Name	Botanical Name	Water Requirement	Maintenance Requirement	Street Tree	Remarks
White Fir	(Abies concolor)	M - H	L	No	
Oneseed Juniper	(Juniperus monosperma)	L	L	No	
Rocky Mountain Juniper	(Juniperus scopulorum 'Varieties')	L - M	L	No	
Red Cedar	(Juniperus virginiana 'Varieties')	M	L	No	
Black Hills Spruce	(Picea glauca densata)	M - H	L	No	
Colorado Blue Spruce	(Picea pungens 'Glauca')	M - H	L	No	
Colorado Green Spruce	(Picea pungens)	M	L	No	
Bristlecone Pine	(Pinus aristata)	L - M	L	No	
Pinon Pine	(Pinus edulis)	L - M	L	No	
Limber Pine	(Pinus flexilis)	L - M	L	No	
Swiss Mountain Pine	(Pinus mugo)	L - M	L	No	
Austrian Pine	(Pinus nigra)	L - M	L	No	
Ponderosa Pine	(Pinus ponderosa)	L	L	No	
Southwestern White Pine	(Pinus strobiformus)	L - M	L	No	
Scotch Pine	(Pinus sylvestris)	L - M	L	No	
Douglas Fir	(Pseudotsuga menziesii 'Taxifolia')	M	L	No	

EVERGREEN SHRUBS

Common Name	Botanical Name	Water Requirement	Maintenance Requirement	Street Tree	Remarks
Euonymus Sarcoxie	(Euonymus fortunei 'Sarcoxie')	M	M	NA	
Bigleaf Wintercreeper	(Euonymus fortunei vegeta)	M	M	NA	
Euonymus Manhattan	(Euonymus kiautschovicus 'Manhattan')	M	M	NA	
Juniper	(Juniperus sp.) (3)	L - M	L	NA	
Oregongrape	(Mahonia aquifolium)	M	M	NA	Nice fall colors (red to purple)
Creeping Hollygrape	(Mahonia repens)	M	M	NA	Nice fall/winter colors (red to purple)
Gnome Firethorn	(Pyracantha angustifolia 'Gnome')	M	M	NA	
Firethorn	(Pyracantha coccinea) (3)	M	M	NA	
Yew	(Taxus x media 'Hicksii')				

PERENNIALS, GROUND COVERS, AND ORNAMENTAL GRASSES

Due to the large quantity, variety, and changing availability of these plants, please consult your local nursery (preferably a C.N.A. Member). Height, color, texture, moisture, light requirement, and heartiness need to be considered when specifying these plants. Most local nurseries provide a yearly catalog of available plants and their descriptions.

Notes:

1. These plants are not recommended to be planted within 10' of any foundation, curb, road, walkway, or other site structure that may be damaged by their vigorous/shallow root systems.
2. Mature size of all evergreen trees must be considered when determining location for planting. They are not recommended within 8' of any roadway, walkway, entrance, or window as they will eventually obstruct passage or view. Evergreen trees shall not be placed within roadway site triangles. During winter, icy conditions often occur on the north side of evergreen trees. This must be considered for their placement.
3. These plants have numerous different species, varieties and/or cultivars. Consult a local nursery for current availability and proper selection.

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An Act

SENATE BILL 24-005

BY SENATOR(S) Roberts and Simpson, Bridges, Hinrichsen, Buckner, Cutter, Exum, Fields, Jaquez Lewis, Marchman, Michaelson Jenet, Priola, Winter F., Fenberg;
also REPRESENTATIVE(S) McCormick and McLachlan, Amabile, Bacon, Bird, Boesenecker, Brown, Daugherty, deGruy Kennedy, Duran, Epps, Froelich, Garcia, Herod, Jodeh, Joseph, Kipp, Lieder, Lindsay, Lukens, Mabrey, Martinez, Marvin, Mauro, Ortiz, Parenti, Rutinel, Sirota, Snyder, Story, Titone, Valdez, Velasco, Weissman, Willford, McCluskie.

CONCERNING THE CONSERVATION OF WATER IN THE STATE THROUGH THE PROHIBITION OF CERTAIN LANDSCAPING PRACTICES.

Be it enacted by the General Assembly of the State of Colorado:

SECTION 1. In Colorado Revised Statutes, **add** article 99 to title 37 as follows:

ARTICLE 99
Prohibition of Nonfunctional Turf, Artificial Turf, and Invasive Plant Species

37-99-101. Legislative declaration. (1) THE GENERAL ASSEMBLY

Capital letters or bold & italic numbers indicate new material added to existing law; dashes through words or numbers indicate deletions from existing law and such material is not part of the act.

FINDS THAT:

(a) AS COLORADO CONTINUES TO GRAPPLE WITH THE IMPACTS OF CLIMATE CHANGE, GREEN URBAN SPACES, SUCH AS URBAN TREE CANOPIES, ARE A VITAL ADAPTATION TOOL FOR MITIGATING THE IMPACTS OF CLIMATE CHANGE, ESPECIALLY FOR MITIGATING THE URBAN HEAT ISLAND EFFECT, WHICH CAN INCREASE ENERGY COSTS, AIR POLLUTION, AND HEAT-RELATED ILLNESSES AND DEATHS;

(b) HOWEVER, WATER SUPPLY IN THE WESTERN UNITED STATES IS UNDER INCREASING PRESSURE DUE TO CLIMATE CHANGE AND INCREASING DEMAND;

(c) MANY COMMUNITIES IN THE STATE OVERUSE NONNATIVE GRASS FOR LANDSCAPING PURPOSES, WHICH REQUIRES LARGE AMOUNTS OF WATER TO MAINTAIN;

(d) WHILE THERE ARE APPROPRIATE AND IMPORTANT USES FOR TURF, INCLUDING FOR CIVIC, COMMUNITY, OR RECREATIONAL PURPOSES SUCH AS USE IN PARKS, SPORTS FIELDS, AND PLAYGROUNDS, MUCH OF THE TURF IN THE STATE IS NONFUNCTIONAL, LOCATED IN AREAS THAT RECEIVE LITTLE, IF ANY, USE, AND COULD BE REPLACED WITH LANDSCAPING THAT ADHERES TO WATER-WISE LANDSCAPING PRINCIPLES WITHOUT ADVERSELY IMPACTING QUALITY OF LIFE OR LANDSCAPE FUNCTIONALITY;

(e) PROHIBITING THE INSTALLATION, PLANTING, OR PLACEMENT OF NONFUNCTIONAL TURF IN APPLICABLE PROPERTY IN THE STATE CAN HELP CONSERVE THE STATE'S WATER RESOURCES;

(f) INSTALLED VEGETATION THAT ADHERES TO WATER-WISE LANDSCAPING PRINCIPLES CAN HELP REDUCE OUTDOOR DEMAND OF WATER; AND

(g) ADDITIONALLY, ARTIFICIAL TURF CAN CAUSE NEGATIVE ENVIRONMENTAL IMPACTS, SUCH AS EXACERBATING HEAT ISLAND EFFECTS IN URBAN AREAS AND RELEASING HARMFUL CHEMICALS, INCLUDING PLASTICS, MICROPLASTICS, AND PERFLUOROALKYL AND POLYFLUOROALKYL CHEMICALS, INTO THE ENVIRONMENT AND WATERSHEDS.

(2) THE GENERAL ASSEMBLY THEREFORE DECLARES THAT

PREVENTING THE INSTALLATION, PLANTING, OR PLACEMENT OF NONFUNCTIONAL TURF, ARTIFICIAL TURF, AND INVASIVE PLANT SPECIES IN APPLICABLE PROPERTY IN THE STATE IS:

(a) A MATTER OF STATEWIDE CONCERN; AND

(b) IN THE PUBLIC INTEREST.

37-99-102. Definitions. AS USED IN THIS ARTICLE 99, UNLESS THE CONTEXT OTHERWISE REQUIRES:

(1) (a) "APPLICABLE PROPERTY" MEANS:

(I) COMMERCIAL, INSTITUTIONAL, OR INDUSTRIAL PROPERTY;

(II) COMMON INTEREST COMMUNITY PROPERTY; OR

(III) A STREET RIGHT-OF-WAY, PARKING LOT, MEDIAN, OR TRANSPORTATION CORRIDOR.

(b) "APPLICABLE PROPERTY" DOES NOT INCLUDE RESIDENTIAL PROPERTY.

(2) "ARTIFICIAL TURF" MEANS AN INSTALLATION OF SYNTHETIC MATERIALS DEVELOPED TO RESEMBLE NATURAL GRASS.

(3) "COMMERCIAL, INSTITUTIONAL, OR INDUSTRIAL" HAS THE MEANING SET FORTH IN SECTION 37-60-135 (2)(b).

(4) "COMMON INTEREST COMMUNITY" HAS THE MEANING SET FORTH IN SECTION 38-33.3-103 (8).

(5) "COMMON INTEREST COMMUNITY PROPERTY" MEANS PROPERTY WITHIN A COMMON INTEREST COMMUNITY THAT IS OWNED AND MAINTAINED BY A UNIT OWNERS' ASSOCIATION, SUCH AS ENTRYWAYS, PARKS, AND OTHER COMMON ELEMENTS AS DEFINED IN SECTION 38-33.3-103 (5).

(6) "DEPARTMENT" MEANS THE DEPARTMENT OF PERSONNEL CREATED IN SECTION 24-1-128 (1).

(7) "FUNCTIONAL TURF" MEANS TURF THAT IS LOCATED IN A RECREATIONAL USE AREA OR OTHER SPACE THAT IS REGULARLY USED FOR CIVIC, COMMUNITY, OR RECREATIONAL PURPOSES, WHICH MAY INCLUDE PLAYGROUNDS; SPORTS FIELDS; PICNIC GROUNDS; AMPHITHEATERS; PORTIONS OF PARKS; AND THE PLAYING AREAS OF GOLF COURSES, SUCH AS DRIVING RANGES, CHIPPING AND PUTTING GREENS, TEE BOXES, GREENS, FAIRWAYS, AND ROUGHS.

(8) "INVASIVE PLANT SPECIES" HAS THE MEANING SET FORTH IN SECTION 37-60-135 (2)(e).

(9) "LOCAL ENTITY" MEANS A:

(a) HOME RULE OR STATUTORY CITY, COUNTY, CITY AND COUNTY, TERRITORIAL CHARTER CITY, OR TOWN;

(b) SPECIAL DISTRICT; AND

(c) METROPOLITAN DISTRICT.

(10) "MAINTAIN" OR "MAINTAINING" MEANS AN ACTION TO PRESERVE THE EXISTING STATE OF NONFUNCTIONAL TURF, ARTIFICIAL TURF, OR AN INVASIVE PLANT SPECIES THAT HAS ALREADY BEEN INSTALLED, PLANTED, OR PLACED.

(11) "NATIVE PLANT" MEANS A PLANT SPECIES THAT IS INDIGENOUS TO THE STATE OF COLORADO.

(12) "NEW DEVELOPMENT PROJECT" MEANS A NEW CONSTRUCTION PROJECT THAT REQUIRES A BUILDING OR LANDSCAPING PERMIT, PLAN CHECK, OR DESIGN REVIEW.

(13) (a) "NONFUNCTIONAL TURF" MEANS TURF THAT IS NOT FUNCTIONAL TURF.

(b) "NONFUNCTIONAL TURF" INCLUDES TURF LOCATED IN A STREET RIGHT-OF-WAY, PARKING LOT, MEDIAN, OR TRANSPORTATION CORRIDOR.

(c) "NONFUNCTIONAL TURF" DOES NOT INCLUDE TURF THAT IS DESIGNATED TO BE PART OF A WATER QUALITY TREATMENT SOLUTION

REQUIRED FOR COMPLIANCE WITH FEDERAL, STATE, OR LOCAL AGENCY WATER QUALITY PERMITTING REQUIREMENTS THAT IS NOT IRRIGATED AND DOES NOT HAVE HERBICIDES APPLIED.

(14) "REDEVELOPMENT PROJECT" MEANS A CONSTRUCTION PROJECT THAT:

(a) REQUIRES A BUILDING OR LANDSCAPING PERMIT, PLAN CHECK, OR DESIGN REVIEW; AND

(b) RESULTS IN A DISTURBANCE OF MORE THAN FIFTY PERCENT OF THE AGGREGATE LANDSCAPE AREA.

(15) "SPECIAL DISTRICT" HAS THE MEANING SET FORTH IN SECTION 32-1-103 (20).

(16) "TRANSPORTATION CORRIDOR" MEANS A TRANSPORTATION SYSTEM THAT INCLUDES ALL MODES AND FACILITIES WITHIN A DESCRIBED GEOGRAPHIC AREA, HAVING LENGTH AND WIDTH.

(17) "TURF" HAS THE MEANING SET FORTH IN SECTION 37-60-135 (2)(i).

(18) "UNIT OWNERS' ASSOCIATION" HAS THE MEANING SET FORTH IN SECTION 38-33.3-103 (3).

(19) "WATER-WISE LANDSCAPING" HAS THE MEANING SET FORTH IN SECTION 37-60-135 (2)(l).

37-99-103. Prohibition of nonfunctional turf, artificial turf, and invasive plant species - local entities - construction or renovation of state facilities. (1) ON AND AFTER JANUARY 1, 2026, A LOCAL ENTITY SHALL NOT INSTALL, PLANT, OR PLACE, OR ALLOW ANY PERSON TO INSTALL, PLANT, OR PLACE, ANY NONFUNCTIONAL TURF, ARTIFICIAL TURF, OR INVASIVE PLANT SPECIES, AS PART OF A NEW DEVELOPMENT PROJECT OR REDEVELOPMENT PROJECT, ON ANY PORTION OF APPLICABLE PROPERTY WITHIN THE LOCAL ENTITY'S JURISDICTION.

(2) ON OR BEFORE JANUARY 1, 2026, A LOCAL ENTITY SHALL ENACT OR AMEND ORDINANCES, RESOLUTIONS, REGULATIONS, OR OTHER LAWS

REGULATING NEW DEVELOPMENT PROJECTS AND REDEVELOPMENT PROJECTS ON APPLICABLE PROPERTY IN ACCORDANCE WITH THE REQUIREMENTS OF THIS SECTION.

(3) THE DEPARTMENT SHALL NOT INSTALL, PLANT, OR PLACE, OR ALLOW ANY PERSON TO INSTALL, PLANT, OR PLACE, ANY NONFUNCTIONAL TURF, ARTIFICIAL TURF, OR INVASIVE PLANT SPECIES AS PART OF A PROJECT FOR THE CONSTRUCTION OR RENOVATION OF A STATE FACILITY, WHICH PROJECT DESIGN COMMENCES ON OR AFTER JANUARY 1, 2025.

(4) NOTHING IN THIS SECTION PROHIBITS:

(a) A LOCAL ENTITY FROM MAINTAINING, OR ALLOWING ANY PERSON TO MAINTAIN, ANY NONFUNCTIONAL TURF, ARTIFICIAL TURF, OR INVASIVE PLANT SPECIES INSTALLED, PLANTED, OR PLACED BEFORE JANUARY 1, 2026;

(b) THE DEPARTMENT FROM MAINTAINING, OR ALLOWING ANY PERSON TO MAINTAIN, ANY NONFUNCTIONAL TURF, ARTIFICIAL TURF, OR INVASIVE PLANT SPECIES INSTALLED, PLANTED, OR PLACED AT A STATE FACILITY BEFORE JANUARY 1, 2025;

(c) A LOCAL ENTITY OR THE DEPARTMENT FROM INSTALLING, OR ALLOWING ANY PERSON TO INSTALL, GRASS SEED OR SOD THAT IS A NATIVE PLANT OR HAS BEEN HYBRIDIZED FOR ARID CONDITIONS;

(d) A LOCAL ENTITY OR THE DEPARTMENT FROM ESTABLISHING PROHIBITIONS ON, OR REQUIREMENTS FOR, NONFUNCTIONAL TURF, ARTIFICIAL TURF, OR INVASIVE PLANT SPECIES THAT ARE MORE STRINGENT THAN THE REQUIREMENTS OF THIS SECTION; OR

(e) A LOCAL ENTITY OR THE DEPARTMENT FROM INSTALLING, OR ALLOWING ANY PERSON TO INSTALL, ARTIFICIAL TURF ON ATHLETIC FIELDS OF PLAY.

SECTION 2. Act subject to petition - effective date - applicability. (1) This act takes effect at 12:01 a.m. on the day following the expiration of the ninety-day period after final adjournment of the general assembly; except that, if a referendum petition is filed pursuant to section 1 (3) of article V of the state constitution against this act or an item, section, or part of this act within such period, then the act, item, section, or

part will not take effect unless approved by the people at the general election to be held in November 2024 and, in such case, will take effect on the date of the official declaration of the vote thereon by the governor.

(2) This act does not apply to projects approved by the department of personnel or a local entity before the effective date of this act.

Steve Fenberg
PRESIDENT OF
THE SENATE

Julie McCluskie
SPEAKER OF THE HOUSE
OF REPRESENTATIVES

Cindi L. Markwell
SECRETARY OF
THE SENATE

Robin Jones
CHIEF CLERK OF THE HOUSE
OF REPRESENTATIVES

APPROVED Friday March 15th 2024 at 2:15 pm
(Date and Time)

Jared S. Polis
GOVERNOR OF THE STATE OF COLORADO

An Act

HOUSE BILL 25-1113

BY REPRESENTATIVE(S) Smith and McCormick, Bacon, Boesenecker, Brown, Camacho, Duran, Froelich, Joseph, Lindsay, Martinez, Sirota, Stewart R., Titone, McCluskie;
also SENATOR(S) Roberts, Bridges, Cutter, Danielson, Daugherty, Hinrichsen, Jodeh, Kipp, Kolker, Marchman, Michaelson Jenet, Snyder, Wallace, Weissman, Winter F.

CONCERNING LIMITING THE USE OF CERTAIN LANDSCAPING PRACTICES IN NEW RESIDENTIAL DEVELOPMENT.

Be it enacted by the General Assembly of the State of Colorado:

SECTION 1. Legislative declaration. (1) The general assembly finds that:

(a) As Colorado continues to grapple with the impacts of climate change, green urban spaces, such as urban tree canopies, are a vital adaptation tool for mitigating the impacts of climate change, especially for mitigating the urban heat island effect, which can increase energy costs, air pollution, and heat-related illnesses and deaths;

(b) However, water supply in the western United States is

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increasingly scarce due to climate change and increasing demand;

(c) Many communities in the state overuse nonnative grass for landscaping purposes, which requires large amounts of water to maintain;

(d) While there are appropriate and important uses for turf, including for civic, community, or recreational purposes such as use in parks, sports fields, and playgrounds, much of the turf in the state is nonfunctional, located in areas that receive little, if any, use, and could be replaced with landscaping that adheres to water-wise landscaping principles without adversely impacting quality of life or landscape functionality;

(e) Prohibiting the installation, planting, or placement of nonfunctional turf in multifamily property in the state can help conserve the state's water resources;

(f) Requiring local governments to regulate turf in new residential properties can help preserve the limited water in our state;

(g) Many communities and developments develop in a water-wise manner already and are appreciated; and

(h) Installed vegetation that adheres to water-wise landscaping principles can help reduce outdoor demand for water while avoiding heat islands.

(2) The general assembly therefore declares that preventing the installation, planting, or placement of nonfunctional turf, artificial turf, and invasive plant species in applicable property in the state is:

(a) A matter of statewide concern; and

(b) In the public interest.

SECTION 2. In Colorado Revised Statutes, 37-99-102, **amend** (1)(a)(II), (1)(a)(III), (7), and (17); **repeal** (1)(b); and **add** (1)(a)(IV), (1.5), (6.5), (10.5), (12.5), (14.5), and (18.5) as follows:

37-99-102. Definitions. As used in this article 99, unless the context otherwise requires:

(1) (a) "Applicable property" means:

(II) Common interest community property; ~~or~~

(III) A street right-of-way, parking lot, median, or transportation corridor; OR

(IV) APPLICABLE RESIDENTIAL REAL PROPERTY.

(b) ~~"Applicable property" does not include residential property.~~

(1.5) "APPLICABLE RESIDENTIAL REAL PROPERTY" MEANS A MULTIFAMILY RESIDENTIAL HOUSING PREMISES PROPERTY THAT INCLUDES MORE THAN TWELVE DWELLING UNITS.

(6.5) "FUNCTIONAL ARTIFICIAL TURF" MEANS ARTIFICIAL TURF THAT IS:

(a) LOCATED IN A RECREATIONAL USE AREA OR OTHER SPACE THAT IS REGULARLY USED FOR CIVIC, COMMUNITY, OR RECREATIONAL PURPOSES, WHICH MAY INCLUDE A PLAYGROUND, A SPORTS FIELD, A PICNIC GROUND, AN AMPHITHEATER, A PORTION OF A PARK, AND THE PLAYING AREA OF A GOLF COURSE, SUCH AS A DRIVING RANGE, CHIPPING AND PUTTING GREEN, TEE BOX, GREEN, FAIRWAY, AND ROUGH; OR

(b) A COMPONENT OF A PRODUCT DESIGNED AND APPROVED BY A PROFESSIONAL ENGINEER FOR CIVIL INFRASTRUCTURE PROJECTS, INCLUDING BUT NOT LIMITED TO:

(I) COVERS FOR SOLID WASTE FACILITIES AND BROWNFIELD SITES; AND

(II) REVETMENTS FOR SLOPES, CHANNELS, LEVEES, AND DAMS.

(7) "Functional turf" means turf that is located in a recreational use area or other space that is regularly used for civic, community, or recreational purposes, which may include ~~playgrounds, sports fields, picnic grounds, amphitheaters, portions of parks, and the playing areas of golf courses, such as driving ranges, chipping and putting greens, tee boxes, greens, fairways, and roughs~~ A PLAYGROUND, A SPORTS FIELD, A PICNIC

GROUND, AN AMPHITHEATER, A PORTION OF A PARK, AND THE PLAYING AREA OF A GOLF COURSE, SUCH AS A DRIVING RANGE, CHIPPING AND PUTTING GREEN, TEE BOX, GREEN, FAIRWAY, AND ROUGH.

(10.5) "MULTIFAMILY RESIDENTIAL HOUSING PREMISES PROPERTY" MEANS COMMON INTEREST PROPERTY SUCH AS ENTRYWAYS, PARKS, AND OTHER COMMON ELEMENTS AS DEFINED IN SECTION 38-33.3-103 (5).

(12.5) "NONFUNCTIONAL ARTIFICIAL TURF" MEANS ARTIFICIAL TURF THAT IS NOT FUNCTIONAL ARTIFICIAL TURF.

(14.5) "RESIDENTIAL REAL PROPERTY" HAS THE MEANING SET FORTH IN SECTION 39-1-102 (14.5).

(17) "Turf" ~~has the meaning set forth in section 37-60-135 (2)(i)~~ MEANS CONTINUOUS PLANT COVERAGE CONSISTING OF NONNATIVE GRASSES OR GRASSES THAT HAVE NOT BEEN HYBRIDIZED FOR ARID CONDITIONS AND WHICH, WHEN REGULARLY MOWED, FORM A DENSE GROWTH OF LEAF BLADES AND ROOTS.

(18.5) "URBAN TREE" MEANS A PERENNIAL WOODY PLANT WITH A SINGLE OR MULTIPLE TRUNKS THAT SUPPORT A CANOPY OF BRANCHES AND LEAVES AND THAT PROVIDES ECOLOGICAL, SOCIAL, AND ECONOMIC BENEFITS WITHIN A BUILT ENVIRONMENT.

SECTION 3. In Colorado Revised Statutes, 37-99-103, **amend** (1), (3), (4)(a), (4)(b), (4)(d), and (4)(e); and **add** (4)(f) and (5) as follows:

37-99-103. Prohibition of nonfunctional turf, nonfunctional artificial turf, and invasive plant species - local entities - construction or renovation of state facilities. (1) On and after January 1, 2026, a local entity shall not install, plant, or place, or allow any person to install, plant, or place, any nonfunctional turf, NONFUNCTIONAL artificial turf, or invasive plant species, as part of a new development project or redevelopment project, on any portion of applicable property within the local entity's jurisdiction.

(3) The department shall not install, plant, or place, or allow any person to install, plant, or place, any nonfunctional turf, NONFUNCTIONAL artificial turf, or invasive plant species as part of a project for the

construction or renovation of a state facility, which project design commences on or after January 1, 2025.

(4) Nothing in this section prohibits:

(a) A local entity from maintaining, or allowing any person to maintain, any nonfunctional turf, NONFUNCTIONAL ARTIFICIAL TURF, artificial turf, or invasive plant species installed, planted, or placed before January 1, 2026;

(b) The department from maintaining, or allowing any person to maintain, any nonfunctional turf, NONFUNCTIONAL ARTIFICIAL TURF, artificial turf, or invasive plant species installed, planted, or placed at a state facility before January 1, 2025;

(d) A local entity or the department from establishing prohibitions on, or requirements for, nonfunctional turf, artificial turf, or invasive plant species that are more stringent than the requirements of this section; ~~or~~

(e) A local entity or the department from installing, or allowing ~~any~~ A person to install, artificial turf on athletic fields of play; OR

(f) A LOCAL ENTITY OR THE DEPARTMENT FROM INSTALLING OR PRESERVING URBAN TREES.

(5) (a) ON AND AFTER JANUARY 1, 2028, A LOCAL ENTITY SHALL NOT INSTALL, PLANT, OR PLACE, OR ALLOW A PERSON TO INSTALL, PLANT, OR PLACE, ANY NONFUNCTIONAL TURF, NONFUNCTIONAL ARTIFICIAL TURF, OR INVASIVE PLANT SPECIES, AS PART OF A NEW DEVELOPMENT PROJECT OR REDEVELOPMENT PROJECT, ON ANY PORTION OF APPLICABLE PROPERTIES THAT INCLUDE MULTIFAMILY RESIDENTIAL HOUSING PREMISES PROPERTY.

(b) NOTWITHSTANDING ANY PROVISION OF THIS SECTION TO THE CONTRARY, A LOCAL ENTITY OR THE DEPARTMENT SHALL NOT RESTRICT A PERSON FROM INSTALLING OR ALLOWING ANOTHER PERSON TO INSTALL GRASS SEED OR SOD THAT:

(I) IS A NATIVE PLANT;

(II) HAS BEEN HYBRIDIZED FOR ARID CONDITIONS; OR

(III) IS A LOW-WATER GRASS.

(c) ON OR BEFORE JANUARY 1, 2028, EACH LOCAL ENTITY WITH LAND USE PLANNING AND ZONING AUTHORITY SHALL ENACT OR AMEND ORDINANCES, RESOLUTIONS, REGULATIONS, OR OTHER LAWS REGULATING NEW DEVELOPMENT PROJECTS AND REDEVELOPMENT PROJECTS TO:

(I) REGULATE THE INSTALLATION OF NONFUNCTIONAL TURF IN ORDER TO REDUCE IRRIGATION WATER DEMAND ON APPLICABLE PROPERTY IN ACCORDANCE WITH THE REQUIREMENTS OF THIS SECTION; AND

(II) INCLUDE CONSIDERATION OF APPLICABLE RESIDENTIAL REAL PROPERTY.

SECTION 4. In Colorado Revised Statutes, **add** 37-99-104 as follows:

37-99-104. Regulation of turf in new residential property - local entities - exemptions. (1) ON OR BEFORE JANUARY 1, 2028, EACH LOCAL ENTITY WITH LAND USE PLANNING AND ZONING AUTHORITY SHALL ENACT OR AMEND ORDINANCES, RESOLUTIONS, REGULATIONS, OR OTHER LAWS REGULATING NEW DEVELOPMENT PROJECTS AND REDEVELOPMENT PROJECTS WITHIN THE LOCAL ENTITY'S JURISDICTION TO REGULATE THE INSTALLATION OF TURF TO REDUCE IRRIGATION WATER DEMAND FOR ALL RESIDENTIAL REAL PROPERTY THAT IS NOT APPLICABLE RESIDENTIAL REAL PROPERTY.

(2) ON AND AFTER JANUARY 1, 2028, WHEN ENACTING OR AMENDING ORDINANCES, RESOLUTIONS, REGULATIONS, OR OTHER LAWS REGULATING NEW DEVELOPMENT PROJECTS AND REDEVELOPMENT PROJECTS, EACH LOCAL ENTITY WITH LAND USE PLANNING AND ZONING AUTHORITY SHALL REGULATE THE INSTALLATION OF TURF TO REDUCE IRRIGATION WATER DEMAND FOR ALL RESIDENTIAL REAL PROPERTY THAT IS NOT APPLICABLE RESIDENTIAL REAL PROPERTY.

(3) EACH LOCAL ENTITY WITH LAND USE PLANNING AND ZONING AUTHORITY MAY CHOOSE THE STANDARD OR MECHANISM BY WHICH IT REGULATES TURF IN NEW DEVELOPMENT PROJECTS AND REDEVELOPMENT PROJECTS OF RESIDENTIAL REAL PROPERTY PURSUANT TO THIS SECTION.

(4) NOTWITHSTANDING ANY PROVISION OF THIS SECTION TO THE

CONTRARY, NEITHER A LOCAL ENTITY NOR THE DEPARTMENT SHALL RESTRICT A PERSON FROM INSTALLING OR ALLOWING ANOTHER PERSON TO INSTALL GRASS SEED OR SOD THAT:

(a) IS A NATIVE PLANT;

(b) HAS BEEN HYBRIDIZED FOR ARID CONDITIONS; OR

(c) IS A LOW-WATER GRASS.

SECTION 5. Act subject to petition - effective date. This act takes effect at 12:01 a.m. on the day following the expiration of the ninety-day period after final adjournment of the general assembly; except that, if a referendum petition is filed pursuant to section 1 (3) of article V of the state constitution against this act or an item, section, or part of this act within such period, then the act, item, section, or part will not take effect unless approved by the people at the general election to be held in

November 2026 and, in such case, will take effect on the date of the official declaration of the vote thereon by the governor.

Julie McCluskie
SPEAKER OF THE HOUSE
OF REPRESENTATIVES

James Rashad Coleman, Sr.
PRESIDENT OF
THE SENATE

Vanessa Reilly
CHIEF CLERK OF THE HOUSE
OF REPRESENTATIVES

Esther van Mourik
SECRETARY OF
THE SENATE

APPROVED Tuesday May 20th 2025 at 1:05 pm
(Date and Time)

Jared S. Polis
GOVERNOR OF THE STATE OF COLORADO

Information guide on Colorado's new landscape policy (HB25-1113)

Overview

In May, Governor Polis signed HB25-1113 into law, which clarifies the rules governing certain types of landscape in Colorado, more clearly defining language from a bill signed into law the year before.

The law does not prohibit artificial turf on a statewide level. It offers local municipalities the opportunity to set their own rules around landscaping choices.

What the law does: The law preserves the ability of local Colorado municipalities to permit the use of functional artificial turf. More specifically, the law:

- Creates definitions for functional and nonfunctional artificial turf, providing flexibility for local governments to determine functional uses of artificial turf when crafting regulations.
- Establishes the legality for the use of artificial turf in areas that serve a civic or community function. This includes, but is not limited to, areas such as parks, playgrounds, and golf courses.
- Classifies uses for artificial turf in brownfield sites and covers for solid waste facilities as a functional use.
- Clarifies that any prohibitions will not impact nonfunctional artificial turf that was installed before the implementation of SB24-005, and how it applies to local control issues.

Key Definitions (as written in the law)

Turf: Means continuous plant coverage consisting of nonnative grasses or grasses that have not been hybridized for arid conditions and which, when regularly mowed, form a dense growth of leaf blades and roots.

Functional Artificial Turf: Means artificial turf that is:

a. Located in a recreational use area or other space that is regularly used for civic, community, or recreational purposes, which may include a playground, a sports field, a picnic ground, an amphitheater, a portion of a park, and the playing area of a golf course, such as a driving range, chipping and putting green, tee box, green, fairway, and rough; or

b. A component of a product designed and approved by a professional engineer for civil infrastructure projects, including but not limited to:
    i. Covers for solid waste facilities and brownfield sites; and
    ii. Revetments for slopes, channels, levees, and dams.

Non-Functional Artificial Turf: Means artificial turf that is not functional artificial turf.

Benefits of synthetic turf

Note: While the statute refers to synthetic turf as "artificial turf", the remainder of this information guide will use "synthetic turf" language to maintain consistency with our industry's messaging. However, both terms refer to the same product, and can be used interchangeably.

Community Access

Synthetic turf is an essential tool for ensuring equity in access to play spaces in Colorado. When space is scarce and public recreation areas are in constant demand, synthetic turf systems expand access to outdoor activity for children and families, especially in neighborhoods where green space is limited or overused. Unlike high maintenance sod and grass, which can support only a limited amount of use, synthetic turf stays open and playable even after rain or during winter.

More play for children:
Synthetic turf provides play areas that ensure Colorado kids and families can safely stay active outdoors, rain or shine. A top concern for parents is too much screen time, too much time indoors, and not enough time for play. One challenge with high maintenance sod and grass is that when it rains, it can limit its use, sometimes for days, depending on the drains.

Synthetic turf provides a 24/7-accessible, safe, and consistent playing surface. Studies from both the U.S. Environmental Protection Agency and California's Office of Environmental Health Hazard Assessment reaffirm the environmental and health safety of synthetic turf.

Meanwhile, synthetic turf can quickly drain water while offering more playing time than high maintenance sod and grass. With synthetic turf, children can enjoy staying active in a reliable environment, giving parents confidence that their children are engaging in healthy outdoor play.

Synthetic turf is a reliable, high-impact health and wellness investment in Colorado communities that offers consistent access to clean, functional spaces.

Water Conservation

Synthetic turf plays an important role in conserving water by eliminating the need for regular irrigation associated with high maintenance sod and grass. This helps Colorado communities

preserve valuable water resources, making synthetic turf an especially beneficial choice for areas prone to drought or water restrictions.

Synthetic turf also reduces the need for treatment chemicals in Colorado. It has been proven to greatly reduce water use and water pollution compared to what is needed to support high maintenance sod and grass systems. As a landscape solution, synthetic turf significantly reduces water usage compared to grass, conserving a vital resource, particularly in drought-prone areas. It also eliminates the need for pesticides, fertilizers, and herbicides, reducing chemical runoff and supporting environmental health.

Water-use reductions:
A full-size synthetic turf sports field requires 0 gallons of water per year, whereas a sand-based grass field uses up to 2.7 million gallons annually, according to a 2024 report by the Vancouver Board of Parks and Recreation. Additionally, some schools in drought-prone areas estimate that converting to synthetic turf saves about 2 million gallons of water per field annually. Synthetic turf helps contribute to water conservation efforts across the country. The EPA states that of "the estimated 29 billion gallons of water used daily by households in the U.S., nearly 9 billion gallons, or 30 percent, is devoted to outdoor water use. In the hot summer months, or in dry climates, a household's outdoor water use can be as high as 70 percent."

Eliminates the need for pesticides or fertilizers:
With runoff from pesticides and fertilizers as a principal cause of water pollution, synthetic turf eliminates the need for pesticides, fertilizers, and herbicides, which are used to upkeep high maintenance sod and grass.

Pet turf:
Pet turf is a rapidly expanding sector of the synthetic turf landscape market. Engineered specifically for the needs of dogs, pet turf includes significant advances such as instantaneous drainage, simplification of waste removal, odor control, and more that makes it an especially versatile option.

Weather-Resilient Access to Play

Synthetic turf is unmatched in its ability to always provide a safe and consistent playing surface year-round, even in inclement weather, when properly maintained. In fact, a turf field can be used multiple times a day by different teams and sports groups without issue. This enables Colorado communities to have spaces to play with 24/7 access. These are critical qualities that are just not possible with a field of high maintenance grass.

While using any outdoor surface means contending with different weather conditions—such as precipitation for sod surfaces—synthetic turf provides more playing hours year-round compared to high maintenance sod surfaces.

Innovations in synthetic turf to address inclement Colorado weather:

Synthetic turf manufacturers are also consistently innovating to provide a cooler, more sustainable playing surface. Numerous cities and manufacturers are experimenting with next-generation synthetic turf technology that reduces turf temperature.

- Amsterdam introduced revolutionary turf technology to combat urban heat and enhance recreation. The city reported surface temperatures of 98°F on a hot June day, dramatically cooler than the 144°F observed on conventional synthetic turf.
- Hickory, NC installed new turf technology to cool fields during heat to maximize usage and increase sports tourism.

Recyclability

The synthetic turf industry is finding innovative solutions for turf at the end of its life. When it comes to recycling, there are several examples of the work STC members are doing to reuse or recycle turf to avoid landfilling. For example, Turf Recyclers USA is a Material Recovery Facility (MRF) outside of Boston that breaks down old turf into its original components, allowing it to be reused in the recycled materials market. BestPLUS's GreenBoard, a plastic lumber product, is made with 98% recycled plastic, at least 40% from recycled synthetic turf. Additionally, Shaw Sports Turf recycles old turf into performance shock pads for new turf fields. Finally, AstroTurf forged a strategic alliance with the Turf Recycling Plant (TRP) in Calhoun, Georgia to pioneer a sustainable solution for the recycling of end-of-life turf systems.

The synthetic turf industry is also working with our partners in the U.S. and Europe to develop innovative circular solutions for turf products at end-of-life. Product reuse is already an option in California and throughout the U.S., and there are several commercially viable processes for mechanically recycling turf products in the U.S. Other advanced recycling systems such as gasification and depolymerization may also prove to be viable options to avoid landfill disposal.

Environmental Safety

Beyond water conservation, synthetic turf provides significant environmental benefits by eliminating the need for treatment chemicals and supporting recycling efforts. Synthetic turf does not require any pesticides, fertilizers, and herbicides. By not using lawn chemicals, synthetic turf helps prevent runoff of those chemicals.

Landscape architect expert and advocate, Chris Huntress, stated that current topsoil at the existing high school grass field in Oak Bluffs, Martha's Vineyard has "10 to 12 times" more PFAS than a new synthetic turf field would.

Water Drainage

Correct installation of synthetic turf, following the installation best practices below, is crucial to ensure the synthetic turf effectively drains water. Synthetic turf is permeable and built for maximum water drainage. However, incorrect installation (such as lack of collector drains or insufficient compaction of base layers) can hinder synthetic turf's ability to properly drain.

Synthetic Turf Installation: Best Practices

STC has established best practices for installing synthetic turf systems to ensure long-term performance, safety, and environmental quality. Below is a summary of the key considerations and steps in a professional installation.

Installation by a certified professional using industry best practices is crucial for maximizing the appearance and function of synthetic turf. Every installation is different, from site locations to product selection, and from supply challenges to manufacturers. Because of this, it is difficult to pinpoint one specific installation method. However, there are specific similarities and shared characteristics that would be considered elements of a quality installation.

Planning and Site Preparation

- **Site Inspection:** Begin with a thorough evaluation of soils, drainage, irrigation, and existing features. A detailed site plan helps anticipate challenges and ensures the turf integrates well with its surroundings.
- **Drainage:** Turf should only be installed in areas where proper drainage is in place. In some cases, additional solutions may be needed to prevent pooling and ensure water is directed appropriately.
- **Irrigation:** Existing irrigation systems should be accounted for during planning. They may need to be capped, rerouted, or modified depending on the project design.
- **Removal of Organics:** All organic material must be removed from the installation area to prevent future settlement or instability.

Base Construction

- **Base Material:** A prepared base layer is essential to provide both stability and drainage. Using the right type of aggregate or base material ensures durability and proper water flow.
- **Compaction:** The base must be compacted sufficiently to create a firm, stable foundation and reduce the risk of future settling.
- **Borders and Edging:** Proper edging or borders contain the base material, secure turf edges, and protect against erosion or shifting.

Turf Layout and Seaming

- **Orientation:** Turf rolls should be laid in a consistent direction and oriented toward the primary viewing angle for the most natural appearance.
- **Seams:** Seams must be carefully aligned and joined to create a secure, even surface. Using professional-grade adhesives and techniques ensures long-lasting results.
- **Cutting and Shaping:** Turf should be trimmed neatly around trees, rocks, and structures. Plant wells or buffer areas are recommended to protect living vegetation.

Securing and Infill

- **Securing Turf:** Turf sections should be stretched to reduce wrinkling and firmly secured around the perimeter for a clean finish.
- **Infill Installation:** Infill stabilizes the turf, supports the fibers, and extends the life of the system. Even distribution and proper brushing are key to achieving a uniform look and feel.

Final Inspection and Maintenance

- **Inspection:** A professional installation includes a thorough walk-through to ensure seams are tight, infill is consistent, and edges are secure.
- **Clean-Up:** Installers should leave the site free of debris and provide owners with documentation such as warranties, diagrams, and maintenance guidance.
- **Maintenance Guidance:** Ongoing care, such as brushing, debris removal, and periodic inspections, helps maintain appearance and performance. Specialized infills can also address pet use or high-traffic areas.

HB25-1113: Frequently Asked Questions

How can using synthetic turf promote water conservation?
Synthetic turf has been proven to greatly reduce water use and water pollution compared to what's needed to support high maintenance grass systems.

- Using synthetic turf results in dramatic water savings, requiring zero gallons of water per year compared to up to 2.7 million gallons annually for an irrigated high maintenance grass field.
    - For example, schools in Henderson, Nevada, estimate that 2 million gallons of water are saved annually for each field that is converted to synthetic turf.
- Outdoor water use accounts for a significant portion of household water consumption. The EPA found that U.S. households use nearly 9 billion gallons of water daily for outdoor use—30% of total household water use, rising to 70% in hot or dry climates.
- By avoiding the need to use lawn chemicals to maintain synthetic turf, nearby water sources are protected from harmful runoff—unlike high maintenance sod, which requires pesticides, fertilizers, and herbicides.

Does Colorado have a statewide ban on synthetic turf?
No. HB25-1113 clarifies and reinforces the authority of local governments to regulate different types of landscapes within their communities. It does so by putting clearer definitions on the types of landscapes that can be installed by communities, creating flexibility in how "functional artificial turf" is defined (see below).

What is "functional artificial turf" as defined in the statute?
"Functional artificial turf" is broadly defined in the statute as any synthetic turf located in a recreational use area or other space that is regularly used for civic, community, or recreational

purposes, which can include anything from a playground or sports field to picnic areas or a golf course. It is not limited to these examples.

What is "nonfunctional artificial turf" as defined in the statute?
"Nonfunctional artificial turf" is defined as any synthetic turf that does not serve a functional purpose under HB25-1113.

How is "nonfunctional artificial turf" addressed in the latest version of the law?
The latest version of the law clarifies that any new prohibitions will not impact "nonfunctional artificial turf" that was installed before the law's implementation, which allows communities greater flexibility in preserving previous landscaping.

What benefits do recent changes provide?
By clarifying definitions of "functional artificial turf" and "nonfunctional artificial turf", the law will better align with its intent of water conservation.

What properties does the law apply to, and does it include single-family homes?
HB25-1113 does not apply to single-family homes. The new law only applies to common areas of multifamily buildings with 12 or more units.

Will I be required to remove any existing synthetic turf or "nonfunctional artificial turf"?
No. The bill explicitly states that nothing in the new law requires the removal of existing installations. So, if your "nonfunctional artificial turf" was already in place before January 1, 2026, you are allowed to maintain it.

When do the new requirements take effect?
Most regulations on installing "nonfunctional artificial turf" apply beginning January 1, 2026. However, for multifamily residential housing with more than 12 units, the requirements apply on January 1, 2028. Local governments are required to update their regulations by January 1, 2028, as well.

Synthetic Turf: Frequently Asked Questions

Why do people choose synthetic turf?
Communities, schools, businesses, and homeowners choose synthetic turf because it offers reliable, year-round green spaces with significantly reduced maintenance needs. It conserves water, eliminates the need for fertilizers and pesticides, and creates safe, durable areas for play, recreation, and gathering. Synthetic turf also provides consistent performance in all weather conditions, helps reduce long-term costs, and supports active, healthy lifestyles by keeping fields and landscapes usable more often.

Is synthetic turf environmentally friendly?
Yes. Synthetic turf saves water and reduces the need for treatment chemicals. Synthetic turf greatly reduces water use and water pollution compared to what's needed to support high

maintenance grass systems. In states where water conservation is vital, one full-size synthetic turf sports field can save millions of gallons of water each year, depending on local climate and usage.

Does synthetic turf enable 24/7/365 usability?
Yes. Synthetic turf allows families to enjoy its benefits and athletes to play 24 hours per day, seven days per week, year-round, even in drought-prone weather conditions, in contrast to high maintenance sod fields. This is particularly valuable in states where weather conditions and water scarcity can be extreme for significant periods of the year. Moreover, synthetic turf provides a space for multi-purpose competition, allowing multiple sports to be played on a single field.

Do STC members use PFAS-based raw materials in their manufacturing?
No. STC members are committed to maintaining the highest quality standards for synthetic turf systems. Our member manufacturers proactively engage with their component and raw material suppliers to ensure that their products contain no PFAS-based ingredients, including polymeric PFAS processing aids. Additionally, our members self-audit through voluntary testing processes that rely on EPA-approved methods for individual PFAS analytes and/or a total organic fluorine test to verify the absence of intentionally-added PFAS. These tests are widely used and provide verifiable, consistent data across different projects and regions. While PFAS are unfortunately present in our environment, STC members are committed to doing our part to ensure the absence of intentionally-added PFAS in our products.

Is synthetic turf safe to use in areas/settings at risk for fires?
Yes. Synthetic turf provides industry-grade fire safety. Synthetic turf products are tested for flammability and many demonstrate self-extinguishing attributes under ASTM D2859 standards. In addition, many landscape systems use sand infill, which acts as a heat sink and oxygen barrier, further reducing ignition potential. For high-risk environments, there are turf products with enhanced fire-resistant ratings that meet NFPA classifications (ASTM E648 and ASTM E108).

Conclusion

Synthetic turf offers significant benefits for communities by conserving water, reducing reliance on chemicals, lowering long-term maintenance costs, and providing safe, year-round spaces for recreation and community activity. **As Colorado municipalities update their ordinances under HB25-1113, it is important that synthetic turf remains an available option to ensure families, schools, and businesses can continue to realize these advantages.** The Synthetic Turf Council is proud to have partnered with state lawmakers on this issue and stands ready to be a resource for local planning directors as policies are shaped that support both sustainability and community well-being.