



***CITY OF FORT LUPTON
COMMERCIAL AND INDUSTRIAL
DESIGN STANDARDS***

Effective January 18, 2008

***CITY OF FORT LUPTON
PLANNING DEPARTMENT
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FORT LUPTON, CO 80621
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I. GENERAL PROVISIONS

A. TITLE/CITATION

The regulations set forth in this ordinance shall be officially known and cited as the “City of Fort Lupton Commercial and Industrial Design Standards,” although they may be referred to in this document as “Commercial and Industrial Design Standards.”

B. PURPOSE

These standards implement the City of Fort Lupton Comprehensive Plan and promote the health, safety, and general welfare of the residents of the City of Fort Lupton by encouraging high quality in the siting, organization, and construction of new commercial and industrial developments in Fort Lupton and, more specifically, by:

- 1) Promoting new commercial and industrial development that is distinctive, has character, and relates and connects to established Brighton and Weld County developments;
- 2) Encouraging site planning that accommodates and responds to the existing natural and built environment on and adjacent to the site, including preservation of existing trees, vegetation, wildlife habitat, stream corridors, wetlands, and manmade cultural resources such as agricultural buildings and irrigation ditches;
- 3) Encouraging organization of new commercial and industrial development into cohesive developments that are safe and pedestrian friendly;
- 4) Encouraging connections within and between new commercial development and adjacent and surrounding residential, commercial and industrial development (existing or planned), land uses (such as schools, shopping, and employment), and parks and open space/trail systems;
- 5) Providing variety in commercial and industrial design and type in order to reduce the adverse visual monotony of commercial design often associated with large-scale commercial and industrial development;
- 6) Provide safe commercial and industrial developments through the use of Crime Prevention Through Environmental Design Principles; and
- 7) Ensuring that all commercial and industrial development complies with City regulations and standards as it pertains to the environment. Developments that require special permits to mitigate noise, pollution, dust, etc shall be obtained from the appropriate government agency, e.g. County Health Department, Colorado Department of Public Health and Environment (CDPHE), Environmental Protection Agency (EPA) etc.

C. APPLICABILITY

All new commercial and industrial development that is submitted for review after the effective date of these Standards unless there is an agreement in place at time of proposed annexation that negates grandfather status.

If the Standards are different in Commercial Development than in Industrial Development the Section will be broken up into two (2) sections to designate the differences.

D. CONFLICTING PROVISIONS & RELATIONSHIP WITH OTHER REGULATIONS

The Commercial and Industrial Design Standards referenced herein supplement the City of Fort Lupton's regulations set forth in the City's Municipal Code, as amended. In addition to the requirements of the Commercial and Industrial Design Standards, an applicant shall comply with all other applicable City land development regulations, ordinances, and requirements. If the provisions of the Commercial and Industrial Design Standards are inconsistent with one another, or if the provisions of the Commercial and Industrial Design Standards conflict with provisions found in the Municipal Code, or in any other City ordinance or regulation, the more restrictive provision shall govern unless otherwise expressly stated. Except as otherwise provided herein, the Planning Director shall be the final arbiter regarding issues pertaining to the administration of these regulations. An applicant may appeal to the Board of Adjustment from any administrative requirement, or administrative determination made by the Planning Director by following the provisions of section 16 -11 and 16-12 of the Fort Lupton Municipal Code. An example of such an appeal would be where the planning director makes a determination that a particular provision applies to or prohibits a particular feature of a proposed development and the applicant disagrees with that determination.

II. DEFINITIONS

A. GENERAL PROVISIONS

1. Many of the words and terms used in these Commercial and Industrial Design Standards are defined in the Zoning Regulations or the Subdivision Regulations, and are not generally repeated here. If a word, term, or phrase is not defined in this Section II or in the Zoning or Subdivision Regulations, the Planning Director shall have the authority and power to interpret or define such words, terms, and phrases, subject to appeal to the Board of Adjustment. In making such interpretations or definitions, the Planning Director or Board of Adjustment may consult secondary sources related to the planning profession, such as A Survey of Zoning Definitions - Planning Advisory Service Report Number 421, edited by Tracy Burrows (American Planning Association, Chicago, Ill. 1989), Zoning & Development Definitions for the Next Century, by Michael Davidson (in Zoning News, August 1999) and The Illustrated Book of Development Definitions, by Harvey S. Moskowitz and Carl G. Lindbloom (Center for Urban Policy Research, Rutgers University. N.J. 3d ed. 1987), for technical words, terms and phrases, or Webster's Unabridged Dictionary (Random House Reference & Information Publishing, New York, 1997), as supplemented, for other words, terms and phrases.

2. If a definition set forth in this Section II of the Commercial and Industrial Design Standards is inconsistent with a definition or definitions found in the Zoning Regulations, Subdivision Regulations, or in any other City ordinance or regulation, the definition in this Section II shall govern.

B. DEFINITIONS OF WORDS, TERMS, & PHRASES

The following words, terms and phrases, when used in the Residential Design Standards, shall have the meanings ascribed to them in this subsection:

1. Abutting or Adjoining. To physically touch or border upon; or to share a common property line or border.
2. Applicant. A developer, landowner, or other person with a legal property interest, including heirs, successors, and assigns, whom has filed an application for subdivision or development.
3. Agriculture. Farming, including plowing, tillage, cropping, installation of best management practices, seeding, cultivating, and harvesting for the production of food and fiber products (except commercial logging and timber harvesting operations); the grazing and raising of livestock (except in feedlots); aquaculture; sod production; orchards; Christmas tree plantations; nurseries; and the cultivation of products as part of a recognized commercial enterprise.
4. Block. A unit of land bounded by streets or by a combination of streets and public lands, railroad rights-of-way, waterways or any barrier to the continuity of development. The barriers creating the boundary of block shall not be included in the calculation of block size.
5. Block Face. The properties abutting on one side of a block.
6. Building Mass. The three-dimensional bulk of a building: height, width, and depth.
7. Building Scale. The relationship of a particular building, in terms of building mass, to other nearby and adjacent buildings.
8. Caliper. The diameter of a tree trunk measured 6 inches from the ground for trees up to 4 inches in caliper/diameter and 12 inches from the ground for trees 4 inches or larger in caliper/diameter.
9. Character. Those attributes, qualities, and features that make up and distinguish a development project and give such project a sense of purpose, function, definition, and uniqueness.
10. Commercial. A land use or other activity involving the purchase, sale, or transaction involving the disposition of any article, substance, commodity, or service; the maintenance or conduct of offices, professions, or recreational or amusement enterprises conducted for profit and also including renting of rooms, business offices, and sales display rooms and premises

11. Compatible or Compatibility. The characteristics of different uses or activities or design which allow them to be located near or adjacent to each other in harmony. Some elements affecting compatibility include height, scale, mass, and bulk of structures. Other characteristics include pedestrian or vehicular traffic, circulation, access and parking impacts. Other important characteristics that affect compatibility are landscaping, lighting, noise, odor, and architecture. Compatibility does not mean "the same as." Rather, compatibility refers to the sensitivity of development proposals in maintaining the character of existing development.
12. Container. A standardized, reusable vessel that is or appears to be: (1) originally, specifically or formerly designed for or used in the packing, shipping, movement or transportation of freight, articles, goods or commodities, or (2) designed for or capable of being mounted or moved on a rail car, or (3) designed for or capable of being mounted on a chassis or bogie for movement by truck trailer or loaded on a ship.
13. Contiguous. Next to, abutting, or touching and having a boundary or portion thereof that is continuous. Contiguity is not broken by a road or alley, a public or private right of way or easement, a state highway right-of-way or interstate right-of-way or a natural or artificial watercourse.
14. Cultural Facilities. Institutions displaying or preserving objects of interest in one or more of the arts or sciences. This classification includes libraries, museums, and art galleries.
15. Director. The Director of the City of Fort Lupton Planning & Building Department.
16. Dedication. The conveyance or transfer of property (such as land for streets or parks) by an owner to the City of Fort Lupton. Such conveyance is not complete until acceptance by the City and any warranty period has expired.
17. Detention Facility. A facility for the temporary storage of storm-water runoff, constructed to receive and temporarily hold storm-water for release at a controlled rate. Such devices may include graded depressions in the ground, parking lots with concave surfaces, or buried tanks or pipes.
18. Developer. Any person, firm, partnership, joint venture, limited liability company, association, or corporation who participates as owner, promoter, developer, or sales agent in the planning, platting, development, promotion, sale, or lease of a subdivision or development.
19. Effective Date. The effective date of these Commercial and Industrial Design Standards, which is January 18, 2008.
20. Fence. An artificially constructed barrier of any material or combination of materials erected to enclose, screen, or separate areas.
21. Greenbelt. Any parcel or area of land essentially unimproved with any residential, commercial, or industrial uses, dedicated or reserved for public

and/or private use and enjoyment that may serve as a regional trail system and community separator between the incorporated boundaries of the City of Fort Lupton and adjacent communities as well as protect existing farmland and open space.

22. Hazard Areas. All areas that are or that may become hazardous due to environmental conditions. The hazards include, but are not limited to, the following: wildfire, avalanche, landslide, rock fall, mud flow and debris fan, unstable or potentially unstable slopes, seismic effects, radioactivity, ground subsidence, expansive soils, and oil and gas wells.
23. High Water Mark. The line on the bank of a stream, river, lake, or impoundment to which the high water ordinarily rises annually in seasons, as indicated by changes in the characteristics of soil, vegetation, or other appropriate means taking into consideration the characteristics of the surrounding areas. Where the ordinary high water mark cannot be found, it shall be presumed to be the edge of vegetation growing along the channel bank. In braided channels, the ordinary high water mark shall be measured so as to include the entire stream feature.
24. Industrial. A land use or other activity associated with the assembling, fabrication, finishing, manufacturing, packaging, or processing of goods, rail oriented development, transit oriented development, and mineral extraction.
25. Local Street System. The interconnected system of collector and residential (local) streets providing access to residential development from an arterial street.
26. Open Space. Any parcel or area of land or water essentially unimproved with any residential, commercial, or industrial uses and dedicated, or reserved for public and/or private use and enjoyment including agricultural, recreational, scenic, or environmental purposes. Open areas may include farmland and agricultural uses, natural areas, including but not limited to meadows, forested areas, steep slopes, flood plains, hazard areas, unique geologic features, ridgelines, unique vegetation and critical plant communities, stream corridors, wetlands and riparian areas, wildlife habitat and migration corridors, areas containing threatened or endangered species and archeological, historical, or cultural resources, trails, buffer zones, community separators, and greenbelts.
27. Open Space, Usable. A combination of open space or developed parks which are available to the general public as a year round community amenity for active or passive recreation, that includes a nature center, picnic area, trails, ball fields, a golf course, ponds for fishing or boating or the benched area above a detention system that is outside the 10-year flood event at no more than a 2:1 slope and approved by the City Council.
28. Ordinary High Water Mark. See definition of "High Water Mark," above.

29. Orient. To bring in relation to, or adjust to, the surroundings, situation, or environment; to place with the most important parts facing in certain directions; to set or arrange in a determinate position: to orient a building.
30. Overlay Zone. A zoning district that includes one or more underlying zones that impose additional requirements beyond the underlying zone.
31. Owner. An individual, firm, association, syndicate, partnership, or corporation having sufficient proprietary interest to seek development of land.
32. Parcel. A contiguous area of land in the possession of, or owned by, or recorded as the property of, the same person or persons.
33. Perimeter Fences and Walls. Fences, walls, or hedges that are forty-two (42) inches or more in height, and are placed within fifty (50) feet of the edge of the right-of-way of a collector or an arterial street. Fences, walls or hedges that have a surface area that is 25% or less opaque, and hedges and screens composed of living plant material, shall not be included in this definition of "perimeter fences and walls."
34. Planned Unit Development (PUD). A zoning overlay district that is specified to be developed, operated and maintained as a single entity, under one set of approved standards. A PUD is to provide innovative and exceptional development in return for flexibility in site design, density, setbacks, lot size and lot area.
35. Porch. A covered platform, usually having a separate roof, at an entrance to a dwelling, or an open or enclosed gallery or room, and that is attached to the outside of a building.
36. Primary or Principal Entrance. The place of ingress and egress used most frequently by the public.
37. Sidewalk. A paved, surfaced, or leveled area, paralleling and usually separated from the street, used as a pedestrian walkway.
38. Stream Corridor. The corridor defined by a stream's ordinary high water mark. See definition of "High Water Mark," above.
39. Street-Arterial. A street designated on the Comprehensive Plan, as amended, as either a "major" or "minor" arterial:
 - (a) A "Major" Arterial is a regionally significant street that serves the major activity centers in the City and carries the majority of trips entering and leaving the City, as well as the majority of through movements desiring to bypass City neighborhoods.
 - (b) A "Minor" Arterial is a street that interconnects with and augments the regional major arterial system, which distributes travel to geographic areas smaller than those identified with the major arterial system, and which provides intra- community

continuity. A minor arterial should not, ideally, penetrate identifiable neighborhoods.

40. Streetscape. A design term referring to all the elements that constitute the physical makeup of a street and that, as a group, define its character, including building frontage, street paving, street furniture, sidewalks, trails, landscaping including trees and other plantings, awnings and marquees, signs, and lighting.
41. Subdivision Regulations. The subdivision regulations set forth in the Subdivision Regulations of the City of Fort Lupton, effective October 11, 1979, as amended from time to time.
42. Trail. A tract of land designated, designed, and used by the public for hiking, biking, horseback riding, or other recreational activities.
43. Wetlands. An area that is inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions.
44. Zoning Regulations. The zoning regulations set forth in the City of Fort Lupton Zoning Ordinance, effective August 1, 1976, as amended from time to time.

III. COMMERCIAL AND INDUSTRIAL SITE PLANNING & SITE DESIGN STANDARDS

A. Site Planning

1. General

Site planning is the design process for the development of land; it considers the relationship of off-site and on-site compatibility, and the purpose for which land is to be used. In general, buildings should be located so as to be visible from major roadways and entries, to provide clear orientation and access for vehicular and pedestrian traffic alike. Likewise, structures should be located in consideration of the existing built context, the location of adjoining uses, and the location of major roadways. Pedestrian courtyards, common gathering areas and accessible, well-landscaped environments that encourage pedestrian movement both within the new commercial and industrial development and among adjacent land uses are encouraged.

2. Site Orientation

- a. Site planning must take into consideration the existing grade and slope of the site as well as existing grades and building elevations off-site. Grading of property must be sensitive and compatible with surrounding properties and public streets. Commercial and industrial properties adjacent to existing or

future residential properties will be restricted in raising the elevation of the commercial and industrial site. Site planning must consider the relationship of buildings and detention areas to natural grades and visibility from adjacent roads and properties. Final grades within landscape areas cannot exceed 25% (4:1). The use of terraced parking lots, stepped building pads, retaining walls and larger setbacks may be necessary. The use of landscaped, sloped areas is preferable to retaining walls. Retaining wall heights are limited to a maximum height of four (4) feet (measured from the bottom of the footing).

- b. Natural site amenities such as mature trees, creeks, riparian corridors and other features unique to the site must be identified and considered for preservation. The Corps of Engineers shall approve the delineation of federally mandated wetlands. Any impact to a federally mandated wetland shall be mitigated in accordance with the Corps of Engineers regulations.
 - c. Flood corridors are located within the 100-year floodplain, and should remain undeveloped to prevent flood damage and to preserve the riparian habitat and wildlife associated with the area. Development may occur in the floodplain via a Flood Hazard Development Permit or similar application. The Flood Hazard Development Permit or recognized study enables persons to develop in Floodplain. The filling in of flood plains will generally be prohibited, unless appropriately permitted through the applicable agency. No development is permitted in Flood Way.
 - d. All endangered or threatened species of plants or animals should be identified and the habitat of such species should be considered for preservation as determined by the Colorado Division of Wildlife, United States Fish and Wildlife Service or other appropriate agencies.
 - e. Site planning must provide for Fire Department/Emergency access, and include Crime Prevention through Environmental Design concepts.
3. General Layout and Design

COMMERCIAL

- a. Commercial development must be designed in a manner to create the impression of a unified project and overall sense of a unique or identifiable place.
- b. Linear “strip” commercial development is discouraged. This type of development is characterized by uses that are only one store deep and buildings are arranged in a linear fashion rather than clustered.
- c. A minimum of 50% of the overall property (acres or gross floor area, whichever is greater) should be within the initial phase of construction.

Freestanding pad sites should not be developed until the principle portion of the property has begun construction.

- d. A sense of entry or arrival must be created at primary entryways into the development. Building placement, landscaping, gates, entry monuments, specialty lighting and other design elements can be used to create this design effect.
- e. In projects over 10 acres, the development area immediately adjacent to the intersection of two arterial streets should generally be free from a building location in order to maintain public views into the development from the intersection. This area may be enhanced with landscaping; the design approach to creating open space and maintaining views at the corner will be evaluated on a site-by-site basis.
- f. Pavement grades should not exceed 5% longitudinal slope within a parking area and 8% longitudinal slope in drive aisles that do not have parking stalls along the aisles. Site entry/exit aisles shall not exceed 3% longitudinal slope from the public street to 80-feet into the site. The 80-feet shall be measured from the property line. Sidewalk cross slopes shall not exceed 2%. Sidewalk longitudinal slopes shall comply with the American Disability Association requirements.
- g. Handicapped accessible routes must be accessible to, but separated from, parking areas, and may be no greater than 1:12. Handicapped accessible routes from buildings to the public rights-of-way shall also be clearly delineated on the pavement and all applicable recorded documents.
- h. An exterior lighting plan indicating site and building light fixtures and lighting levels should be prepared by a qualified consultant and submitted for review and approval. Illumination levels should be designed to average 1-foot candle in parking lots and other similar areas (measured 4 to 5-feet above the ground surface). Parking lot lighting should be with metal or halide or other type of white lighting. Off-site glare onto adjacent properties or right-of-way is not permitted. Over-lighting areas and high contrast between properties should be avoided. Concealment of the light source must be a design consideration. Parking lot lights should not exceed 35-feet in height unless approved through the application process.
- i. When the site will include areas of storage they must be appropriately screened from off-site view.



INDUSTRIAL

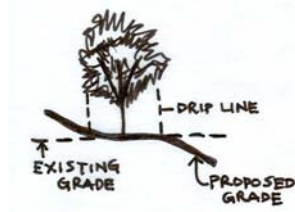
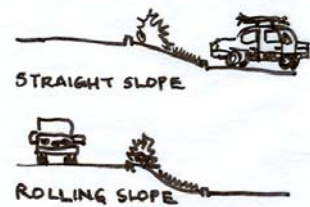
- a. Industrial development must be designed in a manner to create the Impression of a unified project and overall sense of a unique or identifiable place.
- b. A minimum of 50% of the overall property (acres or gross floor area, whichever is greater) should be within the initial phase of construction. Freestanding pad sites should not be developed until the principle portion of the property has begun construction.
- c. A sense of entry or arrival must be created at primary entryways into the development. Building placement, landscaping, gates, entry monuments, specialty lighting and other design elements can be used to create this design effect.
- d. In projects over 10 acres, the development area immediately adjacent to the intersection of two arterial streets should generally be free from a building location in order to maintain public views into the development from the intersection. This area may be enhanced with landscaping; the design approach to creating open space and maintaining views at the corner will be evaluated on a site-by-site basis.
- e. Pavement grades should not exceed 5% longitudinal slope within a parking area and 8% longitudinal slope in drive aisles that do not have parking stalls along the aisles. Site entry/exit aisles shall not exceed 3% longitudinal slope from the public street to 80-feet into the site. The 80-feet shall be measured from the property line. Sidewalk cross slopes shall not exceed 2%. Sidewalk longitudinal slopes shall comply with the American Disability Association requirements.
- f. An exterior lighting plan indicating site and building light fixtures and lighting levels should be prepared by a qualified consultant and submitted for review and approval. Illumination levels should be designed to average 1-foot candle in parking lots and other similar areas (measured 4 to 5-feet above the ground surface). Parking lot lighting should be with metal or halide or other type of white lighting. Off-site glare onto adjacent properties or right-of-way is not permitted. Over-lighting areas and high contrast between properties should be avoided. Concealment of the light source must be a design consideration. Parking lot lights should not exceed 35-feet in height unless approved through the application process.



- g. When the site will include areas of storage they must be appropriately screened from off-site view.
- h. Containers, cargo containers or similar have a limited stacked height of two (2) containers or twenty (20) feet in height whichever is greater. Exceptions to this requirement can be submitted to the Planning Director if there is sufficient evidence to support or warrant additional staking of containers. Any containers stacked higher than twenty feet shall be located in specific areas and shall be adequately screened.

4. Grading, Excavation and Erosion Control

- a. 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 carried out in such a manner as to avoid drainage impacts (such as erosion and road damage), both on-site and downstream.
- b. The natural setting of the site (for projects on undisturbed ground) should be preserved, to the greatest extent possible, with grading designs that are sensitive to existing landforms and topography. Slopes should be limited to 4:1 or less.
- c. Typically, grades between old and new elevations should transition via rolling rather than one continuous straight slope.
- d. Grade changes within the drip-line of existing trees that are to be maintained should be avoided.



- e. On-site topsoil should be stockpiled and protected during construction, and existing site vegetation should be preserved wherever possible. Disturbed soil and slopes shall be replanted with an approved grass mixture or ground cover.

5. Pedestrian Amenities

COMMERCIAL

- a. Amenities such as courtyards and/or plazas shall be included within the overall and individual site plans, should be functional and designed as part of the overall project, as opposed to being relegated to "ancillary" spaces unsuitable for other uses.

- b. Pedestrian open spaces should be furnished with benches, landscaping, fountains, play areas and other amenities designed to create a sense of enclosure. Where feasible, establish some such areas that will be useable throughout the year (e.g., buffered from the elements, open to sunshine).
- c. Areas devoted to pedestrian use should be delineated through the use of accent paving (maximum 0.25-inch groove depth), landscaping, lighting, and outdoor furniture.
- d. Pedestrian open spaces should be located to take advantage of existing landmarks, natural landforms or activities.
- e. All such amenities shall be owned and maintained by the Commercial Owners association or property owner if no association is present or their assignees.

INDUSTRIAL

- a. Pedestrian open spaces should be located to take advantage of existing landmarks, natural landforms or activities.
- b. All such amenities shall be owned and maintained by the Industrial Owners association or property owner if no association is present or their assignees.

6. Site Coverage

COMMERCIAL

- a. No more than seventy percent (70%) within each parcel and for the entire commercial development shall be covered with buildings, parking and driveways.
- b. No less than thirty percent (30%) within each parcel and for a commercial development as a whole shall be open space. Such spaces, may include pedestrian areas, such as sidewalks, plazas and other areas designed for pedestrian activity, but shall under no circumstances be used to exclusively satisfy open space requirements. However, if the project cannot satisfy the above requirement for open space, the owner may substitute if for cash in lieu.



INDUSTRIAL

- a. No more than eighty-five percent (85%) within each parcel and for the entire industrial development shall be covered with buildings, parking and driveways.
- b. No less than fifteen percent (15%) within each parcel and for a commercial development as a whole shall be open space. Such spaces, may include pedestrian areas, such as sidewalks, plazas and other areas designed for pedestrian activity, but shall under no circumstances be used to exclusively satisfy open space requirements. However, if the project cannot satisfy the above requirement for open space, the owner may substitute if for cash in lieu.

7. Pervious Concrete or other Porous Paving Materials

Pervious concrete is an innovative building material with many environmental, economic, and structural advantages. The proper utilization of pervious concrete is a recognized Best Management Practice by the U.S. Environmental Protection Agency (EPA) for providing first-flush pollution control and storm water management. Property owners and developers can also reduce fees and enhance the bottom line by using pervious concrete, which commonly provides 20-40 years of service with little or no maintenance. Property owners and developers that propose the use of heavy commercial and industrial equipment within heavy commercial and industrial zones shall not use pervious or porous materials to surface roadways, parking lots or maintenance areas.

Just as drinking water can be filtered to remove impurities, the soil particles filters rainwater percolating through soil on its way to surface waters and to groundwater aquifers, This important step in the natural process of water purification is bypassed when rainwater falls on impermeable pavement surfaces or roofs and is carried directly through storm drainage systems into waterways. Since engineered curb and gutter storm drainage systems are costly to design and build, use of permeable pavement systems can also result in a reduction of construction costs for developers or municipalities by reducing the need for detention facilities. Pervious pavements are also denoted as porous or open-graded pavement.

Pollution carried in rainwater runoff is another concern, especially in urban areas. Storm water flowing across streets and sidewalks picks up contaminants associated with air pollution particles, spilled oil, detergents, solvents, de-icing salts during freezing conditions, dead leaves, pesticides, fertilizer, and bacteria from pet waste. Natural filtration of water through soil is the simplest way to control these pollutants, and is a direct advantage of permeable pavement.

Permeable paving is not ideal for high traffic/high speed areas because it has lower load-bearing capacity than conventional pavement. Nor should it be used on storm water "hotspots" with high pollutant loads because storm water cannot be pretreated prior to infiltration.

The use of Pervious Concrete or similar materials is encouraged throughout both Commercial and Industrial Development, particularly along pedestrian areas i.e. sidewalks or plazas. See Appendix A For Examples of pervious Concrete Projects

B. VEHICULAR AND PEDESTRIAN CIRCULATION

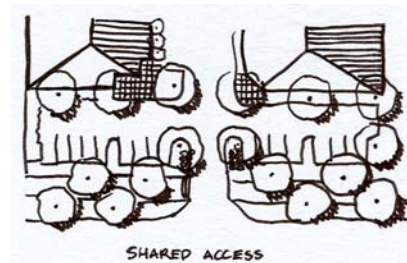
1. General

Streets and roads constructed within the area should comply with the Colorado State Highway Access Code and with the American Association of State Highway and Transportation Officials' *A Policy on the Geometric Design of Highways and Streets*. In addition, structural capacity of the streets and roads should be designed in accordance with the *Guide for Design of Pavement Structures*.

These policies encourages the design of safe and dynamic intra-development vehicular and pedestrian circulation systems, through the minimal use of access points to private property from public roadways. A clear and carefully planned hierarchy must be demonstrated for the vehicular and pedestrian design systems, and must be expressed in all street and landscape designs. Pedestrian routes within the development should be integrated to provide a comprehensive circulation system offering convenient, safe and visually attractive accesses to all areas of the development.

2. Site Access Points and Driveways

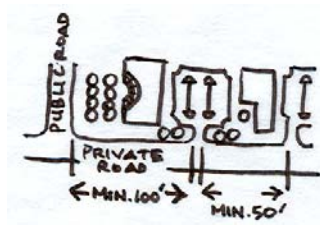
- a. Maintain a consistent design treatment of roadways and intersections along major roadways within each commercial and industrial development in order to establish visual continuity, and facilitate convenient and safe circulation.



- b. Access points along major routes must be limited in number and location; and driveways must be planned and shared between properties.
- c. The design of access routes must incorporate a generous area for the stacking of passenger and commercial vehicles along driveway routes where intersecting with public streets.

- d. Access points and driveways should line up across from other access points, driveways or focal points, and adequate separation between access points must be provided for safe and convenient internal circulation.
- e. Access roads and drives must be a minimum of twenty (20) feet in width, forty (40) feet preferred, and comply with Fire Protection District standards.
- f. Entrances into commercial and industrial developments along arterial and collector streets should be enhanced with the addition of signs, accent paving, special landscaping and/or lighting.
- g. Design elements should be visually interesting and consistent with other streetscape arterials used within the overall development.

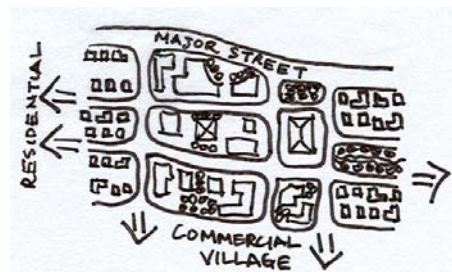
- h. Wherever possible, street intersections should be used for access into commercial and industrial development(s). Additional site accesses should be located as far as possible from street intersections, but in any case a minimum of one hundred (100) feet should separate access points intersecting with public roadways, and a minimum of seventy-five (75) feet separation between adjacent curb cuts along private roadways.



- i. Access drives of five hundred (500) feet or longer must incorporate design elements, such as a traffic circle, landscaped median, stamped or colored concrete, angle/offset, or other form of speed deterrent.

3. Vehicular Circulation

- a. The internal vehicular and pedestrian circulation must interconnect in an obvious and consistent manner.
- b. Commercial and industrial developments should be linked to surrounding areas through the extension of existing or planned streets and sidewalks through the development.
- c. Parking aisles should be separated from vehicular circulation routes and entry drives when possible.
- d. Drive-thru uses must be designed for dedicated drive-thru lanes that allow for the stacking of no less than eight (8) vehicles, and must be sufficient to prevent “spill over” into adjacent parking areas, circulation aisles or streets.



Such lanes must not block access to parking stalls or pedestrian access to the building.

- e. Streets and roads constructed within the area should comply with the Colorado State Highway Access Code and with the American Association of State Highway and Transportation Officials' *A Policy on the Geometric Design of Highways and Streets*. In addition, structural capacity of the streets and roads should be designed in accordance with the *Guide for Design of Pavement Structures*.

4. Pedestrian Access and Circulation

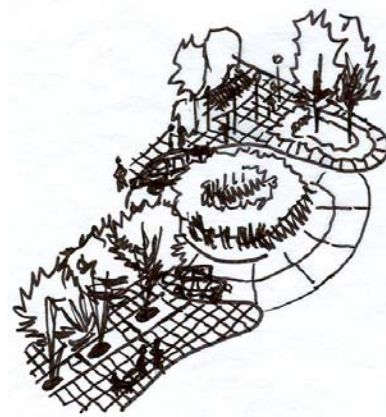
COMMERCIAL

- a. Site planning must provide for separate pedestrian circulation, and must be provided from the perimeter of the site, and connect to all buildings within the site. Primary pedestrian or bicycle connections shall be not less than eight (8) feet in width, with secondary interior sidewalks not less than six (6) feet in width. Parking stall overhang into any sidewalk or landscape area shall require an increase in the minimum sidewalk or landscape area by the depth of the overhang.



- b. Pedestrian walkways within the development must be distinguished from the driving surface by the use of integrally colored and scored concrete, (maximum 0.25-inch groove depth).
- c. Sidewalk areas in front of buildings shall be designed to accommodate pedestrian activity. Landscaping must occur within or adjacent to these areas.
 - i. Sidewalks in front of or adjacent to buildings of less than 10,000 square feet must not be less than eight (8) feet in width (exclusive of auto overhang);
 - ii. Sidewalks in front or adjacent to buildings of more than 10,000 square feet must not be less than fifteen (15) feet in width.

- d. Passenger drop-off areas must be incorporated within the design of commercial and industrial development projects, and should include a clear



separation between vehicular traffic within the drop-off and parking/circulation areas.

- i. Drop-off lanes should be designed to avoid obstructing the flow of traffic.
- ii. The use of textured paving, or other easily distinguishable raised surface (maximum .25-inch groove depth), should be used to delineate drop-off areas.
- iii. Appropriate signage should be used to indicate the location and time limitations for drop-off areas.

INDUSTRIAL

- a. Site planning must provide for separate pedestrian circulation, and must be provided from the perimeter of the site, and connect to all buildings within the site. Exclusions to this requirement include developments that require high security and do not permit public entry. Examples of highly secured industrial facilities are oil and gas operations, refineries, military installations, and others not specifically defined but can be determined at time of site plan. Primary pedestrian or bicycle connections shall be not less than eight (8) feet in width, with secondary interior sidewalks not less than six (6) feet in width. Parking stall overhang into any sidewalk or landscape area shall require an increase in the minimum sidewalk or landscape area by the depth of the overhang.
- b. Pedestrian walkways within the development must be distinguished from the driving surface by the use of integrally colored and scored concrete, (maximum 0.25-inch groove depth).
- c. Sidewalk areas in front of buildings shall be designed to accommodate pedestrian activity. Landscaping must occur within or adjacent to these areas.

C. PARKING

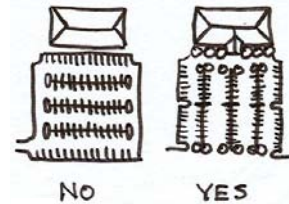
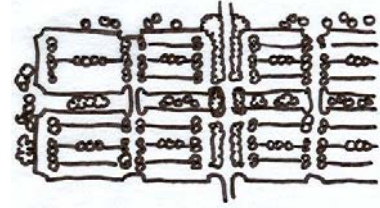
1. General

Parking areas should be established in such a manner that they clearly meet the location and quantity requirements of their specific uses, without detracting from either the effectiveness of other forms of transportation, or the pedestrian environment. The use of parking structures shall not be allowed. If developed in phases, the location and size requirements for future parking should be anticipated. Parking for bicycles and motorcycles should be included within the parking plan. The amount of parking required per development shall be calculated based on the current parking regulations per the City of Fort Lupton Municipal Code Section 16-83.

2. Surface Parking

COMMERCIAL

- a. Parking areas designed to accommodate 75 or more automobiles should be divided into a series of smaller, interconnected lots with appropriate landscape features.
- b. Parking areas should be separated from buildings by raised concrete walkways (with design features), landscaped strips, or both.
- c. Parking spaces, other than those providing access for handicapped drivers, should never directly abut structures.
- d. At least fifty percent (50%) of required off-street parking should be encouraged to locate behind or at the sides of principal structures (rather than between the front of principal buildings and the primary access street).
- e. Dead-end aisles are not allowed, unless adequate space for an unimpeded turn-around is provided.
- f. Parking aisles should be located perpendicular to buildings, so that pedestrians walk parallel to moving vehicles.
- g. Parking aisles in long, straight configurations that facilitate speeding should be avoided.
- h. Landscaped islands should be used at the end of each parking aisle, and may include handicapped access ramps.
- i. Curbed and landscaped islands, composed of organic material, should be used to indicate a change in direction of parking stalls and aisles.
- j. Parking “bumpers” are prohibited in surface lots.
- k. Handicapped parking spaces and accessible routes shall be provided consistent with ADA standards.



INDUSTRIAL

- a. Designated parking areas should be separated from buildings by raised concrete walkways (with design features), landscaped strips, or both.

- b. Parking spaces, other than those providing access for handicapped drivers, should never directly abut structures.
 - c. At least fifty percent (50%) of required off-street parking should be encouraged to locate behind or at the sides of principal structures (rather than between the front of principal buildings and the primary access street).
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 - e. Parking aisles should be located perpendicular to buildings, so that pedestrians walk parallel to moving vehicles.
 - f. Parking aisles in long, straight configurations that facilitate speeding should be avoided.
 - g. Parking “bumpers” are prohibited in surface lots.
 - h. Handicapped parking spaces and accessible routes shall be provided consistent with ADA standards.
3. Minimum Parking Requirements
- a. Minimum parking requirements per parcel or use within the commercial and industrial development shall be incorporated within the overall design and shall comply with the City of Fort Lupton Municipal Code Section 16-83.

Accessory Dwellings.	1 off-street space per bedroom, up to a maximum of 2 off-street spaces.
Commercial uses	1 off-street space per 500 square feet of lot area
Drive-in restaurant	1 off-street space per 500 square feet of gross floor area.
Hospitals	1 space for each 2 patient beds plus 1 space for each staff or visiting doctor plus 1 space for each 2 employees
Industrial	1 space each for the maximum number of employees present at any one time
Libraries	1 space for each 4 seats provided for patron use
Mobile Home Communities	As specified in the M-H District regulations.
Places of public assembly including private clubs and lodges, restaurants, auditoriums, dance halls, pool rooms, theaters, stadiums, gymnasiums, swimming pools, amusement parks, armories, community centers and all similar places of public assembly	1 space for each 4 seats provided for patron use, plus 1 space for each 400 square feet of floor or ground area used for amusement or assembly but not containing fixed seats
Public and private elementary and junior high schools	1 space for each classroom and administrative office plus off-street loading and unloading space for school buses
Public and private senior high schools and colleges	1 off-street space per employee plus 1 space per 5 students
Residential, Multi-Family	2 off-street spaces per 1-bedroom dwelling unit. 2.5 off-street spaces per 2-bedroom dwelling unit. 3 off-street spaces per 3- or more-bedroom dwelling unit.
Residential, Single Family (attached or detached)	2 off-street spaces per single-family dwelling unit.
Warehouse	1 off-street space per 500 square feet of gross floor area.
All other uses not specifically mentioned.	1 off-street space per 500 square feet of gross floor area.

Minimum Parking Standards				
Parking angle		Stall Width	Stall Length	Aisle Width
90	Oversized auto Full-size auto	10'-0" 9'-0"	20'-0" 19'-0"	25'-0" (2-way)
Parallel	Oversized + full-size auto	15'-0"	23'-0"	20'-0" (2-way)
45	Oversized auto Full-size auto	10'-0" 9'-0"	22'-0" 20'-0"	16'-0" (1-way)
60	Oversized auto Full-size auto	10'-0" 9'-0"	24'-0" 22'-0"	15'-0" (1-way)
Handicap stall w/ramp		13'-0"	20'-0"	25'-0" (2-way)

A 60:40 parking ratio shall apply to oversized and full sized vehicles. Sixty percent of spaces shall be reserved for full-sized vehicles and forty percent of spaces shall be reserved for over-size vehicles. This assumes that the required number of handicap parking spaces will be incorporated.

<i>Number of Parking Spaces Required</i>	<i>Number of Handicapped Spaces Required</i>
1--12	1
13--24	2
25--74	3
75--100	4
101--199	5
200--299	6
300--399	7
400 and above	8 plus 1 for each 200 additional parking spaces provided

4. Motorcycle Parking

- a. Motorcycle parking should be clearly distinguishable from automobile parking, with the location of motorcycle parking stalls designed in such a way so as to encourage their orderly parking.
- b. Parking areas should be paved with concrete in order to support kickstand pressure.

5. Bicycle Parking

- a. Locations for bicycle parking should be easily accessible to building entrances for both customers and employees, to maximize their ease of use and visibility.
- b. Avoid positioning of racks where they will obstruct building entrances, or the flow of pedestrian traffic.
- c. Consider the use of shelters to provide protection from the elements, and coordinate their design with adjacent buildings or street furniture.
- d. Select bicycle racks that provide options for use by a range of bicycle types, and for a variety of security devices.

6. Shared Parking Among Multiple Buildings or Lots

- a. Shared parking among adjacent uses, especially those with staggered peak parking demands is encouraged

7. Provisions for Future Parking

- a. Multi-phase projects should anticipate the size requirements for future parking, and reserve adequate space for that purpose, as well as taking into consideration the possibility of changes in use of the buildings within the development.

D. SIGNAGE

1. General

All signage shall conform to the City of Fort Lupton Sign Code (Chapter 16 Article VII of the Fort Lupton Municipal Code), and should serve to inform, identify, direct; each structure within the development shall be clearly identifiable, and the overall development shall demonstrate a uniform and comprehensive sign design package. All signage, from development signs through individual identification signage, should contribute to the aesthetic appeal of the development, yet remain secondary to architectural and landscape design

elements. The following elements shall be included, in addition to those contained within the City of Fort Lupton Sign Code. In the case of a conflict among two or more differing regulations, the most restrictive shall apply. A comprehensive sign plan shall be submitted with the preliminary plat. A permit shall be required for all signs.

The following sign controls are intended to protect and preserve the visual quality of the roadways within the City of Fort Lupton. The controls are intended to prevent the visual obstruction and interference of vehicular traffic from improperly placed and designed signs. These guidelines address the magnitude, placement and number of signs.

All signage shall serve to inform, identify, and direct; each structure within the development shall be clearly identifiable, and the overall development shall demonstrate a uniform and comprehensive sign design package. All signage, from development signs through individual identification signage, should contribute to the aesthetic appeal of the development, yet remain secondary to architectural and landscape design elements. The following elements shall be included and are outlined herein. In the case of a conflict among two or more differing regulations, the most restrictive shall apply. A building permit shall be required for all signs.

Sign controls are intended to protect and preserve the visual quality of the roadways within Commercial and Industrial zone districts. The controls are intended to prevent the visual obstruction and interference of vehicular traffic from improperly placed and designed signs. These guidelines address the magnitude, placement and number of signs.

2. Coordination of Design

- a. All signage shall be coordinated throughout (all phases of) the development, so as to give the appearance of a unified, cohesive development as well as to contribute to the overall design theme of the development.

3. Location/Placement

- a. Monument signs shall not be placed within the sight triangle of any intersection or access drive with a public right-of-way or private drive. No sign shall be erected at or near the intersection of any roads or driveways in such a manner as to obstruct free and clear vision of motorists or at any location where, by reason of the position, shape or color, it may interfere with, obstruct the view of or be confused with any authorized traffic sign, signal or device. Signs located at an intersection must be outside of the sight distance triangle.
- b. Monument signs should be located in a planter setting within a landscaped area.

- c. Tenant signage on the back/rear elevations of structures visible from non-retail properties, or public rights-of-way, may be prohibited. Excepted is non-illuminated delivery or door identification signage not exceeding two (2) square feet in size.
- d. All signage shall be sufficiently visible from public rights-of-way so as to provide maximum visibility and notice of site access points for both pedestrians and persons traveling in motor vehicles.
- e. Signs shall not be placed on roof slopes.
- f. All elevated signs (whether freestanding or building-mounted) shall be mounted at least seven (7) feet from grade, or otherwise provide adequate overhead clearance so as to not endanger pedestrian, bicycle or vehicular traffic.
- g. The following signs are prohibited in all districts:
 - i. Signs that appear to or are designed to move, rotate, revolve, spin, swing, wave or make any other motion whatsoever (excluding special event signs or pennants as permitted under this Article).
 - ii. Signs that have a fountain, chaser or string of lights that are blinking.
 - iii. Use of any sound or noise-making device or instrument for the purpose of advertising beyond the immediate confines of the business.
 - iv. No sign shall be erected or placed in such a manner that it would interfere with any traffic vision/sight triangle, as recognized by the City. Except as otherwise provided in this Chapter, no sign shall be placed on utility poles or in a street right-of-way, nor shall interfere with any traffic control or device, or pedestrian thoroughfare.
 - v. Portable or moveable advertising signs or devices of any kind (except as otherwise allowed by a special event sign permit or A-frame or footed vertical sign permit).
 - vi. No sign that is attached to a building or a structure shall be erected upon or above the roof or parapet of the building or structure, unless such sign is engineered to withstand the wind-load requirements of the applicable building codes as adopted by the City. Application for a permit for such sign shall be accompanied by two (2) copies of engineered drawings properly stamped by an engineer licensed in the State.
 - vii. Any sign or pennant that is damaged, tattered, torn, broken or so lacking in maintenance that it becomes a nuisance, hazard or danger.

- viii. Any vehicle displaying signage which is not connected with the vehicular use of the vehicle except that when special event circumstances exist, such as a special sale or occasional event, a written permit may be applied for from the Sign Administrator with the term of the permit being limited to the term of the special sale or event, but no longer than ten (10) days. This Section shall not apply to service or delivery vehicles, painted or signed and parked in a normal manner, that is, not at the edge or corner of commercial property as additional signage. Also, an owner of a vehicle may have one (1) "For Sale" sign in one (1) or two (2) windows of one (1) of their vehicles in the driveway of their residence or, if there is no driveway, in one (1) vehicle of theirs on the street directly in front of their residence, with no permit necessary and with no time limit; provided, however, that such vehicle may not be a derelict vehicle as prohibited in this Code.
- ix. Any sign, which advertises or directs attention to a business, commodity, service or activity conducted, sold or offered elsewhere than on the lot on which the sign is located. With prior written approval from the Planning Commission, those signs that require Colorado Department of Transportation approval may be exempted from this regulation.

4. Materials

- a. All signage shall in general be constructed of high quality, durable materials that complement the commercial and industrial development.

5. Allowable Sign Types

- a. Signage shall not exceed total allowable by street frontage or building frontage. For the first one hundred (100) feet of frontage, one and one-half (1½) square feet of signage per one (1) foot of frontage. For each additional foot of frontage, an additional one (1) square foot of signage.
- b. One (1) ground mount/monument or pole/freestanding per street frontage is permitted. The maximum is two (2) per site if on different street frontages and two hundred (200) feet apart as measured in a straight line.
- c. Projecting signs and marquee signs shall be limited in projection to two (2) feet from the building wall, marquee or any architectural appendages on which they are attached.
- d. Wall signs or window signs shall not exceed twenty percent (25%) of the area of the building elevation on which they are situated. Such signs may not at any point extend above the parapet wall or eaves of the structure on which they are attached. In addition, such signs may only be mounted on the side of the structure, which has frontage on a public right-of-way or public street, or provides public access to the building.

- e. Accessory/identification sign: one (1) sign per building, not to be illuminated, and not to exceed two (2) square feet in size.
- f. Construction/development sign: one (1) per development, during construction or major modification, not to exceed thirty-two (32) square feet, maximum eight (8) feet in height, minimum ten (10) feet from any property line, and non-illuminated.
- g. On-premises directional signs: shall not fifty (50) square feet and will not be placed to interfere with vision.

6. Illumination

- a. Individually raised letters are generally required for wall signage, and the use of individually cut, backlit letters is encouraged.
- b. The source of external lights directed at a sign surface shall be hidden or otherwise concealed from the view of pedestrians and motorists.
- c. Any signage visible from a public right-of-way must not compromise public safety.
- d. Lighting of signs shall be by indirect illumination only.



E. EXTERIOR LIGHTING

1. General

Exterior lighting should be used to provide security and safety throughout the commercial and industrial development, while being designed to augment and complement the overall design of the development. Minimal site lighting should be maintained in order to provide safe pedestrian and vehicular movement, while minimizing glare. Sweeping laser and searchlight beams projected into the sky are prohibited.

Exterior lighting should be designed to meet the functional and security needs of a site or development, without adversely affecting adjacent properties. Lighting should facilitate the convenient and safe use of circulation systems and activity centers, for both pedestrians and vehicles. Lighting can also be used to enhance the appearance of the site's structures and landscaping.

Light levels off-site shall be evaluated by the Planning and Building Department with regard to impacts on:

- a. Private Property (Residential and Commercial)
- b. Natural Areas
- c. Public right of Ways

COMMERCIAL

- a. Poles and fixtures shall be aesthetically compatible with all other fixtures on site.
- b. Install all lighting fixtures so as to shield or confine light spread to a specific area.
- c. Specify lighting levels that are adequate for visibility, but which shall not create glare for pedestrians or those operating vehicles.
- d. All building entrances must be well lighted.
- e. Subject to the provisions of Section III.E.2.b., light poles located within landscaped and plaza areas shall not exceed twenty (20) feet in height, with a maximum pedestal height of eight (8) inches.
- f. Metal halide or other white light fixtures shall be used in all external lighting appliances; high-pressure sodium is not allowed in any external lighting application.
- g. The nighttime illumination of architectural features of a building or accent lighting with the use of decorative lights that are consistent with the architectural character is desirable.
 - i. The use of colored lights, with the exception of seasonal holiday lighting is-prohibited.
- h. All lighting throughout a development should have a single overall unifying theme.
- i. All light sources shall be shielded so that light will not shine onto adjacent properties
- j. All exterior lighting shall be installed in such a manner that the light source will be sufficiently obscured to prevent excessive glare onto public streets.



- k. The installation of lighting that may be confused with warning signals, emergency signals or traffic shall not be permitted.
- l. Background spaces, such as parking lots, should be illuminated as unobtrusively as possible to meet functional needs of safe circulation and the protection of people and property.
- m. Foreground spaces, such as building entrances, should use lighting that defines the space without distractions or glare.
- n. Light standards shall be in scale with the height and use of the related structure.
- o. The style of standards and fixtures shall be consistent with the style and character of the use and architecture of the site.
- p. The use of new energy-efficient lighting technology, such as solar-powered fixtures, is encouraged.
- q. Sources of illumination, being lamps or direct images of lamps by reflectors, shall not be visible from off site.
- r. All luminaries shall be down directional and classified as full cutoff where directional lighting may be avoided.
- s. Directional luminaries, where used, may not be aimed in a manner where they cause glare that may negatively impact
 - i. Movement of vehicles or equipment
 - ii. Safety of personnel on or off site
 - iii. Security
 - iv. Visual comfort of persons off site
- t. All lighting shall be turned off when not specifically required for safety and security when the building is not in use.

INDUSTRIAL

- a. Poles and fixtures shall be aesthetically compatible with all other fixtures on site.
- b. Install all lighting fixtures so as to shield or confine light spread to a specific area.
- c. Specify lighting levels that are adequate for visibility, but which shall not create glare for pedestrians or those operating vehicles.
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- g. All light sources shall be shielded so that light will not shine onto adjacent properties.
- h. All exterior lighting shall be installed in such a manner that the light source will be sufficiently obscured to prevent excessive glare onto public streets.
- i. The installation of lighting that may be confused with warning signals, emergency signals or traffic shall not be permitted.
- j. Background spaces, such as parking lots, should be illuminated as unobtrusively as possible to meet functional needs of safe circulation and the protection of people and property.
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 - i. Movement of vehicles or equipment
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 - iv. Visual comfort of persons off site
- r. All lighting shall be turned off when not specifically required for safety and

security when the building is not in use.

2. Location/Placement

a. Building/Design Lighting

COMMERCIAL

- i. Lighting that accents building features and creates visual interest is permitted, provided that design continuity is maintained among buildings.
- ii. Lighting fixtures mounted directly on structures may be allowed when used to enhance specific architectural elements, or to help establish scale or provide visual interest.
- iii. “Wall Paks” are permitted only in loading and service areas, and should be down-lit and shielded from view.
- iv. Illuminators or fixtures used to light building mounted signage, building façades, or pedestrian arcades should be integrated into the building’s architectural design, and shall not compromise the health, safety or welfare of the community.
- v. Consideration should be given to highlighting entrances, art, terraces and special landscape features.

INDUSTRIAL

- i. “Wall Paks” are permitted only in loading and service areas, and should be down-lit and shielded from view.

b. Parking Lot Lighting

- i. Parking lot lighting should be unobtrusive and provide safe light for parking lot activity.
- ii. Ensure that all parking lot light fixtures are similar in design for all surface-parking areas.
- iii. Metal halide lighting with a concealed light source of the “cut-off” variety should be used to prevent glare onto adjacent buildings and sites.
- iv. Separate pedestrian scale lighting should be provided for all pedestrian ways through parking lots.
- v. The maximum height of parking lot poles shall be thirty-five (35) feet measured from finished grade.

vi. Light poles shall be located within medians wherever possible, and shall have a maximum base height of three (3) feet.

c. Pedestrian Area Lighting

i. Walks shall be lighted for the safe passage of pedestrians, as should areas that are dangerous if unlit, such as stairs, ramps, intersections and underpasses.

ii. Use of lighting bollards or other low level fixtures is encouraged to identify pedestrian walkways and drop-off areas at entrances to buildings.



iii. All primary walkways, steps or ramps along pedestrian routes shall be illuminated.

iv. The use of incandescent or metal halide lamps is strongly encouraged.

v. Building mounted fixtures should be used for walkways or plazas near buildings.

d. Landscape Lighting

i. Landscape lighting should enhance or complement, not overshadow, landscaping.

ii. Landscape lighting should be designed to be effective during all seasons of the year, and through the life of the landscape.

iii. Wherever possible, fixtures shall be concealed (e.g., in trees behind rocks) in order to control glare and avoid extreme bright spots on the surrounding landscape.

e. Site Security Lighting

i. Site security lighting should not impact negatively upon the site, building architecture, or adjacent properties.

ii. No light source (e.g., bulb) shall be directly visible from adjacent properties, except those that are motion- or IR- activated, and which remain lit for no more than one (1) minute per activation.

iii. Only as much illumination as is necessary to provide safety and security of the affected area should be used.

3. Light Intensity

- a. A photometric lighting plan is required for all new commercial and industrial development, in order to ensure adequate and appropriate light levels throughout the development.
- b. The current Lighting Handbook and Recommended Practices of The Illuminating Engineering Society shall be the guide for all lighting designs.
- c. The following levels of illumination shall be maintained at the maximum intensity level:

	Retail	Industrial
i. Building Entrances	5.0 foot-candles	5.0 foot-candles
ii. Sidewalks (within development)	2.0 foot-candles	2.0 foot-candles
iii. Bikeways (within development)	1.0 foot-candle	
iv. Courts/Plazas/Terraces	1.5 foot-candles	
v. Ramps	5.0 foot-candles	
vi. Stairways	5.0 foot-candles	
vii. Waiting Areas	5.0 foot-candles	
viii. Underpasses		5.0 foot-candles
ix. Parking Lots	5.0 foot-candles	3.0 foot-candles
x. Roadways	2.0 foot-candles	2.0 foot-candles
xi. Loading Docks	5.0 foot-candles	5.0 foot-candles

Illuminated areas shall be measured as: Area in minimum average, maintained horizontal, foot-candles that are measured at the average point of illumination between the brightest and darkest areas three (3) feet above the ground surface.

- d. Site lighting should provide consistent levels of illumination, avoiding irregular pockets (either bright or dark).

Minimum Recommended Lighting Levels

	<i>Commercial</i>	<i>Industrial</i>
Building Area	1.0	1.0
Walk/ Paths	1.0	0.6
Parking Lots	1.0 - 2.0	0.6 - 1.0
Street Lighting	0.8 - 1.2	0.6 - 0.9
Loading Docks	2.0	2.0

F. UTILITIES

All new electrical, cable and phone utilities should be installed underground to minimize unsightly visual impacts.

G. LANDSCAPING

1. General

Landscaping is an integral component of commercial and industrial development, and a high quality landscape plays an important role in enhancing the quality of life of the community. Landscaping is extremely important for enhancing the quality of development in the area. Trees, shrubs and other plantings add greatly to the aesthetic appeal while controlling erosion, reducing glare, moderating temperatures, buffering sounds and blocking or diverting wind. As no single landscaping plan can be prescribed for all developments due to differing land features, topography and soils, these guidelines encourage flexible and creative landscape designs.

Landscaping must be sensitive to the characteristics and maintenance requirements of the planting selected. Plant species that are hardy for the climate and soil conditions in the area that can tolerate traffic, are resistant to disease and insects and whose maintenance needs can be met should be selected.

All improvements should consider the context of the area and the region, as a whole as well as people that will use the spaces. The character of this area is defined by the views of the Front Range of Colorado and large, open expanses of undeveloped land. Development within this area should strive to fit into this open, expansive environment while creating comfortable, functional, environmentally sensitive places. The following landscape standards set minimum requirements for development within the area.

Landscaping for commercial and industrial areas within each building site shall serve to:

- 1) enhance the aesthetics of commercial and industrial development,
- 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) serve as buffers between incompatible land uses or site areas.

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

2. Guidelines

Landscape plans shall utilize the following Xeriscape design principles to promote water conservation:

1. Approved planting schemes;
2. Appropriate turf selection to minimize the use of bluegrass;
3. Use mulch to maintain soil moisture and reduce evaporation;
4. Plant materials with similar microclimatic needs and water requirements should be clustered together when designing and installing the landscape improvements;
5. Improve the soil with organic matter if needed;
6. Provide for efficient irrigation; and
7. Proper maintenance and irrigation schedules.

The use of native species should be maximized. Where native plant material is not appropriate for the intended use or appearance, species that are regionally adapted and noninvasive may be used. Landscape improvements shall consist of a variety of species to enhance the visual aspect, as well as the functional aspect (such as shading, windbreaks, etc.) of the landscaped area.

Fescue, brome/fescue, saltgrass or other drought-tolerant turf types shall be used in lieu of bluegrass, where heavy foot traffic is not anticipated.

Buildings and parking areas should be located in a manner that will preserve existing healthy trees of desirable species. Where feasible and appropriate, all individual trees of a desirable species, of four-inch caliper size or larger, and groupings of small trees shall be preserved. Site design and construction techniques shall be used to minimize the impact on those trees and assure their survival. This requirement is not intended to prevent the removal of unhealthy trees in conjunction with site development.

Landscape improvements shall be integrated into the overall site design for each property. New landscaped areas should be designed and constructed in a manner that maximizes their connection within the site, as well as to other natural and landscaped areas off-site. Small isolated islands of landscaping should be

minimized except as required in parking lots and for screening along roadways or adjacent properties.

In order to provide for ongoing health and appearance of landscape improvements, all landscaping shall be maintained and replaced by the landowner as necessary. The property owner shall be responsible for proper pest control, irrigation, fertilization, pruning and other maintenance of the landscape. Plant materials exhibiting evidence of insect or disease infestation or other damage shall be appropriately treated. Dead plant material shall be removed and replaced.

Unless the landscape improvements were installed by the City of Fort Lupton or other public or quasi-public entity, the commercial/industrial owners association or their assignees shall be responsible for maintenance of landscaping within the portion of the right-of-way between the back of curb (or edge of shoulder if no curb) and the adjacent property line.

Landscaping plans should be designed and constructed to minimize the loss of solar access on adjacent properties.

3. Adjacent to Public and Private Roadways

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.

COMMERCIAL

- a. Include a combination of manicured and enhanced natural landscape areas.
- b. Place annual and perennial gardens at entries.
- c. Place project identification markers along the perimeter edge of all commercial developments.
- d. Design long expanses of fence and wall surfaces to create landscape pockets.
- e. Sod should not be used in planting areas 2 feet or less in width, and may be replaced with stone (of acceptable size), mulch and the like.
- f. Parkway and Median Plantings



- i. Vary street tree planting species in medians and parkways. However, maintain the desired rhythm of plantings by selecting street trees with similar characteristics (i.e., height and branching patterns).
- ii. 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 along with fully irrigated sod or other approved ground cover.
 - b) Provide an additional 1 tree per 40 lineal feet of street frontage within 10 feet outside the sidewalk, internal to the development.
 - c) Provide a minimum of 8 shrubs per tree plus ground cover or grass lawn outside the sidewalk, internal to the development.
- iii. 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.
 - b) Provide a minimum of 5 shrubs per tree plus perennial flowerbeds, ground cover or grass lawn within 20 feet of the edge of curb.
- iv. Where meandering sidewalks are proposed:
 - a) Provide a minimum of 1 tree per 20 lineal feet of public and private street frontage.
 - b) Accompany the trees with a variety of shrubs and ground covers and make berming an integral component of the landscape design.
 - c) Provide a minimum of 8 shrubs per tree plus perennial flowerbeds, ground cover or grass lawn.
- v. To prevent interference with motorist visibility, plant parkway trees a minimum of 5 feet from the back of curb and choose shrubs that do not exceed 24" mature height.
- g. 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, service areas and interior roadways (e.g., gasoline station "pads," drive-thru lanes, etc.). Provide adequate shrub plantings to create a dense visual buffer between parking lots and perimeter roadways. Whenever practical, incorporate berming with a maximum 5:1 slope

within this planting strip.

- h. Sight Lines at Intersections and within Medians:
 - i. Provide adequate lines of sight for an effective sight triangle as measured from the right of way. (Refer to Section 16-102 of the City of Fort Lupton Municipal Code).
 - i. Provide a diversity of landscaping materials at entry drive to development parcels.
 - j. Provide a minimum of 3 levels of scale, including shade, evergreen, and/or ornamental trees, shrubs, annual and perennial flowers, and ground covers.
 - k. Plant clusters that appear as a cohesive visual element, and that complement the overall landscape theme and palette.
 - l. Integrate the plant design with the entry sign. Plantings should frame or provide a visual base for the signs.

INDUSTRIAL

- a. Include a combination of manicured and enhanced natural landscape areas.
- b. Place project identification markers along the perimeter edge of all industrial developments.
- c. Design long expanses of fence and wall surfaces to create landscape pockets.
- d. Sod should not be used in planting areas 2 feet or less in width, and may be replaced with stone (of acceptable size), mulch and the like.
- e. Parkway and Median Plantings
- f. Vary street tree planting species in medians and parkways. However, maintain the desired rhythm of plantings by selecting street trees with similar characteristics (i.e., height and branching patterns).
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- h. Provide a minimum of 5 shrubs per tree plus perennial flowerbeds, ground cover or grass lawn within 20 feet of the edge of curb.

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 - m. Provide a diversity of landscaping materials at entry drive to development parcels.
 - i. Provide a minimum of 3 levels of scale, including shade, evergreen, and/or ornamental trees, shrubs, annual and perennial flowers, and ground covers.
 - ii. Plant clusters that appear as a cohesive visual element, and that complement the overall landscape theme and palette.
 - iii. Integrate the plant design with the entry sign. Plantings should frame or provide a visual base for the signs.

4. Adjacent to Abutting Property

Visual buffers should be provided between differing land uses to accomplish transitions and to mitigate potential conflicts 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 20 lineal feet of property line and appropriate shrubs, ground cover and/or turf areas.
- 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 incorporating an average 3 foot high berm,

having a 5:1 slope, 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.

Whenever the use of a property to be developed or redeveloped will conflict with the reasonable use of an adjoining property, a buffer zone should be constructed between the two (2) uses (see Landscape Buffer Diagram). The buffer may be accomplished through the use of a combination of setbacks, berms, plantings, low walls and fencing. However, in no event shall a fence be the only screening material used. The buffer shall moderate the impact of noise, light, unattractive visual elements and traffic.

Landscape Buffer



Provide a Landscaped Buffer Between Dissimilar Uses

- c. Common/Shared Access Drives:
 - i. Provide a minimum 8-foot wide buffer strip along both sides of a shared access drive when no sidewalk is included.
 - ii. Provide a minimum 12-foot wide buffer strip along both sides of a shared access drive where a sidewalk is included.

5. Parking Lot Landscaping

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. Parking lot landscaping must be designed so as not to obstruct the views of vehicle drivers.

COMMERCIAL

All commercial development parcels shall provide a minimum of twenty percent (20%) of landscaped area. This area does not include building footprints, the hard surface or landscaped areas of parking lots or driveways. However, it can include sidewalks and other pedestrian paths (not within the parking lot), outdoor plazas, water features and any required landscaped setbacks

- a. Use low, opaque walls and/or flowering plants combined with berms and/or raised planters to create a dense visual buffer of parking areas from peripheral streets or frontages.

Berms and shrub or tree planting shall be used to screen parking lots from view of the roadway. Berms can vary in height, depending on location and proximity of existing trees. Berms shall have smooth transitions from the top of the curb to the setback line so as not to create snow traps, with allowance made for placement of the sidewalk. Grading of berms shall not be rough or abrupt. Berming shall also be used as a tool to reduce noise especially if the area that exhibits noise is adjacent to residential property.

Landscaping techniques shall be used to alleviate the harsh visual appearance that accompanies parking lots. At least seventy-five percent (75%) of the length of the frontage of the parking lot must be screened

- 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.
- 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).

At least ten percent (10%) of the area of a parking lot must be landscaped if the lot contains ten (10) or more spaces. This ten percent (10%) is in addition to the twenty percent (20%) of the entire lot area that must be landscaped. At least seventy-five percent (75%) of the required landscape area shall include living plant material.

- 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.
- e. Landscaped Islands
 - i. Provide a minimum 10-foot wide landscaped island at the end of every row of parking, equal in length to the length of the parking space(s).
 - ii. Provide a minimum of 2 canopy shade trees in each island with a minimum mature canopy of 20 feet.
 - iii. In addition to the trees, plant each island with a minimum of 8 shrubs, not exceeding 3 feet in height at maturity.
- f. Landscaped Medians

i. Place landscape medians between every other parking bay in lots for more than seventy-five (75) cars.

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

iii. Provide a minimum of 1 canopy shade tree and 8 shrubs for each 30 lineal feet of median.



iv. The use of landscape medians is encouraged as a transition slope between parking bays on hillside parking lots (maximum slope of 4:1).

g. Loading, service and storage areas visible from the public rights-of-way or adjacent properties must be screened with an opaque screen that is an integral part of the building architecture or landscape design. Chain link fencing with slats, fabric, plastic or similar integrated fence materials, tires or used building materials are not acceptable screening.

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

INDUSTRIAL

All industrial development parcels shall provide a minimum of ten percent (10%) of landscaped area. This area does not include building footprints, the hard surface or landscaped areas of parking lots or driveways. However, it can include sidewalks and other pedestrian paths (not within the parking lot), outdoor plazas, water features and any required landscaped setbacks

a. Use low, opaque walls and/or flowering plants combined with berms and/or raised planters to create a dense visual buffer of parking areas from peripheral streets or frontages.

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- 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.
- 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).

At least five percent (5%) of the area of a parking lot must be landscaped if the lot contains twenty (20) or more spaces. This ten percent (10%) is in addition to the twenty percent (10%) of the entire lot area that must be landscaped. At least seventy-five percent (75%) of the required landscape area shall include living plant material.

d. Landscaped Medians

- i. Place landscape medians between every other parking bay in lots for more than one hundred fifty (150) cars.
 - ii. Where walkways in medians will not be utilized, the medians may be reduced to a width of 8 feet.
 - iii. Provide a minimum of 1 canopy shade tree and 8 shrubs for each 30 lineal feet of median.
 - iv. The use of landscape medians is encouraged as a transition slope between parking bays on hillside parking lots (maximum slope of 4:1).
- e. Loading, service and storage areas visible from the public rights-of-way or adjacent properties must be screened with an opaque screen that is an integral part of the building architecture or landscape design.
 - f. Where head-in parking occurs, locate all shrubs a minimum of 3 feet from the edge of the parking lot curb.

6. Building Site Landscaping

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.

COMMERCIAL

- a. Use landscaping that is of appropriate scale relative to the proposed adjacent structures.
- b. Intensify landscaping at building entrances.
- c. No less than twenty-five (25%) percent of the building perimeter shall be planted with multi-stemmed ornamental trees, shrubs, perennial flowers, and ground cover. Emphasis should be given to landscaping along the front building elevation. Provide additional landscaping around the perimeter of buildings to soften the edge between sidewalks/parking lots and structures.
- d. Protect landscaping from vehicular and pedestrian encroachments with raised planting surfaces, depressed walks, and/or curbs.
- e. Use clay, concrete, or wood containers with flowering annual and perennial plants to enhance sidewalk shops, plazas and courtyards.
- f. Minimum Landscape Area required within each building site and within the entire development shall be 30%.
- g. Landscaping within Public Easements
 - i. Landscaping within public easements is limited to shrubs, ground cover, and small ornamental trees. No canopy/shade trees may be planted within such easements.
 - ii. Berms are generally acceptable within public easements in conjunction with plant material. Berming is not to be used instead of plant material.

INDUSTRIAL

- a. Use landscaping that is of appropriate scale relative to the proposed adjacent structures.
- b. Intensify landscaping at building entrances. Not required if the building is for maintenance of vehicles or storage of equipment.
- c. No less than fifteen (15%) percent of the building perimeter shall be planted with multi-stemmed ornamental trees, shrubs, perennial flowers, and ground cover. Emphasis should be given to landscaping along the front building elevation. Provide additional landscaping around the perimeter of buildings to soften the edge between sidewalks/parking lots and structures.

- d. Protect landscaping from vehicular and pedestrian encroachments with raised planting surfaces, depressed walks, and/or curbs.
 - e. Minimum Landscape Area required within each building site and within the entire development shall be 15%.
 - f. Landscaping within Public Easements
 - i. Landscaping within public easements is limited to shrubs, ground cover, and small ornamental trees. No canopy/shade trees may be planted within such easements.
 - ii. Berms are generally acceptable within public easements in conjunction with plant material. Berming is not to be used instead of plant material.
7. Landscape Irrigation and Water Conservation

Every effort should be made to conserve water by utilizing alternative means for maintaining a suitable landscape environment.

- a. Incorporate xeriscape concepts into the landscape design of each commercial and industrial development without compromising the intent to establish significant visual amenities through landscaping. For example:
 - i. Incorporate a “zoned planting scheme” to reduce water demand by grouping similar varieties of plants that are drought and disease tolerant.
 - ii. Use drought tolerant plant species suitable to the climate that have minimum watering and pruning requirements.
 - iii. The use of water conserving grasses, such as fescue sods, is encouraged. Limit the use of bluegrass. All areas to be planted should receive, at minimum, a soil amendment of 3 cubic yards per one thousand (1,000) square feet.
 - iv. 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.
 - v. 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.

- b. The developer is encouraged to investigate alternative sources of irrigation water for all landscaped areas. Alternative sources shall be owned and maintained by the developer or an association formed for such purpose.

8. Landscape Standards and Plant Material Selection

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 are encouraged from the Recommended Plant Materials List. (Appendix A)

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:

- i. High Maintenance Zone (located at site and building entrances and pedestrian areas.) This zone may include:
 - a) Manicured 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
- ii. Medium Maintenance Zone (located along perimeter roadways) this zone may include:
 - a) Drought tolerant grasses that 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
- iii. 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. Selection of plant materials is encouraged from the Recommended Plant Materials List, and in light of the following standards and guidelines:
- i. Select plant materials based on suitability to climate, setting and compatibility with other development plantings, character and functions.
 - ii. Select plant materials that are free of disease and harmful insect problems.
 - iii. The quality of plant material selected will follow the guidelines of the “American Standard for Nursing Stock” by the American Association of Nurserymen.
 - iv. Proper drainage is required for all major plantings to ensure the establishment of a good root system and healthy growth.
 - v. The installation and ongoing, regular, maintenance of landscaping shall generally follow the procedures set forth by the American Association of Landscape Contractors and its local agencies.
 - vi. 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 Subdivision Improvement Agreement.
 - vii. A performance guarantee is required to ensure completion of landscaping.
 - viii. Artificial plants of any type, size or color are not allowed as exterior landscaping within any development parcel.
- c. Encourage the use of water conserving landscapes by minimizing irrigated sod areas (such as blue grass) that require significant watering and maintenance. In general, where grass lawn areas are used, choose a species that will require low maintenance in cutting and less watering than typical blue grass (fescue or saltgrass sods are encouraged).
- d. Grasses should provide an immediate cover and sod is recommended. In less irrigated/non-irrigated areas, plant various grasses in groupings for effect.
- e. Choose plant materials that provide variety and year-round color and screening. Select materials that highlight each season:

- i. Spring: Flowering plants
 - ii. Summer: Shade
 - iii. Fall: Leaf color
 - iv. Winter: Branch form and texture; evergreen
- f. Edging is required to separate grass areas from shrubs, ground cover and mulch.
 - g. Utilize porous paving materials for paths, plazas, etc., such as patio bricks, inter-locking pavers, concrete stepping-stones and/or sandstone.
 - h. Plant annual and perennial flowerbeds in visible areas such as pedestrian plazas and building entries.
 - i. Mulching:
 - i. All planting beds should be mulched with wood or decorative rock to stabilize soils, control erosion, and conserve water use.
 - ii. Use organic mulch materials that are best suited and adapted for the local area.
 - iii. Decorative rock may not constitute more than 50% of the total mulched area.
 - iv. Rock mulch is discouraged in landscaped islands within parking lots.
 - j. Use landscape or weed barrier fabric within all shrub beds and mulched areas to control weeds.
 - k. All Landscape Plans should be prepared by a qualified or registered Landscape Architect.

9. Planting Size Standards

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

- a. Provide landscaping according to the following minimum sizes:
 - i. Deciduous shade/canopy trees: 2.0" caliper[†]

- ii. Ornamental trees: 2.0" caliper
- iii. Evergreen trees: 6'-8' height (with a minimum of 25% 8' in height)
- iv. Multi-stem Ornamentals: 8'-10' height
- v. Shrubs: 5 gallon container
- vi. Vines: 1 gallon container
- vii. Ground Cover/Perennials: 2-1/4" pots, 6" Triangulation

10. Landscape Maintenance and Replacement

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

- a. The commercial/industrial owners association or property owner or their assignees, if no association is present will remove and replace dead or diseased plant materials immediately with the same type, size and quantity of plant material as originally installed.
- b. Avoid replacing landscape materials during the dry winter months between December and February and in midsummer (July and August).

11. Existing Vegetation

Special attention should be paid to preserving within each commercial and industrial 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.

- 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. The inventory is to be prepared by a botanist, licensed arborist or landscape architect.
- b. Locate site and building improvements to preserve significant natural vegetation.
- c. Preserve and incorporate into the landscape plan, any existing healthy tree 6" caliper or larger and located more than 20 feet from any proposed building location. Preserve all trees over 24" caliper unless deemed unhealthy or unsuitable for preservation.

- 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.
- e. Incorporate tree wells or retaining walls as necessary in the landscape plan to protect existing trees. Maintain historic drip lines.

12. Site Furniture and Features

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.

a. Outdoor Seating

- i. Use outdoor seating that is comfortable, attractive, durable and easy to maintain.
- ii. Locate benches at major building entryways, drop-off areas, pedestrian courtyards and plazas.
- iii. Locate benches in areas that receive direct sunlight in the winter are sheltered from winds and shaded in the summer.
- iv. Where seating is fixed, provide a variety of arrangements (both linear and grouped), which accommodate two (2) to six (6) persons.
- v. Picnic tables or similar shall be screened from public rights-of-way and adjacent properties, complexes or structures.

b. Planters and Waste Receptacles

- i. Design planters and waste receptacles to coordinate with other furniture.
- ii. Use materials and colors similar to those used for benches.

c. Tree Grates

- i. Use tree grates to prevent excessive soil compaction and to give added interest to the pavement. Choose tree grates that are fabricated of a strong, durable material. In areas that receive heavy use, tree guards may be appropriate to give added protection to young trees.

d. Trash dumpsters

- i. Provide a concrete pad a minimum of 8 feet wide to provide truck access to dumpster locations.
- ii. Enclose and landscape around all trash dumpsters.

H. WALLS AND FENCING

1. General

Fences and walls should be decorative in nature, and generally contribute to the visual quality of the project or development, while being by design as unobtrusive as possible. A combination of fencing and landscaping should be incorporated wherever practicable. A permit shall be required for all walls.

2. Requirements



- 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.
- b. All authorized outside storage shall be screened.
- c. Screen from view all outdoor areas used for the display, storage, or sale of seasonal inventory. Use fencing, walls, and/or landscaping.
- d. Screen all utility equipment, meters and transformers from view with fencing, walls, and/or landscaping.

3. Design and Materials

- a. Walls and fencing shall be constructed of material(s) that are compatible with, and complementary of, the adjacent building architecture.
- b. Retaining walls in excess of thirty (30) inches in height should be avoided whenever a reasonable alternative is available.
- c. Perimeter fences and walls (those forty-two (42) inches in height or greater) shall incorporate 360-degree architecture.
- d. Chain-link and related fencing shall not be used without the written approval of the Planning Director, on a location-by-location basis.
- e. Fences and walls shall be constructed from durable material such as stone, brick, metal having a dark finish (e.g., wrought iron), vinyl or any

combination approved by the Planning Department. Wood shall not be used exclusively as a primary material for perimeter fencing.

- f. Concrete walls are permitted only when faced with masonry or stone, or if the surface is scored or textured.

I. CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN GUIDELINES

Crime Prevention Through Environmental Design, CPTED, is based on the idea that the proper design and effective use of the built environment can lead to a reduction in the incidence and fear of crime, and an improvement in the quality of life. In other words, if a site is laid out well, the likelihood of it being targeted for a crime may be reduced. All commercial and industrial developments platted after the effective date of these Commercial and Industrial Design standards will include as part of the review process compliance with the basic CPTED principles listed below:

1. Natural Surveillance is the placement of physical features, activities and people in a way that maximizes visibility and utilizes design features to increase the visibility of a property or a building.
2. Natural Access Control is the physical guidance of people coming and going from a space by the judicious placement of entrances, exits, fencing, landscaping and lighting.
3. Territoriality is the use of physical attributes that express ownership such as fences, signage, landscaping, lighting, pavement designs, etc.

IV. COMMERCIAL AND INDUSTRIAL BUILDING DESIGN

A. Architectural Design

1. General

The architectural design of commercial and industrial structures shall consider, accommodate, the overall Uniform Baseline Standards to create and enhance the livability and ambience of the community, while creating or contributing to a unique sense of place. In areas with existing structures, the architectural design of new projects should serve to enhance, rather than detract from, existing design.

2. Setbacks

The setback of buildings, structures or parking lots along streets and roadways is an important component in creating a visually pleasing and sensitive edge treatment for development. Variation from a uniform building or parking lot alignment along streets and roadways is generally appropriate, to add interest to the streetscape; however, where there is a strong and established character of

alignment, it may be more appropriate to align with existing building facades, fences or parking lots. Setbacks can also be used to provide space for buffering structures and/or parking lots from streets and public rights-of-way where needed.

In newly developed areas, encourage variation of building setbacks to add interest and/or improve the appearance of the streetscape, allow for differences in building height and mass, or to accommodate natural or man-made constraints such as topography, existing trees or utility lines.

In developed areas, where there is an established and identifiable setback, new development shall be designed to align with existing setbacks, to the extent practicable.

Setbacks shall be measured from the edge of the future street right-of-way.

Setbacks shall be landscaped and, where additional screening is needed, berming shall be incorporated into the setback.

Signage placed within landscaped setbacks shall be integrated into the design of the site's frontage and conform to baseline sign standards.

When aboveground utility facilities (i.e., vaults, pedestals, etc.) are proposed within a landscaped setback, such facilities shall be placed in a location and manner that allows for screening of the facilities, while providing adequate access to such facilities.

Locating parking lots between the front of the building and the public right-of-way is discouraged. Parking lots should be located on the sides or behind buildings. The surrounding of buildings or wrapping of project perimeters with parking lots is strongly discouraged.

Setbacks from primary roadway corridors is 100 feet from future rights-of-way line and fifty feet from future rights-of-way line for secondary roadway corridors.

- a. Building and parking lot setbacks are measured from property lines after dedication of all required future rights-of-way.
- b. Building setbacks are based on a maximum building height of thirty-five (35) feet buildings approved with heights in excess of thirty-five (35) feet have additional setback requirements.

- c. The following building and parking lot setbacks shall apply to new development only, unless specifically waived in writing by the Planning Department:

CATEGORY	BUILDING SETBACK	PARKING SETBACK
Arterial and Collector Streets	50 ft ^a	25 ft
Local Streets	35 ft	25 ft
Internal Access Drives ^b	20 ft	20 ft
Interior Property within the commercial and industrial development	20 ft	10 ft
Other Property Line adjacent to Non-Residential property	20 ft	10 ft
Other Property Line adjacent to Residential or Public Property ^{c, d}	50 ft	25 ft

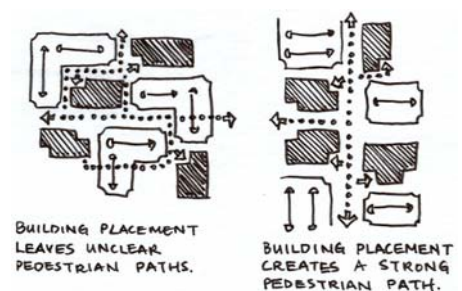
- a. 40 feet with 100% landscaping between the Property Line and the building (no parking or paving within this area).
- b. Primary, private, access drives that connect to public streets. Sidewalks may be situated within these setbacks (measurement from the face of the nearest curb along the drive.)
- c. No wall of any drive-thru business, liquor store, car wash or automobile service station is permitted within 100 feet of any residential district boundary.
- d. At minimum, a masonry wall of no less than eight (8) feet in height is required within the setback area adjacent to residential or public property. Additional buffering, such as increased wall height and intensive landscaping may be required. Fencing may also be considered in limited applications, in conjunction with berming, increased setback and intensive landscaping.

- d. For infill development the setbacks shall conform to the requirements of the underlying zoning district per Article II Chapter 16 of the City of Fort Lupton Municipal Code.

3. Coordination of Design

The use of “360-degree” architecture shall be required for all commercial and industrial structures; all sides of all structures shall be subject to the same architectural style, materials, and details as the front elevation.

- a. All structures within a development, shall maintain a consistent style/architectural [Campus Design] theme; this includes all “pads” within a retail development, and/or other accessory structures.



- b. In general, buildings should be oriented in relation to one another so as to create meaningful pedestrian plazas or corridors.

4. Building Height and Massing

Building heights should be minimized and of compatible scale with existing or planned development; the base of each building should appear to be “weightier” or “anchored” closely to the ground (through the use of heavier, larger or darker building materials), although actual building heights are expected to vary, in particular adjacent to major public roadways and, possibly, along the perimeter of the development. Buildings should provide visual interest at the scale of the pedestrian, which appear to both reduce mass and relate to local architectural character. Buildings should relate to geographical features and one another in their massing and forms; “box-like” structures comprised of large or plain unarticulated vertical surfaces shall not be acceptable.

The height of buildings is a major factor in defining the character of an area or region. Building height can impact important views and view corridors, limit access to sunlight, increase shade and affect the level of privacy in residential neighborhoods and developments.

In some areas, taller buildings may be appropriate, especially around the existing or proposed Interchanges. The interchanges provide an opportunity to cluster higher density development in those areas that have the best vehicular access.

Building height plays a significant role in establishing the scale and character of an area and/or region, the building placement must be carefully considered with respect to existing structures, topography and views.

The height of a building shall be compatible with its site and existing (or planned) adjacent buildings. The relationship between height and bulk shall be considered in determining where additional height may be appropriate.

Commercial and industrial structures should be sited to avoid a "wall" effect along public rights-of-way and along adjacent property lines. This can be achieved by varying the building setbacks and clustering buildings.

Where multiple buildings are proposed on a development parcel, buildings should be oriented to allow views into the project as well as preserving high quality views through the project, e.g., views of the Front Range.

Avoid large square or rectangular box-like structures by incorporating vertical and horizontal articulation into the building design

- a. The maximum height of any commercial and industrial building shall be consistent with that described within the appropriate zoning district; Architectural elements (e.g., domes, towers, spires, crosses) may exceed the maximum height limit for the district.



New development should relate to adjacent open space and be compatible with, and transition from, the height of adjacent existing or planned development.

- b. Façades in excess of fifty (50) feet in length must incorporate architectural features and/or treatments to diminish apparent building mass.
- c. Similarly, other techniques shall be incorporated for the purpose of reducing the apparent massing and scale of buildings. The following techniques should be used to accomplish this requirement; additional techniques proposed by the applicant may be considered:
 - i. Variations in façade color and/or texture.
 - ii. Variations in roof forms and heights of roof elements.
 - iii. Compositions that emphasize floor lines, or otherwise express rhythms and patterns of windows, columns, and other architectural features.
 - iv. Express the position of each floor in the external design:
 - v. Terracing, articulated structural elements, a change in materials, or the use of belt courses or similar horizontal trimbands of contrasting color and/or materials can be used to define floor lines.
 - vi. Use windows, trellises, wall articulation, arcades, material changes, awnings or other features to avoid blank walls at ground floor levels.
 - vii. The use of materials relatable to human proportions, such as brick, tile, and modular stone. (As well as stucco, glass and decorative tiles.)
 - viii. Columns, pilasters, canopies, porticos, awnings, brackets, arches or other such architectural features.
 - ix. Windows revealing or accentuating indoor amenities and activities.

5. Roof Forms and Materials

Three-dimensional rooftops are encouraged, and a variation in roofline is suggested to assist in reducing the scale of large buildings. Likewise, rooftops should contribute to the overall unified appearance of the development, and consideration should be made regarding their appearance from multiple angles (in particular, higher areas, ground level and roadways).



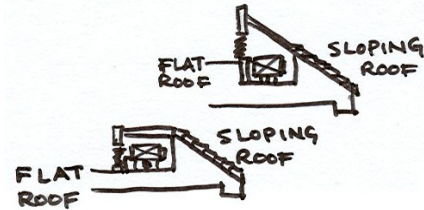
- a. Continuous rooflines in excess of fifty (50) feet should be avoided.
- b. Flat roofs are prohibited, unless concealed through the use of parapets.

- c. Each building should have a defined top, which can be accomplished with the use of cornices, caps, parapets, or other features.



- d. Roof forms should be designed so as to denote building elements and functions such as pedestrian entrances, arcades and porches; overhanging eaves, sloped roofs and three or more roof planes may be required.

- e. Roof forms should relate to adjacent buildings or developments.



- f. Flat canopies must be designed so as to create a strong architectural association with the principal associated building. Columns must be constructed so as to provide a visual appearance of substance.

- g. Roof top mechanical units shall be screened from view, using architecturally integrated screening units, roof parapets or sloped roof forms that appear as integral elements of the overall building design.

- i. If anticipated to be visible from any existing or future surrounding building, property or street, all rooftop equipment must be painted to match the surrounding rooftop color(s).

- h. Sloped roofs and canopies shall be covered with high quality roofing materials approved by the Planning Department, such as natural clay tiles, slate, concrete tiles (having natural texture and color), and high quality standing seam metal roofing, or high profile, three-dimensional asphalt/fiberglass shingles. Metal roofs shall have a low gloss finish to reduce glare.

6. Building Materials and Colors

Exterior materials and colors shall be aesthetically pleasing, of a high quality and compatible with the materials and colors of adjacent or nearby structures. Material such as metal can be used as long as it does not dominate the structure.

- a. Building Materials

COMMERCIAL

- i. Exterior wall materials must be muted, and the use of brick, masonry, stone, fluted or split-faced block and stucco as primary building materials shall be required.
 - a) A variance from the requirement to use brick, masonry, stone or stucco as the primary building material will be considered only when the design and use of an acceptable alternate building material is incorporated into a set of overall design guidelines.
- ii. Materials for use in conjunction with brick, masonry, stone and stucco include:
 - a) Pre-cast concrete
 - i) Must have integral color, contain other materials embedded within and be articulated with design detailing, or have application of other building materials to create detailed design interest.
 - b) Tilt-up concrete panels with brick or stone facing.
 - c) Wood siding may be considered for use in limited applications, but not as a primary building material.
- iii. Highly reflective materials, such as bright aluminum and glass, are not permitted as the primary building material, in particular at the pedestrian level.
- iv. Large blank, featureless or uniform surfaces are prohibited.
- v. The use of heavier materials, such as natural stone and masonry materials, on the lower three (3) to five (5) feet of buildings to help visually anchor them to the ground is encouraged.
 - vi. High quality, low-maintenance materials are encouraged, as are durable building materials that will age well.

INDUSTRIAL

- i. Highly reflective materials, such as bright aluminum and glass, are not permitted as the primary building material, in particular at the pedestrian level.
- ii. Large blank, featureless or uniform surfaces are prohibited.

- iii. The use of heavier materials, such as natural stone and masonry materials, on the lower three (3) to five (5) feet of buildings to help visually anchor them to the ground is encouraged.
- iv. High quality, low-maintenance materials are encouraged, as are durable building materials that will age well.

b. Building Colors

- i. In general, subdued colors typical of the muted native grasses, wood, rocks and soil of the high Colorado plains natural setting are to be used as primary colors. The use of warm and darker tones, with low reflectivity is recommended.
- ii. Accent and trim colors shall complement and enhance the effect of the primary building color.
- iii. Roof colors shall be muted or otherwise compatible with the dominant building color.
- iv. Use of bright colors (including bright white) that may streak, fade or generate glare is discouraged.
- v. A bright or primary color used for accent elements such as door and window frames, and architectural details may be considered when incorporated into a set of overall design guidelines.

7. Prohibited or Restricted Elements – Commercial Only

The following examples of prohibited or restricted elements are to be considered an inclusive, but not exhaustive list of such elements.

- a. The use of smooth faced concrete block and large expanses of unarticulated stucco shall be prohibited as a predominant exterior building material.
- b. Building or design elements that may function as signage.
- c. Roof lights.
- d. Translucent, plexiglass, glossy metal, or backlit vinyl awnings or illumination of such awnings.
- e. Reflective or mirrored glass at pedestrian levels.

8. Architectural Details

a. Building Entrances

- i. Building entrances should be easily identified through the use of design and detailing, as well as relate to the human scale.
- ii. Locate main entrances to be clearly identifiable from primary driveways and drop-offs. Incorporate clearly defined, highly visible customer entrances for principal building within a development. Commercial buildings must enhance each entrance with at least 4 of the following features, Industrial buildings must incorporate 2:
 - a. Canopies or porticos;
 - b. Overhangs;
 - c. Recesses/projections;
 - d. Arcades;
 - e. Raised corniced parapets over the door;
 - f. Peaked roof forms;
 - g. Arches;
 - h. Outdoor patios;
 - i. Display windows;
 - j. Architectural details such as tile work and moldings that are integrated into the building structure and design;
 - k. Integral planters or wing walls that incorporate landscaped areas and/or places for sitting.
- iii. Primary entrances should be designed so as to be accessible to handicapped users without the need for complex ramp systems.
- iv. All entrances shall be effectively lit.
- v. The use of entranceways as transitions from the building to the ground, through the use of walls, terraces, grading and plant materials should be considered.
- vi. The use of terraces or porticos to define entrances should be considered.

c. Windows/Glass

- i. The use of highly reflective or glare producing glass with a reflective factor of .25 or greater is prohibited.
- ii. Clear or tinted glass shall be used for storefronts, windows and doors.
- iii. The use of windows is required in areas where there exists significant pedestrian activity, or to assist in breaking up the appearance of blank and/or unarticulated walls.
 - a) Windows should generally be for display purposes or to allow for viewing both into and out of the interior of the building.

d. Service, Loading and Trash Areas

- i. Service areas should be visually unobtrusive and integrated within the overall design theme of the building or development and landscape, so that the architectural design features are continuous and uninterrupted.



- a) Dumpsters, other trash receptacles and recycling containers shall not be visible above the height of the surrounding enclosure that is integral to the building.
- b) To enhance the general safety of the dumpster enclosure, the interior ground area of the enclosure should be clearly visible from the entrance to the enclosure, with a minimum 8-inch vertical opening.
- ii. Service entrances, loading docks, waste disposal areas and other similar uses should be oriented away from arterial and collector streets, and residential areas; such areas should be screened with fencing, walls, and/or landscaping consistent with that used elsewhere within the development.
- iii. Location of service areas should be coordinated with adjacent developments, so as to maximize the use of shared service drives.

d. Mechanical Equipment

- i. Ground level mechanical equipment including, but not limited to, compressors, air conditioners, antennas, pumps, heating and ventilating equipment, emergency generators, chillers, elevator penthouses, water tanks, stand pipes, solar collectors, satellite dishes and communications equipment, shall be screened so as to be visually unobtrusive and integrated within the overall design theme of the building or development

and landscape, so that the architectural design features are continuous and uninterrupted.

- ii. The location of building mounted equipment (e.g., mechanical, refrigeration, electrical, gutters, downspouts, etc.) must result in these elements being hidden or screened so as to be minimally obtrusive.
 - a) Building mounted elements shall be painted or otherwise match the color of the surrounding building material.

9. Energy Conservation

- a. All buildings should be energy efficient to conserve natural resources. Appropriate design considerations include, but are not limited to:
 - i. Siting and design should be conducted so as to maximize the use of solar gain, while not depriving adjacent (existing and proposed) buildings of a similar opportunity.
 - ii. Orient and cluster buildings so as to take advantage of prevailing summer winds, while buffering against adverse winter wind conditions.
 - iii. Various building materials and their associated insulation characteristics.
 - iv. Arrangement and design of windows and doors.
 - v. Direct solar or photovoltaic activity.
 - vi. Earth sheltering with creative land forming.
 - vii. Natural ventilation of outdoors, indoor and attic spaces.

10. Site Furniture

- a. Site furnishings, including but not limited to benches, waste receptacles, planters, railings and bollards are required, and must complement the overall design theme of the development.
- b. All components should be low maintenance, highly durable and resistant to vandalism and theft.
- c. Outdoor Seating
 - i. Locate benches at major building entryways, drop-off areas, pedestrian courtyards and plazas; other areas to be considered are those that receive

direct sunlight in the winter, are sheltered from winds and shaded in the summer.

- ii. Where seating is fixed, provide a variety of arrangements (linear and grouped), which accommodate two (2) to six (6) persons.

d. Planters and Waste Receptacles

- i. Planters and waste receptacles should be designed so as to coordinate with other furniture.

e. Tree Grates

- i. Should be used to prevent excessive soil compaction and to give added interest to the pavement. Tree grates should be fabricated of a strong, durable material.

11. Accessory Structures

- i. Accessory structures must incorporate matching design and materials of the primary building.
- ii. The location of United States Postal Service mail, express mail and other delivery structures (e.g., kiosks) and areas shall not interrupt the normal course or flow of pedestrian or vehicular traffic.

Exhibit A

Recommended Plant Material List

Latin Name	Common Name	Height X Width	Water Demand*
Shade Trees			
Acer negundo "Sensation"	Sensation Box Elder	40'-50' X 30'-40'	L
Acer platanoides	Norway Maple	40'-50' X 40"-50"	M
Aesculus glabra	Ohio Buckeye	25'-30' X 25'	M
American (Tilia Americana), Littleleaf (Tilia cordata)	Linden varieties	50'-70' X 30'-50'	M
Catalpa speciosa	Western Catalpa	50'-60' X 30'-40'	L
Celtis occidentalis	Hackberry	40'-60' X 40'-60'	L
Celtis reticulata	Native Hackberry	30' X 30'	X
English (Quercus robur), Northern Red (Quercus rubra), Swamp White (Quercus bicolor)	Oak varieties	45'-60' X 50'-70'	M
Fraxinus pennsylvanica lanceolata	Green Ash Varieties	50'-60' X 25'-35'	L
Fraxinus americana	Ash, Autumn Purple	40'-50' X 40'-50'	M
Gleditsia triacanthos inermis	Thornless Honeylocust varieties	40'-50' X 35'-45'	L
Gymnocladus dioica	Kentucky Coffeetree	50'-60' X 40'-50'	X
Quercus macrocarpa	Bur Oak	50'-60' X 45'-60'	L
Small Trees			
Acer ginnala	Maple, Ginnala	15'-20' X 12'-20'	L
Acer grandidentatum	Wasatch Maple	25'-30' X 20'-25'	L
Acer tataricum	Maple, Tartarian	12'-15' X 8'-10'	L
Alnus glutinosa	Alder	25' X 25'	
Amelanchier grandiflora, Amerlanchier Canadensis, Amelanchier leavis	Serviceberry varieties	12'-15' X 10'-15'	M
Cercis canadensis	Redbud	20' X 20'	M
Crataegus ambigua	Russian Hawthorn	15'-25' X 20'-25'	L
Crataegus erythropoda	Native Hawthorn	20' X 20'	X
Crataegus viridis	Winter King Hawthorn	20' X 25'	L
Crataegus phaenopyrum	Washington Hawthorn	15'-25' X 12'-20'	L
Koeleruteria paniculata	Goldenrain Tree	20'-30' X 20'-25'	L
Malus spp. (choose CSU fireblight resistant)	Crabapples	18'-25' X 18'-25'	M
Prunus	Cherry, sour	20' X 25'	M
Prunus ceracifera	Newport Plum	20' X 25'	M
Prunus nigra	Princess Kay Plum	15' X 10'	M
Ptelea trifoliata	Wafer Ash	10'-15' X 10'-15'	L
Quercus gambelii	Gamble Oak	8'-20' X 6'-8' (spreading)	X
Sorbus scorpolina	Mountain Ash	15'-20' X 15'-18'	L
Syringa reticulata	Japanese Lilac Tree	20'-25' X 15'	M
Ussurian (Pyrus ussuriensis), Calleryana (Pyrus calleryana)	Pear, Ornamental	30'-40' X 15'-30'	M
Washington (Crataegus phaenopyrum), Thornless Cockspur (Crataegus crus-galli "Inermis) and others	Hawthorn varieties	10'-15' X 10'-15'	M
Evergreens**			
Dwarf Evergreens	many varieties	varies	M
Juniper horizontalis, Juniperus Sabina, Juniperus chinensis	Spreading Juniper	varies – minimum 4' wide	L

<i>Juniperus monosperma</i>	Native Upright Juniper	25'-30' X 16'-20'	X
<i>Juniperus scopulorum</i> , <i>Juniperus virginiana</i> , <i>Juniperus chenensis</i>	Upright Juniper	varies – minimum 6' wide	L
<i>Mahonia fremontii</i>	Freemont Mahonia	5'-8' X 5'-8'	X
<i>Picea pungens</i>	Colorado Spruce	50' X 20'	M
<i>Picea</i> spp.	Black Hills Spruce and other varieties	Varies, including dwarf varieties	M
<i>Pinus aristata</i>	Bristlecone Pine	20'-30' X 10'-20'	X
<i>Pinus cembroides edulis</i>	Pinon Pine	15'-20' X 15'-20'	X
<i>Pinus contorta latifolia</i>	Lodgepole Pine	50'-70' X 10'-15'	X
<i>Pinus mugo</i>	Mugo Pine	Varies	L
<i>Pinus nigra</i>	Austrian Pine	40'-60' X 30'-40'	L
<i>Pinus ponderosa</i>	Ponderosa Pine	50'-60' X 20'-30'	X
<i>Pinus sylvestris</i>	Scotch Pine	30'-50' X 20'-30'	L
<i>Pseudotsuga menziesii</i>	Douglas Fir	50' X 20'	M
Shrubs Over Six (6) Feet Tall			
<i>Acer glabrum</i>	Maple, Rocky Mountain	15'-20' X 15'	M
<i>Amelanchier alnifolia</i>	Saskatoon or Mountain Serviceberry	8'-12' X 8'-12'	L
<i>Amelanchier alnifolia</i> 'Regent'		Regent 6'X6'	
<i>Aronia arbutifolia</i> "Brillantissima"	Brilliant Red Chokeberry	6' X 5'	M
<i>Artemisia tridentatum</i>	Sagebrush, Tall Western	6' X 6'	X
<i>Buddleia davidii</i>	Butterfly Bush varieties	6'-10' X 4'-8'	L
<i>Buddleia alternifolia</i> "Argentia"	Alternate-Leaf Butterfly Bush	8'-10' X 8'-10'	L
<i>Caragana arborescens</i>	Peashrub, Siberian	12'-15' X 8'-10'	L
<i>Cercocarpus ledifolius</i>	Mountain Mahogany, Curlleaf	15' X 10'	X
<i>Cercocarpus montanus</i>	Common Mountain Mahogany	8'-10' X 6'-8'	X
<i>Chaenomele speciosa</i>	Quince, Tall Flowering	12' X 10'	M
<i>Chrysothamnus</i> sp.	Rabbitbrush, Tall	4'-6' X 4'-6' (spreading)	X
<i>Cotoneaster lucidus</i>	Peking Cotoneaster	8'-10' X 8'-10'	L
<i>Cytisus</i> x varieties	ScotchBroom	6' X 6'	L
<i>Forestiera neomexicana</i>	Privet, New Mexico	8'-15' X 8'-12'	L
<i>Forsythia</i> x <i>intermedia</i> Northern Sun, Meadowlark, etc.	Forsythia, cold hardy varieties	8'-10' X 10'-12'	M
<i>Hibiscus syriacus</i>	Rose of Sharon	8'-10' X 8'-10'	L
<i>Kolkwitzia amabilis</i>	Beauty Bush	8'-10' X 8'-10'	L
<i>Ligustrum vulgare</i> "Cheyenne"	Privet, Common Cheyenne	12'-15' X 12'-15'	L
<i>Lonicera</i> varieties	Honeysuckle	8'-10' X 8'-10'	M
<i>Mahonia aquifolium</i>	Evergreen Oregon Grape Holly	6'-10' X 6'-10' (slow growing)	L
<i>Phamnus smithii</i>	Smith's Buckthorn	8' X 8'	L
<i>Philadelphus coronarius</i>	Mockorange, Sweet	10'-12' X 10'-12'	L
<i>Physocarpus opulifolius</i>	Ninebark, Common	8'-10' X 10'-12'	L
<i>Prunus americana</i>	American Wild Plum	10' X 15' (spreading)	X
<i>Prunus cistina</i>	Purple;leaf Plum	8'-12' X 8'-12'	M
<i>Prunus tomentosa</i>	Nanking Cherry	10' X 15'	L
<i>Prunus triloba</i>	Rose Tree of China	8' X 8'	M
<i>Rhamnus frangula</i> "Colimnaris"	Tall Hedge Buchthorn	12'-15' X 4'-6'	L
<i>Rhus glabra</i>	Sumac, Smooth	12'-15' X 12'-15' (spreading)	X
<i>Rhus trilobata</i>	Sumac, Three-leaf	6'-8' X 8' (spreading)	X
<i>Rhus typhina</i>	Sumac, Staghorn	15' X 10'	X
<i>Ribes aureum</i>	Currant, Yellow Flowering	5' X 6'	X
<i>Rosa</i>	Rose, Harrison's, Austrian Copper, Persian	Varies	L
<i>Rosa glauca</i>	Rose, Red=leaf shrub	8' X 8'	L
<i>Sorbaria sorbifolia</i>	Ural False Spirea	4'-8' X 6'-8' (spreading)	L
<i>Spirea</i> x <i>vanhouttei</i>	Spirea, Vanhoutte	6' X 8'	M
<i>Syringa meyeri</i> or <i>Syringa patula</i>	Lilca, Dwarf Korean	6' X 8'	M

<i>Syringa vulgaris</i>	Lilac, Common Purple	10'-12' X 10'-12'	L
Wayfaring Tree (<i>Vibumum lantana</i>), Blackhaw (<i>Vibumum prunifolium</i>), Burkwood (<i>Vibumum burkwoodi</i>), American Highbush Cranberry (<i>Vibumum</i> varieties) and other varieties	Vubumum varieties	6'-15' X 6'-15'	M
Shrubs Under Six (6) Feet Tall			
<i>Amorpha nana</i>	Leadplant, Dwarf	2'-3' X 2'-3'	X
<i>Aronia melanocrpa elata</i>	Black Chokeberry	4'-5' X 4'	L
<i>Atriplex canescens</i>	Four Wing Saltbush	3'-5' X 3'-4'	X
<i>Berberis</i> spp.	Barberry varieties	Varies from 2' X 2' to 5' X 5'	L
<i>Caryopteris incana</i>	Blue Mist Spirea	3'-4' X 4'-5'	L
Ceratoides or Krascheninnikovia lanata	Winerfat	2'-4' X 2'-4'	X
<i>Cercocarpus ledifolius intricatus</i>	Littleleaf Mountain Mahogany	3'-5' X 3'-5'	X
<i>Chaenomeles japonica</i>	Quince, Dwarf Flowering	4' X 8'	M
<i>Chamaebatiaria millefolium</i>	Fernbrush	5' X 5'	X
<i>Chrysothamnus</i> sp.	Rabbitbrush, Dwarf	1'-4' X 2'-4' (spreading)	X
<i>Contoneaster apiculatus</i>	Contoneaster, Cranberry	2' X 4'	M
<i>Cotoneaster divaricatus</i>	Contoneaster, Spreading	4' X 4'-6' (spreading)	L
<i>Cowania mexicana</i>	Cliffrose	4' X 6'	X
<i>Cytisus purgans</i> "Spanish Gold"	Spanish Gold Scotch Broom	4' X 6'	L
<i>Daphne burkwoodii</i> "Carol Mackie"	Carol Mackie Daphne	4' X 4'	M
<i>Ephedra viridis</i>	Mormon Tea	2'-3' X 2'-3'	X
<i>Euonymous fortunei</i>	Euonymous	Coloratus 2' X 8' Sarcoxie 4' X 4'	M
<i>Fallugia paradoxa</i>	Apache Plum	3'-5' X 3'-5'	X
<i>Genista</i> varieties	Woadwaxen	Varies 1' X 3' X 2' X 4'	L
<i>Holodiscus dumosus</i>	Rock Spirea	3' X 6'	X
<i>Hypericum patalun</i> "Hidcote"	Hidcote St John's Wart	3' X 4'	M
<i>Jamesia americana</i>	Waxfower	4' X 4'	X
<i>Ligustrum vulgare</i> "Lodense	Privet, Lodense	4' X 4'	M
<i>Mahonia aquilifolium</i> "Compacta"	Compact Evergreen Oregon Grape Holly	3' X 3'	L
<i>Perovskia atriplicifolia</i>	Russian Sage	3'-5' X 3'-5'	L
<i>Philadelphus</i>	Mockorange, Dwarf	6' X 6'	L
<i>Physocarpus monogynus</i>	Ninebark, Native	4' X 4'	X
<i>Physocarpus opulifolius nana</i>	Ninebark, Dwarf	6' X 6'	L
<i>Potentilla fruticosa</i> garden varieties	Potentilla varieties	2' X 2' up to 4' X 4'	L
<i>Potentilla fruticosa</i>	Potentilla, Native	3' X 3'	X
<i>Prunus Besseyi</i>	Western Sandcherry	4' X 4'	X
<i>Prunus besseyi</i> "Pawnee Buttes"	Sandcherry, Pawnee Buttes	2'-3' X 6'-10'	L
<i>Rhus aromatica</i> "Gro-low"	Sumac, Gro-low	2'-3' X 6'-8'	L
<i>Rhus glabra cis-montana</i>	Sumac, Rocky Mountain	3' X 8' (spreading)	X
<i>Ribes alpinum</i>	Currant, Alpine	5' X 5'	L
<i>Ribes cereum</i>	Currant, Squaw or Wax	2'-4' X 2'-4'	X
<i>Rosa Rugosa</i>	Rose, Rugosa Shrub	2' X 2' to 5' X 5'	L
<i>Rosa Woodsii</i>	Rose, Native	4'-5' X 4'-5' (spreading)	X
<i>Rubus deliciosus</i>	Boulder Raspberry	6'-8' X 6'-8' (arching)	X
<i>Spirea</i> varieties	Spirea varieties	Varies, 2'-6' X 2'-6'	M
<i>Symphoricarpos albus</i>	Coralberry, White	4'-5' X 4'-6'	L
<i>Symphoricarpos orbiculatus</i>	Coralberry, Red	4'-5' X 4'-6'	L
<i>Symphoricarpos oreophilus</i>	Coralberry, Mountain Snowberry	4' X 4' (spreading)	X
<i>Symphoricarpos x chenaulti</i> "Hancock"	Coralberry, Hancock	2' X 12'	L
<i>Viburnum</i> varieties	Viburnem varieties	Varies, 5'-12' X 5'-12'	M
<i>Yucca</i>	Yucca varieties	3' X 3'	X

Grasses - ornamental			
Arundo donax	Bamboo Grass	12' X 6' (spreading)	L
Bouteloua gracilis	Blue Gramma Grass	4" tall 15" with seed heads	X
Buchloe dactyloides	Buffalo Grass	4"-6"	X
Calmagrostis acutiflora varieties	Feather Reed Grass varieties	4' X 2'	L
Carex spp.	Sedge varieties	12" X 12"	M
Chasmanthium latifolium	Northern Sea Oats	2'-3' X 2'	M
Erianthus ravannae	Plume Grass	12' X 4"	L
Festuca ovina glauca	Blue Fescue Grass	1' X 1'	L
Festuca varieties	Turf-type Tall Fescue Grasses		L
Helictotrichon sempervirens	Blue Avena Grass	2' X 2'-3'	L
Imerata cylindrical "Red Baron"	Japanese Blood Grass	1'-2' X 1'-2'	M
Miscanthus	Maiden Grass varieties	Varies 3'-8' X 3'-6'	L
Panicum virgatum	Switchgrass	3'-4' X 2'-3'	X
Phalaris arundinacea "Picta"	Ribbon Grass	2' X 4'-6' (spreading)	M
Schizachyrium coparium	Little Bluestem	3' X 18"	X
Sorghastrum nutans	Indian Grass	3'-4' X 2'	L
Grasses - Sod			
<i>Festuca glauca</i>	Fescue		L
<i>Distichlis spicata var. stricta.</i>	Saltgrass		X
Perennials & Groundcovers			
Achillea "Moonshine"	Moonshine Yarrow	24"-30" X 24"-30"	L
Achillea serbica	Serbian Yarrow	6" X 12"	L
Agastache cana	Double Bubble Mint	24"-36" X 24"	X
Agastache rupestris	Sunset Hyssop	24' X 24"	X
Aguilegia	Columbine	12"-36" X 12"-36"	M
Alchemilla mollis	Lady's Mantle	2' X 2'	L
Alyssum monyanum	Mountain of Basket Gold	6'-10" X 1'-2'	L
Anemone pulsatilla or Pulsatilla vulgaris	Pasque Flower	8" X 12"	L
Anemone sylvestris	Spring Wildflower	10" X 24"	M
Anemone vitifolia "Robustissima"	Fall Grape-leaf Anemone	36" X 45"	M
Antennaria rosea	Pink Pusseytoes	2" X 6" (spreading)	L
Arctostaphylos uva-ursi	Kinnickinnick	6" X 6"	X
Armeria maritime	Sea Pink	12" X 12"	M
Artemisia frigida	Fringed Sage	12"-24" X 12"-24"	X
Artemisia versicolor	Seafoam Sage	12"-18" X 2'-3'	X
Aster Frikarti	Summer Aster	24" -30" X 24"	M
Aster novae-angliae varieties	New England Aster	2' X 2' (spreading)	L
Aster novi-belgii varieties	Dwarf Fall Asters	12"-15" X 2'-3'	L
Aubrieta or Arabis varieties	Rockcress	6" X 2' (spreading)	L
Baptisia australia	False Indigo	24" X 36"	L
Boltonia asteroides "Snowbank"	Boltonia, Snowbank	48"-60" X 48"	M
Brunnera macophylla	False Forget-me-not	12"-18" X 18" (spreading)	L
Callirhoe involucrate	Poppy Mallow/Wine Cups	5" X 30"	X
Campanula	Bellflower varieties	3" X 12" to 30" X 30"	M
Centranthus ruber	Red Valerian	3' X 3'	L
Cerastium tomentosum	Snow in Summer	6"-12" X 24"	L
Ceratostigma plumbaginoides	Plumbage	1' X 1' (spreading)	L
Coreopsis lanceolata	Coreopsis	1'-2' X 1'-2'	L
Coreopsis verticillata varieties	Moonbeam Coreopsis	24" X 24"	M
Delosperma nubigenum (Yellow)			
Delosperma cooperia (Purple)	Iceplant varieties	2"-3" X 2"	L
Digitalis lanata	Grecian Foxglove	18"-24" X 18"-24"	L

<i>Duchesnea indica</i>	Flae Strawberry	3"-6" X 24" (spreading)	L
<i>Echinacea purpurea</i>	Purple Coneflower	2'-3' X 2'-3'	M
<i>Echinops ritro</i>	Globe Thistle	3" X 3"	L
<i>Eriogonum umbellatum</i>	Sulpher Flower	15" X 24"	X
<i>Gaillardia</i> varieties	Blanket Flower	2'-3' X 2'-3'	L
<i>Galium odoratum</i>	Sweet Woodruff	4" X 24" (spreading)	M
<i>Geranium sanguineum</i>	Bloody Cranesbill	1' X 2'	L
<i>Geranium</i> varieties	Hardy Cransbill	8"-36" X 12"-36"	M
<i>Geum triflorum</i>	Prairie Smoke Avens	1' X 1'	L
<i>Helianthemum nummularium</i>	Sunrose	6" X 18"-24"	L
<i>Helianthus maximiliana</i>	Maximilian Sunflower	6'-8' X 4'	X
<i>Hemerocallis</i> varieties	Daylily varieties	18"-36" X 18"-36"	M
<i>Iberis sempervirens</i>	Candytuff	8" X 24"	M
<i>Iris siberica</i>	Iris, Siberian	24" X 24"	M
<i>Iris</i> varieties	Dwarf and Bearded varieties	Varies, 3'-4' X 3'-4'	L
<i>Knautia Macedonia</i>	Maroon Pincushion Flower	3' X 3'	L
<i>Kniphofia</i>	Red Hot Poker varieties	Varies, 3'-4' X 3'-4'	L
<i>Lamium maculatum</i> "White Nancy"	White Nancy Nettle	4"-6" X 2' (spreading)	L
<i>Lavendula angustifolia</i>	Lavender varieties	12"-24" X 12"-24"	L
<i>Leucanthemum</i> spp.	Daisy, Shasta	24"-36" X 24"-36"	M
<i>Liatris punctata</i>	Native Gayfeather	18" X 18"	X
<i>Liatris spicata</i> , garden varieties	Gayfeather	1'-2' X 1'	L
<i>Lilium</i>	Lily	24"-36" 12"	M
<i>Linum perenne</i> , <i>Linum lewisii</i>	Blue Flax	18" X 18"	X
<i>Lupinus</i>	Lupine varieties	12"-24" X 12"-24"	L
<i>Lychnis coronaria</i>	Rose Champion	12"-30" X 18"-30" (spreading)	L
<i>Mahonia repens</i>	Creeping Mahonia	12"-24" (spreading)	X
<i>Malva alcea</i>	Hollyhock Mallow	3' X 3' (seeds)	L
<i>Mirabilis multiflora</i>	Four-O'-Clock, wild	24"-48" X 24"-48"	X
<i>Monarda</i> varieties	Bee Balm varieties	2'-3' X 2'-3'	L
<i>Nepera x faassenii</i>	Catmint	1'-3' X 1'-3' depending on variety	L
<i>Oenothera macrocarpa</i>	Evening Primrose, Missouri	12"-15" X 24"	X
<i>Oenothera speciosa</i>	Showy Pink Evening Primrose	10" X 18"	L
<i>Paeonia</i>	Peony varieties	Varies, 36" X 36"	M
<i>Papaver orientalis</i>	Oriental Poppy	2'-3' X 2'-3'	L
<i>Penstemon</i>	Penstemon garden varieties	Varies 1'-3' X 1'-3'	L
<i>Penstemon</i> varieties	Penstemon varieties	Varies	X
<i>Persicaria affinia</i>	Himalayan Border Jewell	1' X 2'	L
<i>Phlomis russeliana</i>	Hardy Jerusalem sage	36" X 20"	L
<i>Phlox divaricata</i>	Sweet William	8"-12" X 12"-15"	M
<i>Phlox paniculata</i>	Tall Summer Garden Phlox	32"-48" X 30"40"	M
<i>Phlox subulata</i>	Phloz creeping	3"-4" X 12"-24"	M
<i>Physostegia virginiana</i>	Obedient Plant	2' X 2'	M
<i>Platycodon grandiflora</i>	Balloon Flower	24" X 24"	M
<i>Primula denticulate</i>	Himalayan or Drumstick Primrose	6"-12" X 8"-12"	M
<i>Ratibida columnifera</i>	Coneflower, 3-leaf yellow	15"-24" X 18"	X
<i>Rudbeckia fulgida</i> "Goldstrum"	Black-eyed Susan	24"-28" X 24"	M
<i>Salvia nemerosa</i>	Pernnial Salvia	Varies, 24" X 24"	L
<i>Salvia</i> spp.	Sage varieties, ornamental and cooking	1'-2' X 1'-2'	L
<i>Saponaria ocymoides</i>	Rock Soapwort	6" X 2' (spreading)	L
<i>Scabiosa caucasica</i>	Pincushion Flower	24" X 24"	M
<i>Scabiosa luncida</i>	Dwarf Pincushion Flower	6"-8" X 12"	L
<i>Sedum spectabile</i>	Tall Sedum varieties	18"-24" X 18"-24"	L
<i>Sedum spurium</i>	Low Sedum varieties	3" X 24" (spreading)	L
<i>Sempervirens</i> sp.	Hens & Chicks	2"4" X 2"4" (spreading)	X
<i>Sidalcea malviflora</i>	Prairie Hillyhock	3' X 3'	L

Solidago	Goldenrod varieties	varies, 12"-24" X 12"-24"	L
Sphaeralcea muhroans	Orange Globe Mallow	36"-24" X 18"-24"	X
Stachyz byzantina	Lamb's Ear	10"-12" X 24" (spreading)	L
Tanacetum densum amani	Partridge Feather	8"-10" X 2' (spreading)	L
Tanacetum niveum	Snow Daisy	18"-24" X 18"-24"	L
Teucrium Canadensis	American Germander	1' X 1'	L
Thermopsis divaricarpa	Golden Banner	18"-24" X 18"-24" (spreading)	X
Veronica pectinata	Woolly Veronica	3" X 24" (Spreading)	L
Veronica prostrata	Turkish Veronica	3" X 24" (spreading)	L
Veronica spicata	Tall Veronica varieties	24"-36" X 24"-36"	M
Vinca Minor	Evergreen Periwinkle	8"-10" X 2' (spreading)	L
Viola Corsica	Corsican Violet	4" X 4" reseeds	L
Waldsteinia fragaroides	Barren Strawberry	4"-6" X 24" (spreading)	L
Zauschneria	Hummingbird Palnt varieties	2'-3' X 2'	L
Vines			
Campsis radicans	Trumpet Vine		L
Clematis tangutica	Yellow Lantern Clematis	(climbing or scrambling)	X
Clematis terniflora, Sweet Autumn	Clematis varieties including large hybrid flowers		M
Hedera helix	English Ivy		M
Humulus lupulus	Hop Vine		M
Lonicera spp.	Honeysuckle varieties		M
Parthenocissus cuspidate	Virginia Creeper		L
Parthenocissus tricuspidata	Boston Ivy		M
Polygonum aubertii	Silverlace Vine		L
Vitis spp.	Grapes		M
Bulbs			
Allium sp.	Ornamental Onion		L
Crocus biflorus, Crocus sieberi, Crocus ancyriensis, Crocus chysanthus, Crocus tomasinianus	Species Crocus		L
Iris reticulata	Botanical Iris		L
Muscari spp.	Grape Hyacinth		L
Scilla spp.	Scilla		L
Tulipa linifolia, Tulipa batalinii, tulipa humilis, Tulipa vvedenskyi	Species Tulip		L

* Water Demand Symbols: Moderate = M, Low = L, Xeriscape = X

** Most Pine Trees & Junipers have low water requirements.