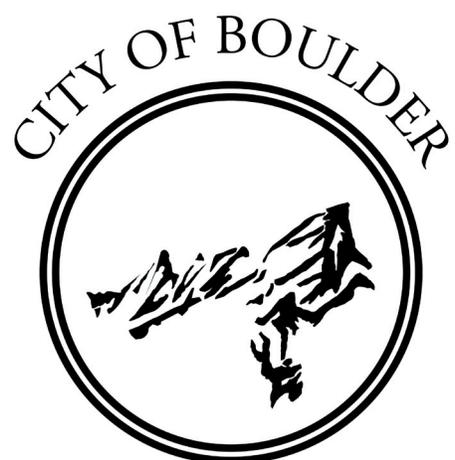


(City of Boulder)

Landscape Requirements for Streetscapes, Parking Lots and all other Developments





Planning and Development Services Center
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Introduction

The Boulder City Council adopted new landscape design standards for general landscaping, parking lots, and streetscapes on July 6, 1999. In May 2003, City Council amended the standards by strengthening the city's water conservation requirements. These standards are the land use code requirements that describe how specific portions of a development project must be designed. This brochure contains a summary of the new standards, plan submittal requirements, and sample landscape and irrigation plans. It is not intended to substitute for the actual code or for the *City of Boulder Design and Construction Standards*. For more detailed information and instruction, we recommend that you review the following documents which may be obtained at the Planning and Development Services Center:

- *Boulder Revised Code* (1981), Title 9, Land Use Regulation, Sections 9-9-12, 9-9-13, and 9-9-14.
- *City of Boulder Design and Construction Standards* (new edition adopted October 2000), Chapters 3, 10, and 11.
- Vol. 3 of the *Urban Storm Drainage Criteria Manual*, Urban Drainage and Flood Control District, Denver, Colorado.

If at any point in the review and permit process you have questions about these standards, call the Planning and Development Services Center at 303-441-1880 or e-mail us at plandevlop@bouldercolorado.gov.

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Helpful Information Before you Begin

Working The Public Right Of Way

Who's responsible for maintenance of the public right-of-way?

The planting area between the street and the property line within the public right-of-way is called the **landscape strip**. Although the landscape strip is owned by the city, the abutting property owner is required to maintain the area (Section 8-2-2, *Boulder Revised Code*). Tree removal or any maintenance activities involving trees in the public right-of-way must be authorized by the city forester and must conform with the standards in the *City of Boulder Design and Construction Standards* and the *Streetscape Design Standards*. For more detailed information about trees in the public right-of-way, please see Sections 6-6-3 through 6-6-7 and Section 9-9-13 of the *Boulder Revised Code*. The BRC may be found online at www.boulderplandevlop.net.

When do you need a right-of-way permit from the Planning and Development Services Center?

- When placing timber, rock, masonry or concrete retaining walls, or elevated planting borders.
- When removing or relocating any trees within the public right-of-way.

An adjacent property owner may make the following improvements to the landscape strip without obtaining a permit (Section 8-5-17, *Boulder Revised Code*):

- **Maintenance activities** including watering, mowing, raking and weeding.
- **Planting of living materials** with root systems no more than 10 inches below grade or that are 30 inches high when mature.
- **Placement of biodegradable mulches**
- **Installation of irrigation systems** that do not extend more than 10 inches below grade. Permission is required from the city forester before any large roots (3 inches in diameter or larger) are cut on public trees. The irrigation system should be designed to minimize root damage to trees.
- **Street tree planting** (Following city specifications outlined in Chapters 3, 10 and 11 of the *City of Boulder Design and Construction Standards* for any new tree plantings on public land, including species selection and spacing.) You will need to notify the Forestry Division before planting. You may also qualify for the Forestry Division's annual street tree planting program if you are not required to plant street trees as part of a development project.
- **Removal of sucker growth** from the base of tree trunks and removing small volunteer trees 1 inch in diameter or less.

What are the standards for protecting, removing and relocating street trees in the public right-of-way?

For all construction activities, an approved landscape plan is required prior to issuance of a building permit. The plan must show all existing trees in the public right-of-way and plans for removal or relocation. Please see Section 3.04 of the *City of Boulder Design and Construction Standards*, for a complete outline of the standards for tree removal and relocation and Section 3.05 for tree protection requirements on construction sites. Fees will be charged for damage to public trees.

What are the standards for planting street trees in paved areas?

Chapter 3 of the *City of Boulder Design and Construction Standards* outlines the standards for planting in tree grates and planting pits. Please see this document for tree grate and planter specifications and the city’s approved plant list for tree grates and planters.

What are the standards for planting street trees in non-paved areas?

Chapter 10.03 of the *City of Boulder Design and Construction Standards* outlines the standards for planting trees and shrubs in the public right-of-way. Please see this document for specifications and the city’s approved plant list.

Contacts

If you have questions about a public tree, the city forester will be happy to advise you. **Call 303-441-4406.**

Should you need to do any construction or temporarily place anything in the public right-of-way, (i.e. street, sidewalk, alley, easement, etc.) you will need a right-of-way permit. Work in the public right-of-way must be done by a city of Boulder licensed right-of-way contractor. Contact the **Planning and Development Services Center at 303-441-1880** for specific information.

Hours of Construction

The city of Boulder limits construction to specific times of the day. Work can be done seven days a week between the hours of 7 a.m. and 9 p.m. However, construction activity between 5 p.m. and 9 p.m. must be done with light equipment (not including nail guns) of five horsepower or less.

Application Of Landscape Standards

The chart below shows land uses that are affected by the standards described in this brochure. If you have further questions regarding landscaping requirements for your permit application, call the Planning and Development Services Center at 303-441-1880.

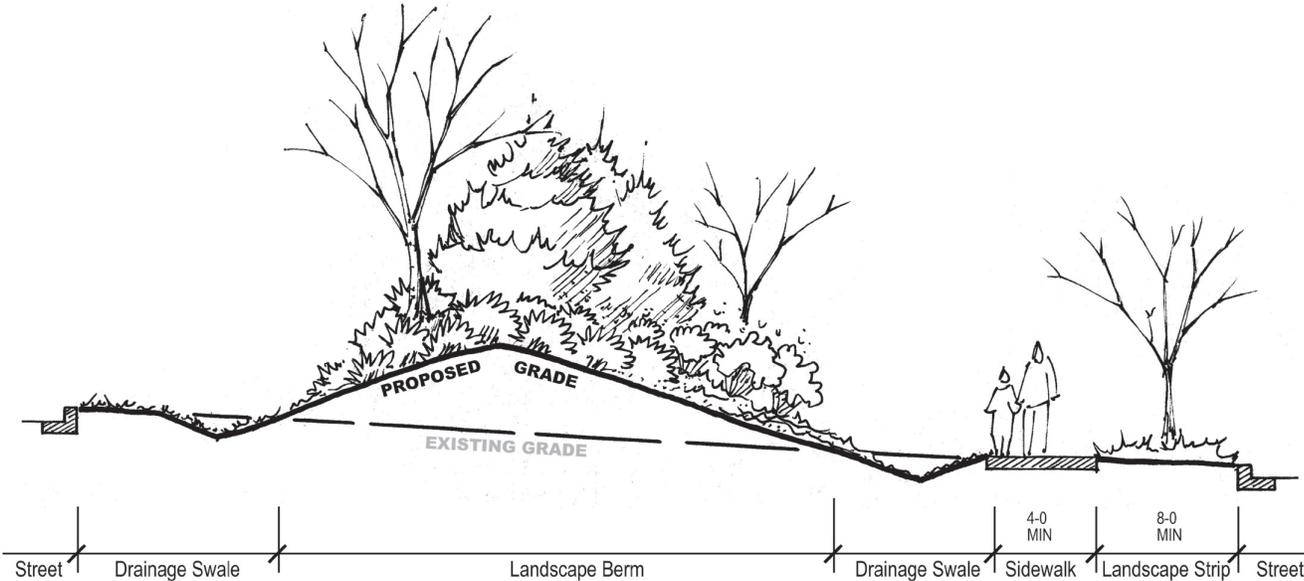
	General Landscaping and Screening Requirements (BRC Section 9-9-12(d))	Streetscape Design Standards (Section 9-9-13)	Parking Lot Landscaping Standards (Section 9-9-14)
Which uses are affected?	All non-residential (commercial, industrial, office, public) and multifamily residential developments.	All land uses including single-family residential	All surface parking lots with more than five parking spaces
When must the standards be met?	<p><u>Prior to final inspection for any building permit for new development:</u></p> <ol style="list-style-type: none"> 1) Redevelopment involving expansion of the total building floor area which exceeds 25% of the Boulder County Assessor’s actual values of the existing structure (not including the land value); 2) Redevelopment exceeding 100% of the Boulder County Assessor’s actual value of the existing structure and not involving expansion of the total building floor area; or 3) the addition of a dwelling unit. 		
Are there special conditions?	<p>If the number of additional parking spaces that will be provided exceeds 25% of the number of existing parking spaces on the site, the entire parking lot (existing and new portions) must meet the new parking lot landscaping standards.</p> <p>If the number of additional parking spaces that will be provided is less than 25% of the number of existing parking spaces on the site, only the new portion of the parking lot must meet the new parking lot landscaping standards.</p>		

Basic Landscaping Requirements

General Landscaping and Screening Requirements (B.R.C. Section 9-9-12(d))

Grading Standards for Berms

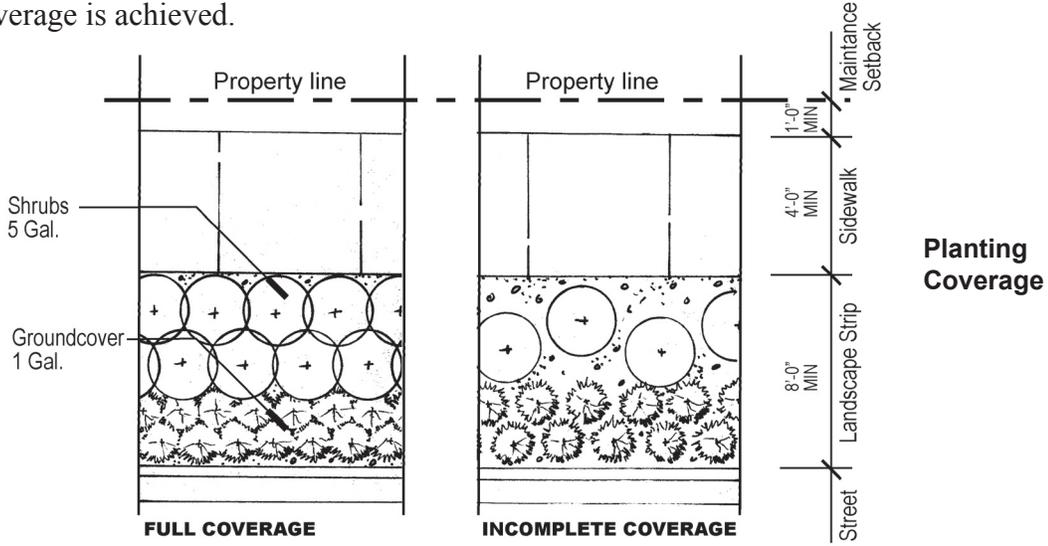
Berms adjacent to paved surfaces must be graded to capture all irrigation runoff or to convey it to an appropriate water quality design feature as described in Vol. 3 of the *Urban Storm Drainage Criteria Manual*.



Typical Landscape Berm ELEVATION

Landscaping Materials

- All materials required in a landscaped area must be live plants.
- Plant materials must be planted in sufficient quantity to completely cover an area five years from the time of initial planting.
- Temporary mulches are required in all shrub, tree, and perennial planting beds until full plant coverage is achieved.



- Non-living materials such as bark or rocks are not allowed, except as temporary mulch until full plant coverage is achieved, or as permanent mulch under shrubs.
- Rocks larger than three inches in diameter are not allowed in the public right-of-way, and may be used only upon city approval as a decorative feature.
- Rock mulches may not be used in landscaped areas on the south, west or southwest-facing sides of buildings or in interior parking lot landscaped areas except if all plants within the rock mulched area are from very low, low or moderate water use zones and spaced to fill the beds within three years of initial planting.

Landscape Maintenance

- The property owner is responsible for maintaining a landscape plan as originally approved and for the replacement of plant materials that have died, been damaged or removed, for a period of five years after issuance of a certificate of occupancy or completion.

Minimum Overall Site Landscaping

- In all zones except A, P, RR-1, RR-2, RE, RL-1, RL-2, RM-1, RM-2, and RM-3, 1 tree and 5 shrubs must be planted for each 1,500 sq. ft. of lot area not covered by a building or required parking.

Minimum Plant Sizes

All plant materials must meet the following requirements:

- **Medium and large deciduous trees:** at least 2” caliper (measured 6” above the ground.)
- **Ornamental and flowering trees:** 1 ½” caliper
- **Evergreens:** 5’ tall
- **Shrubs:** 5 gal. container

Outdoor Service Yards and Storage Areas

- Service yards and outdoor storage areas in commercial and industrial areas must be screened from public areas, streets, alleys, and adjacent areas by walls, fencing, or plantings.

Pedestrian connections (in all zones except A, P, RR-1, RR-2, RE, RL-1, RL-2, RM-1, RM-2, and RM-3)

Paved pedestrian walkways, a minimum of 3 ft. in width are required:

- Between at least one building entrance and the sidewalk adjacent to the street
- Between the parking lot and the entrance to any buildings larger than 10,000 sq. ft.

If a pedestrian walkway is located adjacent to the parking area, wheel or bumper guards must be located so that no vehicle intrudes on the required walkway.

Setbacks

- Setbacks adjacent to a street or the area between the property line and the edge of the pavement or curb of the street (landscape strip), must be landscaped in accordance to the Streetscape Design Standards (see page 9).
- Please see sections 9-7-1 and 9-7-2 of the *Boulder Revised Code* for setback standards in various zones.

Tags on Trees

- Labels that identify the botanical or common name must be on all trees at the final inspection.

Trash Collection and Recycling Areas, Service Areas, and Loading Docks

- Trash collection, recycling areas, service areas, and loading docks must be screened on all sides. Screening can include plantings, walls, fences, screen panels, doors, topographic changes, buildings, or any combination of those elements.

Soil Preparation and Plant Specifications

- Site preparation and all planting must be completed in accordance with Chapters 10 and 11 (technical drawings 3.01-3.42) of the *City of Boulder Design and Construction Standards*.

Water Conservation

- Landscaping must be designed to conserve water through application of xeriscape landscaping principles (See Water Conservation section on page 17).
- Plants from the same water use zone (see Water Conservation section on page 17) must be grouped together on the same irrigation zones. Water use zones must be consistent with the Waterwise Plant List shown in this brochure or based on other lists which meet the same criteria for water use and adaptability.
- The total amount of high water use zones on a property may not exceed 50% of the total landscaped area.
- The total amount of high water use turf grass may not exceed 25% of the total landscaped area. Turf grass areas designated for high use or a specific recreational use shall be excluded from the total landscaped area under this requirement.
- The use of high water use turf and plantings must be limited to high-use areas with high visibility or functional needs.
- High water use turf grass may not be used in landscaped areas with any one dimension less than 10 ft. in width unless drip, subsurface, or low-volume irrigation is used in that area.
- Plants or turf grass from a high water use zone may not be planted on slopes or berms at a 4:1 slope or greater.

Irrigation

- An irrigation system is required for all landscaped areas including trees in tree pits, raised planters, planting in the public right-of-way.
- All landscaped areas must be irrigated with a permanent, automatic irrigation system designed to provide efficient irrigation coverage with minimal over spray onto non-landscaped areas.
- A soil moisture sensing device or other irrigation management system is required for irrigation systems in turf areas.
- The irrigation system must be designed to correlate to the organization of plants into zones with similar watering requirements (See Water Conservation requirements on page 17).
- The city manager may approve the use of temporary irrigation systems if all plant material is from the very low or low water use zones.
- Low-volume, drip or subsurface irrigation systems must be used in all non-turf grass areas and in landscaped areas where any one dimension is less than 6 ft. in width and surrounded by impervious surfaces.
- Trees must be zoned separately from turf grass when located in a low or very low water use

Noxious weeds

- All landscape plans must comply with the current state weed and nursery lists. This means that plants on the state weed list (e.g. Russian olive) may not be planted and must be removed if they exist on the property.

Tree Protection

- All existing trees six inches or more in caliper and located in the required setback, public right-of-way, or on the property line must be protected from construction impacts. Trees must be protected from construction impacts within the dripline of the tree in a manner that is consistent with the City of Boulder Design and Construction Standards.

Streetscape Design Standards (B.R.C. Section 9-9-13)

Alley trees

- Trees must be planted along all alleys adjacent to or within a residential zone (except on existing single-family lots) at an average of 1 tree per 40 linear ft. and not less than 4 ft. or more than 10 ft. from the pavement or edge of alley.

Street trees

- A strip of deciduous trees must be planted along the full length of all public and private streets *in all zoning districts*.
- When possible, trees should be planted in the public right-of-way.
- Large deciduous trees and detached sidewalks are desired when appropriate.
- All trees in the public right-of-way must be planted according to the specifications outlined in Chapters 3, 10 and 11 of the *City of Boulder Design and Construction Standards*.
- An existing tree a minimum of 2 in. in caliper, listed on the city’s approved street tree list and located within 20 ft. of the street right-of-way, will qualify toward meeting street tree requirements.

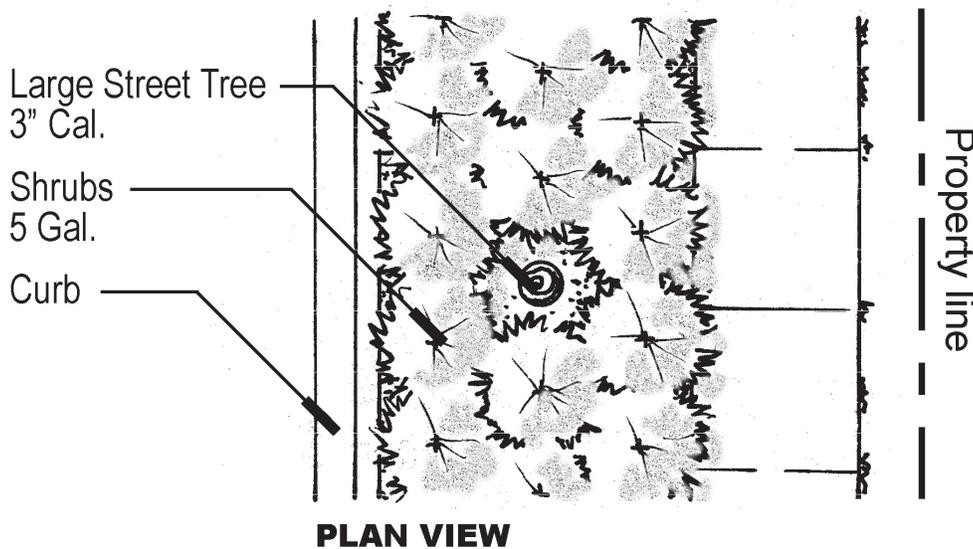
Streetscape requirements

- Street trees must be selected from the Approved Street Tree List for Medians and Non-paved Landscape Planting Strips* or the Approved Street Tree List for Paved Areas Using Tree Grates and Planting Pits.* (See page 22.) The table below sets the minimum planting interval for street and alley trees. The specific spacing for each development is dependent upon tree type and existing conditions as identified in this

Existing or Approved Condition		Required Planting		
Sidewalk Condition	Landscape Strip Width	Utility Location	Tree Type	Min. Tree Planting Interval
No sidewalk	Trees must be planted 4 to 5 ft. from the street. Trees may be planted on private property if there is not adequate right-of-way.	buried overhead	large small	30 - 40 ft. 15 - 20 ft.
Detached	8 ft. or more	buried overhead	large small	30 - 40 ft. 15 - 20 ft.
	6 to 8 ft.	buried overhead	medium small	25 - 30 ft. 15 - 20 ft.
	4 to 6 ft. This planting strip width is less than desirable.	buried overhead	small small	15 - 20 ft. 15 - 20 ft.
Attached	Trees must be planted 4 - 5 ft. from the sidewalk. Trees may be planted on private property if there is not adequate right-of-way.	buried overhead	large small	30 - 40 ft. 15 - 20 ft.
Urban sidewalk of 12 ft. or wider (BMS, BR-1, BR-2, and MU-3)	Trees must be planted in irrigated tree grates or tree pits unless approved by the city manager. For tree grate dimensions and tree pit volume, see <i>Design and Construction Standards</i> , Table 3-4.	buried overhead	large medium	20 - 25 ft. 15 - 20 ft.

Understory requirements

- All required street trees in the landscape strip (except where planted in tree grates) shall be planted with an irrigated understory planting.



Water Conservation and Irrigation

All streetscape plantings must comply with the Water Conservation and Irrigation standards as described on page 9 of this brochure.

Parking Lot Landscaping Standards (B.R.C. Section 9-9-14)

Screening Parking Lots from the Street

- All parking lots must be screened from an adjacent street or right-of-way.
- The screen must be a minimum of 42” in height (at maturity) along the full length of the parking lot adjacent to the street.
- Fences cannot be taller than 48” in height.
- All parking areas with five or more parking spaces must be screened from adjoining residential zones, public parks or public streets by planter boxes, walls or hedges at a minimum of 42” in height.
- If a vehicular and pedestrian connection to an adjacent non-residential property is provided, no screening is required along that property edge. However, a proposed vehicular and pedestrian connection between adjacent properties must be guaranteed by a cross access easement.
- The landscape strip along the property edge must be at least 6 ft. in width; have at least one evergreen or ornamental tree per 25 linear ft. or one medium or large deciduous tree per 35 ft., and a live understory planting that will cover the area within five years.
- The screen must be at least 42” in height and use a fence or wall, an earth berm, shrubs or any combination of the above as a screen.

Interior Parking Lot Landscaping

Parking lot size	Number of double loaded rows	Minimum required landscaping (in percentage of parking lot area)
15 or fewer spaces	-	none required
16 to 160 spaces	-	5%
More than 160	One	5%
	More than one	10%
121-149% of the minimum required spaces	-	The above + 5%*
150% or more of the minimum required spaces	-	The above + 10%*

*Perimeter parking lot landscaping used to meet this additional requirement may not be located within a required front yard setback or side yard adjacent to a street setback and must meet the requirements for runoff reduction practices as described in Section 9-9-14(d)(5) of the *Boulder Revised Code*.

Other interior parking lot landscaping requirements:

- At least one tree must be planted for every 200 sq. ft. of interior parking lot landscaped area.
- At least 75% of the required trees must be medium or large deciduous trees.
- Shrubs and ground cover must be planted at sufficient density to completely cover the landscaped area within five years of initial planting.
- An interior landscaped area must be a minimum of 150 sq. ft. and have no dimension less than 8 ft.
- All trees shall be located at least 3 ft. from the curb or planting edge.

Landscape Plan Submittal Requirements

The following charts are designed as checklists for your convenience. Copy this list and use it for each project submittal to insure that all the requirements have been met. Use the example summary chart as a standard for your plans.

If your project requires discretionary review (preliminary submittal requirements):

A preliminary landscape plan will be required with your site or use review application. Your preliminary landscape plan should include the following:

Preliminary Submittal Requirements

Plan drawing at a scale of 1" = 10', 1" = 20', or 1" = 30', to include:

- Standard title block including scale and date
- Scale
- North Arrow
- Date
- Location of property lines and adjacent streets (with street names identified)
- Zoning and use of adjacent properties
- Existing and proposed locations of all:
 - Building footprints for existing structures and building envelopes for proposed structures
 - Sidewalks and curb cuts
 - Parking lots including layout of parking spaces, interior and perimeter parking lot plantings, bike paths and pedestrian walkways, drive aisles and curb islands
 - Utilities and easements, including fire hydrants, water meters, and height and location of overhead lines
- Existing location, size, and type of all trees 1 ½" caliper or greater
- A scaled drawing of the fence elevation, where fencing is used for required screening,

Planting specifications

Layout and location of all landscaped areas including:

- landscape strips along all streets
- parking lot screening
- interior parking lot landscaping
- perimeter site landscaping or screening
- all other landscaped areas

Botanical and common names and sizes of all proposed plants

Locations of all proposed plant material, shown at the size they will be within five years of initial planting, and appropriately spaced. The following are industry standards for shrub widths:

Small shrubs:	3 ft.
Medium shrubs:	5 ft.
Large shrubs:	8 ft.

Location, size and species name of any plant materials proposed for removal

Proposed planting of all ground surfaces. Grass surfaces must be identified as sod or seed with the blend or mix specified.

Location and treatment of any proposed detention ponds

Location and dimensions of site distance triangles at all intersections of streets and curb cuts

Summary chart with calculations to include:

- Total lot size (in sq. ft.)
- Total parking lot size, including all drives and driveways (in sq. ft.)
- Total number of parking stalls required and the total provided
- Total interior parking lot landscaped area required and the total provided
- Total perimeter parking lot

- landscaping required and total provided
- Total number of street trees required and the total provided
- Total quantity of plant material required and the total provided

Example summary chart:

Total lot size		
Total parking lot size (including drives and driveways)		
Total area not covered by a building or parking lot		
	Required	Provided
Total number of parking stalls		
Total interior parking lot landscaped area in sq. ft.		
Total interior parking lot landscaped area as a percentage of total parking lot area		
Total # of trees in interior lot landscaped area		
Total perimeter parking lot landscaped area		
Total number of street trees		
Total quantity of plant material on site plan (trees and shrubs)		

Final Submittal Requirements

For building permit or technical document applications (final submittal requirements):

A final landscape plan will be required with your application for a building permit. Your final landscape plan should include the following:

Plan drawing at a scale of 1" = 10', 1" = 20', or 1" = 30', to include:

- Standard title block including scale and date
- Scale
- North Arrow
- Date
- Location of property lines and adjacent streets (with street names identified)
- Zoning and use of adjacent properties
- Existing and proposed locations of all:

- Building footprints
- Sidewalks and curb cuts
- Parking lots including layout of parking spaces, interior perimeter parking lot plantings, bike paths and pedestrian walkways, drive aisles and curb islands
- Utilities and easements, including fire hydrants, water meters, and height and location of overhead lines

Existing location, size, and type of all trees 1 ½” caliper or greater
A scaled drawing of the fence elevation, where fencing is used for required screening

proposed detention ponds
Location and dimensions of site distance triangles at all intersections of streets and curb cuts

Planting and irrigation specifications

Final irrigation plan indicating type and locations of irrigation and plant groupings by water requirements. (See Irrigation Plan Requirements section on page 22.)

Layout and location of all landscaped areas including:

- landscape strips along all streets
- parking lot screening
- interior parking lot landscaping
- perimeter site landscaping or screening all other landscaped areas

Botanical and common names and sizes of all plants and ground cover
Locations of all proposed plants, shown at size they will be within five years of initial planting and appropriately spaced.

Proposed planting of all ground surfaces. Grass surfaces must be identified as sod or seed with the blend or mix specified

Location, size and species name of any plant materials proposed for removal

Location, design, height and materials of other landscape improvements, such as:

- earth berms
- retaining walls
- fences
- water features
- outdoor furnishings and artwork
- trash enclosures
- lights
- paved areas and/ or walkways
- tree grates and planters

Location and treatment of any

Summary graphic and chart with calculations to include:

Graphic drawing with locations and dimensions (in sq. ft.) of all required landscaped areas. Include dimensions and total area for each requirement.

Total lot size (in sq. ft.)

Total parking lot size, including all drives and driveways (in sq. ft.).

Total parking lot interior landscaped area required and total provided (sq. ft.)

Total number of parking stalls provided, total number required by code

Total amount of perimeter landscaping provided and total required by code (sq. ft.).

Total number of street trees required and total provided

Total quantity of plant material required and total provided

When requested by the city:

Existing and finished grades with contours of 2’ intervals and/ or spot elevations.

Plans for conservation, relocation and use of existing topsoil resource and landscape soil preparation

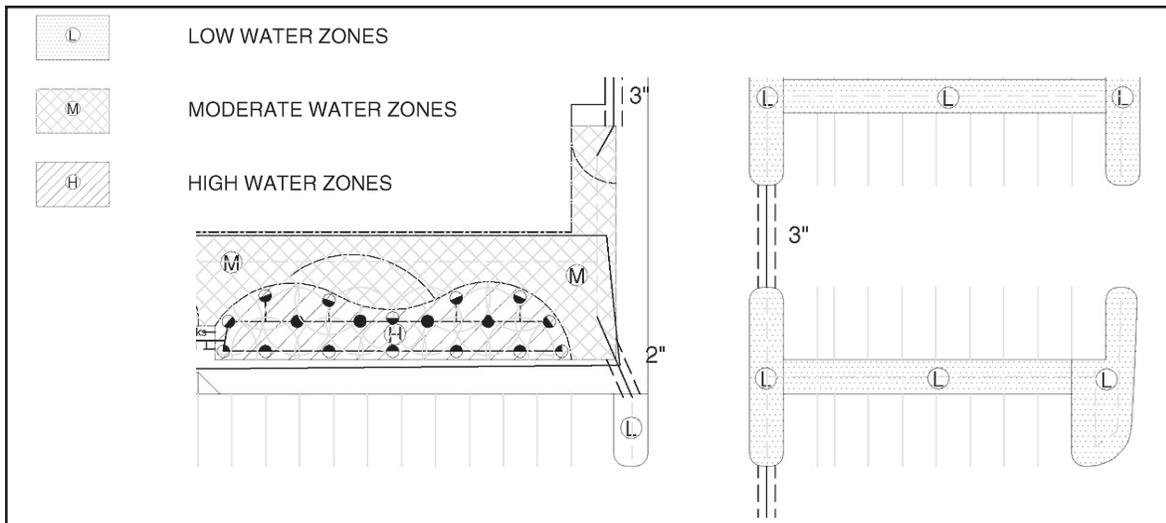
When required, restoration, revegetation or enhancement of an affected natural area or natural area buffer zone

Mitigation plans for any proposed natural area disturbance

Water Conservation Requirements

The *General Landscaping and Screening Requirements* (B.R.C. Section 9-9-12(d)) specify that all landscaping be designed to conserve water through the application of xeriscape landscaping principles. The following section outlines these principles and provides specific information to help you apply these principles in your landscape plan:

- Planning and design that ensures water-conserving techniques are coordinated and implemented in the landscape
- Limiting the use of high-irrigation turf and plantings to high-use areas with high visibility or functional needs
- Use of low-water demanding plants and turf where practicable (See Waterwise Plant List on page 18.)
- Use of efficient irrigation systems
- Use of temporary biodegradable mulches
- Grouping plants with similar water and cultural requirements (such as sun and climate) together in the same irrigation zones (See illustration below.)
- Improving soils to allow better water absorption and proper drainage
- Continued maintenance including weeding, pruning, fertilizing, pest control and irrigation



Waterwise Plant List

The following plant list outlines the plants most commonly used in urban landscapes in the Boulder area. Common and botanical names as well as the most appropriate hydrozones for each plant are indicated. The following abbreviations are used for plant hydrozones:

H	= High water zones	M	= Moderate water zones
L	= Low water zones	VL	= Very Low water zones

The following chart shows how to divide landscaping into different zones, based on the water needs of plants. Numbers illustrate typical Boulder conditions.

HIGH WATER ZONES	MODERATE WATER ZONES	LOW WATER ZONES	VERY LOW ZONES
Bluegrass turf, always wet at surface	Half of Bluegrass turf	Buffalograss turf	Too dry for any turf (drier than Denver)
18-20 gals./ S.F./season .5" — 3 times per week	10± gals./S.F./ season .75" — once per week	0-3 gals./S.F./season .5" per 2 weeks, optional	No irrigation No irrigation
Typical plants: Kentucky Bluegrass, Redtwig Dogwood, Pansies	Typical plants: Turf-type Tall Fescue, Potentilla, Purple Coneflower	Typical plants: Buffalograss lawns, Rabbitbrush, Mexican Hat Coneflower	Typical plants: Piñon Pine, Yuccas, Creosote Bush, most Mesquite

The amounts of water indicated in inches per week refer to typical Boulder midsummer irrigation needs for periods without rain.

The figures in gallons per sq. ft. refer to irrigation needed for a typical April through October season.

Shrubs (Deciduous Rocky Mountain Natives)

Botanical Name	Familiar Name	Water Zone
Acer•glabrum	Rocky Mountain Maple	M-H
Acer•grandidentatum	Wasatch Maple	M
Amelanchier•alnifolia	Rocky Mtn. Serviceberry	M+/-
Amorpha•canescens	Lead Plant	L-M
Amorpha•nana	Dwarf Lead Plant	L-M
Cercocarpus•ledifolius	Deciduous Mtn. Mahogany	L-M
Chamaebatiaria•millefolium	Fernbush	VL-L
Chrysothamnus•spp.	Rabbitbrush species	VL-L
Cornus•stolonifera	Redtwig Dogwood	H
Crataegus•erythropoda	Native Hawthorn	M+/-
Crataegus•succulenta•var.occidentalis	Native Hawthorn	M+/-
Fallugia•paradoxa	Apache Plume	VL-L
Forestiera•neomexicana	New Mexico Privet	M+/-
Physocarpus•monogynus	Native Ninebark	M+/-
Potentilla•fruticosa	Shrubby Potentilla	M-H
Prunus•americana	Wild Plum	M+/-
Prunus•besseyi	Sand Cherry	M+/-
Prunus•virginiana	Chokecherry	M-H
Ptelea•trifoliata	Hoptree	M+/-
Purshia•tridentata	Bitterbrush	L-H
Quercus•gambelii	Gambel's Oak	M+/-
Rhus•glabra•var.cismontana	Rocky Mtn. Smooth Sumac	L-M
Rhus•trilobata	Three-leaf Sumac	L-M
Ribes•aureum	Golden Currant	M+/-
Ribes•cereum	Squaw Currant	M+/-
Rosa•woodsii	Wood's Rose	M+/-
Rubus•deliciosus	Boulder Raspberry	M+/-
Symphoricarpos•albus	Snowberry	M+/-

Shrubs
(Deciduous, Introduced)

Botanic Name	Familiar Name	Water Zone
<i>Acer•tataricum•ssp.•ginnala</i>	Ginnala Maple	L-M
<i>Buddleja•davidii</i>	Butterflybush	M+/-
<i>Caryopteris•x•clandonensis</i>	Bluemist Spirea	L-M
<i>Chaenomeles•speciosa</i>	Flowering Quince	M+/-
<i>Cornus•alba•'Elegantissima'</i>	Variegated Redtwig Dogwood	H
<i>Cornus•alternifolia</i>	Pagoda Dogwood	H
<i>Cornus•stolonifera•'Flaviramea'</i>	Yellowtwig Dogwood	H
<i>Cotoneaster•actuifolius</i>	Peking Cotoneaster	M+/-
<i>Cotoneaster•apiculatus</i>	Cranberry Cotoneaster	M+/-
<i>Cotoneaster•divaricatus</i>	Spreading Cotoneaster	M+/-
<i>Crataegus•x•mordanensis•'Toba'</i>	Toba Hawthorn	M+/-
<i>Euonymus•alatus</i>	Burning Bush Euonymus	M+/-
<i>Forsythia•x•intermedia</i>	Forsythia	M+/-
<i>Hibiscus•syriacus</i>	Rose-of-Sharon Hibiscus	M+/-
<i>Hippophaë•rhamnoides</i>	Sea Buckthorn	M-H
<i>Holodiscus•dumosus</i>	Rock Spirea	M+/-
<i>Kolkwitzia•amabilis</i>	Beautybush	M+/-
<i>Lonicera•tatarica•'Zabelii'</i>	Zabel's Honeysuckle	M+/-
<i>Philadelphus•coronarius</i>	Sweet Mockorange	M+/-
<i>Physocarpus•opulifolius</i>	Dwarf Ninebark	M+/-
<i>Prunus•cerasifera•'Newport'</i>	Newport Plum	M+/-
<i>Prunus•tomentosa</i>	Nanking Cherry	M-H
<i>Prunus•x•cistena</i>	Cistena Plum	M+/-
<i>Rhus•typhina</i>	Staghorn Sumac	M+/-
<i>Rosa•foetida•'Bicolor'</i>	Austrian Copper Rose	M-L
<i>Rosa•foetida•'Persiana</i>	Persian Yellow Rose	M-L
<i>Rosa•glauca</i>	Redleaf Rose	M+/-
<i>Spiraea•japonica</i>		
•'Anthony•Waterer	'Anthony Waterer Spirea	M+/-
<i>Spiraea•japonica•'Froebelii'</i>	Froebel's Spirea	M+/-
<i>Spiraea•x•vanhouttei</i>	Van Houtte Spirea	M+/-
<i>Symphoricarpos•X•chenaultii</i>		
'Hancock'	Hancock Coralberry	M+/-
<i>Syringa•x•persica</i>	Persian Lilac	M+/-
<i>Syringa•vulgaris</i>	Common Lilac	M+/-
<i>Viburnum•lantana</i>	Wayfaring Viburnum	M+/-
<i>Viburnum•lentago</i>	Nannyberry	M-H
<i>Viburnum•opulus</i>	European Highbush Cranberry	H
<i>Viburnum•opulus•'Compactum'</i>	Dwarf Highbush Cranberry	H
<i>Viburnum•opulus•'Roseum'</i>	European Snowball Cranberry	H
<i>Viburnum•trilobum</i>	American Highbush Cranberry	H

Trees
(Deciduous, Rocky Mountain Natives)

Botanic Name	Familiar Name	Water Zone
<i>Celtis•occidentalis</i>	Hackberry	M-H
<i>Fraxinus•pennsylvanica</i>	Green Ash	M-H

Populus•angustifolia*	Narrowleaf Cottonwood	H
Populus•deltoides*	Plains Cottonwood	H
Populus•tremuloides*	Aspen	H
Populus•x•acuminata*	Lanceleaf Cottonwood	H

Trees
(Deciduous, introduced)

Botanic Name	Familiar Name	Water Zone
Acer•platanoides	Norway Maple	M-H
Acer•rubrum	Red Maple	M-H
Acer•saccharinum*	Silver Maple	M-H
Acer•saccharum	Sugar Maple	M-H
Aesculus•hippocastanum	Horse Chestnut	M-H
Betula•nigra	River Birch	H
Catalpa•speciosa	Catalpa	M-H
Cercis•canadensis	Eastern Redbud	M-H
Crataegus•ambigua	Russian Hawthorn	M+/-
Crataegus•crus-gali*	Cockspur Hawthorn	M+/-
Crataegus•mollis	Downy Hawthorn	M+/-
Crataegus•phaenopyrum	Washington Hawthorn	M+/-
Fraxinus•americana• 'Autumn•Purple'	Autumn Purple Ash	M-H
Gleditsia•triacanthos•var.	Honeylocust varieties	M-H
Gymnocladus•dioca	Kentucky Coffeetree	M-H
Koelreuteria•paniculata	Golden Raintree	M+/-
Malus•'Hopa' *	Hopa Crabapple	M+/-
Quercus•bicolor	Swamp White Oak	M+/-
Quercus•macrocarpa	Bur Oak	M+/-
Quercus•robur	English Oak	M+/-
Quercus•rubra	Red Oak	M+/-
Sophora•japonica	Japanese Pagoda Tree	M+/-
Syringa•reticulata	Japanese Tree Lilac	M+/-
Tilia•americana•'Redmond'	Redmond Linden	H
Tilia•cordata	Littleleaf Linden	H

*These trees are generally inappropriate in densely developed areas and along streets and parking lots and are not allowed in the public right-of-way.

Evergreens
(Coniferous Trees)

Note: Evergreen trees may not be selected for planting in the public right-of-way unless the landscape strip is a minimum of 20 ft. in width. Evergreens also may not be placed on the south sides of east-west running streets.

Botanic Name	Familiar Name	Water Zone
Abies•concolor	White Fir	M-H
Picea•pungens	Colorado Spruce	M-H
Pinus•nigra	Austrian Pine	M-H
Pinus•ponderosa	Ponderosa Pine	M-H

Evergreens
(Coniferous shrubs)

Botanic Name	Familiar Name	Water Zone
Juniperus•spp.•vars.	Juniper all species and varieties	L-M
Pinus•edulis	Piñon Pine	VL-L
Pinus•mugo	Mugo Pine	M-H

Evergreens
(Non-coniferous)

Botanic Name	Familiar Name	Water Zone
Artemisia•tridentata	Big Sagebrush	VL-M
Cercocarpus•ledifolius	Curlleaf Mountain Mahogany	VL-L
Chamaebatiaria•millefolium	Fernbush	VL-L
Cowania•mexicana	Cliff Rose	VL-L
Ephedra•viridis	Green Ephedra	VL-L
Euonymus•fortunei	Euonymus	M-H
Lavandula•spp.	Lavender species & cultivars	VL-M
Mahonia•aquifolium	Oregon Hollygrape	M-H
Mahonia•fremontii	Fremont Mahonia	VL-M
Mahonia•repens	Creeping Mahonia	L-M-H
Pyracantha•coccinea	Pyracantha	M+/-
Santolina•chamaecyparissus	Santolina	VL-M
Yucca•baccata	Banana Yucca	VL-L
Yucca•glauca	Front Range Yucca	VL-L

Vines

Botanic Name	Familiar Name	Water Zone
Campsis•radicans	Scarlet Trumpet Creeper	M-H
Celastrus•scandens	Bittersweet	M-H
Clematis•jackmanii	Jackman Hybrid Clematis	H
Clematis•terniflora	Sweet Autumn Clematis	M+/-
Hedera•helix	English Ivy	M-H
Lonicera•sempervirens	Scarlet Trumpet Honeysuckle	M-H
Parthenocissus•quinquefolia	Virginia Creeper	M-H

Groundcovers

Botanic Name	Familiar Name	Water Zone
Buchloë•dactyloides	Buffalograss	L
Cerastium•tomentosum	Snow-in-summer	L-M
Ceratostigma•plumbaginoides	Plumbago	L-M
Euonymus•fortunei•'Coloratus'	Purpleleaf Wintercreeper	M+/-
Geranium•spp.	Hardy Geraniums	M+/-
Hedera•helix	English Ivy	M-H
Juniperus•spp.•vars.	Juniper species and varieties	L-M
Lonicera•japonica•'Halliana'	Hall's Honeysuckle	M+/-
Lonicera•sempervirens	Scarlet Trumpet Honeysuckle	M-H

Mahonia•repens	Creeping Mahonia	L-M-H
Parthenocissus•quinquefolia	Virginia Creeper	M-H
Symphoricarpus•x•chenaultii		
•'Hancock'	Hancock Coralberry	M+/-
Vinca•minor	Vinca	H

Irrigation Plan Requirements

An irrigation system plan is required for all landscaped areas. An irrigation system may either be a separate plan or shown on your submitted landscape plan. The following is the minimum information needed on your plan:

- Sprinkler head type and location. Include pop-up spray heights, and show location and type of soil moisture sensing devices in all turf areas.
- Watering zones (correlated to plant hydrozones) and size of area to be served by each sprinkler head. Show grouping of sprinkler heads by watering zone.
- Mainline locations

See the sample plan on pages 26-27 for an illustration of these submittal requirements.

The following are additional tips for achieving maximum water efficiency in an irrigation plan:

- Use rotor spray heads in large turf areas (areas with dimensions larger than 15 ft.). Areas smaller than this should be planted with low-water demanding turf and/or other water-wise groundcover.
- Sprinkler head spacing should be 50% of the diameter of the spray zone or “head-to-head” spacing only in high-use turf areas.
- Maximum coverage of 120 ft. in diameter for each rotor head is optimum for water efficiency. The mainline should run in-between zones to the extent possible to balance pressure.
- To minimize overspray and wind drift, do not use pop-up spray heads in irregularly shaped areas.
- Use drip or micro-spray irrigation in non-turf areas.
- Locate soil moisture sensors in the most representative zones.

Trees For The Public Right-Of-Way

The following tables list the trees that are approved for planting in the public right-of-way. The first list outlines tree types that may be planted in non-paved landscape strips and medians. The second list includes trees for tree grates and planting pits. Both lists may also be found in Chapter 3 of the *City of Boulder Design and Construction Standards*.

Table 3-1: Approved Street Tree List for Medians and Non-paved Landscape Planting Strips
 Trees on the following list will do well in our local environment provided the appropriate species is selected for a particular site. (See Table 3-6, “Tree Characteristics,” of the *City of Boulder Design and Construction Standards*) The trees on this list offer a wide range of varieties and cultivars which fit into local landscapes. Tree names are followed by examples of acceptable tree varieties that may be used in streetscapes. Other available varieties of each tree type may be used, subject to city approval, if they are thornless, cottonless, minimally fruiting, minimally seeding, and tree-form varieties. Trees are listed in alphabetical order and are **not** prioritized according to their suggested use.

Small Maturing Trees (Under 25' Mature Height)
Required Planting Strip Width 4'-5' Minimum
Spacing Between Trees
15' Minimum, 20' Recommended
Crabapple- <i>Malus spp.</i> (Fireblight resistant varieties, inc. "Centurion," "Red Barron")
Goldenraintree ¹ - <i>Koelreuteria paniculata</i>
Hawthorn - <i>Crataegus spp.</i> (thornless cockspur, "Ohio Pioneer") Tree Form
Lilac, Japanese tree- <i>Syringa reticulata</i> Tree Form
Maple, Amur ¹ - <i>Acer ginnala</i> Tree Form
Maple, Norway - <i>Acer platanoides</i> ("Crimson Sentry")
Maple, Tatarian - <i>Acer tataricum</i> Tree Form
Oak, Gambel - <i>Quercus gambelii</i> Tree Form
Pear - <i>Pyrus calleryana</i> "Chanticleer"
Prunus - <i>Prunus spp.</i> (Cherries, Plums, Almonds, Apricot ¹) Tree Form
Redbud - <i>Cercis canadensis</i> Tree Form
Serviceberry - <i>Amelanchier spp.</i> Tree Form

Medium Maturing Trees (30'-45' Mature Height)
Required Planting Strip Width 6'-7' Minimum
Spacing Between Trees
25' Minimum, 30' Recommended
Cherry - <i>Prunus sargentii</i> (Sargent)
Crabapple- <i>Malus spp.</i> (Fireblight resistant varieties, inc. "Indian Magic", "Indian Summer", "Radiant", "Spring Snow")
Hackberry, Common ¹ - <i>Celtis occidentalis</i> ("Prairie Pride")
Honeylocust ¹ - <i>Gleditsia triacanthos var. inermis</i> ("Imperial," "Sunburst")
Hop Hornbeam - <i>Ostrya virginiana</i>
Hornbeam, European - <i>Carpinus betulus</i>
Linden, Littleleaf - <i>Tilia cordata</i> ("Corinthian")
Maple, Norway - <i>Acer platanoides</i> ("Cavalier," "Drummond")
Maple, Hedge - <i>Acer campestre</i>
Maple, Wasatch ¹ - <i>Acer grandidentatum</i> Tree Form
Ohio Buckeye ¹ - <i>Aesculus glabra</i>
Pear - <i>Pyrus spp.</i> (Ussurian, Callery - avoid "Bradford" variety)
Turkish Filbert - <i>Corylus colurna</i>

Large Maturing Trees (Over 45' Mature Height)
Required Planting Strip Width 8' Minimum
Spacing Between Trees
30' Minimum, 40' Recommended
Ash, Green ^{1,2} - <i>Fraxinus pennsylvanica</i> ("Marshall's Seedless," "Newport," "Patmore.")
Ash, White ² - <i>Fraxinus americana</i> ("Autumn Applause," "Autumn Purple," "Rosehill")
Baldcypress - <i>Taxodium distichum</i>
Catalpa, Western ¹ - <i>Catalpa speciosa</i>
Coffeetree, Kentucky ¹ - <i>Gymnocladus dioica</i>
Elm, American - <i>Ulmus americana</i> ("Brandon," "Valley Forge")
Hackberry, Common ¹ - <i>Celtis occidentalis</i>
Honeylocust ¹ - <i>Gleditsia triacanthos var. inermis</i> ("Shademaster," "Majestic")
Horsechestnut, Common - <i>Aesculus hippocastanum</i>
Linden, American - <i>Tilia americana</i> ("Legend", "Redmond")
Linden, Littleleaf - <i>Tilia cordata</i> ("Chancellor," "Greenspire")
Maple, Norway - <i>Acer platanoides</i> ("Deborah," Emerald Queen")
Maple, Red - <i>Acer rubrum</i> ("Northwood", "Red Sunset")
Maple, Sugar - <i>Acer saccharum</i> ("Green Mountain", "Legacy")
Oak - <i>Quercus spp.</i> (Bur ¹ , English, Red, Shumard, Swamp White ¹)

Table 3-4: Approved Street Tree List for Paved Areas Using Tree Grates and Planting Pits

Small Maturing Trees (Under 25' Mature Height)	Medium Maturing Trees (30'-45' Mature Height)	Large Maturing Trees (Over 45' Mature Height)
Crabapple - <i>Malus spp.</i> (Fireblight resistant varieties inc. "Centurion", "Red Barron")	Crabapple - <i>Malus spp.</i> (Fireblight resistant varieties inc. "Indian Summer", "Indian Magic", "Radiant", "Spring Snow")	Ash, Green ^{1,2} - <i>Fraxinus pennsylvanica</i> ("Marshall's seedless," "Newport," "Patmore,")
Goldenrain ¹ - <i>Koelreuteria paniculata</i>	Hackberry ¹ - <i>Celtis occidentalis</i> ("Prairie Pride")	Coffeetree, Kentucky ¹ - <i>Gymnocladus dioicus</i>
Hawthorn - <i>Crataegus spp.</i> (thornless cockspur, "Cruzam," "Ohio Pioneer") Tree Form	Honeylocust ¹ - <i>Gleditsia triacanthos var. inermis</i> ("Imperial," "Sunburst")	Hackberry, Common ¹ - <i>Celtis occidentalis</i>
Lilac - <i>Syringa reticulata</i> (Japanese tree) Tree Form	Hop Hornbeam - <i>Ostrya virginiana</i>	Honeylocust ¹ - <i>Gleditsia triacanthos var. inermis</i> ("Shademaster," "Majestic")
Maple, Amur ¹ - <i>Acer ginnala</i> Tree Form	Hornbeam, European - <i>Carpinus betulus</i>	Linden, American - <i>Tilia americana</i> ("Legend", "Redmond")
Maple, Tatarian - <i>Acer tataricum</i> Tree Form	Linden, Littleleaf - <i>Tilia cordata</i> ("Corinthian")	Linden, Littleleaf - <i>Tilia cordata</i> ("Chancellor," "Greenspire")
Oak, Gambel - <i>Quercus gambelii</i> Tree Form	Ohio Buckeye ¹ - <i>Aesculus glabra</i>	Maple, Red - <i>Acer rubrum</i> ("Northwood", "Red Sunset")
Pear - <i>Pyrus calleryana</i> "Chanticleer"	Pear - <i>Pyrus spp.</i> (Ussurian, Callery - avoid "Bradford" variety)	Oak - <i>Quercus spp.</i> (Bur ¹ , English, Red, Shumard, Swamp White ¹)
Prunus - <i>Prunus spp.</i> (Cherries, Plums, Almonds, Apricot ¹) Tree Form	Turkish Filbert - <i>Corylus colurna</i>	
Serviceberry - <i>Amelanchier spp.</i> Tree Form		

1 Indicates drought-tolerant species.

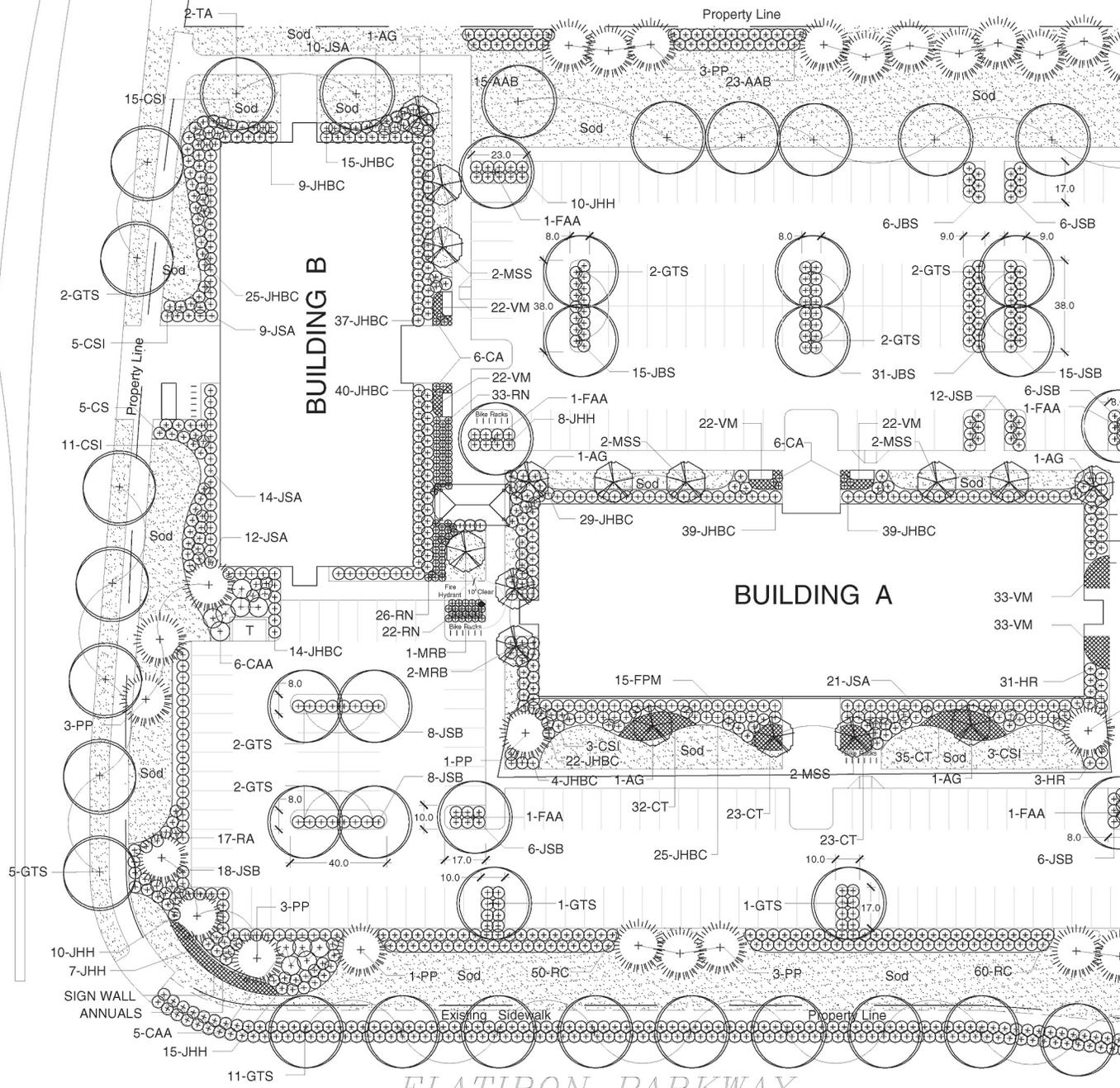
2 Green Ash should be used sparingly and not in large rows or groupings because of major problems with Brownheaded Ash Sawfly and Lilac/Ash Borer.

LANDSCAPE REQUIREMENTS

TOTAL LOT AREA	561,052.8 SQ. FT.
BUILDING FOOTPRINT	64,876.0 SQ. FT.
TOTAL PARKING AREA	181,322 SQ. FT.
TOTAL NUMBER OF PARKING STALLS REQUIRED	422
TOTAL NUMBER OF PARKING STALLS PROVIDED	530
TOTAL INTERIOR PARKING LOT LANDSCAPED AREA REQUIRED	2,196.3 SQ. FT.
TOTAL INTERIOR PARKING LOT LANDSCAPED AREA PROVIDED	14,642.0 SQ. FT.
TOTAL PERIMETER PARKING LOT LANDSCAPING REQUIRED	00.0 SQ. FT.
TOTAL TOTAL PERIMETER PARKING LOT LANDSCAPING PROVIDED	85,202.0 SQ. FT.
TOTAL NUMBER OF STREET TREES REQUIRED	17
TOTAL NUMBER OF STREET TREES PROVIDED	17
TOTAL QUANTITY OF PLANT MATERIAL REQUIRED	73 TREES AND 1,135 SHRUBS
TOTAL QUANTITY OF PLANT MATERIAL PROVIDED	170 TREES AND 1,135 SHRUBS

LOW DENSITY RESIDENTIAL LAND USE

55TH STREET



FLATIRON PARKWAY

PLANT LIST



DECIDUOUS TREES

BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY
CO	Celtis occidentalis	Western Hackberry	2' cal. 5
FAA	Fraxinus americana 'Autumn Purple'	Autumn Purple Ash	2' cal. 16
FBM	Fraxinus pennsylvanica 'Marshall'	Marshall's Seedless Ash	2' cal. 6
FRS	Fraxinus pennsylvanica 'Summit'	Summit Ash	2' cal. 17
GTS	Gleditsia triacanthos 'Inermis 'Skyline'	Skyline Honeylocust	2' cal. 41
TA	Tilia americana 'Redmond'	Redmond Linden	2' cal. 18
TOG	Tilia cordata 'Greenspire'	Greenspire Linden	2' cal. 33



EVERGREEN TREES

PP	Pinus nigra	Austrian Pine	6'-8' 17
PP	Picea pungens glauca	Colorado Blue Spruce	6'-8' 13



ORNAMENTAL TREES

AG	Acer ginnala	Amur Maple	1 1/2' cal. 27
MRB	Malus 'Red Baron'	Red Baron Crabapple	1 1/2' cal. 4
MR	Malus 'Radiant'	Radiant Crabapple	1 1/2' cal. 3
MS	Malus 'Spring Snow'	Spring Snow Crabapple	1 1/2' cal. 16



SHRUBS -DECIDUOUS

AAB	Annona arbustifolia 'Brilliantissima'	Brilliant Red Chokecherry	5 gal. 5' o.c. 21
CAA	Cornus Alba 'Argenteo-marginata'	Variiegated Dogwood	5 gal. 5' o.c. 20
CSI	Cornus sericea 'Isariif'	Isariif Dogwood	5 gal. 5' o.c. 19
CDC	Caryopteris x glabrescens	Blue Mist Spirea	5 gal. 5' o.c. 11
EAC	Eucymnos alatus 'Compacta'	Dwarf Burning Bush	5 gal. 5' o.c. 20
RA	Ribes Alpinum	Alpine Currant	5 gal. 5' o.c. 23
RC	Rhus glabra 'Lionata'	Outlet Sumac	5 gal. 10' o.c. 10
RRI	Rosa x 'Hearty Wild'	Hearty Wild Rose	5 gal. 5' o.c. 137

SHRUBS -EVERGREEN

JSA	Juniperus sabina 'Arcaidif'	Arcaidif Juniper	5 gal. 5' o.c. 160
JRH	Juniperus horizontalis 'Hughes'	Hughes Juniper	5 gal. 5' o.c. 101
JHBC	Juniperus horizontalis 'Blue Chip'	Blue Chip Spreading Juniper	5 gal. 5' o.c. 481
JSB	Juniperus sabina 'Buffalo'	Buffalo Juniper	5 gal. 5' o.c. 304
JSS	Juniperus sabina 'Scandia'	Scandia Juniper	5 gal. 5' o.c. 17



PERENNIALS, GROUNDCOVER & GRASSES

CA	Calamagrostis x acutiflora 'Strist'	Feather Reed Grass	5 gal. 3' o.c. 24
CT	Cerastium tomentosum	Snow-in-Summer	1 gal. 15' o.c. 110
HH	Hedera Helix	English Ivy	1 gal. 15' o.c. 62
HR	Hemerocallis 'Red Magic'	Red Magic Daylily	1 gal. 24" o.c. 76
HS	Hemerocallis 'Stark 5' Owl'	Gold Daylilies	1 gal. 24" o.c. 120
RG	Rudbeckia fulgida 'Goldsturm'	Black-eyed Susan	1 gal. 24" o.c. 20
SS	Sedum spectabile 'Indian Chief'	Russet Showy Stonecrop	1 gal. 15" o.c. 56
VM	Vinca minor 'Sowless'	Bowles Periwinkle	1 gal. 15" o.c. 250



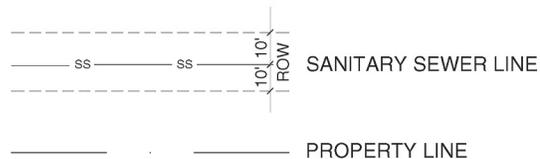
SOD

20%	Hard Fescue	Low-water demanding blend	square feet 55,000
20%	Creeping Fescue		
20%	Creeping Red Fescue		
15%	Newport-Kentucky Bluegrass		
15%	Penguin-Perennial Bluegrass		
15%	BlueStar-Kentucky Bluegrass		

PLANT NOTES

- All plant material shall meet specifications of the American Association of Nurserymen (AAN) for number one grade. All trees shall be balled and burlapped or equivalent.
- Trees shall not be planted closer than 4 feet to any gas or electrical line and no closer than 10 feet to any water or sewer line. Shrubs shall not be planted closer than 4 feet to any water or sewer line. Tree planting shall be coordinated with Public Service Company. Locations of all utilities shall be verified in the field prior to planting. A horizontal distance of 40' between street trees and street lights shall be maintained.
- Grades shall be set to allow for proper drainage away from all structures. Grades shall maintain smooth profiles and be free of surface debris, bumps, and depressions.
- Developers shall ensure that the landscape plan is coordinated with the plans done by other consultants so that the proposed grading, storm drainage, or other construction does not conflict nor preclude installation and maintenance of landscape elements on this plan.
- All shrub beds adjacent to turf areas shall be edged with Ryerson or approved equivalent steel edger.
- All shrub bed areas shall be mulched with a 3" layer of woodbark mulch or gravel over weed barrier fabric. Perennials and groundcover areas shall be mulched with a 3" layer of shredded woodbark mulch.
- During construction, prevent cleaning of equipment, the storage or disposal of waste building materials (i.e. paint, oils, solvents, asphalt, concrete, mortar) within the dripline of any protected tree or group of trees.
- Prior to installation of plant materials, area that have been compacted or disturbed by construction activity shall be thoroughly loosened, organic amendments such as compost, peat, or aged manure shall be thoughtfully incorporated at the rate of at least three (3) cubic yards of amendment per 1000 square feet of landscape area.
- All sod areas unless otherwise noted will be sodded with low-water demanding blend. Dryland / Native seed to suit specific soil conditions and maintenance requirements.
- Contractor shall verify all material quantities prior to installation. Actual number of sybols shall have priority over the quantity designated.
- Refer to the City of Boulder Design and Construction Streetscaping Standards.
- Refer to the Civil Engineer Drawings for Grading and Utility Information.

LEGEND



REFER TO CIVIL ENGINEER DRAWINGS FOR GRADING AND UTILITIES



North:

Scale: 1"=30'-0"

FINAL LANDSCAPE PLAN

Sheet Name:

RLA # AZ 35539

STUART WATADA

LANDSCAPE ARCHITECT/PLANNER

1401 WALNUT STREET, SUITE G

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Consultant #1:

Consultant #2:

Project Name:

Project Name

Project Address

Revisions:

Project #: 00-000
Drawn By: SLW
Checked By: SLW

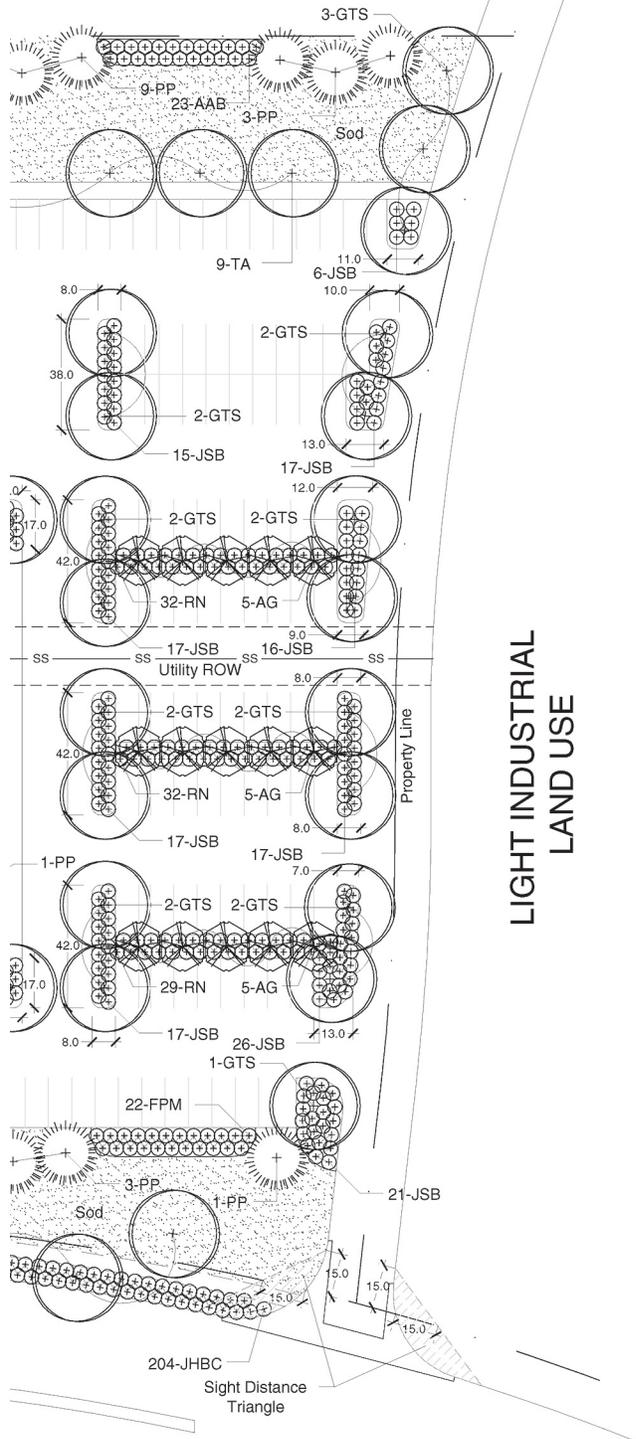
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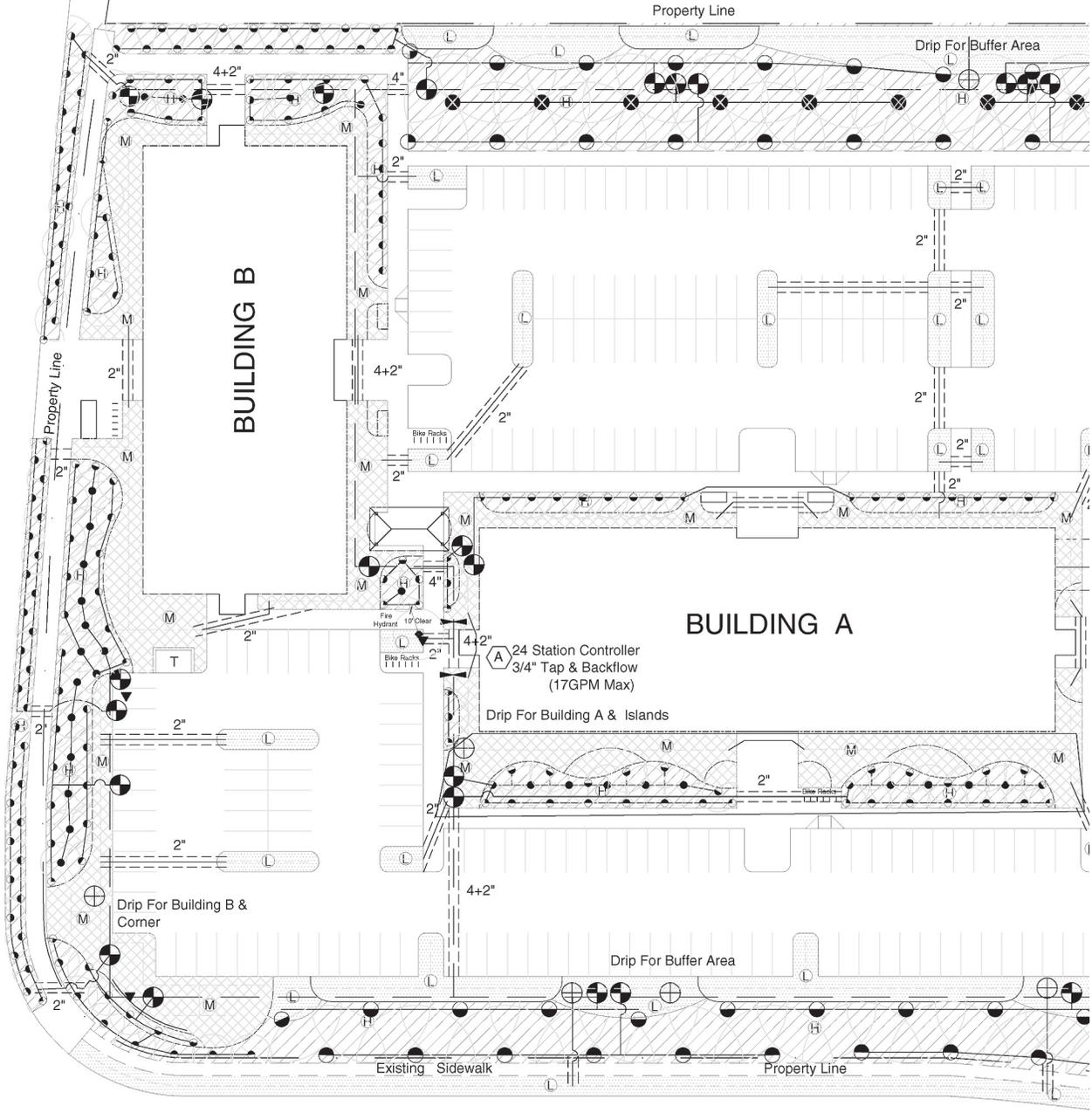
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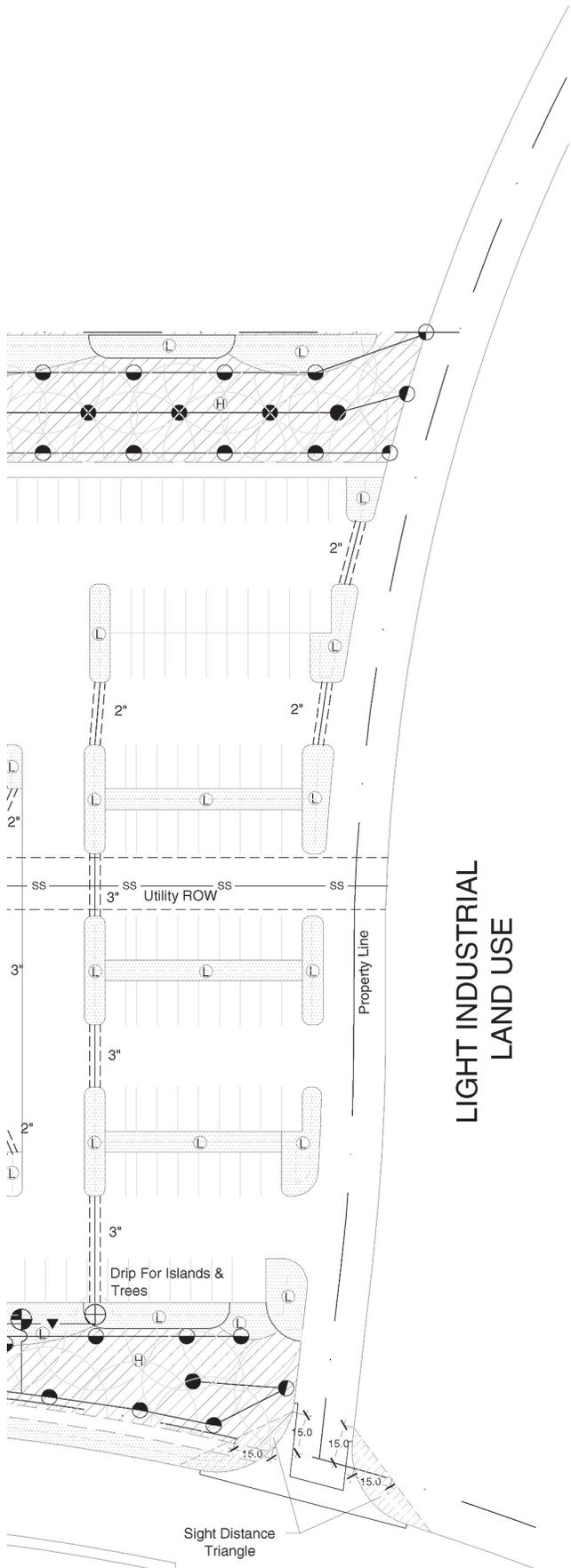
**LIGHT INDUSTRIAL
LAND USE**

LOW DENSITY RESIDENTIAL
LAND USE

55TH STREET



FLATIRON PARKWAY



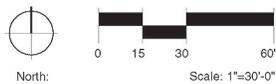
LIGHT INDUSTRIAL
LAND USE

IRRIGATION LIST

-  LOW WATER ZONES
-  MODERATE WATER ZONES
-  HIGH WATER ZONES
-  IRRIGATION CONTROLLER
-  CONTROL VALVE - POP-UP, ROTOR HEADS
-  CONTROL VALVE - DRIP SYSTEM
-  KEY VALVE
-  QUICK COUPLER
-  MAIN LINE
-  LATERAL LINE
-  SLEEVING
-  DRIP LINE
-  POP-UP HEAD
-  ROTOR HEAD

IRRIGATION NOTES

1. Refer to specifications and details for installation instructions.
2. All base plan information has been provided by the Civil Engineer, prior to start of construction the contractor is responsible to verify that the base information matches the current Civil Engineer base information.
3. All landscape areas shall be irrigated with a fully automatic sprinkler system. All sod areas shall be irrigated with pop-up gear driven sprinkler heads. All plant material in shrub bed areas shall be irrigated with a low volume drip irrigation system.
4. Developers shall ensure that the Irrigation plan is coordinated with the plans done by other consultants so that the proposed grading storm drainage, or other construction does not conflict nor preclude installation and maintenance of landscape elements on this plan.
5. Irrigation system is designed for a water pressure of 85 PSI. Contractor is to verify pressure prior to installation of irrigation system and notify landscape architect with verification figures. Failure to notify landscape architect will result in contractor taking responsibility for alterations at his own cost.
6. Contractor to coordinate installation of sleeving with installation of paving and sidewalks.
7. Use Rainbird 12 Series Nozzles for spray heads spacing less than 13'.
8. Use Rainbird 10 Series Nozzles for spray heads spacing less than 11'.
9. Electrical Power to the new controller is supplied and installed by contractor. Verify existing electrical supply in field with Project Manager prior to submitting bids.
10. The Contractor shall be responsible for the repair of any damage to existing utilities, curb, and gutter, walls, existing irrigation, or walkways and other existing structures that is a result of his work. The repair of such damage will be at no additional cost to the owner.
11. Contractor shall verify all material quantities prior to installation. Actual number of symbols shall have priority over the quantity designated.
12. Adjust, extend, cap, remove and re-install existing irrigation in the areas disturbed by construction for proper 100 % head to head irrigation coverage.
13. All Quick Couplers are to have concrete donuts installed.
14. Refer to the City of Boulder Design and Construction Streetscaping Standards.
15. Refer to the Civil Engineer Drawings for Grading and Utility Information.



FINAL IRRIGATION PLAN
Sheet Name:

RLA # AZ 35539

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Consultant #1:

Consultant #2:

Project Name:

Project Name
Project Address

Revisions:

Project #: 00-000
Drawn By: SLW
Checked By: SLW

Date:

Sheet Number:
I-1.1

Index Number:
2 of 2

Notes

Glossary

Alley

A public roadway designed to serve as a secondary access to the side or rear yard of properties facing a public street.

Berm

A strip of mounded topsoil which provides a visual screen.

Building

Any structure built for the support, shelter, or enclosure of persons, animals, or property of any kind. For purposes of this title, portions of buildings connected by enclosed attachments that are usable by the buildings' occupants shall be treated as one building.

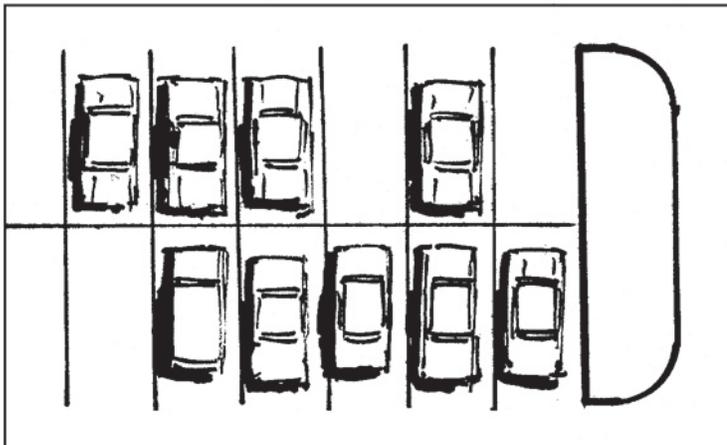
Crown spread

The typical circumference of a tree at maturity.

Double-loaded row of parking

Two rows of parking adjacent to one another.

Ground cover



**Double-loaded parking
stall configuration**

Plant materials that generally do not exceed 12 inches in height and will provide 100% surface coverage within two growing seasons of planting.

Landscape strip (Planting strip)

The planting area, usually in the public right-of-way, between the sidewalk and the street curb. See the *planting strip* entry for an illustration.

Landscaped area

Any land set apart for planting grass, shrubs, trees or similar living materials, including land in an arcade, plaza or pedestrian area. Fences and walls may be a part of a landscaped area.

Landscaping

Materials, including, grass, ground cover, shrubs, vines, hedges, trees and nonliving natural materials commonly used in landscaped development.

Parking lot

An off-street, ground-level open area used for the temporary storage of motor vehicles, including necessary access drives, drive lanes and parking stalls. This does not include sidewalks, carports, garages or driveways that serve detached dwelling units, parking garages and structures.

Parking lot landscaping, interior

Landscaping that is within, or extends into the parking lot, excluding landscaping that is required in any setback area, a landscaped area between a parking lot and a building that does not extend into the parking area, sidewalks, and areas designed to meet the requirements of Subsection 9-9-14(b) or (c), B.R.C. 1981.

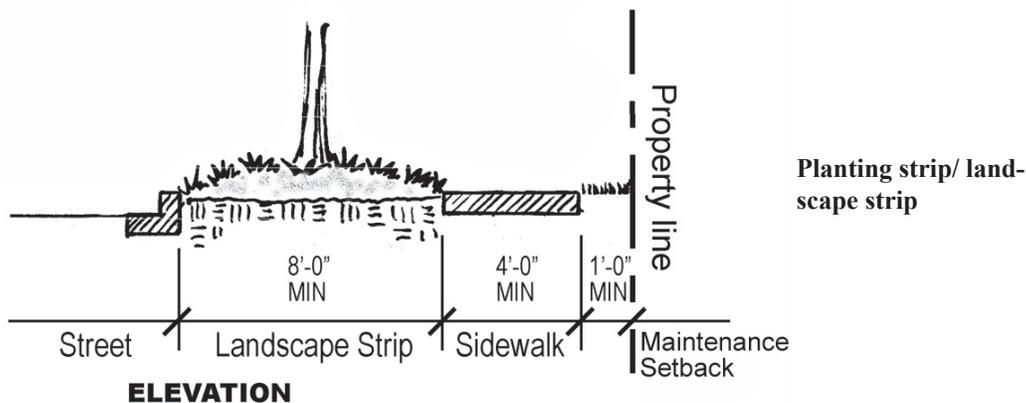
Planting season

Generally between April 15 to Oct. 15. Planting in the spring or fall is generally preferred. Planting during the summer on hot dry days when temperatures are above 90°F. should be avoided to assure the greatest survival rate.

Planting strip

The planting area, usually in the public right-of-way, between the sidewalk and the street curb.

Streetscape



The pedestrian and landscape improvements generally within public right-of-way or on private property if the right-of-way is not wide enough for the area needed to provide trees and sidewalks.

Soil moisture sensing device

A device that measures the amount of moisture in the soil and turns off a sprinkler controller when moisture has reached a preset quantity.

Tree

A self-supporting deciduous or evergreen plant normally 15 ft. or more in height at maturity, as grown in Boulder County.

Understory planting

The plant materials such as turf, ground cover or low-growing shrubs that cover the ground area under a tree in a landscaped area.