

## DIVISION I. LANDSCAPING AND SITE DESIGN STANDARDS AND GUIDELINES

### 18.40.100 - GENERAL

The following standards and guidelines shall apply to development on all building form types unless otherwise indicated.

The Landscaping and Site Design Standards and Guidelines provide guidance to create a sustainable management of the streetscape, alleys, plazas, front yards, and other private open spaces throughout the City of Golden. This chapter applies to all zone districts (use and form zones). Against some of the challenging climatic conditions of Colorado, thoughtful landscaping can create comfort zones, increase livability, and contribute positively to the environment.

In this section, the filled boxes (■) indicate the item being a standard, and empty boxes (□) indicate the item being a guideline. Standard items are required for development and approval of site development. Guidelines are strongly suggested to be incorporated into a development to inspire creative design.

#### 1. NEIGHBORHOOD CHARACTER

Development plans should include landscape elements that contribute positively to the character of the neighborhood. Improvements should:

- Enhance the human scale of the building.
- Provide a transition between areas with different character.
- Screen views of unsightly elements, such as utility boxes and parking areas.
- Create comfort zones to encourage pedestrian activity.
- Facilitate water efficiency.



Plant materials soften the built environment and provide an appropriate transition between the sidewalk and the house. This technique is especially useful in situations with small setbacks.



Open spaces incorporate plants that provide visual interest, create comfortable outdoor spaces, and contribute positively to the environment by reducing water consumption, providing natural habitat, and reducing stormwater runoff.

#### 2. OPEN SPACE

When any lot of 22,000 s.f. or more is subdivided within the City of Golden, the amount of open space determined below shall be set aside for pocket parks, plazas, or common courts, excluding the surface parking areas. These areas shall comply with the “Common Court Amenity” regulations identified in Title 17 of the Golden Municipal Code. These areas shall be publicly accessible, located to encourage public use, and not hidden from view.

Building form zones	Subdivided Lots (22,000 SF or more)
Core	15%
Transition	15%
Edge / Outer Edge	15%
Neighborhood Corridor	15%
Main Street A and B	15%
Strip	15%

- a. Open space areas are outdoor areas which provide separation and relief from buildings or create outdoor recreational opportunities. These areas include:

Walkways, pedestrian paths, open plazas and malls; terraces, natural drainage ways and drainage ponds; common courts; playgrounds; rooftops improved for landscape or recreational purposes; areas with benches, outdoor furnishings, and other places for sitting; and other areas designed specifically for active or passive recreational use, and which are not designed to be used by motor vehicles except for emergency and service purposes; and

Areas used as planted or landscaped areas, flowerbeds and planters.

- b. Open space areas do not include:

Portions of a property which are capable of being developed and which are specifically used for storage or reserved for future expansion, or outdoor areas which are developed for use as a storage area; and

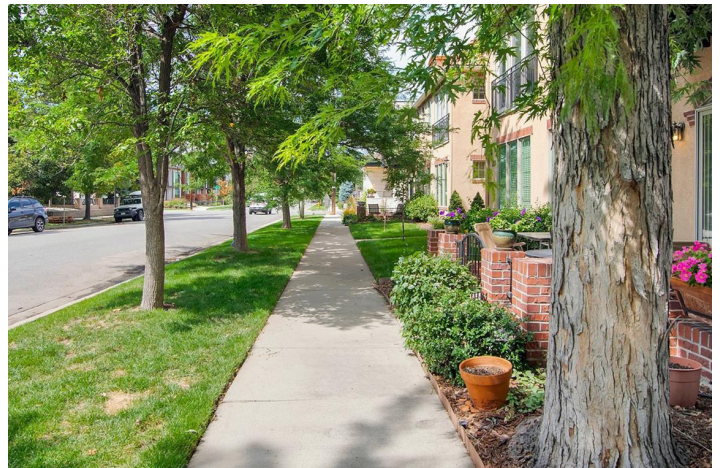
Areas designed to accommodate motor vehicle uses such as parking lots, open-air showrooms, roads, or service areas, at, above, or below ground level. Landscaping over underground parking, however, is included as open space.

### 3. SIDEWALK STANDARDS

- a. All sidewalks shall be rectilinear and shall maintain traditional patterns paralleling the streets.
- b. All properties regardless of Form Zone shall be required to install a sidewalk along both primary and side street frontages.
- c. The minimum sidewalk width shall be 7' (as shown below) unless specified otherwise by the Director of Community and Economic Development.
- d. The minimum landscaping strip width shall be 7' (as shown below) unless specified otherwise by the Director of Community and Economic Development.
- e. The sidewalk shall be detached from the roadway unless this condition would vary from the existing context. Applicant shall demonstrate this condition at the time of application.
- f. Additional right-of-way streetscape standards are applicable subject to the regulations provided in the following sections. Both the sidewalk and streetscape standards are required, unless a hardship can be demonstrated at the time of application.
- g. All sidewalks shall reference the City of Golden sidewalk manual (ADA).



*Sidewalks shall be continuous and maintain the traditional pattern of the street.*

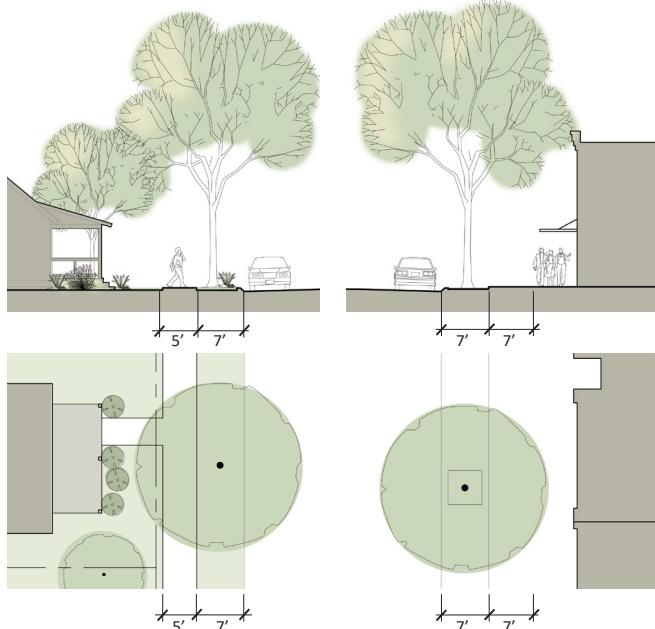


*Street trees and landscape areas between the street and the sidewalk, and between the sidewalk and the house, foster a pedestrian friendly environment.*

*Sidewalks shall meet the minimum requirements presented in this section. Two typical streetscape conditions, and the sidewalk and tree lawn standards for each, are illustrated below. The following sections of this chapter provide context-specific landscape standards.*

*Residential Sidewalk*

*Main Street Sidewalk*



*The character of the sidewalk and tree lawn varies by context. The image above of Wenatchee, WA shows a main street context.*

#### 4. LANDSCAPING

The following landscape standards and guidelines are for the private lot landscaping of all building form types.

- a. Plant material shall be selected from the species approved by the **Colorado State University (CSU) Extension Guides**, which address topics such as xeric plants, Colorado natives, and plants suited for Colorado's climate by type, including ground covers, grasses, perennials, shrubs, and trees. At least fifty (50) percent of landscaped area, exclusive of paving or built area, shall include xeric plants, as defined by the CSU Extension.
- b. In this section (18.40.100), a **Tree Equivalent (TE)** point system is used, with 1 TE being equal to the minimum size and characteristics of the tree at the time of planting or installation, which shall be as follows:
  - **Deciduous trees:**  
Two and one-half-inch (2 1/2") caliper, measured one foot above ground. (1 TE)
  - **Coniferous trees:**  
Six feet in height. (1 TE)
- c. In this section (18.40.100), plant requirements shall be measured by **Shrub Equivalent (SE)**. A Shrub Equivalent (SE) equals one large shrub, or two medium shrubs, or four small shrubs. The minimum size and characteristics of the plant at the time of planting or installation, shall be as follows:
  - **Evergreen and deciduous shrubs and hedges:**  
Minimum (1) five-gallon container size (1 SE) or  
Minimum (2) two-gallon container size (1 SE) or  
Minimum (4) one-gallon container size
- d. The minimum size and characteristics of other landscape materials at the time of planting or installation, shall be as follows:
  - **Ground covers and vines:** One gallon size, except for prostrate junipers and other shrub like ground covers that shall be five-gallon size.
  - **Wood chip mulch:** Minimum three inches depth.
  - **Rock or stone mulch:** Two-inch minimum to cobble size, minimum three inches in depth.
- e. Healthy existing mature trees (three-inch caliper or greater) shall be preserved on site unless sufficient hardship can be demonstrated. If trees must be removed, two must be planted (two and one-half-inch caliper or greater) for every one that is taken, in addition to compliance with all other tree requirements. No substitutions for trees allowed.
- f. Group plants with similar water requirements to avoid over watering.
- g. Landscape plan shall demonstrate that irrigation systems are designed as high-efficiency systems that minimize overspray and water waste through use of automatic controllers, rain sensors, moisture sensors and, for non-turf areas, subsurface drip systems.
- h. Prior to planting and installing irrigation systems, all sites for plantings shall incorporate soil amendments at a rate of three cubic yards per 1,000 square feet to a depth of at least six inches. Existing topsoil shall be salvaged and stockpiled for use in amending area soil.
- i. Turf areas and live planting areas in excess of 100 square feet in area shall be served by a permanently installed irrigation system unless exempted by the director, based upon a determination that such an irrigation system is unnecessary as a result of the size, location or alternate maintenance accommodations applicable to the area. Special considerations for xeric plants (as defined by the CSU Extension Guides), drought tolerant turf and other plant materials should be considered.
- j. Plant material located within an applicable sight distance area, as defined by the City of Golden Street, Sidewalk and Drainage Specifications, shall conform to those requirements.
- k. The final landscape plan for commercial and mixed use and multifamily residential projects shall be prepared and stamped by a Colorado licensed landscape architect.
- l. Provide a landscaped area between residential uses and the street, including trees and other landscape materials.
- m. Deciduous trees that shade in the summer and allow sunlight to pass through their limbs in the winter are recommended for the south side of the building. Evergreen trees that buffer from cold winds, snow, and ice are recommended along the north facade of the building. Decisions should also take into account the effects on solar access with regard to neighboring properties.
- n. Locate trees to provide shade for paved areas to reduce heat islands.
- o. Trees that must be removed on site due to demonstrated hardship should be disposed of as organic waste, including chipping or composting, and when possible used on site for mulch or soil amendment.
- p. No turf grass should be used on areas narrower than 4 feet. Even then, xeric plants are encouraged over turf grass.
- q. For driveways, sidewalk, or patio areas, use porous asphalt or cement, grass pavers, or other permeable hardscape materials.

**5. LANDSCAPING OF PARKING AREAS**

- a. In addition to the street trees required in 18.400.100 (4) subsection, 1TE shall be provided at a rate of one tree per five parking spaces or fraction thereof on all surface lots. These trees shall be placed within or immediately adjacent to the parking lot.
- b. Properties for which on-site parking of 20 or more automobiles is required shall also provide a landscaped area equal to ten percent of the total paved parking area, which landscaped area shall count toward the open space requirement. The landscaped area shall be distributed throughout the paved parking area, and shall include trees, shrubs, and ground covers. Landscaped areas shall be served with a permanent irrigation system. In no instance shall more than 25 parking spaces occur in a row without the provision of a landscape island. Landscape areas or islands in parking lots shall each at least be 80 square feet, and shall contain at least 1 TE and 5 SE for each island, unless waived by the Community Development Director. Islands larger than 80 square feet shall contain one additional shrub for each additional 20 square feet of area, and one additional tree for each additional 200 square feet of area.
- c. Landscape areas within and surrounding parking lots should provide some stormwater benefit such as reducing runoff or filtering pollutants.

**6. LANDSCAPING OBLIGATION + MAINTENANCE**

- a. City right-of-way, or the area between the road and the property line, shall be maintained by the owner of the adjoining property.
- b. Provisions for landscaping, screening and maintenance are a continuing obligation of the property owner, and where approved trees, shrubs or other landscaping materials die or are removed, it shall be the responsibility of the applicant to replace them with materials of a comparable nature and size to those originally approved. Replacement shall occur in the next planting season, but in any event, such replacement time shall not exceed one year. Any replacement which conforms to the requirements of this section shall not be considered an amendment to the site plan.
- c. The owner of the property, their successors, lessees, heirs and assigns shall be responsible for the proper maintenance of the area subject to an approved site plan. That area shall be deemed to include an area as measured from the back of the curb line to, and including all areas subject to the approved site plan. Landscaping shall be regularly maintained including necessary watering, weeding, pruning, pest control and replacement of dead or diseased plant material.
- d. A performance warranty in the amount of 20 percent of the cost of installation of landscaping shall be provided to the city for projects where the cost of landscaping exceeds \$25,000. This performance warranty shall be held until completion of the first full growing season after the growing season of installation, and shall assure the replacement of any dead or diseased plant material.



*Parking lots shall include trees within or on the edges of the parking lot, in order to shade cars and reduce the heat island effect.*



*Landscape areas should be integrated into the parking lot design, and should be designed and located to enhance pedestrian circulation throughout the parking lot and site.*

## 7. SCREENING

- a. All open storage areas shall be screened from public view and rights-of-way or adjacent property by use of landscaping, berms or a combination of landscaping and other structural elements to a height of six feet, or to the height of elements to be screened.
- b. Any non residential site contiguous to or facing any residential zone or residential use shall screen its parking areas, loading docks or similar uses through the use of landscaping elements to a height of four feet, or to the height of elements to be screened with an opacity of at least 50%.
- c. All trash containers shall comply with the requirements of chapter 5.03 of the Golden Municipal Code, and shall not be located in the public right-of-way. Trash enclosures shall be integrated into the site plan to minimize enclosure visibility and accommodate truck access. Trash enclosures shall accommodate receptacles for both trash and recycling pick-up. Trash enclosures shall be constructed of durable, opaque materials and the color, texture, and architectural detailing shall be consistent with the overall site and building design. Chain link fence is not a suitable material for screening.
- d. Roof-mounted electrical, heating, ventilation or air conditioning units, and mechanical equipment shall be placed or screened such that the equipment is not visible from any point ten feet above the ground at any point within a 200-foot radius of the building upon which it is mounted. Downspouts, cell antennae, cable dishes, and roof ladders shall be located so as to minimize their view from adjacent properties.
- e. Utility cabinets, meters, generators, and other ground-mounted mechanical equipment shall be contained within the building or otherwise fully screened.
- f. Screening shall be provided for outdoor storage uses when these are permitted by the zoning district. Said screening shall occur in a manner acceptable to the city through the use of opaque fencing, landscaping, berming, or other techniques.
- g. Mechanical equipment and trash enclosures not shown on the submitted drawings shall only be approved when shown on the site plans and elevation drawings as part of a complete submittal.
- h. A solid fence or wall six feet in height shall be part of a ten-foot wide buffer strip between commercial, industrial, governmental, or public assembly uses and residential uses. This fence may be reduced in height to as little as five feet by the director, if the director determines that site considerations, including but not limited to topographic differences between the lots and setbacks of the proposed building warrant such reduction. Landscaping shall be used in combination with the fence or wall to soften the appearance of the buffer. An evergreen hedge of a minimum of five feet in height after three growing seasons may be used in lieu of a fence if the commercial/industrial, governmental or public assembly use does not generate noise or emissions and if no loading or access activities occur adjacent to the residential use. Berms may be used as buffers provided that such berm shall not exceed a slope of 3:1.

## 8. BUFFERS

- a. Lots that are adjacent to residential areas or other non-compatible uses shall incorporate landscape buffers, berms or other screening elements along the rear property lines.
- b. Provide screening such as low fencing, shrubs, or other landscape elements between parking lots and streets, walkways, or trails.

LANDSCAPING AND SITE DESIGN STANDARDS AND GUIDELINES

18.40.120 - FRONT YARDS AT ALL BUILDING FORM TYPES

Since creating walkable streets is one of the primary objectives of Golden’s Comprehensive Plan, all lot types prescribe a friendly building presence along the sidewalk. When it is not feasible to provide shade trees within the front yard, ornamental trees in between buildings together with well-layered bushes and perennials located at front porches create a very pleasing and friendly streetscape.

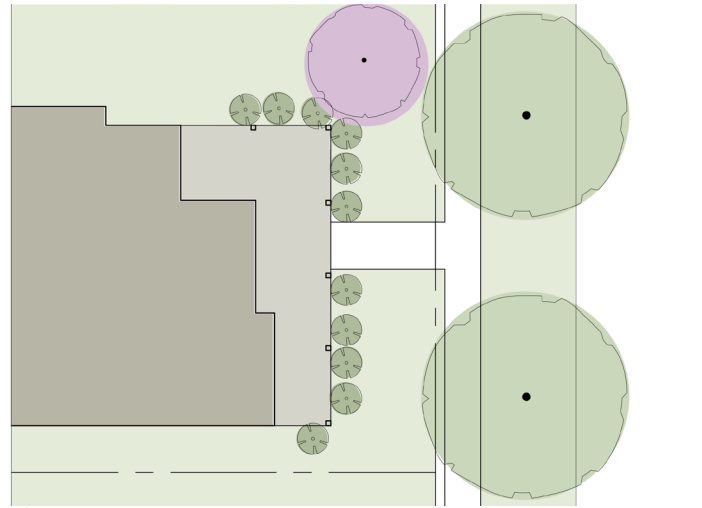
The standards in this section applies for all front yards that are six feet deep or deeper as measured from the front property line to the porch or building. These standards shall apply to all building form types on newly developed lots.

1. FRONT YARDS ALONG STREETS AND SIDE STREETS

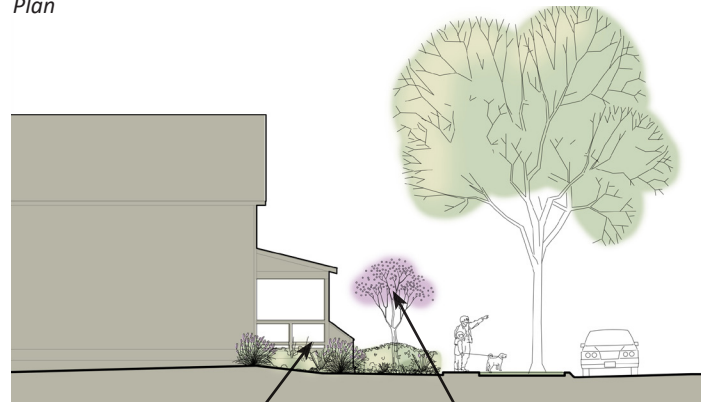
- a. Provide ornamental or mid-sized trees as follows:
  - 1 TE for lots with frontages between 25 and 42 feet
  - 2 TE for lots with frontages of 43 feet or more
- b. A minimum of 1 SE of plant material shall be employed for every 10 feet of street, side street, and common court frontage of the lot. The plant material shall be selected from the species approved by the CSU Extension Guides.
- c. At least 50% of the front yard shall be living materials.
- d. No turf grass should be used on yards narrower than 4 feet. Even then, layering of flowering bushes and perennials are encouraged over turf grass. Rock mulch, wood mulch, and ground covers are also recommended.
- e. A combination of ornamental trees, large and small shrubs are recommended to be employed where there is opportunity.
- f. A combination of ornamental trees, large and small shrubs are recommended to be employed on the side yards when they are visible from the street or common court.

2. STREET TREES AND PLANTINGS

- a. Deciduous shade trees shall be planted parallel to the adjoining street or streets such that a canopy of foliage will form over the streets. One tree shall be planted in this manner minimum for each 35 feet of street frontage. Ground cover and/or shrubs shall also be planted in the street-side landscaping strip in which the trees are placed.
- b. Coniferous trees shall not be used for street trees.



Plan



Section

Porch front shrubs and flowers

Front yard ornamental tree

Vertical layering helps define outdoor space and create an inviting composition around the porch



When the porch is located close to the sidewalk, a cluster of layered large and small shrubs and perennials arranged in front of the porch creates an appealing composition. A view from Washington Village in Boulder, Colorado (top); a view from a home in the 12th Street Historic District in Golden, Colorado (bottom).

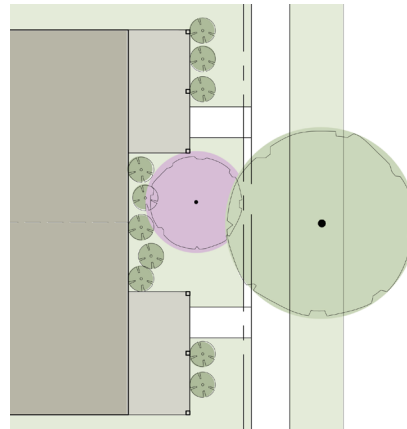


LANDSCAPING AND SITE DESIGN STANDARDS AND GUIDELINES

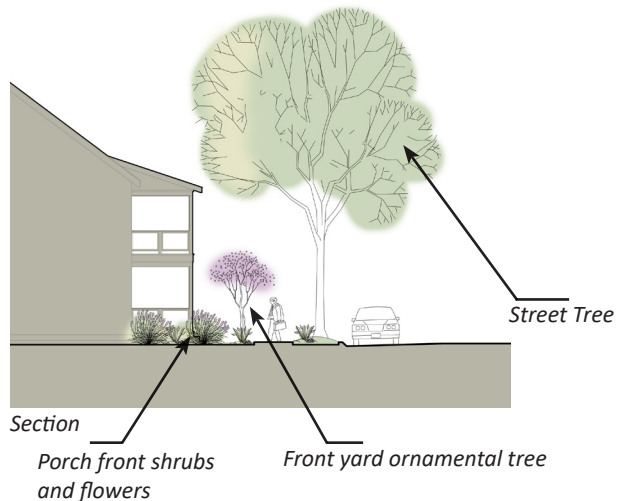
18.40.130- APARTMENTS, CLUSTERS, + URBAN RESIDENTIAL FORM TYPES

Clusters, apartment complexes, and urban residential building forms usually provide limited yard areas. However, when the yards are limited and visible to the public, residents tend to exhibit more care to the landscaping. Providing a well-irrigated infrastructure for intense landscaping in limited areas is the primary objective for landscape design for multiple dwelling building lots.

- a. All portions of lots which are not occupied by driveways, sidewalks, patios, decks or buildings shall be landscaped or mulched in accordance with the regulations found in 18.29.280 (1) General.
- b. When residential units occupy the ground floor, a minimum of 1 SE of plant material shall be employed for every 10 feet of street, side street and common court frontage of the lot. The plant material shall be selected from the species approved by the CSU Extension Guides.
- c. When apartment units are located on the ground floor facing the street or side street, the area between the porches and the sidewalk shall be landscaped as a [front yard landscaping](#).
- d. Flowering shrubs are encouraged to be placed against the building especially at walls facing the public with limited openings.
- e. A combination of ornamental trees, large and small shrubs are recommended to be used throughout the site.



Plan



Section

Flowering bushes create a buffer between the home and sidewalk. When apartment units are located on the ground floor, the area between the porches and the sidewalk should be landscaped as a front yard.



A cluster of shrubs placed close to the building, fences, or low walls creates a graceful relationship with the sidewalk despite the limited front setback. (Rowhomes on 8th street, Golden, CO.)



Ornamental grasses and raised planting beds create privacy for the ground floor unit and porch. (8th Street in Golden, Colorado.)

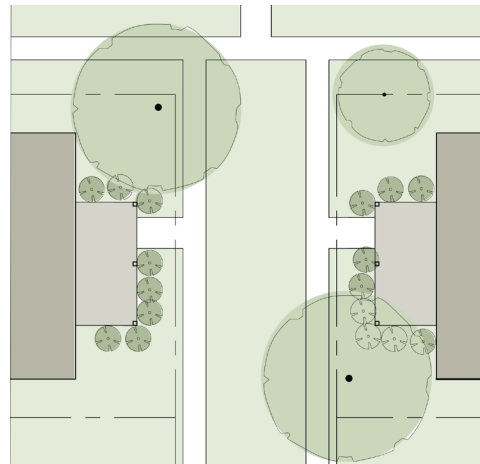
## LANDSCAPING AND SITE DESIGN STANDARDS AND GUIDELINES

### 18.40.140 - COMMON COURTS

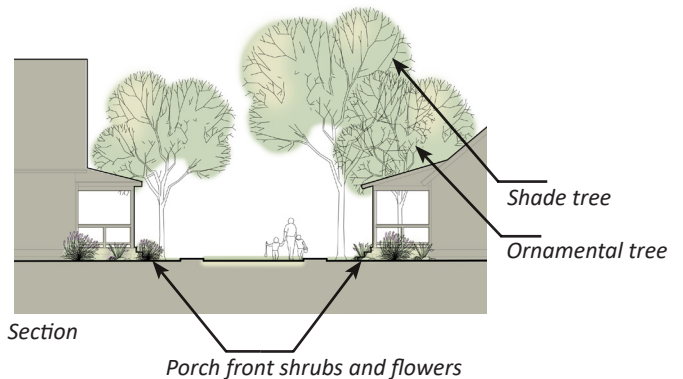
Common courts can be an important part of the amenities the neighborhoods provide for residents. In order for the dwelling units to face these amenities and enjoy them as comfort zones, certain design principles should be followed to guide the landscape design.

#### 1. TREES AND SHRUBS

- a. Provide a minimum of 1 TE of shade tree per 800 s.f. of landscaped area of the green court (this area excludes impervious pavements). This requirement may be waived by the director if sufficient shade trees are provided in the front yards along the common court.
- b. Provide two rows of trees on either side of green courts, when space allows. On narrower green courts where it is not feasible to provide two rows of trees, provide a few high canopy shade trees at the center.
- c. Employ layered shrub landscaping close to the buildings and keep the center clear from the shrubs. Employ ornamental trees where the buildings have limited openings.
- d. Integrate best practices in stormwater management into site design with swales, filter strips, and rain gardens, to reduce runoff and filter pollutants. Employ simple bridges over the drainage ways or swales to maintain a continuous pedestrian walkway.



Plan



Section

Two homes facing a common court with layered landscaping. When there is an opportunity the shade trees should be planted on front yards to leave the center free. At narrow courts however, central shade trees are more appropriate.

#### 2. SIDEWALKS

- a. Avoid excessive pavement and hardscape throughout the site. In areas that transition between hardscape and landscape and where runoff will be directed, use a stabilized surface to prevent erosion of unpaved surfaces.
- b. Employ two narrow sidewalks (3 feet in width) at either side, close to the porches, rather than one at the center, when feasible.



Entry to a common court in North Court showing layered landscaping and appropriately placed shade trees. (Holiday Neighborhood, Boulder, Colorado.)



Mailboxes may emphasize the entrance to the common court. (Courtyard Townhomes on Washington and Iowa, Golden, Colorado.)



## LANDSCAPING AND SITE DESIGN STANDARDS AND GUIDELINES

### 18.40.150 - ALLEYS

The traditional and historic contexts of Golden, which include the Core, Neighborhood Corridor, and Main Street contexts, are typically alley-loaded. Even though alleys are provided primarily for service uses and access, thoughtful landscaping is still needed on and around alleys. It is easy to create a heat island, especially when many garage doors line up along the alley as is the case for rowhomes. Some landscaping strategies include employing small landscape islands with upright shrubs and small trees, and providing shade trees on rear yards close to alleys. The following guidelines aim at encouraging smart landscaping at alleys.

#### 1. PAVEMENT AND EDGES

- a. Avoid excessive pavement and hardscape throughout the site. In areas that transition between hardscape and landscape and where runoff will be directed, use a stabilized surface to prevent erosion of unpaved surfaces.
- b. Provide pavement only for the width of the garage door and leave gaps in pavement for planting when feasible.
- c. Use of straight concrete edge in lieu of regular curbs is encouraged, for it makes it easier to create landscape islands.

#### 2. LANDSCAPING ALONG THE ALLEY

- a. Provide landscape islands in between head-in parking stalls when feasible.
- b. Provide narrow detached sidewalks (3 feet in width) along the parking, and use the low shrubs as car stops, when feasible.
- c. A diverse set of plant species are encouraged to be employed, including shade trees, small ornamental trees, upright shrubs, and low ground covers. The plant material shall be selected from the species approved by the CSU Extension Guides.



*Small islands with upright shrubs on either side of the garage entrances. (North Court, Holiday Neighborhood, Boulder, Colorado.)*



*Small islands are created for upright shrubs and small trees. (North Court, Holiday Neighborhood, Boulder, Colorado.)*



*Small landscape islands provide places for trees by the alley. (North Court, Holiday Neighborhood, Boulder, Colorado.)*

## LANDSCAPING AND SITE DESIGN STANDARDS AND GUIDELINES

### 18.40.160 - FENCING

*Fenced yards, even if the yards are small, increase the use of the yard significantly. However, privacy fences should be arranged and designed in a way not to prevent interaction between the sidewalk and the porch. The following standards and guidelines aim at permitting fences in a way to balance the public and private realms in the neighborhood. These standards shall apply to all building form types regardless if the development is new or existing.*

- a. No fences shall exceed 36 inches in height within 15 feet of the front property line.
- b. Low fences, walls, or hedges used to separate open space areas from public right-of-way should provide at least 50 percent open face or be less than 34 inches in height to allow uninterrupted visual perspective.
- c. On corner lots, fences with a height of up to 5 feet (privacy fences) may face the side street. However, on corner lots the following setbacks are applied for privacy fences facing the street:
  - Lots with 70 feet depth or less: a minimum of 26 feet setback from the front property line.
  - Lots with more than 70 feet depth: a minimum of 36 feet setback from the front property line.
- d. At alleys, all fences shall be setback a minimum of 6 feet from the rear property line.
- e. No fence greater than 6 feet in height shall be constructed until a building permit for said fence has been issued by the city. Issuance of a separate building permit shall not be required when adequate information is included in the building permit application for a building project that includes the proposed fence.
- f. No fence located in the required front setback for a property shall be constructed until a building permit for said fence has been issued by the city. Issuance of a separate building permit shall not be required when adequate information is included in the building permit application for a building project that includes the proposed fence.
- g. Prohibited fence styles: Barbed wire, razor wire, and electric fences shall not be permitted unless specifically permitted in a PUD official development plan, or required by the city as a condition of approval of a special use permit.
- h. Fences located within a sight distance area for a street, driveway, alley, or intersection shall conform with the requirements for such sight distance areas contained in the City of Golden Street, Sidewalk, and Drainage Specifications Manual.
- i. The maximum height of fences in the M-1 and M-2 zone districts shall be ten feet.

- j. Fences shall be natural or earth tones or a color such as white, plack, or gray regardless of material.
- j. The maximum height of fences in the PUD district shall be as listed in the official development plan or, if none is listed, in the most similar zone district.
- k. The maximum height of fences in all other zone districts shall be 6 feet, unless a taller fence is required by the city as a condition of approval of a site development plan.



*A low front yard fence between the sidewalk and porch is desirable. (Top: 8th Street Historic District; bottom: 12th Street Historic District, Golden, Colorado.)*

## LANDSCAPING AND SITE DESIGN STANDARDS AND GUIDELINES

### 18.40.170 - SHEDS OR ACCESSORY BUILDINGS

*These standards shall apply to all building form types regardless if the development is new or existing.*

- a. One unconditioned single-story storage shed per lot is permitted and shall meet the following:
  - a. Footprint doesn't exceed hundred and twenty (120) square feet.
  - b. Overall height is no greater than ten (10) feet.
  - c. Location complies with the setbacks listed for the principal buildings of the particular building form type it is to be placed on, except for the side and rear-with-no-alley setbacks which shall be two (2) feet minimum.
- b. The architectural design of the shed should be complementary with the architecture of the principal buildings, especially when the shed is visible from the street or common court.
- c. All other structures greater than 120 square feet (pergolas, detached carports and garages and other 'covered' structures) shall be subject to the form regulations established in an applicable form type for the property.
- d. Accessory buildings that are conditioned for human habitation shall be subject to the maximum buildable area per form type.
- e. Unconditioned accessory structures shall not be subject to the maximum buildable area per form type.



*Accessory Buildings are permitted on lots as long as they are consistent with the standards presented in this section and the specified form type for the property.*

## LANDSCAPING AND SITE DESIGN STANDARDS AND GUIDELINES

### 18.40.180 - MAIN STREET BUILDING FORM TYPES

*The Main Street context (Main Street A and Main Street B form zones) calls for more urban solutions in terms of landscaping. These solutions include flowers in flower pots, ornamental trees in raised beds, and layering of bushes against the building walls. Providing retaining walls, raised planters and low garden walls in the form of seating is another recommended landscaping strategy in these areas.*

#### 1. WALKWAYS AND BIKE/PEDESTRIAN PATHS

- a. Pedestrian connections from walkways, transit stops, trails, parks, and bike paths in the public right-of-way to the building and through any parking lots shall be provided.
- b. The minimum width of an on-site walkway shall be five feet unless head-in parking is permitted adjacent to the walkway, in which case the walkway shall have a minimum width of seven feet.
- c. On-site walkways designed to accommodate bicycles shall be referred to as bike/pedestrian paths and shall have a minimum width of eight feet. If head-in parking is permitted adjacent to bike/pedestrian paths, then two feet additional width shall be required for vehicle overhang on each side where head-in parking is allowed.
- d. Grades for walkways and pedestrian paths shall not exceed eight percent or the grade of the adjacent public street, except short stretches not to exceed 200 feet in length may be permitted by the city engineer if the city engineer determines that the criteria in the Golden Street, Sidewalk, and Drainage Specifications for sidewalks within the right-of-way are met.
- e. Walkways should be designed to be free of hazards and to minimize conflicts with external factors such as noise, vehicular traffic and protruding architectural elements.
- f. Walkways should ensure the mobility of all users by accommodating the needs of people regardless of age or ability.
- g. Walkways and bike/pedestrian paths should provide a continuous connection to adjacent pedestrian networks and be designed so users can easily find direct access to a route.
- h. Development should encourage and provide access for users to utilize alternate forms of transit such as pedestrian walkways, bicycle, bus, or light rail. If the project is in close proximity to a transit route such as the City of Golden bicycle system, Regional Transportation District (RTD) bus route, or a light rail line, the project should facilitate easy access to the route.

#### 2. STREETScape

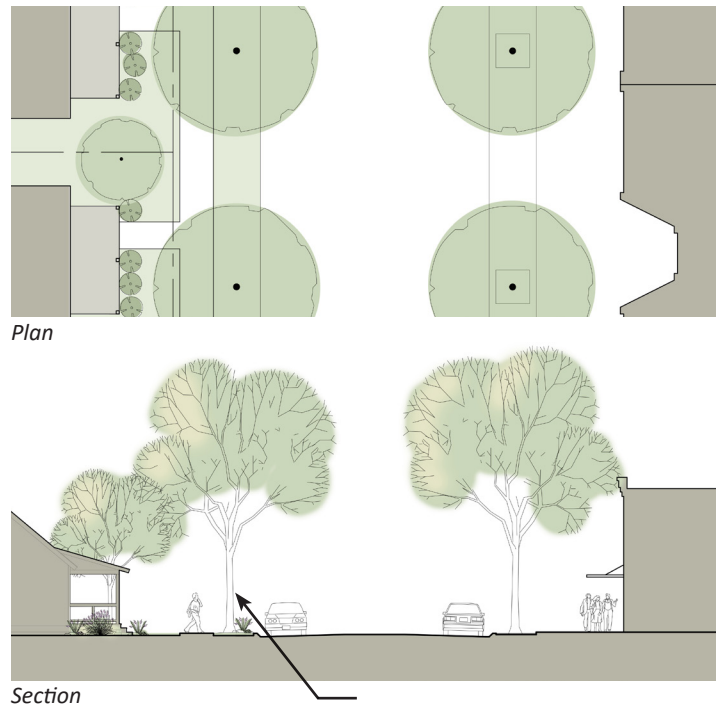
- a. A license agreement or city permit shall be required for any private activities located within the public right-of-way.
- b. Awnings shall not be back lit or internally illuminated.
- c. There shall be a minimum clearance of at least eight feet between the bottom of the awning and the ground at grade.
- d. Any portion of an awning containing the name of the business, or which is otherwise a sign, shall be treated as a sign and subject to the provisions of chapter 18.32.
- e. Restaurant seating in the pedestrian portion of the public right-of-way may be permitted pursuant to the provisions of chapter 4.90.
- f. Outdoor displays in the pedestrian portion of the public right-of-way may be permitted if at least six feet of passable sidewalk is maintained. No outdoor display or sales area shall encroach onto any portion of a drive aisle, parking or landscaped area.
- g. Streetscape requirements for buildings with a front setback less than ten feet in width, shall consist of deciduous trees in tree grates, a dry-laid brick paver strip and landscape planting areas where space permits.
- h. Where a parking lot abuts a sidewalk, a minimum of eight feet of landscaped berm or planting strip shall be used as a buffer.
- g. Streetscape design should contain elements that provide visual continuity along the public right-of-way. Activities and services in the streetscape area should allow safe pedestrian circulation.



*A planter box can double as seating along main street corridors. Washington Avenue in Golden, Colorado*

### 3. MAIN STREET LANDSCAPING

- a. All portions of lots which are not occupied by driveways, sidewalks, patios, decks, plazas or buildings shall be landscaped or mulched.
- b. Providing planters with seating, raised planters against building walls, and flower pots are recommended in order to balance the hardscape with planting, especially at plazas and expanded sidewalks.
- c. Differentiate the pavement of patio areas, plazas, or expanded sidewalks in front of businesses to delineate the public sidewalk from areas where businesses can extend with their merchandise.
- d. Flowering shrubs are encouraged to be placed against the building especially at walls with limited openings facing the public. When irrigated with carefully designed drip irrigation, placing plants close to the building wall does not create serious risks in terms of grading.
- e. A combination of ornamental trees, large and small shrubs are recommended where there is opportunity along the alley to prevent the formation of heat islands.
- f. Use canopy trees that will provide shade for users, located near benches or other places where people may gather.
- g. Provide xeric, ornamental plantings that are low-maintenance and require little water.
- h. Landscaping should not create isolated areas or areas that are not visible from adjacent public and private space for safety reasons.
- i. Plantings should create visual interest and variety for all four seasons, as well as provide shade for seating areas in warmer months along with other functional considerations.
- j. Deciduous trees should be the predominant large plant material used. They should be located adjacent to buildings and within parking areas to provide shade in summer and allow sun in winter. Species should be selected to be drought-tolerant, provide fall color and minimize litter and other maintenance problems.
- k. Evergreen shrubs and trees should be used as a screening device, for example, along rear property lines, around mechanical appurtenances and to obscure grillwork and fencing associated with subsurface parking garages.



*Street Trees at regular intervals*  
*Canopy trees on both sides of the street frame and enhance the streetscape.*

### 4. MAINSTREET STREET TREES AND PLANTINGS

- a. Deciduous shade trees shall be planted parallel to the adjoining street or streets such that a canopy of foliage will form over the streets. A minimum of one tree shall be planted in this manner for each 35 feet of street frontage. Ground cover and/or shrubs shall also be planted in the street-side landscaping strip in which the trees are placed.
- b. Coniferous trees shall not be used for street trees.
- c. All efforts should be made to preserve existing trees unless the application demonstrates site restrictions which would require their removal. Spacing may be adjusted depending on the location of alleys, common courts or specific building form lot types.

**DIVISION II. OVERALL DESIGN STANDARDS AND GUIDELINES**

**18.40.200 GENERAL**

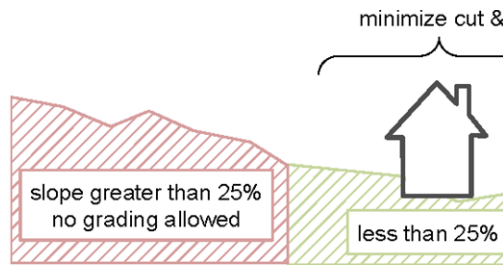
(1) Section 18.40.200 contains standards and guidelines for design and construction of site development improvements. All site development plans within the city must comply with the standards contained in division II unless otherwise specified below.

(2) In this section, the filled boxes (■) indicate the item is a standard, and empty boxes (□) indicate the item is a guideline. Standard items are required for development and approval of site development. Guidelines are strongly suggested to be incorporated into a development to inspire creative design.

**18.40.210 DRAINAGE/GRADING**

**STANDARDS**

- (1) Grading disturbance shall not occur on slopes greater than 25 percent. Properties with areas of greater than 25 percent slope shall locate development requiring grading disturbance on the site areas of less than 25 percent slope. Incidental slopes, including banks along waterways or small abnormalities of less than 100 square feet within a lot shall not be counted toward this requirement.



lot section view

- (2) The grading of the site must conform to the city’s engineering regulations, and must be designed to minimize reshaping of landforms and fit the development to the site terrain.
- (3) Disturbance of land more than one half acre or more will require permanent water quality control measures integrated into the design. Where open space areas are required the design must allow, at a minimum, the first inch of stormwater runoff (precipitation) to travel through swales, rain gardens, or other permeable surfaces. See the City of Golden Stormwater Standards Manual for further explanation. Swales must be planted with xeric species, unless shown to be infeasible due to site specific conditions. All measures shall be designed to promote water quality of storm water run-off through the use of best management practices, as defined by the urban drainage and flood control district and the city. Any increase of 10,000 square of impervious area shall require flood attenuation.

- (4) Maintenance and upkeep of stormwater detention and water quality improvements as required by the city are a continuing obligation of the homeowner or homeowner association. Unless amendments to the approved plans are approved by the city, the owner(s) shall provide maintenance to the improvements as needed to maintain compliance with the approved plans.
- (5) Projects shall be designed to minimize cut and fill areas. Excessive cut and fill is discouraged especially in locations of limited or difficult access. Special care should be taken to final grade all disturbed areas to a natural appearing configuration. Techniques to soften the visual impact of long or high slope banks should be used and include terracing, varying slope heights, contour grading, rounding tops and bottoms of slopes, and screening with a ten (10) foot wide landscaping strip that shall contain 5 (five) foot tall evergreen shrubs or trees planted at least 8 (eight) foot on center. Retaining structures are permitted as elements of site design and shall meet the following requirements:

a. Retaining structures, shall not be located in setbacks, shall not exceed eight (8) feet in height and shall not exceed two (2), eight (8) feet tall terraced sections.

b. Retaining structures exceeding sixteen (16) feet in height may not have terraced sections exceeding six (6) feet in height without approval from the Director.

c. Terraced sections must be spaced a minimum of four (4) feet horizontally to allow for planting of irrigated or no-water xeric small shrubs (2.5 gallon shrubs planted 3 foot on center) and mulch groundcover between the terraces.

d. Retaining structures must be masonry materials and must be tinted medium or dark brown or a soil compatible earth tone.

- (6) Stormwater detention areas shall be designed to be compatible with the neighborhood interests, to minimize public health impacts, and may provide active or passive recreational opportunities.
- (7) To the greatest extent possible, impervious surfaces should be minimized and mitigated. Impervious surfaces shall be mitigated with rain gardens, swales and other methods designed per the City of Golden Stormwater Standards Manual.

**18.40.215 HILLSIDE STANDARDS**

- (1) Where properties subject to this chapter include areas covering more than 25 percent of the site with original slopes in excess of 15 percent slope, the following specific standards shall apply in addition to other requirements.
  - (a) Driveway grades shall conform to criteria for private driveways in the Golden Street, Sidewalk, and Drainage Specifications.

- (b) Site development plans shall include measures to minimize erosion both during construction and after occupancy in conformance with any required drainage or stormwater quality permit, as approved by the city.
- (c) Overlot grading proposals for subdivisions or developments shall minimize disruption of topographic forms. Cut or fill depth within 100 feet of a public street right-of-way or adjacent property shall not exceed ten feet unless specifically approved by the director based upon the criteria in subsection 18.40.06(1).
- (d) Fill slopes between the subject site and existing buildings on an adjacent site shall not exceed 3:1 grade if the height of the slope where the fill is occurring exceeds four feet. Slopes in excess of a 2.5:1 grade shall be stabilized with an approved structural treatment. Acceptable ground cover for such a slope must be specified on the site plan or grading plan.
- (e) The top of a cut slope shall be made not nearer to a property lot line than ten feet; unless a professional engineer licensed in the State of Colorado certifies that the cut will not substantially impact the lateral support of the adjacent property.
- (f) The toe of a fill slope greater than four feet in height shall be made not nearer to property lot line than ten feet or three feet of setback for each one foot of fill, whichever is greater.

### 18.40.220 MITIGATION OF HIGHWAY

#### NOISE

Unless specifically waived or modified by city council based upon the general criteria contained in sections 18.08, approval of all new site development plans for property, or any portion of which is located adjacent to or within 500 feet of the right-of-way for 1-70, C-470, US 6, State Highway 58 and State Highway 93, shall require the applicant to demonstrate compliance with the highway noise standards in this section.

### 18.40.225 MITIGATION OF HIGHWAY

#### NOISE STANDARDS

- (1) Single household residential standards. The maximum outdoor DNL for single-family residential subdivisions shall not exceed 55 dB(A). This standard is to be applied at the primary outdoor use area, typically a ground level backyard. If there is no backyard or common outdoor use area serving the development, then the city may consider a large outdoor deck, situated on the main living level, as the primary outdoor use space.  
  
Exception: The city council may, in its discretion, allow a DNL of up to 65 dB(A) if there is a study or other compelling evidence that compliance with the standards is not economically reasonable or technically feasible.
- (2) For Multifamily residential developments of two dwelling units or more. The maximum outdoor DNL for multifamily

residential subdivisions shall not exceed 55db(A). This standard is to be applied to the primary outdoor use area, typically the backyard or common outdoor use area. The standard does not apply to the small balconies or decks associated with multiunit developments provided there is a common outdoor use area within the development.

Exception - The city council may, in its discretion, allow a DNL of up to 65 db(A) if there is a study or other compelling evidence that compliance with the standard is not economically reasonable or technically feasible.

- (3) City parks, school playgrounds. The maximum outdoor DNL for city parks and school playgrounds shall not exceed 65 db(A).
- (4) Commercial shopping areas. The outdoor DNL for commercial shopping areas shall not exceed 65 db(A).
- (5) Industrial areas. The maximum outdoor DNL for industrial areas shall not exceed 70 db(A).
- (6) To the extent possible, residential development should be sited away from noise generating facilities, such as transportation projects or industrial land uses.

### 18.40.240 SUSTAINABILITY STANDARDS

All site development plans must comply with the standards provided below. In addition, all site development standards must indicate how they substantially comply with the design guidelines listed below. Single-family developments of 1 unit shall reference Chapter 18.24 of the municipal code.

- (1) An applicant must install a photovoltaic energy generation system on-site that offsets ten percent of the structure's modeled electrical consumption on an annual basis. If site-specific conditions of an applicant's property, such as orientation or location of a piece of property, building site location, shading resulting from topography, or other unavoidable site-specific constraints make it impractical for an applicant to meet the requirements of this paragraph (a), then an applicant shall be required to pay to the city cash in lieu of the solar requirement in an amount equal to the fair market value of a similar sized system sufficient to enable the production of an equivalent amount of power compared to what the applicant would otherwise be required to produce on-site, and shall be based upon a 12-month average of actual or projected electricity consumption calculated by an Energy Star Portfolio Manager account or similar building energy modeling tool. Such payment shall be used for the construction, purchase, operation and maintenance by the city of a solar garden, solar farm or similar community renewable energy facility and for the costs of administering programs related to such renewable energy facility, and/or the cost for the city to acquire, by purchase, lease or otherwise, ownership or participating interests in a third-party operated community renewable energy facility.
- (2) An applicant must provide and install a programmable thermostat for each individual commercial building, tenant-occupied space in a commercial building, or multi-family dwelling unit.

- (3) An applicant must provide and install separate electricity meters for each individual multifamily dwelling unit or tenant-occupied space in a commercial building. For natural gas, an applicant must provide and install separate meters for commercial tenant spaces 10,000 square feet or more.
- (4) An applicant must demonstrate through energy modeling software that the multifamily or commercial project exceeds the minimum applicable International Energy Conservation Code standards adopted by the city by at least four percent.
- (5) An applicant must integrate in any trash enclosure an equal-sized space and access for recycling receptacles adjacent to any trash receptacles.
- (6) An applicant must provide and install one Level 2 electric car (EV) charging station per 15 required parking spaces for the project and EV ready conduit for 15 percent of the total required parking spaces on-site. This requirement shall only apply once the total minimum required parking spaces for the project reaches 15, using rounding for any subsequent charging station requirements.
- (7) All fenestrations must achieve u-values of .25 or below.
- (8) Use EPA Water Sense certified water conservation measures for fixtures including flush urinals, dual flush toilets, faucets and showerheads, drip irrigation with rain sensors and industrial conservation measures.
- (9) An applicant must provide an amount of bicycle parking on site equivalent to 10% of the minimum vehicle parking requirement.
- (10) An applicant must install an all season bus shelter if the property abuts ROW that is within an existing transit route and a stop is adjacent to the property boundary.
- (11) An applicant must install heat reflective roof materials. Minimum 29 SRI (Solar Reflective Index) materials qualify.

In addition to the Standards provided above, all applicable site development standards shall be required to meet a preponderance of the guidelines. Preponderance means a simple majority or more than 50 percent.

- (1) Provide community garden plots, fruit trees, or other means of food production on site for a minimum of 15 percent of residential units to foster local food production. Plots must be a minimum of 20 square feet each.
- (2) Plant at least 20 percent additional trees than otherwise required to maximize shade over paved or covered areas in summer (deciduous east, west, south), provide a wind break in winter (evergreens to north) and reduce the urban heat island effect in parking areas and throughout the site.
- (3) Install building automation system for advanced monitoring, which can include networked controls of multiple building systems, such as heating and cooling, ventilation, daylighting and lighting.
- (4) Install energy or heat recovery ventilation (E/HRVs) for energy efficiency and balanced ventilation.
- (5) Daylighting or passive lighting for at least 20% of internal spaces. Skylights, solar tubes and lumen sensors are

examples.

- (6) Install a green roof in accordance with applicable stormwater standards and building codes.
- (7) Employ stormwater runoff reduction strategies to slow runoff and promote infiltration by routing stormwater through bioswales, rain gardens and/or permeable pavement designed in accordance with the City of Golden Stormwater Standards Manual.
- (8) Provide compost bin location on the property with contract for pick-up service.
- (9) Provide a bike repair station and secure and enclosed parking (e.g. lockers, storage room) for at least 50 percent of the bike parking required.
- (10) Provide number of shower units for a minimum of 2 percent of all full time equivalent employees.

### 18.40.245 SUSTAINABILITY MENU.

In addition to complying with the sustainability guidelines and standards contained in Sections 18.40.340 and 18.40.341, applicants shall choose items from the menu, below, to reach a minimum of 20 points.

SEE NEXT PAGE



	Menu Item	Points
	<b>Energy Efficiency</b>	
1	Sustainability menu requirements and associated point system shall be waived if project achieves LEED Gold or the Passive House Standard.	20
2	Increase energy efficiency of structure over the energy efficiency standards set forth in section 18.40.340. Points are awarded on a sliding scale with one point for every two percent increase in energy efficiency, up to 20 points. Points may be awarded for efficiency gains in specific systems, such as lighting or mechanical, but more points may be awarded for an integrated design approach.	1-20
3	Offset traditional energy usage with renewable energy production on site beyond the solar requirement standard set forth in section 18.40.340. There will be one point awarded for every four percent reduction in energy use, ending with 20 points for a net zero building that produces as much power as it consumes over the course of a calendar year. The cash in lieu provision outlined in Section 18.40.340 (1) is applicable for site specific conditions as described in this section.	1-20
4	Install additional level 2 or higher electric plug-in stations for hybrid and electric vehicles on-site over the minimum applicable standard set forth in section 18.40.340 for one to five points over the minimum applicable standard set forth in section 18.40.340 for one point for every two spaces.	1-5 Total
	<b>Community Preservation and Revitalization</b>	
1	Preserve an existing structure when increasing square footage or creating additional structures. To receive points, all structures must also be brought into compliance with currently adopted IECC Code. Points awarded on a sliding scale with one point for the first 1,000 square feet and then one for every 1,000 square feet thereafter, up to a maximum of five points.	1-5
2	If preserving a historically designated structure, applicant may be awarded five additional points for improving energy efficiency while maintaining both the character and structural integrity of the building.	5

Documentation Required
For LEED Gold, provide proof of registration accepted by USGBC and completed LEED checklist for site plan review. Construction drawings and LEED templates required for building permit. For Passive House Standard, project must be certified by the Passive House Institute (PHI) or PHI U.S.
Complete REScheck or COMcheck Compliance Certificate for interior and exterior lighting, building envelope, and mechanical equipment, and provide proof of energy modeling for structures and/or additions greater than 10,000 square feet in size, with a defined performance target that demonstrates projected energy efficiency. HERS rating may be used for attached residential units, with one unit serving as the model for all units if identical construction methods are used.
Applicant must demonstrate the projected energy usage of the structure and calculate the percentage of that power that will reliably be produced on site. Building department staff will verify the model and projected renewable energy component.
Site plan must demonstrate location and number of station locations, and applicant must provide product specification sheets.
Site plan and building plans shall both reflect the building square footage being preserved on site.
Provide elevation drawings with site plan submittal that demonstrate preservation efforts, as well as achieve energy efficiency points per the "Energy Efficiency" category of this menu.

3	Add affordable dwelling units (as defined in chapter 18.04) to a project. Points awarded on a sliding scale, with two points awarded for every affordable dwelling unit created up to a maximum of ten points.	2-10
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Demonstrate at site plan review and at building permit review with details on size and price points of units. Deed restriction is required, and proof shall be provided in order to get c/o.

For projects involving the installation of certain high-resource use features, the minimum number of points increases according to the following schedule:

High Energy-Use Feature	Additional Sustainability Points Required
Gas Fire Pits Exceeding 40,000 BTU	5
Indoor Heated Swimming Pool	5
Outdoor Heated Swimming Pool	10
Hot Tub or Spa	5
Snow and Ice Melt System	5

To calculate the total number of required points, sum 20 plus the additional points required for items listed in the schedule above. As an example, the total number of points required for a project that includes a gas fire pit and a snow melt system would be 35 (i.e., 20 + 5 + 5)

### 18.40.724 MASSING, SCALE, AND PROPORTION STANDARDS

