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## SECTION 6 NON-RESIDENTIAL SITE PLANNING CRITERIA

### 6.1 SITE LAYOUT

Site design and land planning are critical elements in development of the GDP. Proposed Development Projects will be evaluated for compliance with the site planning criteria of this section.

These standards shall apply to Development Projects within the GDP unless they are in conflict with standards in Section 9 (MUN) or Section 10 (Residential).

### 6.2 BOUNDARIES/RIGHTS-OF-WAY/ EASEMENTS

Building permit site plans shall show existing property boundaries, rights-of-way and easements. Buildings and/or structures shall in no case extend into public rights-of-way or easements, or beyond its property boundary line.

Elements which may be allowed within an easement include: Trees, shrubbery, landscaping, retaining walls or other landscape features, berms, fences or walls, driveways, sidewalks, permitted signs, eaves that do not project more than 2½ feet into the easement, site furnishings, utility lines, wires and associated structures, such as power and light poles, provided that there are no conflicts between utilities within easements. Development Projects shall demonstrate that there are no conflicts between utilities and proposed landscape elements, signs, fences and walls. Landscape plans shall illustrate proposed and existing utilities.

Within any tree-lawn area, easement or street center median(s), trees shall not be planted within 10 feet of water, sanitary or storm main lines or within 5 feet of primary electrical lines, nor shall shrubs be planted within 5 feet of water, sanitary or storm main lines, unless otherwise approved by the utility provider. Offsets are not required from private utility service lines.

Elements allowed within a public right-of-way include: All of the elements allowed within an easement, except the following items: fences or walls, retaining walls, eaves of buildings, signs (except regulatory signs), berms, required bufferyards, and site furnishings unless otherwise approved by the Director.

### 6.3 SETBACKS

The Building and parking Setbacks have been designed to reflect the suburban character of this area and to establish a consistent street character. In general, the most generous Setbacks are along the perimeter and along the internal arterial roads within the non-residential areas. In a Mixed Use Village Center, Setbacks are reduced to allow for compact development and increased pedestrian connectivity.

See Table 6-1 for minimum Building and parking Setbacks. See Table 6-2 for minimum Oil and Gas Facilities Setbacks. In some cases, in order to comply with the bufferyard requirements, increased Setbacks may be necessary.

- A. Features allowed within Setbacks. The following features may be located within required Setbacks, subject to the Building Code (see also the City's Bufferyard Standards for features allowed within bufferyards):
1. Trees, shrubbery or other landscape features;
  2. Fences or walls that comply with the Municipal Code;
  3. Driveways which cross the setback;
  4. Sidewalks and or trails;
  5. Signs, subject to permit approval;
  6. Bay windows, architectural design embellishments;
  7. Eaves that do not project more than 2½ feet into the required setback;
  8. Chimneys, flues and ventilating ducts that do not project more than two feet into a required Setback and when placed so as not to obstruct light and ventilation;

- 8. Utility lines, wires and associated structures, such as power and lights;
- 9. Refer to Section 7.13 for further restrictions within sight triangles;
- 10. Refer to Appendix A for further restrictions within bufferyards.

**Table 6-1 Minimum Setbacks**

<u>Land Use</u>	<b>MINIMUM SETBACKS FROM</b>							
	<u>Side &amp; Back Property Line</u>	<u>I-25 &amp; US 34</u>	<u>Arterial Street ROW</u>	<u>Collector Street ROW</u>	<u>Local Street ROW</u>	<u>Alley ROW</u>	<u>Private Road (back of curb)</u>	<u>Between Buildings</u>
Mixed Use Village Center	0' **	I-25 - 80' from ROW, US 34 per 34 Corr. Plan^^	15'	0'	0'	0'	0'	0'
All Other Areas	Struct - 15', Pkg - 10' **, ***, ++, ^	I-25 - 80' from ROW, US 34 - per 34 Corr. Plan^^	40'	25'+	25'+	Struct - 10', Pkg - 0'	20'	6' Between Eaves

Notes:

- \*\* 25' minimum adjacent to Single Family Detached and Single Family Attached buildings with two dwellings (excludes Single Family Attached buildings with three or more dwellings) Residential Uses.
- \*\*\* If the adjacent land use is similar or compatible, a 0 foot side Setback shall be allowed on one or more sides where common walls between uses exist.
- + 25' Setback shall be measured from the back of sidewalk in areas where the right-of-way line is located at the curb of the street. This does not apply to meandering sidewalks.
- ++ If a side or back property line is located along a public ROW, the ROW Setback is applied.
- ^ Parking areas which incorporate Shared Parking and/or driveways are excluded from the Setback requirement along the edge(s) of the property where this condition occurs.
- ^^ Refer to Section 6.11.3 of this GDP and the US 34 Corridor Plan for setbacks requirements along US 34 east of I-25.

General Note: A 0' Lot line Setback will be allowed for all uses where the Setback and bufferyards are provided within an abutting Tract, Outlot or similar.



**Table 6-2 Minimum Setbacks for Oil and Gas Facilities**

<b>MINIMUM SETBACKS FOR A NEW OIL AND GAS FACILITY FROM EXISTING DEVELOPMENT</b>	
The minimum setbacks required for new oil and gas facilities from existing development shall comply with the setbacks within the Colorado Energy & Carbon Management Commission Rules and Regulations.	
<b>MINIMUM SETBACKS FOR NEW LAND USES FROM AN EXISTING WELL (REVERSE SETBACKS)</b>	
<b>Land Use Zone</b>	<b>Setback</b>
<b>Critical Zone</b> Permitted Uses-by-Right include: <ol style="list-style-type: none"> <li>1. Essential underground public utility facilities</li> <li>2. Landscape, irrigation and Open Space</li> </ol>	0' to 200' from the well head
<b>Restricted Zone</b> Permitted Uses-by-Right include: <ol style="list-style-type: none"> <li>1. Airport, heliport or helistop</li> <li>2. Composting facility</li> <li>3. Storage yard</li> <li>4. Essential public utility uses, facilities, services and structures</li> <li>5. Heavy Industrial Uses as described in this GDP</li> <li>6. Wireless Telecommunications Facilities (all types)</li> <li>7. Nursery or greenhouse</li> <li>8. Recycling collection center</li> <li>9. Self-storage</li> <li>10. Street</li> <li>11. Heavy Logistics center</li> <li>12. Passenger motor vehicle sales or rental</li> <li>13. Heavy motor vehicle sales or rental</li> <li>14. Motorcycle, scooter or ATV sales or rental</li> <li>15. Parks and Open Space Uses, including active recreation and restroom buildings which may include storage areas, pedestrian and bicycle trails, dog parks, and all other uses allowed in Parks and Open Space areas.</li> </ol>	200' to 500' from the well head
<b>Development Zone</b> Permitted Uses-by-Right include: <ol style="list-style-type: none"> <li>1. Any approved Permitted Use-by-Right for the particular property as described in this GDP except for high occupancy Buildings as described below in the High Occupancy Building Zone.</li> </ol>	500' and beyond from the well head
<b>High Occupancy Building Zone</b> Permitted Uses-by-Right include: <ol style="list-style-type: none"> <li>1. Schools including pre-K through 12, community colleges and universities</li> <li>2. Daycares</li> <li>3. Churches</li> <li>4. Theaters and entertainment venues</li> <li>5. Outdoor assembly areas for events, concerts, etc.</li> </ol>	1,000' and beyond from the well head
<b>MINIMUM SETBACKS FOR PLUGGED AND ABANDONED WELLS</b>	
For Plugged and Abandoned Wells, the buffer shall be 50' in width and 100' in length, with the plugged and abandoned wellhead located in the center of the 50' by 100' buffer. Landscaping, parking lots, and Streets may be located within the buffer. There shall be no further setbacks for structures.	

**6.4 BUILDING AND STRUCTURE HEIGHTS**

Maximum heights for buildings and structures are listed in Table 6-3.

If approved by the City and the Centerra DRC, Building Heights (provided in Table 6-3) may be increased by a maximum of 10 feet if architectural detailing is provided in order to increase the aesthetic character of the façade. This additional height for the parapet, at corners and at other major Building elements, must not impact other Buildings or structures with shading and may be approved administratively by the Director, subject to approval by the Centerra DRC.

Structures that impede the use of Fire Department radios must install an antenna system within the structure. Loveland Fire and Rescue Department will determine the specifications and Buildings requiring the antenna system, unless otherwise approved.

Large or high-rise structures may be required to have a fire control room. This room will contain the control panels for the alarm system, fire extinguishing system, HVAC system, smoke control system or any other system as determined by Loveland Fire and Rescue Department. The Loveland Fire and Rescue Department will determine the requirements of the fire control room and Buildings requiring the fire control room.

High-rise structures may be required to have a fire department telephone system separate from the regular telephone system. Loveland Fire and Rescue Department will determine the requirements for the telephone system and Buildings requiring the system.

**6.5 SHADOW AND SHADING ANALYSIS**

Buildings or structures greater than fifty-five (55) feet in Height shall be designed so as not to have substantial adverse impact on the distribution of natural and artificial light on adjacent public and private property. Adverse impacts include, but are not limited to, casting shadows on adjacent property sufficient to preclude the functional use of solar energy technology, contributing to the accumulation of snow and ice during the winter on adjacent property, and shading of windows or gardens for more than three (3) months a year. Techniques to reduce the shadow impact of a Building may include, but are not limited to, repositioning of a structure on the lot, increasing the Setbacks, reducing Building or structure mass or redesigning a Building or structure shape.

Submittal Requirements: Developments proposing Building Heights in excess of fifty-five (55) feet shall include a shadow analysis that indicates on the project site plan the location of all shadows cast by the Building or structure (with associated dates of the year).

**Table 6-3 Building and Structure Heights**

Land Use	Maximum Height of Buildings and Structures*
Light & Heavy Commercial**	55 feet **
Institutional/Civic/Public	90 feet
Light and Heavy Industrial	45 feet
<b>Notes:</b>	
*Building Heights are subject to height restrictions as defined by the applicable Special Conditions.	
** -Hospital Uses are allowed a maximum Building Height of 90 feet; -Office Uses are allowed a maximum Building Height of 85 feet; -Hotel Uses are allowed a maximum Building Height of 120 feet	



**Table 6-4 Open Space Requirements**

Land Use	Minimum % Private Open Space Required*
Light & Heavy Commercial	20%
Institutional/Civic/Public	30%
Light and Heavy Industrial	20%
<b>Notes:</b>	
The percentages listed for minimum Private Open Space may be adjusted administratively up to 10% as long as the intent of the GDP is respected.	
*Private Open Space requirements for Mixed Use Village Centers may be reduced. The core of the Mixed Use Village Center will be allowed 0% Open Space, and more Open Space is required as density of the Mixed Use Village Center feathers out. 10% Open Space is required for Multi-Family Dwellings within Mixed Use Village Centers, unless located within ¼ mile of another existing or planned Common Open Space area.	

Buildings shall be, to the extent practical, located and designed so as not to cast a shadow onto structures within the site or on adjacent property greater than the shadow which would be cast by a thirty-foot hypothetical wall located along the property lines of the development between the hours of 9:00 am and 3:00 p.m., MST on December 21.

**6.6 OPEN SPACE REQUIREMENTS**

The minimum Private Open Space requirement for each Lot is indicated in Table 6-4, Open Space Requirements.

A minimum of 85% of the area defined as Private Open Space shall be vegetated landscaped areas. The intent is to create spaces which can be seen, used and enjoyed by people, whether on foot or in a vehicle. (See also Section 6.13 and 6.15).

An implementation plan shall be submitted for non-irrigated landscape areas describing how and when the non-irrigated areas will be established. Non-irrigated landscaping shall be established within a 3 year timeframe. Financial security, in a form and amount that is acceptable to the City in accordance with the Municipal Code, shall be provided to ensure seed establishment. In the event that the Centerra Metropolitan District No. 1 installs such landscaping, the

financial security shall be in accordance with Section 4.3 of the MFA.

The Private Open Space requirement for an individual Lot may be reduced by 5% (for example, reduce requirements from 20% to 15%) where a Lot abuts public or Common Open Space or a golf course, if a minimum of one-third of the Lot’s total perimeter length is immediately adjacent to the public or Common Open Space. The public or Common Open Space area which the Lot abuts, must also have an average width of 30’ along the Lots edge in order for the reduction to be applied.

Private Open Space requirements for individual Lots within a Planned Retail Center and campuses may be reduced (if approved by the Centerra DRC and City), provided that the total percentage of Open Space within the center or campus meets the requirements of the GDP.

The Open space reductions described above can be reviewed and approved administratively by the Director.

**6.7 ALLOWABLE OPEN SPACE ELEMENTS**

Open space elements that may be included for the purpose of calculating Open Space in non-residential areas include:

- A. Open Space areas shall be a minimum 85% vegetated with living plant material unless otherwise approved by the City;
- B. Pedestrian plazas and entry courts, patios, outdoor gathering spaces (unenclosed amphitheaters);
- C. Pedestrian/transit facilities where they represent a bus stop area (smaller than 500 square feet);
- D. Sidewalks, trails, seating areas, fountains, pools, and information/exhibit kiosks;
- E. Passive and active recreation areas;
- F. Environmentally Sensitive Areas and associated buffers;
- G. Detention areas, drainages, wetland water quality areas, ponds and irrigation ditches;
- H. Landscaped areas planted with living plant material. Landscape materials shall be planted at a density that will cover mulch beds within a 3-year period;
- I. Turf areas;
- J. Other similar uses as approved by the City.

## 6.8 LAND USE COMPATIBILITY

The purpose of this section is to ensure that the physical and operational characteristics of proposed Buildings and uses are compatible when considered within the context of the surrounding area.

### 6.8.1 Outdoor Storage Areas/Mechanical Equipment

No areas for Outdoor Storage, trash collection or compaction, loading or other such uses shall be located within the Setback areas.

Loading docks, truck parking, Outdoor Storage, Outdoor Storage, Recreational Vehicles, Boats, and Trucks, utility meters, HVAC and other mechanical equipment, trash collection, trash compaction and other service functions shall be located and screened (per Sections 6.20, 6.21, 6.22 and 6.23) so that the

visual and acoustic impacts of these functions are contained and out of view from public streets, public sidewalks, trails, and from dissimilar adjacent land uses.

### 6.8.2 Noise

Uses shall comply with the noise standards within the Municipal Code.

- A. Where Outdoor Storage, loading areas and other similar uses are proposed adjacent to Residential Uses, the Applicant shall prepare and submit a noise study or memorandum identifying projected noise levels.
- B. Noise issues can be mitigated using some or all of the following techniques: increased Setback, berming, solid fencing/walls, or landscaping. In some cases, landscaping alone is not sufficient to mitigate noise issues. In these instances, landscaping must be used in combination with some of the other techniques listed above.

### 6.8.3 Bufferyards

Bufferyards shall be constructed to mitigate problems associated with noise, odor, glare, dust, smoke, pollution, water vapor, conflicting land uses and density, height, mass, layout of adjacent uses, loss of privacy, unsightly views and other potential negative effects of development.

#### **Bufferyards are not required in Mixed Use Village Centers.**

Bufferyards shall be located on the outer perimeter of a Lot, extending to the Lot boundary line. Bufferyards shall not be located on any portion of an existing or dedicated public right-of-way, except as permitted by the City's Site Development Performance Standards and Guidelines.

Refer to Appendix A for the City of Loveland Site Performance Standards and Guidelines for detailed bufferyard performance standards. Bufferyards within this GDP shall comply with the City's bufferyard standards, as amended, unless otherwise approved. Alternatives to the requirements for bufferyard types, Setbacks and plant material quantities



shall be allowed subject to review and approval by the Director as stated within the bufferyard guidelines.

**6.9 VIEW CORRIDORS**

Views to the attractive natural surroundings, such as Equalizer Lake, Houts Reservoir, and the Rocky Mountain backdrop, as well as distinctive on-site features, including park areas, open space and natural areas are amenities to be shared by all. Preserving view opportunities of these features from Open Space corridors, building entries, and interior spaces is encouraged. Owners and Applicants are encouraged to emphasize these key natural features by reflecting them in their individual developments.

- A. Where possible, create view corridors by aligning roads, driveways, Open Space corridors, building entries, and pedestrian walkways to preserve and take advantage of available views.
- B. Protect significant views to the attractive natural surroundings.

**6.10 RETAIL SITE AMENITIES AND DRIVE THROUGH FACILITIES**

**6.10.1 Retail Site Amenities**

Each Planned Retail Center shall contribute to the enhancement of community and public spaces by providing at least two (2) of the following:

1. Patio/seating area/outdoor dining;
2. Pedestrian plaza with benches;
3. Transportation center/bus stop;
4. Window-shopping walkway;
5. Outdoor playground area;
6. Kiosk area;
7. Water feature/work of art;
8. Floral displays, flower pots or hanging flower baskets.

**6.10.2 Drive-Through Facilities**

Buildings with drive-through facilities, such as banks and fast food restaurants, shall be oriented in order to

reduce the visibility of the drive-through window(s) from the dominant abutting public street. Drive-through lanes and driveways are subject to parking lot screening requirements. (see Section 6.17).

**6.11 US 34, I-25 AND MULTI-PHASED CAMPUS-STYLE DEVELOPMENT DESIGN CONSIDERATIONS**

**6.11.1 Policy**

This GDP will have a significant presence along both US 34 and I-25. The intent of this section is to ensure that development located adjacent to either US 34 and I-25 and multi-phased campus-style development projects of 50 acres in size or larger are planned cohesively with visual quality and consistency in mind.

**6.11.2 Context Diagram**

Development Projects located within ¼ mile of either I-25 or US 34 right-of-way, Development Projects including a Mixed Use Village Center and multi-phased campus-style development projects of 50 acres in size or larger, shall include a Context Diagram (or reference an existing Context Diagram provided with an earlier application). The purpose of the Context Diagram is to illustrate how the project will contribute to the make-up of the roadway frontage, to illustrate that land uses are planned as cohesive center(s) with coordinated access, circulation, signage locations and landscape treatments.

The Applicant shall submit for review by the City, in conjunction with the plat review process, a possible configuration (or alternative configurations) of the land within 500 feet of the Development Project, (excluding land that is not a part of the GDP and land which is not within a ¼ mile of I-25 or US 34).

The Context Diagram for Development Projects within ¼ mile of either I-25 or US 34 right-of-way shall include the following:

- A. Potential land uses and existing land uses;
- B. Pedestrian and vehicular circulation patterns;
- C. Open Space areas;

- D. Landscape standards;
- E. Conceptual drainage and utility systems;
- F. Conceptual location of ground mounted project signs;
- G. Other general planning considerations within 500' of the proposed Development Project;
- H. Linkages to areas immediately adjacent, important views, corridors and vistas, and Environmentally Sensitive Areas (as identified within this GDP);
- I. The Context Diagram shall clearly indicate which elements are schematic and subject to change with future Preliminary Plats, and which elements are considered to be conditions of approval of the concurrent Preliminary Plat application.

Multi-phased campus-style development projects of 50 acres in size or larger, the Applicant shall submit for review by the City in conjunction with the first Site Development Plan review process, a possible configuration (or alternative configurations) of land within the defined campus. The context diagram shall include the following:

- A. Potential land uses and existing land uses;
- B. Pedestrian and vehicular circulation patterns;
- C. Open Space areas;
- D. Conceptual drainage and utility systems;
- E. Linkages to areas immediately adjacent, important views, corridors and vistas, and Environmentally sensitive Areas (as identified within this GDP).

**6.11.3 US 34 Setback Treatment**

The recommendations of the U.S. 34 Corridor Plan (available from the City) will be incorporated into the GDP. As an extension of the U.S. 34 Corridor Plan, property abutting US 34 east of I-25 will incorporate the recommended U.S. 34 Corridor Zones as shown in Figure 6-1. Alternatives to the recommendations

of the U.S. 34 Corridor Plan shall be allowed subject to the approval of the Director.

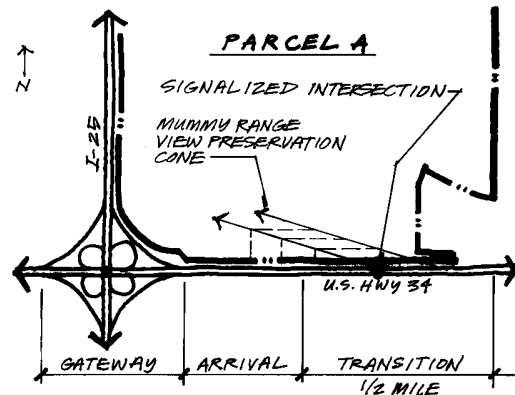


Figure 6-1 – View Preservation Cones will be Implemented at Signalized Intersection

**6.11.4 I-25 Setback Treatment**

- A. A consistent and high quality image shall be presented along I-25 corridor. Visual impacts of Buildings shall be softened and views to parking areas shall be screened where possible.
- B. The I-25 right-of-way will be primarily unirrigated grasses and sculpted landforms with occasional bands of shrubs and trees that meander just inside the right-of-way to the private property and back, to avoid a straight line treatment at the edge of the right-of-way.
- C. The 80 foot landscape buffer adjacent to the right-of-way will be dominated by the sculpted landforms, supported by irrigated and unirrigated grasses, tree groupings, and banks of ornamental grasses, shrubs and perennials.
- D. The combined I-25 right-of-way and 80 foot landscape buffer shall be designed as a unified concept.
- E. Identity signs for significant projects will be allowed within the 80 foot buffer, per the Centerra Planned Sign Program which is included in Section 15 of this GDP as Appendix C.
- F. Buildings and parking lots shall be setback a minimum of 80 feet from the I-25 right-of-way.
- G. Fences shall be setback a minimum of 80 feet from the I-25 right-of-way or if required, per



CDOT standards. (Refer to Section 6.25 for additional fence standards).

- H. Height of sculpted berms will vary by location. Berm locations and heights will be designed to provide screening of parking areas, service areas and to provide visual interest along I-25. Sculpted berms will range in height from 5 feet to 15 feet.



Figure 6-2 – Interstate 25 Treatment

## 6.12 ENVIRONMENTALLY SENSITIVE AREAS PLANNING

**Note: The Environmentally Sensitive Areas Planning Performance Standards apply to all proposed land uses within this GDP.**

- A. ESARs are provided within Section 14 of this GDP. No further ESAR will be required with Preliminary Plats except in the case of sensitive, threatened, or endangered species as described below. The existing ESARs will suffice for Preliminary Plats when supplemented with the detailed reports and detailed preliminary design plans submitted as outlined below.
- B. The City and the Applicant acknowledge that future federal or State listing of sensitive, threatened, or endangered species may result in the need to further analyze environmental conditions on the property. With future listings of such species, the City or the Applicant may require submittal of a supplemental ESAR solely to address the potential presence of, impacts to, and mitigation appropriate for said species.
- C. In the more typical process for detailed planning and design of Environmentally Sensitive Areas, the Applicant will prepare, in consultation with the City's environmental planning staff a three step *Amenities Framework Plan* that will include:
  1. A *Conceptual Amenity Map* – included as a part of this GDP - addressing general locations of natural/Environmentally Sensitive Areas, school sites, parks, trail systems, and other Recreational Facilities. This plan clarifies that;
    - a. Developed portions of neighborhood park and school sites will not encroach on buffers as defined in the associated ESAR, as amended from time to time (included in this GDP).
    - b. Industrial, Heavy Manufacturing, or similar uses of potential concern planned within 300' of Environmentally Sensitive Areas may, at the City's option, be required to provide a noise impact/mitigation study.



- c. The determination of potential for a nature park or other educational/interpretive features integrated into any buffer areas will be made as the other *Supporting Documents* and *Detailed Preliminary Design Plans* evolve - as described below.
  - d. Timing of installation, species, soil prep, weed control, irrigation, maintenance, etc. will be addressed in the appropriate *Detailed Preliminary Design Plans* for each area.
  - e. Areas indicated as buffers are to be managed and protected from the impacts of human activities, but in some cases are not required to be totally inaccessible. In some areas, smaller buffers are intended only to address increased water quality concerns, which may be addressed through methods other than a predetermined setback of a certain dimension. Detention and other storm drainage management features may be integrated into some portions of larger buffer areas, subject to sensitive design. The same is true of some limited trail construction.
  - f. Appropriate recreational uses as determined in the related ESAR will not be prohibited.
  - g. The proposed trail across the divider of Houts Reservoir and Equalizer Lake is an important part of the overall pedestrian circulation system within the GDP. Because of the trail's proximity to the buffers called for as part of Areas 1, 2, 5, and 6, sensitive design and construction techniques are to be defined in the applicable *Detailed Preliminary Design Plans*.
2. Other *Supporting Documents* completed outside the scope of this GDP to address the long-term funding, maintenance, management, and potential environmental educational programs for Environmentally Sensitive Areas will be prepared and submitted for approval prior to the submittal of any Preliminary Plat creating building Lots abutting on Environmentally Sensitive Areas or related buffer areas, as defined in the January 1999 Cedar Creek *Sensitive Areas Report*. It is at this time that any changes in environmental conditions and/or City policy will be addressed.
  3. *Preliminary Design Plans* will be prepared for each Environmentally Sensitive Area and related buffer, addressing mitigation measures, enhancements, grading, other physical improvements, plantings, and timing of installation. A *Preliminary Design Plan* for any Environmentally Sensitive Area – as defined in the ESAR – will be prepared and submitted for approval prior to, or in conjunction with, the approval of a Preliminary Plat for any building lots adjacent to, or within 300' of that sensitive area. Preliminary landscape plans shall illustrate the graphic locations of existing and proposed plant materials, areas to be receive seed and sod, general seed types, irrigated vs. non-irrigated areas, a plant legend showing the graphic symbols for the various plant types (plant labels and a plant list are not required with *Preliminary Design Plans*).
  4. *Final Design Plans* will be prepared for each Environmentally Sensitive Area and related buffer, addressing mitigation measures, enhancements, grading, other physical improvements, plantings, and timing of installation. *Final Design Plan* for any Environmentally Sensitive Area – as defined in the ESAR – will be prepared and submitted for approval prior to, or in conjunction with, the approval of a Final Plat, combined Preliminary Plat and Final Plat, or Use-By-Right for any building Lots adjacent to, or within 300' of that sensitive area. Final Design Plans shall illustrate existing and proposed plant material, plant labels, a detailed plant materials list, indication of irrigated vs. non-irrigated areas, and description of seed/sod types.
  5. Implementation of the elements of the applicable *Final Design Plan* will become a condition of approval of the Development Project for the subject property.

### 6.13 LANDSCAPING

**Note: The Landscaping Performance Standards apply to all proposed land uses within the GDP.**

Landscaping is intended to unify the Building and its site with adjacent development areas. Emphasis is on landscaping the GDP as a single entity, not on a small-scale with individual landscaped areas. In order to establish a consistent streetscape and Open Space image, a conceptual landscape master plan or a set of detailed landscape design guidelines shall be prepared and submitted to the City for approval along with the first Preliminary Plat within each parcel. The conceptual master plan or guidelines will specify the intent, character, types, and locations of landscape elements.

Development Projects shall include a detailed landscape plan that indicates the location, type, sizes and quantity of proposed landscape elements.

Where appropriate, turf will be low water requiring varieties with areas of longer, native species. Perennial and annual flowers will provide accent color.

Create a landscape that is sustainable, attractive, comfortable, and complimentary to the natural and man-made environment.

Use plant materials that are massed and placed to provide variety and focal points at strategic locations.

Where appropriate, use large-scale plantings with the intent of creating thickets of shrubs and broad sweeps of flowers in meadows that occur naturally in the Colorado plains and foothills region.

Plant evergreens and other trees with moderate to low water needs on uplands, while locating cottonwoods, willows and other riparian plants in drainages and low lying areas.

Landscaping and/or earth shaping shall be used to screen surface parking, to soften structures such as Parking Garages and stark walls; to buffer sound adjacent to heavily traveled areas. Shrubs are encouraged to be used for low level buffers, enclosure, identity and reinforcement of pathways, and to provide visual interest and display.

Landscape plans shall include landscaping for non-paved areas located in any public right-of-way adjacent and contiguous to the Lot to which the plan applies. The landscape plan shall illustrate existing trees, shrubs and irrigated turf areas immediately adjacent to the Lot for which the plan applies.

Sites adjacent to US 34 will incorporate the recommendations set forth in the U.S. 34 Corridor Plan, unless otherwise approved by the City.

Tree lawns shall be a minimum of six feet wide on streets classified as collectors or arterials; and on local residential streets of 28 feet or less. Street trees may be planted formally or informally providing that the required number of streets are included.

Berm and embankment slopes shall not exceed a ratio of 3:1 and must be graded with smooth transitions. Berm slopes facing public streets may not exceed 4:1. Shrubs and vines should be placed at least three feet to five feet from curbs to protect them from roadway chemicals. (See also Section 6.17).

Where surface retention is a part of the overall design, use of water features, both functional and ornamental, is highly encouraged.

Landscaping and irrigation must be completed in the next available planting season, or as soon as weather conditions permit, or within the schedule approved by the City, whichever is earlier. Areas to be landscaped shall be completed within 9 months of the date of occupancy. The City will require escrow in the amount of 125% of the value of the installed landscaping and irrigation, at the time of a temporary certificate of occupancy, until the landscaping is installed. In the event that the Centerra Metropolitan District No. 1 installs such landscaping, the financial security shall be in accordance with Section 4.3 of the MFA.

Landscape plans must be prepared by a professional landscape architect.

#### 6.13.1 Landscape Design and Materials

As an alternative to the City guidelines and Performance Standards, specific landscape design criteria may be developed for each neighborhood or village



and approved as alternative compliance by the Director. Additional or alternative plant species, beyond those included in the City guidelines, may be used as appropriate to the site-specific conditions. Landscape design shall incorporate some or all of the following xeriscape principles:

- A. Grouping plants with similar water requirements together;
- B. Limiting high-irrigation turf and plantings to high-use and/or high visibility areas;
- C. Use of low-water demanding plants and turf where practical;
- D. Use of indigenous plant materials, where appropriate and practical;
- E. Use of efficient irrigation systems, including the use of non-potable irrigation water;
- F. Use of mulches and soil improvements;
- G. Provision of programs for regular and attentive maintenance;
- H. Trees and shrubs sizes, at the time of planting, shall comply with the minimum sizes listed in Table 6-5. Refer to Appendix B for a map of the Special Improvement District.

**Table 6-5 Minimum Plant Sizes**

Plant Type	Typical Min. Sizes	Min. Sizes within the Special Improvement District
Deciduous Shade Trees	2" caliper	2.5" caliper
Ornamental Tree	1 ½ caliper	2" caliper
Evergreen Trees	6' height	8' height
Shrubs	5 gallon	5 gallon

**6.13.2 Tree Stocking**

- A. "Tree stocking" shall be required in landscape areas within one hundred (100) feet of a Building or structure as further described below. Landscape areas shall be provided in adequate

numbers, locations and dimensions to allow tree stocking to occur along all high use or high visibility sides of any Building or structure (building facades abutting alleys are exempt from tree stocking requirements).

- B. Tree stocking shall mean formal or informal groupings of trees (canopy, evergreen or ornamental) planted at a quantity equal to 1 tree for every 40 lineal feet of Building Frontage.
- C. Exact locations and spacing may be adjusted at the option of the Applicant to support patterns of use, views and circulation as long as the minimum tree-planting requirement is met.

**6.13.3 Foundation Planting**

- A. Where appropriate, trees, shrubs and ground-covers, shall be located near Buildings on the site to aesthetically integrate each Building into the overall site, to visually soften the massiveness of Buildings, and to separate the Building from the parking lot. The appropriate amount of Building foundation plantings shall be determined by the Centerra DRC and the City. Where trees are utilized, planting beds shall be a minimum of six (6) feet in width.
- B. Where parking lots abut a Building without intervening landscaping, parking bays shall extend no more than seven (7) parking spaces without an intervening landscape island with a tree.

### 6.13.4 Retaining Walls

Materials such as split-face modular block (straight face - not beveled), brick, stone, artificial stone and other similar materials may be used to construct retaining walls.

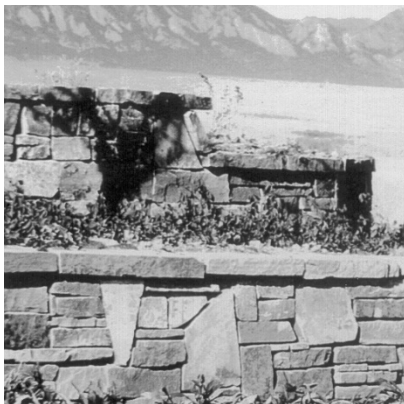


Figure 6-3 Retaining Wall Examples

### 6.13.5 Ownership and Maintenance

Parks or other outdoor spaces may be dedicated to a public agency or be privately owned and maintained by the Applicant or property owners association. Public acceptance of such parks or outdoor spaces into the publicly owned system of open lands will be based on specific negotiation on an individual site basis.

Maintenance of landscaped areas located behind the sidewalk and within the public right-of-way, is the responsibility of the adjacent property owner. A Metropolitan District and/or an owners association will maintain landscaped areas between the sidewalk and the back of curb and any landscaped median located within the public right-of-way or an easement.

### 6.14 EXISTING VEGETATION

- A. Preserve valuable shrubs, grasses and trees within natural drainage areas and areas not needed for development.
- B. Preserve healthy, mature trees and younger plants that would normally succeed older plants; do not preserve trees, which are decayed, diseased or are reaching the end of their natural life span, as determined by a qualified professional.
- C. Site plans shall identify locations, sizes and species of existing vegetation located within the Development Project. Existing vegetation shall be classified in one of the following categories: "Preserve," "Relocate" or "Remove". If a tree is classified "Remove", a justification statement shall be provided. "Replacement Trees" shall be identified on the landscape plan in accordance with Table 6-6 below.
- D. If there is no practical alternative in terms of siting Buildings and other development, trees and other plants may be removed. If valuable healthy, mature trees are destroyed by development, new trees shall be installed to replace the destroyed trees as described in Table 6-6.

Table 6-6 Replacement of Valuable Trees

Tree Removed	Replace With
24" or larger caliper tree	(3) 4" caliper min. trees
12" to 24" caliper tree	(2) 4" min. caliper trees
6" to 12" caliper tree	(1) 4" min. caliper tree
2" to 6" caliper tree	(1) 3" min caliper tree

### 6.15 IRRIGATION SYSTEM

Landscaping (except natural areas and other similar areas) shall be irrigated using an automatic underground irrigation system. Use of raw water for irrigation purposes is encouraged, but not required. Developments are required to irrigate their landscape areas including street rights of way adjacent to their respective properties.



Roadway medians (including roundabout islands), and Common Open Space areas will be irrigated and maintained by an owners association or Metropolitan District.

**6.16 INTERNAL PARKING LOT LANDSCAPING**

**6.16.1 Policy**

Areas within the perimeter of parking lots shall be landscaped to minimize the feeling of expansive hard surfaced areas, to improve the parking lot appearance and to reduce heat build-up. The landscape design of the areas shall allow for plant aeration and efficient traffic movement.

**6.16.2 Criteria**

- A. Refer to Section 7.15.1 for landscape requirement within large parking areas.
- B. Parking lots containing fifteen (15) or more parking spaces shall provide at least six (6) percent interior parking lot landscaping. At least seventy-five (75) percent of landscaped area should be covered with living materials within three years of installation.
- C. Additional internal landscaping shall be provided in parking lots that exceed the minimum Parking Ratios. Fifty (50) square feet of internal landscape shall be provided for each parking space, which exceeds the Parking Ratio as defined in Section 7.17 of these Performance Standards. The additional internal landscaping can be distributed throughout the interior of the entire parking lot.
- D. Shade trees shall be planted in the parking lots at a rate of at least one (1) tree and five (5) shrubs for every fifteen (15) parking spaces.

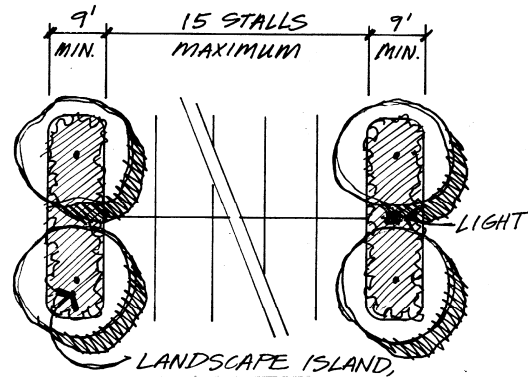


Figure 6-4 - Parking Islands

- E. Plant materials shall be placed on end islands, entry drives, pedestrian walks and along islands which separate parking from drives. The landscape island should be designed to allow plant materials to survive and flourish given harsh conditions and the need to store snow during the winter. Landscape islands shall be at least 9 feet in width and the same length as adjacent parking spaces.

**6.17 PARKING LOT SCREENS**

**6.17.1 Policy**

Parking lots shall be screened from surrounding public streets, public sidewalks and trails, public parks and other properties that are used by the public.

**6.17.2 Criteria**

- A. Whenever there are three (3) or more parking spaces on the property, the parking lot shall be screened for the entire length of the parking lot, which abuts a public street (excluding Alleys).
- B. Berms, walls, fences, plants, planters or similar means shall be used to create the parking lot screen. Where structures such as walls or fences are used to create a screen, plants shall be located on the side of the structure which can be seen from surrounding streets, walks, parks, trails and other properties which are used by the public.
- C. The screen around the parking shall be at least three (3) feet higher than the surface of the

parking lot. Where plants are used to create a screen, the plants should create a three-foot screen within three years from the time planted. (See Figure 6-5).

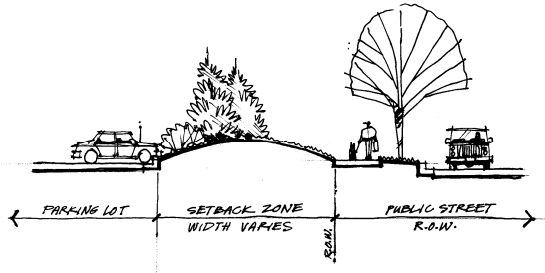


Figure 6-5 – Parking Lot Screening

- D. Parking lot Setbacks are provided to mitigate the visual impacts of parking areas from adjacent property and public rights-of-way (refer to Table 6-1 for Setbacks). A minimum 3’ high screen shall be provided between parking lots and public right-of-way. In addition, 4’ to 6’ high screens shall be provided between parking lots and the I-25 and US 34 right-of-way. The screen can be accomplished using one or a combination of the following: berms, landscaping, or wall. Height of screen shall be measured from the parking surface.

### 6.18 SNOW REMOVAL

Provision must be made for snow removal and storage on each nonresidential site. Pushing snow into the street or street medians is not permitted.

### 6.19 DRAINAGE

Site drainage must be compatible with adjacent property drainage and in accordance with the Concept Utility/Grading Plan component of the GDP. Excess run-off from the site shall be minimized with sites graded to provide positive drainage away from buildings and to drainage easements/systems and/or to street drainage systems. Storm drain detention requirements shall be accommodated within individual development sites, Houts Reservoir and Equalizer Lake (if possible in Parcels B & C) and possibly within regional detention areas. Each proposed Development Project must be evaluated for potential detention needs to avoid exceeding the carrying

capacity of conveyance facilities, or creating off-site flow problems on adjacent downstream parcels. The City requires each Development Project to detain its developed storm flows at historic rates.

Existing drainage patterns and drainage conveyance easements are important site considerations, as reflected in the Conceptual Utility/Grading Plan component of the GDP. Proposed site drainage plans must address site drainage considerations as well as the relationship of site drainage to off-site drainage patterns and systems.

The basic concepts for drainage are:

- A. Drainage shall be conveyed along dedicated streets, private drives and swales along property lines, or in Open Space corridors. Drainage will be surface drained where possible; however, some below-grade drainage using storm sewer piping and culverts may be required.
- B. Surface drain systems and detention ponds are encouraged to be irregular in plan and graded to create an aesthetically pleasing character. Side slopes shall vary and avoid consistent side slopes. Steepest slopes should be no more than 3:1.
- C. Retaining walls may be used in detention areas where existing topography demands this type of design solution. Refer to Section 6.13 for retaining wall information.
- D. Drainage structures in sidewalks and bike paths must be placed flush with the surface, and grate patterns cannot have openings larger than three-eighths of an inch. Surface storm water or irrigation should not be discharged across sidewalks; and there should be no point discharges into curbs to prevent traffic-impeding surges into the street.
- E. The City’s water quality standards shall be incorporated into developments within the GDP.

### 6.20 UTILITIES, MECHANICAL EQUIPMENT, AND COMMUNICATION DEVICES

Visual and sound impacts of utilities, mechanical equipment, data transmission dishes, towers,



microwaves, and other services and equipment shall be minimized within the GDP. Radio transmitter towers and other similar equipment shall comply with the Municipal Code.

#### **6.20.1 Permanent Utility Lines**

Design and install all permanent utility lines underground. During construction and maintenance, minimize disruptions to other sites and businesses.

Berms (generally described as being higher than 2 feet and having side slopes steeper than 4:1) shall not be installed over the top of existing and/or proposed water, sanitary or storm main lines, unless approved otherwise by the applicable utility service provider.

#### **6.20.2 Temporary Overhead Power and Telephone Lines**

Overhead power and telephone lines are permitted during construction, but shall be removed prior to issuance of a certificate of occupancy (including the temporary certificate of occupancy).

#### **6.20.3 Communication Devices and Mechanical Equipment**

Wherever possible, mount data transmission and receiving telecommunication devices at ground level, to the rear of structures, and screen them from view from adjacent roadways, pedestrian paths, and Building sites.

In screening such devices and equipment, use architectural treatments in subdued colors that blend with the surroundings and landscaping.

Coordinate locations, screening, and landscape decisions with involved utility and service providers in order to allow adequate conditions for servicing these devices and equipment and to reduce visual impact. If transmission and receiving devices or mechanical equipment are roof-mounted, locate them so they are not visible from the site, adjacent Buildings, and public view.

Communication devices visible from adjacent sites and Buildings shall be painted in a color compatible

to the Primary Structure. If equipment cannot be painted it shall be screened using architectural screen walls or landscaping.

#### **6.20.4 Transformers, Gas Meters**

Electrical transformers and other utility boxes and equipment shall be substantially screened from public view with the use of landscaping, berming or screened enclosures. Where appropriate, screening shall be subject to approval from the City's Power Department and the Current Planning Division. Screening materials shall be compatible with the primary Building.

Coordinate locations, screening, and landscape decisions with involved utility companies in order to allow adequate conditions for service access. Conduits, meter sockets, and vents shall be painted to match Building surfaces and screens. While the meter socket may be painted, the meter itself cannot be painted.

Prior to approval of the Final Plat, the location of all vaults and transformers shall be shown on the landscape plan. Vaults shall have no bushes, shrubs or trees of mature growth within five (5) feet of either side of the short sides of the vaults. Bushes, shrubs and trees of mature growth may be located within ten (10) feet of either side of the long side of the vaults. Transformers shall have no bushes, shrubs or trees of mature growth within ten (10) feet of the sides and back of the transformers and within fifteen (15) feet of the front of the transformers. Transformers may be screened with landscaping to the extent allowed by the above dimensions, provided that it meets with the requirements of the local utility company.

Unless approved otherwise, all metering equipment including cabinets, breakers and main disconnects shall be located on an outside wall of the each structure.

The screening of utilities and mechanical equipment shall not create a safety hazard to either the general public or for the safe operations of the utility meter. Locate transformers and gas meters away from major pedestrian routes and outdoor seating areas in order

to protect pedestrians and facility users in these locations.

### 6.20.5 Equipment Sound Levels

Select, locate, and install all mechanical and electrical equipment to not exceed the sound levels allowed under the Municipal Code.

Use landscape or architectural buffers to reduce the noise and visual impact of such equipment.

### 6.20.6 Installation of Ground-Level Structures

Install ground-level structures, such as manhole covers and grates, flush with the pavement. Grate spaces within pedestrian routes shall in accordance with the Americans with Disabilities Act, federal, State, the Municipal Code and LCUASS.

## 6.21 SERVICE AREAS

### 6.21.1 Policy

The visual impacts of service, delivery, trash, and outdoor equipment or storage areas shall be minimized, particularly relative to views from public roadways and along view corridors. Thoughtful placement and design of screening for these facilities is a priority for all sites.

### 6.21.2 Criteria

- A. Loading docks, generators, trash containers, and service areas shall be screened or located out of view from adjacent streets, dissimilar land uses pedestrian pathways, and Open Space corridors.
- B. Facilities must be fully screened from public view using a masonry wall (or similar) and gate to match the Primary Structure. Gate shall be constructed of solid metal panels and finished to match the Primary Structure.
- C. Loading docks and services areas located within industrial areas do not need to be screened from other adjacent industrial areas. However, these loading/service areas shall be screened from public streets, sidewalks and other public view corridors.

- D. Screening for loading docks and service areas should be a minimum height of six feet (6'), or as tall as the object which is being screened, and incorporate materials and finishes that match or are compatible with those of the Primary Structures. (See Figure 6-6).



Figure 6-6 - Trash Enclosures

- E. Locate loading, service, and delivery areas so they do not encroach into Setbacks.



- F. Locate parking areas for outdoor equipment, trucks, research trailers, service vehicles, etc. away from public parking lots and major pedestrian circulation routes. Unless out of view, screen these areas architecturally and/or with landscaping. Materials, supplies, trucks, or equipment being stored on a site must be concealed inside a closed Building or behind a visual screen approved by the City and the Centerra DRC. (See Figure 6-7).

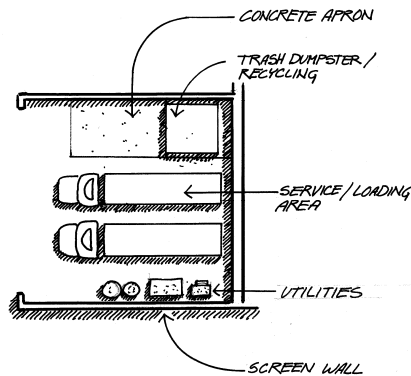


Figure 6-7 - Service Areas

- G. Clearly identify all service entrances to discourage the use of main entrances for deliveries.
- H. Service area shall be located outside of designated view corridors or fully screened from view.
- I. Where possible, trash containers should be located within the building service area. Where trash enclosures are located outside of the building service area, they shall comply with the Set-back requirements listed in Table 6-1.

**6.22 OUTDOOR STORAGE**

Outdoor Storage is only allowed with uses as specified in Section 1.3 and shall be restricted to defined areas clearly identified on the building permit plans. Such areas shall be screened from views from adjacent properties, public roadways and public pedestrian pathways.

**6.23 CART STORAGE, VENDING MACHINES, ETC.**

Cart corrals, cart storage, vending machines, ATM machines, newspaper racks, video and book return boxes, and telephones shall either be placed inside structures or shall be architecturally screened using the same materials and colors as the Primary Structure.

Placement, screening and illumination of outdoor vending machines, cart corrals and cart storage areas shall be reviewed and approved by the City and the Centerra DRC.

**6.24 OUTDOOR SALES/DISPLAY**

Outdoor sales areas are intended for the seasonal outdoor display of merchandise such as Christmas trees, pumpkins, etc. Outdoor sales/displays shall be reviewed and approved by the City and the Centerra DRC.

Displays of sheds, play equipment, spas and other similar products must be fully screened from public view.

Development Projects proposing outdoor sales/display of merchandise shall provide a detailed site plan illustrating the location(s), size, itemization of products to be displayed, quantity of each product, maximum stacking heights, and the duration of for each seasonal display.

**6.25 SECURITY FENCES/WALLS**

**6.25.1 Policy**

Fences and/or walls must be designed to relate to or continue the character of the GDP. Materials must be compatible with other architectural and landscape elements. Fence locations, elevations and designs shall be submitted and approved by the Centerra DRC and Current Planning Manager with building permit applications.

A fence will be constructed along I-25 as a requirement of the CDOT. The fence design is dictated by CDOT.

The following criteria do not apply to temporary construction fencing.

These criteria do not apply to MUNs. See Section 9 for permitted fencing and related requirements in those neighborhoods.

### 6.25.2 Criteria

A. Where security fencing is used in highly visible areas (access points, focal areas, adjacent to Common Open Space, etc.) the use of architectural metal fencing (wrought iron or similar) is required. Specific ornamental fence designs will be selected for use along Common Open Space and specific roadways within the GDP. The fence will be selected to provide a high degree of visual quality, low maintenance, security, and to present a consistent image. Where fencing is desired, the ornamental fence shall be used along public or Private Open Space areas and along the following street frontages.

1. I-25.
2. US 34.
3. Arterial streets in nonresidential areas.
4. Collector streets.

B. Chain link fences may be used for security if significant berming and landscaping can fully screen views of the fence (See Figure 6-8.).

C. Where chain link fences are used, they shall be vinyl clad (or similar) and black in color except at athletic facilities and school sites (See 6.26.2)

D. Chain link fencing with integral slats or fabric is not permitted.

E. Use of chain link fence will be reviewed by the Centerra DRC and the City.

F. Unless approved otherwise, security fences shall be a maximum of six (6) feet tall.

G. Fences adjacent to public streets must be setback a minimum of fifteen (15) feet, or the minimum required bufferyard widths from the right-of-way unless approved otherwise by the Centerra DRC and the City. Fences along I-25 and US 34 must

be setback a minimum of 80 feet from the right-of-way or if required, per CDOT standards.

H. Wooden fences are prohibited in non-residential areas.

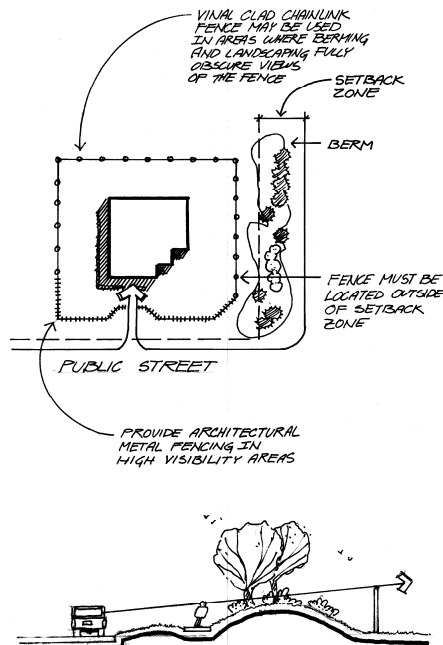


Figure 6-8 - Fencing

I. In areas visible to the public, fencing should be buffered with landscaping to ensure an attractive development. Buffering should be accomplished with a mixture of evergreen trees, shrubs, ornamental or deciduous canopy trees, and berms. Fence buffer designs shall be such that a minimum of 70% of the fence is obscured from vision within 3 years after planting.

### 6.26 SITE FURNISHINGS

The provision of site furnishings is required. Site furnishing components should enhance and respect the scale of the urban spaces in which they are placed. Lines should be simple, clean and harmonious with the adjacent architecture and landscaping.

The elements of the street furniture to be used include seating areas, tables, planters, bike racks shelters, information kiosks, newspaper dispensers, mail boxes, trash containers, and public telephone stations. A consistent theme will be established within



individual villages, neighborhoods, developments, and Open Spaces by using common design elements, such as: site furnishings, lighting, monument signage and landscaping.

Selected colors and materials for site furnishings are to be compatible with the development theme, predominant colors, and materials of the surrounding environment.

Art items proposed for outdoor locations are encouraged.

## **6.27 SIGNAGE**

The GDP is subject to the Centerra Planned Sign Program, which is attached as Appendix C.

### **6.27.1 Policy**

Effective signs function not as a separate entity, but as an integral part of the environment. Signage shall be incorporated into the overall landscaping of the site.

### **6.27.2 Criteria**

In addition to the Centerra Planned Sign Program, planned sign programs may be prepared for individual villages within the GDP as well as for the overall GDP. If so, sign programs will specify the types, shapes, sizes, lighting method and materials that are allowed for freestanding and wall-mounted signage. Development entry signage is anticipated on either side of major roadways near the edges of each parcel. The individual names will be consistent with the overall style of the sign. Individual property identification signs and directional signs will also be harmonious with the development theme. Unless otherwise approved, real estate signage, temporary signs, and other signage will comply with the City Sign Code, Chapter 18.50 of the Municipal Code as amended from time to time.

Signage that is not addressed in the Centerra Planned Sign Program or another subsequent sign programs shall comply with the Municipal Code and the recommendations of the U.S. 34 Corridor Plan unless approved otherwise by the City.

Unless otherwise approved, horizontal sign presentation of ground-mounted development identification signs is required throughout the GDP. Ground mounted signs shall have a maximum height of 12 feet, unless they are setback more than 75 feet from the edge of pavement; in such case, signs shall be allowed a maximum height of 15 feet.

Directional signage shall be provided for Buildings with addresses that are not visible from the public right-of-way. Directional signs shall comply with the governing planned sign program.

## **6.28 LIGHTING**

### **6.28.1 Policy**

The purpose of this section is the elimination of light trespass from the Building and the site, the improvement of night sky access and reduction of development impact on nocturnal environments.

A family of lighting fixtures will be developed for the overall GDP and for subvillages within the Development Project. Each element of the lighting design should contribute to the character of the entire system, strengthen relationships between parcels, increase the physical and psychological safety, and maintain a village-like atmosphere.

Site lighting shall meet the functional needs of the proposed land use without adversely affecting adjacent properties or the community. Minimize site lighting where possible.

### **6.28.2 Criteria**

Building permit applications shall include a point-by-point illuminance plan indicating foot-candle calculations. The point-by-point illuminance plan shall illustrate the locations of proposed exterior light fixtures including but not limited to: ornamental pedestrian lights, wall mounted lights, and parking lot lights. The plan shall indicate photometric foot-candle light levels for sidewalks, plazas, parking areas, driveways and other high activity pedestrian areas. The photometric calculations shall be illustrated on a maximum ten-foot (10') grid within the areas stated

above, and extending twenty feet (20') beyond property boundary line. Refer to Table 6-7 for minimum lighting requirements.

Point-by-point illuminance plan calculations must be determined using a light loss factor of 1.0.

Light levels measured twenty (20) feet beyond the property line of the Development Project and adjacent rights-of-way shall not exceed one-tenth (0.1) foot-candle as a direct result of the on-site lighting. Exceptions include situations where cross parking and shared access are incorporated into a specific Development Project.

For Retail Uses, lighting from interior spaces which projects in to exterior spaces shall be included in the photometric calculations on the site illuminance plan.

Interior lighting shall not be directed to illuminate exterior spaces. Interior lights visible from the exterior of the Building must not produce glare and shall not have visible light sources.

Exterior light fixtures including site and Building mounted fixtures shall be full cut off, with flat lenses and shielded (if needed) so that all of the light falls upon either the surface of the structure to be illuminated or the ground.

Lighting systems shall be designed which do not produce direct, incident, or reflected light that interferes with the safe movement of motor vehicles on public streets, including:

- A. Any light fixture not designed for street illumination that produces light that could interfere with the operation of a motor vehicle.
- B. Any light that may be confused with or construed as a traffic control device.
- C. Animated, flashing, or changing intensity lights.

Lights shall be located so as not to interfere with parking, backing, required trees within parking areas, and pedestrian or traffic flow. Light fixtures shall not be located within a sidewalk or trail which will not allow for a minimum of five (5) feet of unobstructed travel surface.

### 6.28.3 Normative Lighting Criteria

Parking lot and streetlights shall have a dark, anodized aluminum finish or a material with similar quality and durability.

Light poles heights shall be provided as follows:

- A. Within small parcels, (5 acres in size or less) light fixtures shall have a maximum total height of 20 feet unless otherwise approved by the Centerra DRC and the Director, or his/her appointee.
- B. Within large parcels it is often more cost effective and energy efficient to increase the light pole heights. Light fixtures for parking areas on sites larger than 5 acres in size (gross site area), parking in campus settings, or parking for industrial land uses, will be allowed a maximum total light fixture height of 37 feet (including concrete bases), provided said parcel incorporates pedestrian light fixtures adjacent to the Building entry and along pedestrian pathways between parking areas. If pedestrian light fixtures are not provided, a maximum total light fixture height of 30 feet will be permitted.
- C. Pedestrian light fixtures shall not exceed 14 feet in height. Small ornamental embellishments may extend up to 16 feet.
- D. Exceptions to light fixture heights may be permitted where it can be demonstrated that light poles will complement those on adjacent sites, or slight adjustments could significantly reduce the number of required fixtures.

Light fixture styles and lamp types should be selected to function for their intended use. The style of light standards and fixtures shall be consistent with the community development theme.

Design lighting to emphasize Building entrances. Integrate lighting that highlights approaches to Buildings, Building facades, architectural features and landscaping.

Full wall wash lighting is prohibited. Soffit or canopy lighting shall be fully recessed and down directional.



Exterior Building mounted and site fixtures shall be full cut-off style with flat lenses only. Decorative low-wattage wall sconces, without cut-off characteristics, may be used on a limited basis, and will be reviewed by the City and the DRC on a case-by-case basis. Non-cut-off wall sconces shall have frosted lenses or similar in order to diffuse the light.

Directional lighting of signs, sculptures and other exterior features is allowed on a limited basis, and will be reviewed by the City and the DRC on a case-by-case basis.

Luminaires located within a distance of 2.5 times its mounting height from the property boundary shall have shielding such that no light from that luminaire extends more than twenty feet (20') outside of the property boundary. This requirement does not apply to parking lots/driveways for Buildings on separate lots which share access and/or parking. Luminaires on development parcels located adjacent to Environmentally Sensitive Areas may have more restrictive shielding requirements as determined by the Centerra DRC and the City.

Design lighting with controls for consistent photocell or timed on-off functions.

**6.28.4 Lighting Levels**

With the exception of lighting for public streets, lighting used to illuminate Buildings, parking lots, walkways; plazas or the landscape shall be evaluated during the building permit process. The following table provides lighting criteria for outdoor facilities used at night. (See Table 6-7)

	Minimum horizontal illuminance	Maximum Uniformity Ratio (max. to min.)	Maximum average illuminance	Minimum vertical illuminance
Paths, plazas walkways**	0.1	20:1	0.5	0.1
Bicycle parking areas	0.1	20:1	0.5	0.1
Commercial parking areas	0.5	10:1	2 footcandles	0.2 footcandles
Industrial, office parking areas	0.2	10:1	1 footcandle	0.1 footcandle
Residential parking areas	0.1	20:1	0.5 footcandles	NA
Parking areas – schools	0.1	20:1	0.5 footcandles	NA
<b>Notes:</b>				
* Lighting criteria is adapted from the IESNA, 8 <sup>th</sup> Edition, Lighting Handbook.				
** Excludes recreational trails and paths that are not typically used at night.				

Maximum on-site lighting levels for Development Projects within the GDP shall not exceed ten (10) foot-candles excluding only the following Motorplex Centerra areas. Motorplex sites must comply with specific lighting guidelines approved by the Centerra DRC. Light levels for Motorplex inventory/merchandise display lots, as designated on the Centerra DRC and City approved plans, may not exceed twenty (20) footcandles and shall also comply with the following criteria:

- a. Maximum average of ten (10) footcandles;
- b. 10:1 maximum to minimum uniformity;
- c. 5:1 average to minimum uniformity;
- d. Front row (row closest to perimeter roadways) of inventory display areas shall have a 5:1 maximum to minimum uniformity.

Motorplex featured display pads as designated on the Centerra DRC and City approved plans may not exceed twenty (20) footcandles as measured on the hood of the displayed vehicle.

**Table 6-7 Light Levels at Initial Installation\***