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SECTION 7 ACCESS, CIRCULATION AND PARKING

7.1 INTRODUCTION

This section is intended to ensure that the parking and circulation aspects of developments are well designed with regard to safety, efficiency and convenience for vehicles, bicycles, pedestrians and transit, both within the PUD and to and from surrounding areas. This section provides Design Standards for the development and redevelopment of property. In utilizing these regulations, the Applicant and other users should remain flexible in their approach to site design given the characteristics of the site, the nature of the use and the intent of these standards.

7.2 VEHICULAR ACCESS POINTS

7.2.1 POLICY

Access to public streets shall be allowed if the following three criteria are complied with:

- A. The future traffic predicted to use the proposed access point does not cause the Level of Service at any link, intersection or driveway access within the Traffic Study area to drop below the levels set forth in the Municipal Code.
- B. Intersection spacing requirements are met;
- C. Intersection sight distance requirements are met;
- D. The access spacing meets standards approved by Broomfield (and CDOT if required).

7.2.2 CRITERIA

- A. Intersection and driveway spacing shall comply with Broomfield standards unless otherwise approved by Broomfield.
- B. Key access points are indicated on the PUD Maps (Section 11). Proposed access locations con-

tained in this PUD are conceptual in nature only, and are specifically exempt from any vesting. Access locations and operation shall be approved by Broomfield after review of the supporting Development Projects and Traffic Studies.

- C. Fire apparatus access roads shall be provided and maintained in accordance with the provisions of the Fire District requirements unless otherwise described in this PUD or approved by the District. Such access roads shall be designated on a plan included in the SDP submittal.
- D. Access to a state-regulated highway shall comply with the State Highway Access Code, latest edition and if applicable, the Highway 7 Access Control Plan. If applicable, the Applicant shall submit to the Engineering Division copies of the approved access permits from CDOT prior to the approval of any plat that includes access to Hwy 7. Broomfield is identified as the issuing authority of CDOT roadway access permits following review and approval by CDOT.
- E. Acceleration, deceleration and/or auxiliary turn lanes may be required if a Traffic Study finds that they are necessary to preserve safety and/or the traffic-carrying capacity of the existing street.
- F. A Traffic Study shall be submitted to Broomfield (unless waived by Broomfield) with each development project.

7.3 ROUNDABOUTS

7.3.1 POLICY

Roundabouts are often an effective tool for traffic management. They are used largely to reduce motor vehicle speeds, increase capacity level, increase safety, and to reduce noise and air pollution. Therefore, the use of roundabouts will be considered at street intersections. Broomfield shall approve the use of



roundabouts on any street intersection. Broomfield shall also approve the design of all roundabouts.

7.3.2 CRITERIA

The configuration of proposed roundabouts should be designed by a licensed professional engineer. The engineer must have previous experience in designing roundabouts of comparable traffic capacity.

7.4 STREET HIERARCHY

7.4.1 POLICY

Vehicular circulation within the PUD shall be designed to provide safe, understandable, and convenient access to all sites. The design of these routes is an important feature of the PUD, providing pleasing corridors used in guiding residents, visitors and employees to each village, to individual parcels, and to each Building.

Primary access points to all sites are provided via an internal roadway system. The hierarchy of roadways emphasizes view corridors and features both gridded and curvilinear sections to create continuous visual interest. Coordinated landscaping along major roads and at driveway entrances is also emphasized.

7.4.2 CRITERIA

The following criteria address basic planning concepts for arranging and designing arterial roads, connector streets, local streets, internal driveways, entry drives, service drives and alleys.

Roadways within the PUD will be designed to meet Broomfield standards with the following exceptions: Street cross sections for specific types of streets shown on Maps 8 and 9 in Section 11 of this PUD and any others subject to approval by the Broomfield.

- A. **Arterial Roads** provide access through the development and connect directly with the primary perimeter roadways serving the surrounding area including Sheridan and Huron. Arterial streets may be designed as divided or undivided, and feature streetscape and entryway landscaping .
- B. **Connector Street** provides direct access from the arterial streets to development parcels, and connects them with the perimeter roadways and other internal roadways within the development. Connector streets feature secondary entryways where they connect with the perimeter roadways. Connector streets may be designed as divided or undivided roadways, and feature streetscape, entryway landscaping and on street bike lanes, similar to the arterial streets.
- C. **Local Streets** provide access to Lots and can be shared by several Lots.
- D. **Entrance Drives** provide direct access to individual Building drop-off and parking areas.
- E. **Service Drives and Alleys** provide access to loading, service and waste pick-up areas within individual sites or parcels. Service drives are encouraged to be separate from entrance drives.

7.5 TRAFFIC CALMING

Traffic calming measures may be implemented on collector and local streets, as needed (based upon a current Traffic Study), such as, but not limited to, mini roundabouts or traffic circles, street narrowing, medians or other techniques, as approved by Broomfield.

7.6 ALLEYS

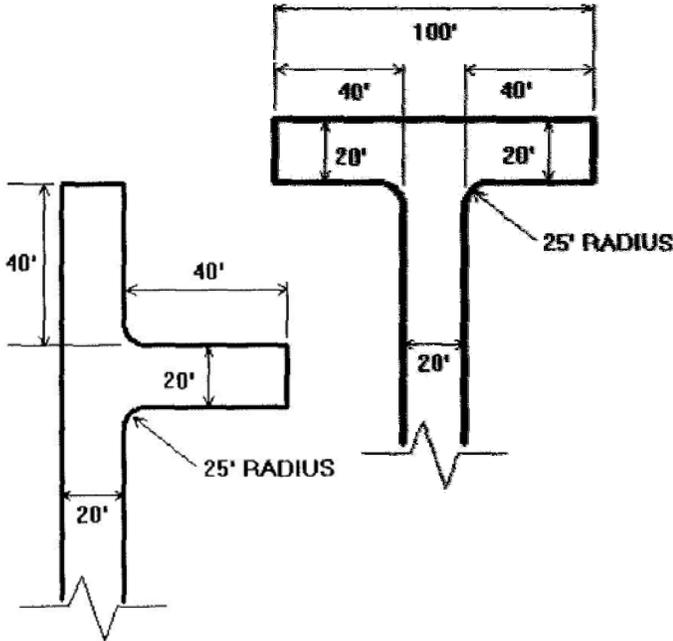
Alleys are allowed in mixed use areas.



7.7 CUL-DE-SACS

“Hammerhead” cul-de-sacs are allowed (See Figure 7-7a) in addition to standard cul-de-sacs.

Figure 7-7a Hammerhead Cul-de-sac



7.8 MEDIAN TREATMENTS

Medians within public roadways are encouraged, but not required except in 4-lane arterial roadways. Landscaping is required where feasible based on width, traffic safety and site line requirements. Trees should be included where possible. All landscaping shall be approved by Broomfield.

Median width will vary. The minimum width for a raised median is four feet (4'). Median width shall be approved by Broomfield.

7.9 EMERGENCY AND UTILITY ACCESS

7.9.1 POLICY

Fire protection for the PUD is provided and administered by the North Metro Fire Rescue District (“Fire District”). Police protection is provided by the Broomfield Police Department. For these and all

other services requiring emergency or maintenance access, convenient and appropriate routes should be easily discernible and, when appropriate, clearly marked.

7.9.2 CRITERIA

Provide access for fire, police, ambulance, and other emergency vehicles to buildings in accordance with Fire District requirements or as otherwise approved by the District or described in this PUD.

Temporary fire access roads, turnarounds and second points of access may be used as part of an approved phased project or imminent public street improvements. Temporary access roads shall meet all other fire road access criteria.

Provide unobstructed access to utilities, including easements when required.

Where possible, connect emergency routes between adjacent properties.

7.10 MASS TRANSIT FACILITIES

7.10.1 POLICY

The Developer anticipates the need to provide mass transit facilities to serve the residents, shoppers, visitors, and employees in the PUD. The plans include the integration of transit facilities within the PUD. Proposed facilities may include bus shelters along the arterial, connector and possibly local streets in several areas throughout the PUD. Final locations of these facilities will be determined as development progresses. Some Buildings and development areas may generate such high volumes of transit use that stops may be required in these specific areas. These facilities will not be required until such time that a transit provider serves the PUD.



7.10.2 CRITERIA

Bus shelters shall be designed consistent with the architectural character of the community. Plans for bus shelters shall be approved by the future transit provider, the North Park DRC and Broomfield.

In areas where transit facilities are fully exposed to climatic conditions the shelter shall be designed with a solid roof, enclosed on one or more sides, and provide seating within the protected area. Landscaping can also be used as wind breaks around transit facilities.

Bus shelters shall be of appropriate size based on the potential number of users within their intended service area.

Advertising visible from the road on bus shelters and bus benches shall be reviewed on a case by case basis and requires specific approval of the North Park DRC and Broomfield.

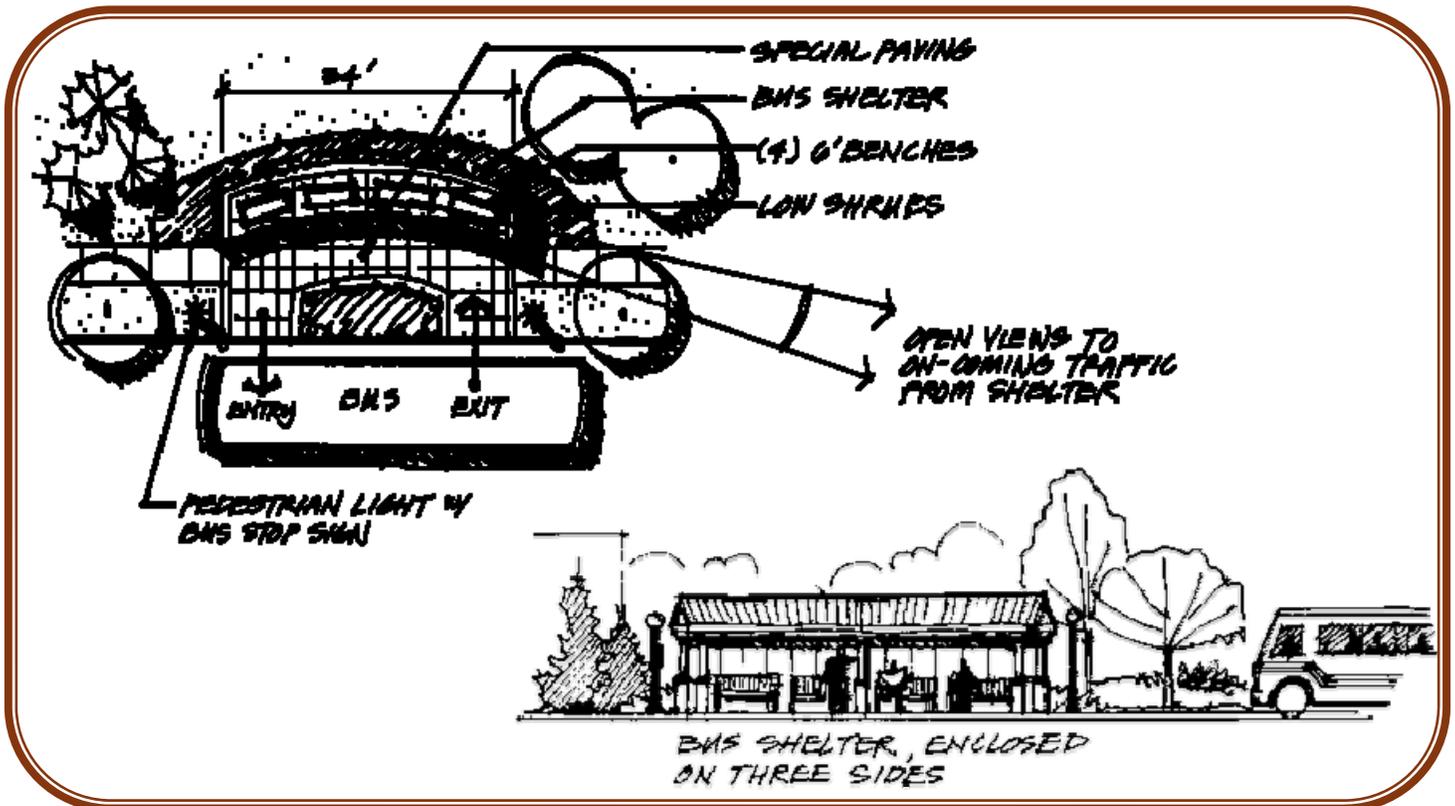
Locate bus shelters in close proximity to commercial retail areas, high density housing, mixed use cores and other Buildings that generate high volumes of transit use.

Locate bus shelters in close proximity to primary pedestrian walkways and crossings, which serve the surrounding businesses and neighborhoods.

Where possible, locate bus shelters behind the sidewalk so that the sidewalk passes between the shelter and the street.

In order to provide safe loading and unloading of buses, sidewalks shall be designed so that a paved surface is provided at both the front and rear doors of the bus when the bus is parked at the facility. Coordinate design of these facilities with the transit provider. (See Figure 7-10a).

Figure 7-10a - Transit Stop





7.11 RESTRICTED-ACCESS DRIVES AND SECURED ENTRIES

7.11.1 POLICY

A. RESIDENTIAL USES – MUS AND MUD

Residential neighborhoods and apartment complexes are prohibited from having restricted access drives, secured entries with and without guard houses and full perimeter fencing. This restriction does not apply to the following which are allowed:

1. Fencing for individual lots or Private Open Areas;
2. Fencing and secured entries for neighborhood amenities such as clubhouses, pools, etc.;
3. Secured entries and controlled access to individual residential Buildings and;
4. Secured entries with and without guard houses and controlled access to surface parking lots and parking garages serving residential Buildings.

B. NON-RESIDENTIAL USES – MUS AND MUD

If required for the operations of the business, non-residential development is permitted to have restricted access drives, secured entries with and without guard houses, controlled access and full perimeter fencing for: individual users and Buildings; surface parking lots and parking garages serving the non-residential user and Buildings; individual sites and Lots; and multiple Building campuses.

Guardhouses and security gates shall be designed and located to be as visually integrated with the site and the Primary Structures.

7.11.2 CRITERIA

Guardhouses shall be located within a landscaped island and be bordered with plantings of trees and shrubs.

Adequate stacking must be provided for cars entering a secured campus as determined by a Traffic Study. A minimum distance shall allow for at least 3 cars to be stacked waiting to obtain clearance for entry, therefore, guardhouses must be located a minimum of 75 feet behind the stop bar on the access drive. Perimeter security fencing shall step back away from the access road to provide greater visibility for exiting traffic and to create a more welcoming appearance.

Locate guardhouses so that crossing conflicts with major bicycle and pedestrian routes are minimized, and where queuing vehicles do not restrict visibility or cause hazardous conditions. Provide a distinct pedestrian walkway at secured entries that is separate from the travel lanes. Guardhouses, gates and fencing that block fire access roadways shall meet the requirements of the Fire District. The Fire District will review these elements as part of the SDP process.

7.12 TRUCK TURNING REQUIREMENTS

7.12.1 POLICY

Vehicle circulation shall be designed to provide safe and efficient turning movements for anticipated service and emergency vehicles. Design of individual parcels to accommodate truck access shall meet regulatory requirements for turning areas without sacrificing other important objectives of the Design Standards, including minimizing pedestrian-vehicle conflicts, discouraging speeding, minimizing space devoted to street use, and relating roadways and other vehicle use areas to the site and natural topography.



7.12.2 CRITERIA

Design roadway turning areas, especially those anticipated for truck service and emergency vehicle access, to meet the required regulatory standards for minimum truck turning movements and area requirements including those established by the following agencies and others as applicable, as amended from time to time:

- A. City and County of Broomfield.
- B. Fire District.
- C. Mass transit provider (if present).
- D. American Association of State Highway Transportation Officials (AASHTO) - Standards for Turning Roadway Design (including minimum turning path dimensions).

In general, design roadway-turning areas (for truck service and emergency vehicles) according to the following AASHTO standards:

- A. Turning areas anticipated for single unit truck or bus access (including entry drives, drop-offs, and parking areas) shall use SU-30 turning dimensions (including 42 ft. minimum outside turning radius).
- B. Minimum turning areas anticipated for semi trailer combination trucks access (with 40 ft. wheelbase) shall use WB-40 turning dimensions (including 40 ft. minimum outside turning radius).
- C. Turning areas anticipated for larger semi trailer combination truck access (with 50 ft. wheel base) shall use WB-50 turning dimensions (including 45 ft. minimum outside turning radius).
- D. Turning areas anticipated for emergency and fire truck access shall comply with the Fire District’s criteria.

7.13 SIGHT TRIANGLES

7.13.1 POLICY

Sites shall be designed so that plants and structures on the site do not interfere with the safe movement of motor vehicle traffic, bicycles or pedestrians.

7.13.2 CRITERIA

No plants, foliage, wall, fence or berm higher than 42” above the elevation of adjacent flowline shall be located within the sight distance triangle on any corner of the property adjoining an intersection. Trees are encouraged as a part of the intersection landscape design but must comply with the Broomfield Standards and Specifications.

Sight distance triangles shall comply with the minimum sight distance requirements defined by Broomfield Standards and Specifications.

7.14 PARKING LOTS

7.14.1 POLICY

Parking lots shall be designed to be safe, efficient, convenient and attractive, considering use by all modes of transportation that will use the parking area (including cars, motorcycles, trucks, bicycles, and emergency vehicles).

7.14.2 CRITERIA

- A. To the extent practical, pedestrians and vehicles shall be separated through provision of a sidewalk or walkway. Where complete separation of vehicles is not feasible, using landscaping, bollards, special paving, lighting and other means to clearly delineate pedestrian areas, shall minimize potential hazards.
- B. Parking lots should be located on the rear and sides of lots whenever possible.



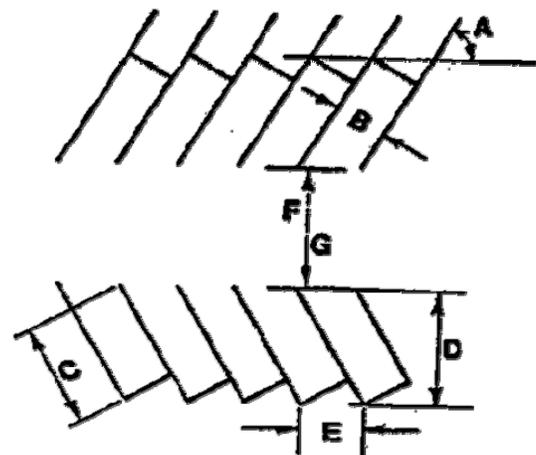
- C. Unobstructed vehicular access to and from a public street shall be provided for off-street parking spaces.
- D. Parking lots shall be designed so that backing and turning movements associated with parking layout will minimize conflicts with traffic, either on or off site.
- E. Parking lots with more than three parking spaces will provide adequate room to allow vehicles to turn around within the parking lot and enter an adjoining street in a forward direction.
- F. Parking stalls shall be clearly and permanently defined on the parking surface. If an alternate method of defining parking spaces is desired it shall require approval from the North Park DRC and Broomfield.
- G. Where parking stalls overhang (bumpers overhang) into a peripheral sidewalk area, the sidewalk shall have a minimum width of seven (7) feet.
- H. See also Section 6.25 for lighting requirements in parking areas.
- I. Landscaped islands with raised curbs shall be used to define parking entrances, ends of parking aisles, the location of internal drives, and to provide pedestrian refuge areas and walkways, unless approved otherwise by the North Park DRC and Broomfield.
- J. Parking, loading, maneuvering and driving areas shall be paved with asphalt, concrete or similar dust free material approved by the North Park DRC and Broomfield.
- K. Loading and unloading facilities shall take place on site and not on public right-of-way. There shall be no backing of vehicles onto the public right-of-way from loading areas.

- L. Drive-up and drive-through lanes shall be segregated from drive aisles and general parking areas.
- M. Parking is prohibited within Setback zones. Refer to table 6-3A for Setbacks.
- N. Refer to Section 6.14 for parking lot screening requirements.

7.15 PARKING DIMENSIONS

- A. Parking lots shall be designed using the angles, layout and dimensions as indicated in the figures and table below, unless otherwise approved by the North Park DRC and Broomfield.
- B. Adequate turn around and backing areas shall be provided without disruption to circulation or parking facilities.
- C. Parking spaces located across from each other, on opposite sides of a drive lane, should be located at the same angle to the drive lane.

Figure 7-15a – Off Street Parking Area Dimensions



- D. Angle parking located on a drive lane with one common exit and entrance is discouraged, unless the angle of the parking space is ninety (90) degrees to the direction of travel.



Table 7-15A – Off Street Parking Area Criteria

Standard Vehicle

A	B	C	D	E	F	G
0°	8	23	8	23	20	12
30°	8.5	20	17.4	17	20	15
45°	8.5	20	20.2	12	20	15
60°	9	19	21	10.4	24	20
90°	9	19	19	9	24*	20**

Compact Vehicle

A	B	C	D	E	F	G
0°	7.5	19	7.5	19	20	12
30°	7.5	16.5	14.8	15	20	15
45°	7.5	16.5	17	10.6	20	15
60°	8	16	17.9	9.2	24	20
90°	8	15	15	8	24*	20**

- A. - ANGLE OF PARKING
- B. - STALL WIDTH IN FEET
- C. - STALL LENGTH IN FEET
- D. - STALL DEPTH IN FEET
- E. - CURB LENGTH IN FEET
- F. - TWO-WAY DRIVE WIDTH OR DOUBLE LOADED DRIVE WIDTH IN FEET
- G. - ONE WAY DRIVE WIDTH OR SINGLE LOADED DRIVE WIDTH IN FEET

* When garages are located along a driveway and are opposite other garages or buildings, the driveway width must be increased to 28 ft. with a minimum of 30 ft. from face of garage door to face of garage door.

** When an overhang is allowed to reduce stall depth, aisle width must be increased to 22 feet.

- Under special conditions these dimensions could be varied with the Broomfield City Engineer's approval.
- Stall length can be reduced by 2' when over-hang is provided.
- For handicapped spaces, width shall be 13' with ramp access to walks.

E. On Street Parallel Parking Dimensions



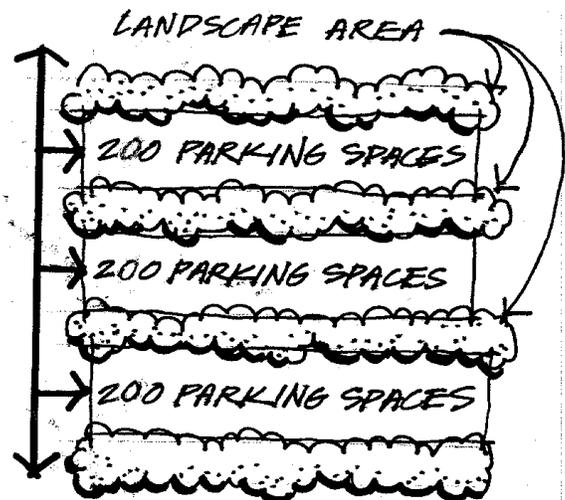
F. Development projects seeking certification from the U.S Green Building Council's LEED (Leadership in Energy and Environmental Design) Green Building Rating System or other such equal certification may reduce parking dimensions with the approval of the North Park DRC and Broomfield.

G. All handicap parking shall comply with ADA criteria.

7.15.1 BREAK UP LARGE PARKING LOTS

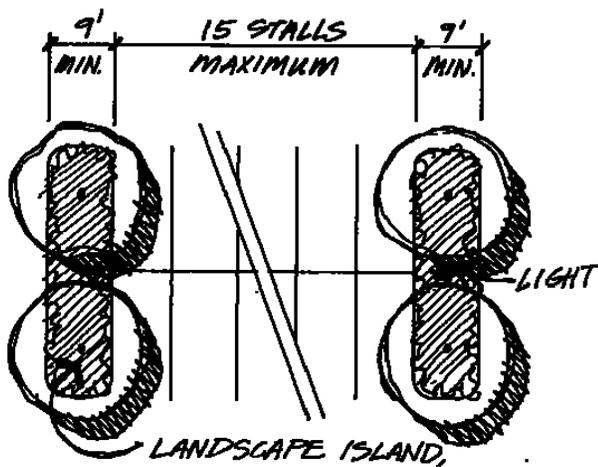
A. Large parking lots shall be divided into smaller sections by using landscape separators. Each section shall contain a maximum of two hundred (200) parking spaces. Landscape separators shall have a minimum width of 15 feet (exclusive of sidewalks). (See Figure 7-15b below.)

Figure 7-15b – Break Up Large Parking Areas



- B. Landscape separators shall contain, as a minimum, one deciduous or evergreen tree per 700 square feet of landscapable area, or one tree per 35 lineal feet, whichever results in a greater number of trees. Trees can be planted formally or informally in groupings.
- C. Parking bays shall extend no more than fifteen (15) parking spaces without an intervening tree in a landscape island or landscape peninsula. (See Figure 7-15c).
- D. See Sections 6.13 and 6.14 for internal and perimeter parking lot landscape requirements.

Figure 7-15c – Landscape Islands



7.16 COMPACT CAR PARKING

7.16.1 CRITERIA

- A. Parking spaces designated for compact cars shall be at least eight (8) feet wide and fifteen (15) feet long.
- B. Compact car spaces should be clustered in-groups. The groups should be evenly distributed throughout the parking lot. However, compact car spaces should not be placed within the most accessible or highest turnover areas, such as directly in front of the building near the main entrance.

7.16.2 POLICY

- A. Compact car spaces may not be more than forty (40) percent of the total number parking spaces in each lot;
- B. Compact car spaces shall be identified with a 'C' symbol. The size, color and location of the symbol shall be approved by the North Park DRC and Broomfield.

7.17 PARKING RATIOS

7.17.1 POLICY

Adequate parking shall be provided to support individual projects within the PUD. If a specific use is not discussed the Parking Ratio will be determined on a case-by-case basis with North Park DRC and Broomfield.

If development is within 1650' of an existing transit facility the minimum-parking ratio may be reduced subject to Broomfield approval.

In the event that a previously approved development is converted to a different land use, the number of existing and/or added stalls for the applicable use(s) shall meet the requirements of these Design Standards.

Refer to Sections 9 and 10 for Parking Ratios in residential neighborhoods and urban districts. Refer to Section 6.13 for parking areas that exceed the recommended ratio.

7.17.2 MINIMUM OFF-STREET PARKING CRITERIA

Alzheimer's Care Facility: 1 space for every 3 beds, plus 0.5 spaces per Employee on a major shift.

Assisted Living Facilities: 1 space for every 3 beds, plus 0.5 spaces per Employee on a major shift.



Athletic/Fitness/Recreation Facilities: 1 space for every 100 gross square feet of Floor Area.

Bar/Tavern: 1 space for every 100 gross square feet of Floor Area.

Call Center: 10 spaces per 1,000 gross square feet of Building Floor Area.

Clinics: 1 space for each examination or treatment room plus 1 space for every 2 Employees or health care providers.

Colleges/Universities in a Campus Setting: 1 space for each Employee plus 1 space for every 5 students.

College/Universities in a Non-Campus Setting (for non-traditional commuting students including adult education, professional and/or technical training, continuing education, etc): 1 space for each classroom seat plus one space for each shift Employee.

Commercial/Retail Uses: 1 space/ 300 gross square feet of Building Floor Area.

Congregate Care Facilities and Congregate Care Housing Developments: 1 space for every 3 beds, plus 0.5 spaces per Employee on a major shift.

Convenience Store: One space for every 200 gross square feet of Floor Area.

Corporate Campus (Office/R & D labs without light manufacturing or distribution): 1 space per 250 gross square feet of gross Building Floor Area.

Corporate, Professional, and Multi-Tenant Offices: 1-space/250 gross square feet of Building Floor Area.

Entertainment Facilities and Theatres: 1 space for every 3 seats in the principal place of assembly.

Fast Food Restaurant / Drive-Ins: 1 space for every 100 gross square feet of Floor Area.

Financial Services and Institutions: 1 space for every 250 gross square feet of Floor Area.

Flex Research and Development (Flex Office with light manufacturing): 2.5 spaces per 1,000 gross square feet of Building Floor Area.

Hospitals: 2 parking spaces per bed plus one parking space per 300 square feet of outpatient clinics and service areas.

Hotel/Conference Center: 1 space/room x .80 (plus .75 space per daytime Employee).

Independent Living Communities: 1 space per unit plus one space for each major shift Employee.

Indoor Recreational Facilities (Not Including Theaters or Auditoriums): 1 space for every 200 gross square feet of Floor Area.

Manufacturing / Industrial Activities: 1 space for every 500 gross square feet of Floor Area or 1 for every 2 Employees, whichever is greater.

Medical Offices and Clinics: 1 space for every 200 gross square feet of Floor Area.

Medical Laboratories: 1 space for every 450 gross square feet of Floor Area.

Night Clubs: 12 spaces for every 1000 gross square feet of Floor Area.

Nurseries / Child Care Centers: 1-parking space for each 450 gross square feet of Floor Area.

Nursing Care Facilities, Continuing Care Retirement Community: 1 parking space for every 3 beds plus one space per 2 major shift Employees.

Places of Worship: 1 space for every 4 seats in the principal place of assembly.

Public and Private Schools – Elementary: 2 spaces for each classroom.

Public and Private Schools - Junior High: 2 spaces for each classroom.



Public and Private Schools - Senior High: 1 space for each 3 seats in the auditorium or principal place of assembly.

Restaurant: 1-space/3 seats or 10 spaces/1000 gross square feet, whichever is greater.

Showroom Warehouse: 5 spaces for every 1,000 gross square feet of Showroom Floor Area.

Wholesale Commercial Uses/Warehouses: 1 space per 1,000 gross square feet for the first 100,000 gross square feet of Floor Area plus 1 space for every 5,000 gross square feet after the first 100,000 gross square feet.

7.18 ON-STREET PARKING

On-street parking will be allowed and encouraged to facilitate guest parking for businesses fronting on those streets. On-street parking on the adjacent surrounding local and connector streets and within 300' of the building it is serving may be counted to satisfy the minimum parking quantities described above.

7.19 MOTORCYCLE PARKING

Motorcycle parking areas shall be paved with concrete, and signs shall be provided designating the area for motorcycle parking only.

A paved area measuring 9' x 18' will accommodate two motorcycles.

Parking lots with over 250 spaces shall provide 1% of total spaces as motorcycle parking. Parking lots with between 40 and 250 spaces shall provide a minimum of two motorcycle parking spaces. Parking lots with less than 40 spaces are not required to provide motorcycle parking spaces.

7.20 SHARED PARKING

Shared parking will be allowed in situations where the individual land uses which share the parking spaces have differing peak parking demand times. A

business or structure shall be allowed to share its parking with another use. In these situations a parking demand study shall be prepared by a professional traffic engineer or specialized parking professional and submitted by the applicant documenting that the hours of actual parking demand for the proposed uses will not conflict and those uses will be served by adequate parking if shared parking reductions are authorized.

Shared parking will also be allowed in situations where a business constructs additional parking that is above and beyond what is required to comply with the minimum parking standards. For example, the business is required to provide 100 spaces to meet the minimum standards, but the business builds 125 spaces. If agreed to by both parties, the excess 25 parking spaces may be shared with one or more adjacent businesses. A shared parking agreement shall be submitted with the Development Project, and recorded so that it will run with the land.

7.21 PARKING FOR FACILITIES WITH MULTIPLE WORK SHIFTS

Businesses with overlapping work shifts shall supply adequate on-site parking to accommodate the required parking for the total of the number of overlapping Employees.

Shifts changes shall be staggered so as to reduce the number of additional spaces required.

A parking management plan shall be submitted to the North Park DRC and to Broomfield.

7.22 TRUCK TRAILER PARKING

Areas designated for semi trailer and large truck parking and loading should be located on the side and rear of the site and shall be screened from view using architectural walls or a combination of landscaping, berming and walls. See Section 6.18. Except during initial site construction, no parking is allowed for permanent or temporary storage of



trucks, trailers, buses or semi-mobile equipment, with the exception of moving vans, etc., when in use.

7.23 PARKING STRUCTURES

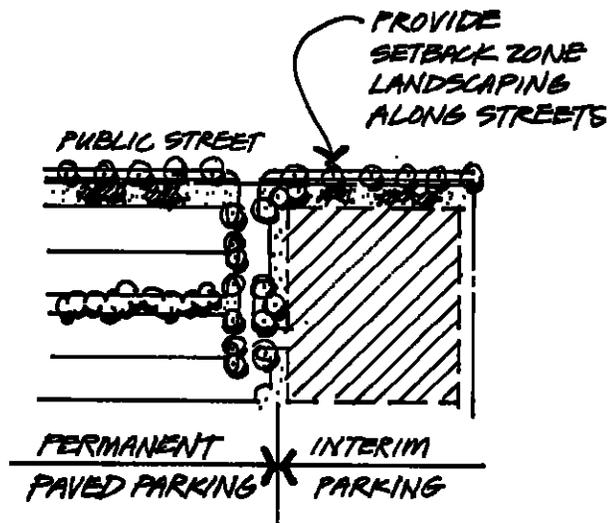
Design of Parking Structures shall be such that they are minimized visually by architectural wraps, laminated occupied buildings/structures, earthen embankments and/or landscaping and by limiting the overall height of the structure relative to the principal building. Parking Structures should not be taller than the principal Building.

Proposed Parking Structures require specific approval from Broomfield. Approval will be contingent, in part, upon trip generation and traffic loads generated by the proposed development and the development infrastructure’s capacity to handle the parking.

7.24 INTERIM PARKING LOTS

Surface interim parking must be paved with an all weather material. It must be replaced with the permanent use within 24 months unless Broomfield grants an extension. Internal parking lot landscaping is not required for interim parking areas. Perimeter landscape treatments shall be consistent with the landscape requirements for permanent parking lots. (See Figure 7-24a below). Interim parking lots shall be maintained by the developer or owner of the lot.

Figure 7-24a - Interim Parking Lot



7.25 BARRIER FREE DESIGN

7.25.1 POLICY

The PUD is intended to be equally accessible to handicapped and non-handicapped persons, and owners and Applicants are expected to meet or exceed all requirements of the Americans with Disabilities Act (ADA), 1996, and all amendments thereto, in the design and development of individual parcels, sites, Buildings, and facilities.

Provide equal access in a manner that integrates handicapped-accessibility with ordinary accessibility, rather than separately.

7.26 BICYCLE PARKING

7.26.1 POLICY

Except as allowed for in these standards, bicycle parking shall conform to the Broomfield standards and shall be provided within each commercial, retail, business, office, industrial, civic and multi-family residential Lot to encourage and accommodate alternative transportation modes.

7.26.2 CRITERIA

- A. Bicycle parking facilities shall be located so as to provide safety, security and convenience for bicycle riders. Such facilities shall not interfere with, and be located a safe distance from, pedestrian and motor vehicular traffic.
- B. Generally, a minimum number of bicycle parking spaces shall be provided, equal in number to five (5) percent of the total number of automobile parking spaces provided by the development, but not less than two (2). Developments Projects, which require 350 or more automobile parking spaces, a minimum of 16 bicycle parking spaces shall be provided. Development Projects such as these will be reviewed on a case-by-



case basis by the North Park DRC and Broomfield to determine the potential need for bicycle racks.

- C. Garages may be used to satisfy needs for bicycle parking for Residential Uses.
- D. Bicycle parking facilities should be located outside of a vehicular or pedestrian way and be protected and separated from motor vehicle traffic and parking lots by either a three (3) foot separation distance or a curb or other physical barrier.
- E. For security reason bicycle parking areas should be located so they are highly visible from Building entrances and convenient for Employees.
- F. Bicycle parking facilities shall be designed to allow the bicycle frame and both wheels to be securely locked to the parking structure. The structure shall be of permanent construction such as heavy gauge tubular steel and permanently attached to the pavement foundation.
- G. If the bicycle facility is to be used at night it should be sufficiently illuminated. See Section 6.25 for minimum foot-candles required for bicycle parking areas.
- H. Provide protection from the elements. Specific considerations include the following:
 - 1. Shelters and bike lockers are encouraged but not required. Protected overhangs incorporated into a Building's design are a desirable solution.
 - 2. Shelter design and materials should complement the architectural design of the primary Building.
 - 3. Indoor parking areas should be considered.

7.27 PEDESTRIAN CIRCULATION

7.27.1 POLICY

Pedestrian and bicycle networks shall be designed to invite walking and bicycle use throughout the development, and to connect with regional systems in the area. Individual parcels and sites shall be integrated with the overall design to form a comprehensive network within the PUD. (See the Conceptual Amenities Map in Section 11, Map 2).

Pedestrians should be separated from vehicles and bicycles. Where complete separation of pedestrians and vehicles and bicycles is not possible, potential hazards shall be minimized through the use of techniques such as special paving, grade separations, pavement markings, signs, striping, bollards, median refuge areas, traffic calming features, lighting or other means to clearly delineate pedestrian areas, for both day and night use.

7.27.2 CRITERIA

Sidewalks and/or pedestrian paths shall be constructed and located in order to:

- A. Provide a system of pedestrian movement to points both on and off site.
- B. Provide a logical link between the origins and destinations of pedestrian traffic.
- C. Provide a direct, convenient, safe, and visible pedestrian path between parking area and Building entrance.
- D. Be constructed to channel storm water resulting from minor storm events away from the traveled surface to eliminate ponding on sidewalks and paths.
- E. Paving materials shall be visually compatible with the architecture, durable, easily maintained (allow for snow removal), slip resistant,



and accessible to the handicapped. Special paving materials such as interlocking brick color concrete pavers or colored and textured concrete and other similar materials are encouraged. Mortared brick paving is discouraged.

- F. Sidewalks will be provided along public streets within the development.
- G. Continuous pedestrian walkways shall link street sidewalks (public sidewalks) with customer/visitor building entries through individual sites. At a minimum, walkways shall connect focal points of pedestrian activity such as, but not limited to, transit stops, street crossings, building and store entry points, and shall feature adjoining landscape areas for no less than fifty (50) percent of the length of the walkway. It is preferable that these connections be located within Open Lands areas. Where it is necessary for the primary pedestrian access to cross drive aisles, parking lots, or internal roadways the pedestrian crossing shall emphasize and place priority on pedestrian access and safety. The material and layout of the pedestrian access shall be continuous as it crosses the driveway, with a break in continuity of the driveway paving and not in the pedestrian access way. The pedestrian crossings must be well marked using low maintenance pavement treatments (such as scored concrete with an appropriate size score pattern of “human scale”), colored concrete, pavers, brick or other similar materials) and signs, striping, lighting, traffic calming techniques, median refuge areas or landscaping.
- H. Where pedestrians and bicyclists share walkways, the pedestrian/bicycle system shall be designed to be wide enough to easily accommodate the amount of pedestrian and bicycle volumes that are anticipated. A minimum width of eight (8) feet shall be required and shall meet American Association of State Highway and

Transportation Officials (AASHTO) guidelines, Guide for Development of Bicycle Facilities, August 1991, or any successor publication. Additional width may be required to accommodate higher volumes of bicycle and pedestrian traffic.

- I. Design sidewalks around non-residential and Multi-Family Dwellings, parking areas, and along all public and private roadways, to be constructed of concrete and have an unobstructed width of no less than five feet (5') and there may be a need for eight feet (8') wide sidewalks in certain locations.

7.27.3 RETAIL PEDESTRIAN CIRCULATION

In addition to the criteria listed in Section 7.27, retail areas shall provide the following:

- A. Sidewalks, no less than eight feet (8') in width, shall be provided along the full length of the building along any façade featuring a customer entrance, and along any façade abutting public parking areas. Where appropriate, sidewalks shall be designed to accommodate landscaping, which could include some or all of the following: foundation plantings, planting areas not attached to the building, tree wells, flower pots, etc.). Walkways shall connect focal points of pedestrian activity such as, but not limited to, transit stops, street crossings, building and store entry points, and shall feature adjoining landscaped areas that include trees, shrubs, benches, flower beds, ground covers or other such materials for no less than fifty (50) percent of the length of the walkway.
- B. Continuous pedestrian walkways, no less than five feet (5') in width, shall be provided from the public sidewalk or right-of-way to the principal customer entrance of all principal Buildings on a site.



- C. All other pedestrian walkways will be no less than five feet (5') in width. These walkways provide additional pedestrian connections in areas that are not primary public access points, but where pedestrian connections are still desired such as sides of buildings and access through parking areas.

7.28 RECREATIONAL TRAILS

NOTE: FOR PURPOSES OF THIS PUD, "TRAILS" ARE DISTINGUISHED FROM BIKE LANES AND SIDEWALKS IN ORDER TO PROVIDE A CLEAR DIRECTION FOR THE PLANNING AND DESIGN OF THE NETWORK. THIS SECTION APPLIES ONLY TO THOSE FACILITIES THAT ARE NOT ADDRESSED ELSEWHERE IN SECTION 7.

7.28.1 POLICY

Trails are an important part of the overall Pedestrian and Bicycle network of the PUD. Trails are those pedestrian and bicycle facilities located in Public Common Areas or, Private Common Areas that are in addition to the significant on street bicycle network and pedestrian sidewalks. These trails will provide a complementary experience to the urban framework. Combined, trails, bike lanes, and sidewalks are all part of the integrated network of pedestrian and bicycle facilities in this PUD.

Trails should be planned to minimize conflicts with other modes of circulation, and engineered to meet Design characteristics of their identified uses. In general, pedestrian and bicycle trails should provide linkages between recreational and Open Land amenities. Facilitation and/or development of trails may be required of individual tract Applicants/owners in accordance with the General Conditions and Special Conditions.

See also the Conceptual Amenities Map (Section 11, Map 2) for conceptual trail locations. Exact trail locations will be determined with future subdivision plats and building permit applications.

Trails shown on the PUD maps will be constructed as identified in Section 7.28.2. Criteria below, which are adapted from CCOB policy documents as they apply to this PUD. In general, concrete trails should be used in urban settings, in high traffic areas and along routes frequently used by bicycles, strollers, wheelchairs, etc. Soft trails should be used in natural areas to minimize barriers to wildlife and minimize impact to the landscape.

Trails should be universally accessible. Grades up to 5% can be used on standard trail sections (intersections should have grades below 3%). In the instances where grades may be above 5% the trail will not be considered accessible to wheelchair users.

Construction of the trails will be completed in phases. Trail sections shall be designed and constructed concurrently with the residential or non-residential (commercial) development that includes trail corridors within the project's boundaries.

7.28.2 CRITERIA

The hierarchy of Recreational Trails for this PUD is based on Open Space, Parks, Recreation and Trails ("OSPRT") Master Plan, and shall be constructed and located as follows:

A. REGIONAL & COMMUNITY TRAILS:

1. Are to be located generally along major drainages, irrigation ditches, and other Public Common Area or Private Common Area with a public access easement. On street and/or off street bike paths and sidewalks shall be located on all arterial and connector streets.
2. Shall be 10' in width.
3. Can be either crusher fines or concrete depending on site circumstances including: need to plow, natural or manicured setting, and whether or not the trail is commuter oriented.



4. Shall connect activity centers such as recreation centers, parks, schools, commercial areas or similar facilities.
5. Shall have guaranteed public access though public ownership or an easement.
6. The major regional trails shall comply with OSPRT criteria.

B. NEIGHBORHOOD CONNECTIONS

1. In order to make connections to community/regional trails easily accessible, within each ¼ mile section of a development, one neighborhood connection in all appropriate directions should be provided.
2. Connections to the regional/community trails from the neighborhood sidewalk system shall be provided.
3. Connections shall be a minimum of 6’ concrete or 6’ crusher fines. In instances where the neighborhood connection links major destinations such as schools, public parks, and/or local retail centers, the connection will be 8’ wide and will typically be concrete. In some circumstances, an 8’ wide crusher fines connection may be appropriate such as a natural area. This type of 8’ trail that links major destinations shall be located in a public access easement in Open Areas, Shared Common Areas or Private Outdoor Space. In the MUS connections should occur in landscaped corridors so as to encourage uninterrupted pedestrian circulation.

C. TRAILHEADS/TRAILHEAD PARKING/SIGNAGE

1. Trailhead parking shall be provided for Regional and Community Trails to provide for easy and safe public access.

2. Trailhead parking located within the MUD - Refer to Appendix 3-1 Special Conditions for Parcel B, Planning, Special Condition 1.
3. Trailhead parking in the MUS – Refer to Appendix 2-1 Special Conditions for Parcel A, Planning, Special Condition 1 (Sub parcel A 1).
4. Trailhead parking in Parcel D1 – A trailhead will be incorporated into the City and County of Broomfield’s development plan for the open lands.
5. Trail junctions and trailheads shall have directional signage.
6. Signs for trailheads, regional trails and trails labeled as “Major Pedestrian Trail” on Map 2 of 9 in Section 11 (and Sheet 3 of 14 of the PUD Plan and Preliminary Plat) shall utilize the CCOB Open Space and Trails Sign Program unless otherwise approved by the North Park DRC and Broomfield as part of a Master Planned Sign Program.

D. PEDESTRIAN UNDERPASSES

1. Underpasses are typically located on Arterial Streets.
2. Ideal minimum width is 12 feet. Each situation will need to be analyzed individually to analyze pedestrian safety, utilities, and drainage needs.
3. Ideal minimum height is 10 feet.
4. Maximum slope is 5%.
5. Underpasses shall be generally in compliance with the OSPRT Master Plan.

E. RELATIONSHIP TO THE CCOB OPEN SPACE, PARKS, RECREATION, TRAILS MASTER PLAN

1. The OSPRT Master Plan recommendations are to be consulted as part of the design and planning of all trails in the PUD.