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TECHNICAL REPORT NO. 7

Landscape Ordinance

Review of Landscape Ordinance

City of Rapid City

PREPARED BY:



April 2010

17.50.300 LANDSCAPE REGULATIONS.

A. Scope of Application

1. New development: All new development or construction that involves the creation of a building, structure, parking area, or the paving of a parking area shall be in full compliance with the provisions of these regulations.
2. Existing development areas – nonconformance – compliance required.

As of the effective date of these regulations, the requirements and conditions set forth herein shall apply to the following:

- a. Additions, remodels, or new construction on properties with existing development that enlarge the square footage or increase the occupant load of any, or the sum total of all, building(s), structure(s), or parking lot(s) located on said property by twenty percent (20%) or more.
- b. Successive additions, remodels, or new construction on properties with existing development that cumulatively enlarge the square footage or increase the occupant load of any, or the sum total of all, buildings(s), structure(s), or parking lot(s) on said property by twenty percent (20%) or more from the effective date of this ordinance.
3. Landscape requirements include general requirements applicable to all landscape areas, frontage landscape setbacks, adjoining landscape setbacks, and parking landscape areas.
4. An individual detached single-family, duplex, or two-unit townhouse residential structure on its own lot shall be exempt from these regulations except that the adjacent boulevard shall be subject to **§17.50.300 B General Landscape Requirements**.
5. All property within the Airport Zoning District shall be exempt from these regulations.

B. General Landscape Requirements.

1. Landscape Area: Any portion of a site, including the adjacent boulevard, not utilized for buildings, structures, parking, driveways, walkways, plazas, service areas, or storage areas shall be considered a landscape area.
 - a. Ground Surface Cover: The ground surface of landscape areas shall consist of one hundred percent (100%) coverage in living vegetation, organic mulch and to a limited extent rock mulch.
 - 1). Rock mulch shall not exceed thirty-five percent (35%) of the ground surface of any landscape area.
 - 2). Vegetation may consist of ground covers, perennials, shrubs, ornamental grasses, bulbs, native grasses, or turfgrass.
 - 3). The type, location, and size of any turfgrass area shall be subject to the following requirements:

- a) Irrigated turfgrass shall not be planted on slopes greater than four to one (4:1).
- b) Irrigated turfgrass areas shall not be less than eight feet (8') in any dimension.
- b. **Stormwater Management:** On-site storm water shall be managed and utilized to provide supplemental irrigation for landscape areas and shall comply with the latest revision of the **City of Rapid City Storm Water Quality Manual** and **Chapter 8.48 Post-construction Site Stormwater Runoff Control**.
- c. **Irrigation Control Devices for Water Conservation:** All automatic irrigation systems shall include a rain sensor, rain shut-off device, soil moisture probe(s), weather station, or similar approved control device.
- d. **Public Safety and Visibility:** Landscape areas shall comply with the requirements of **§17.50.335 Sight Triangles**.
- e. **Plant Materials:** Minimum plant size at installation and diversity in the species of trees specified on the landscape plan shall be subject to the following requirements:

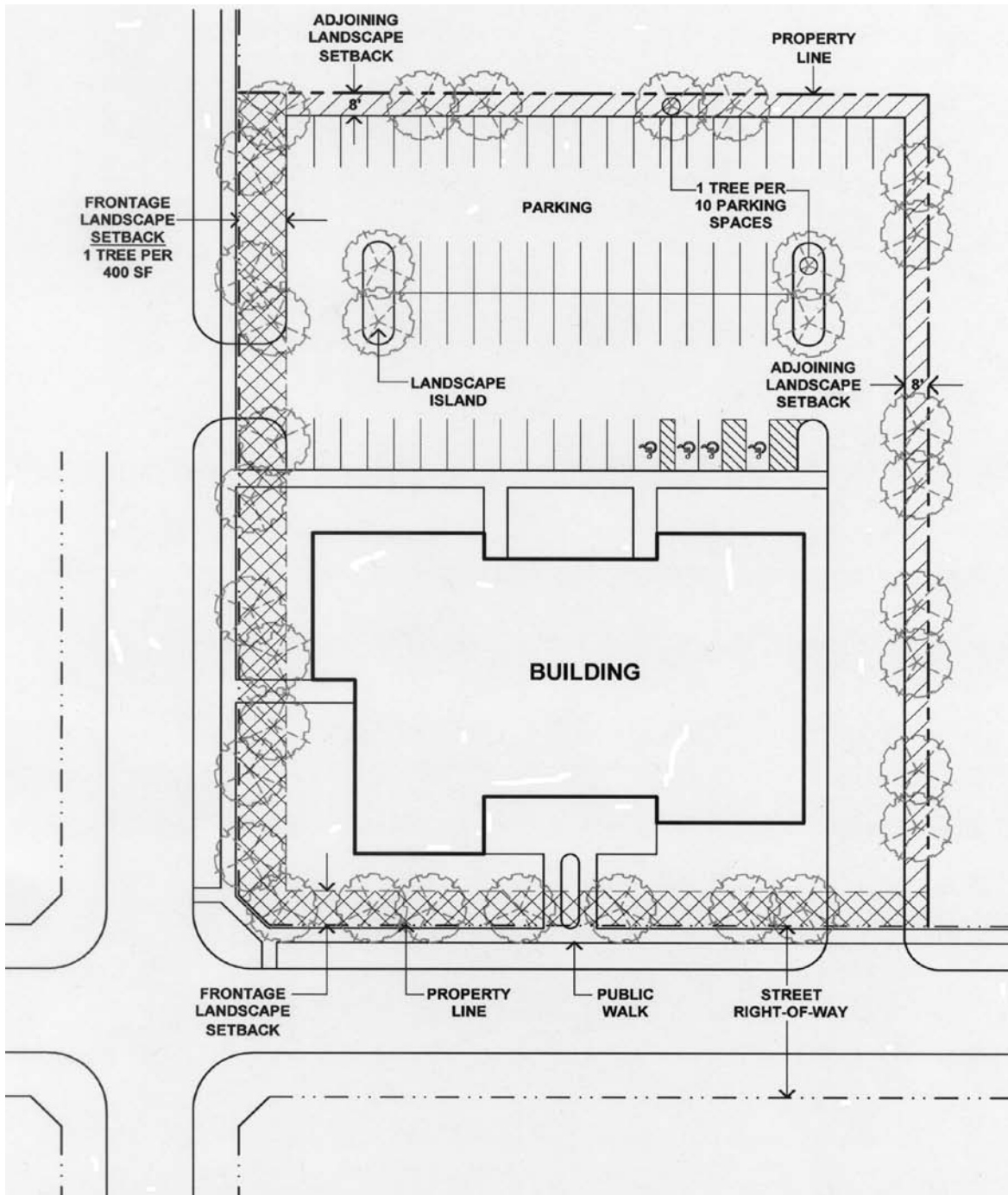
1). Plant sizes:

PLANT TYPE	MINIMUM SIZE OF PLANT AT INSTALLATION
Deciduous shade trees	Two inch (2") caliper*
Deciduous ornamental trees	One and one-half inch (1 ½") caliper* or multi-stemmed clump four feet (4') height above ground
Evergreen trees	Five feet (5') height above ground
Shrubs	Twelve inch (12") height, #2 container
Ornamental Grasses	#1 container
Perennial ground covers and vines	#1 container

* Caliper measured six inches (6") above ground when installed.

2). Tree diversity:

NO. OF TREES PROVIDED ON PLAN	MINIMUM NO. OF SPECIES REQUIRED
1 to 5	1
6 to 10	2
11 to 20	3
21 to 30	4
30+	5



SITE CATEGORY REQUIREMENTS

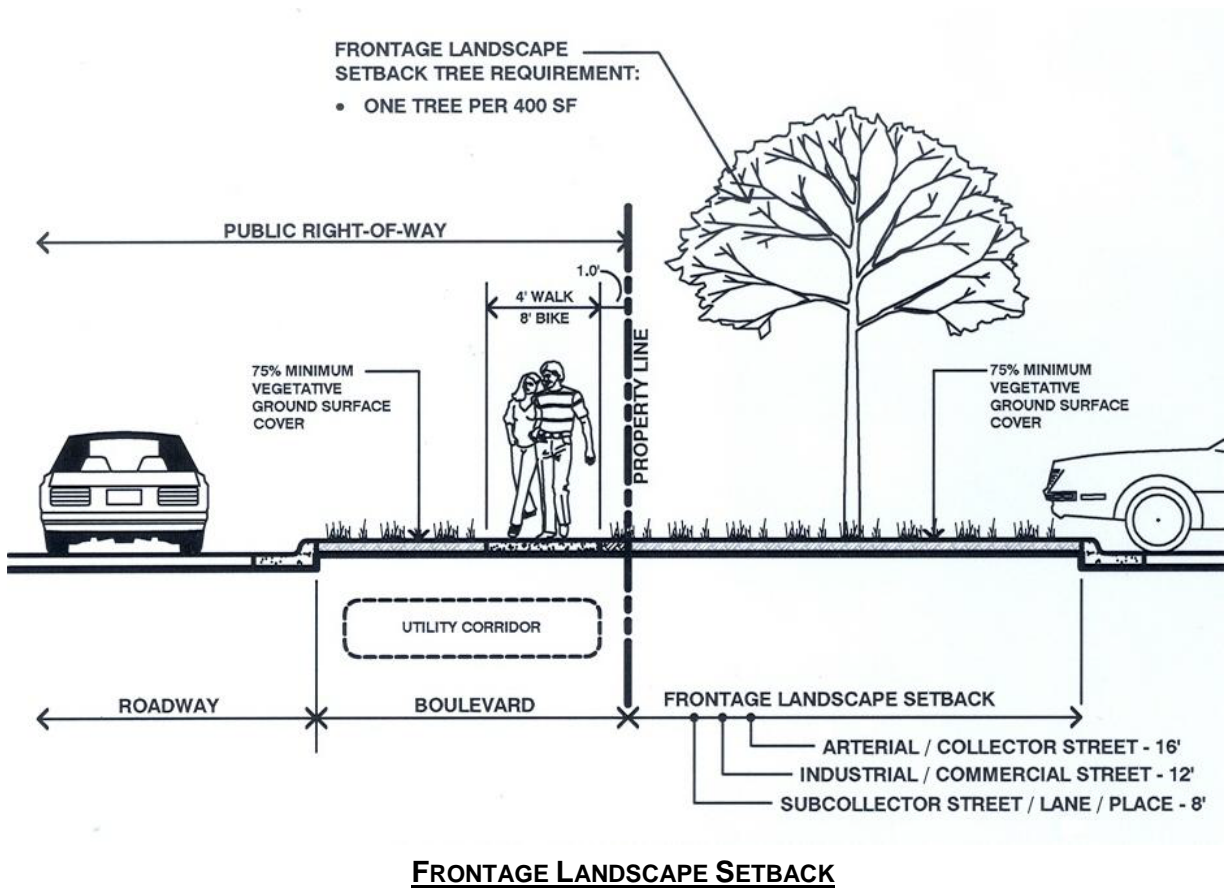
C. Site Category Requirements.

1. Frontage Landscape Setbacks:

- a. Frontage landscape setbacks are landscape areas parallel to adjacent street rights of way. Frontage landscape setbacks are required wherever buildings are not located. Landscaping shall consist of required trees, screening vegetation, fences, walls, berms, and ground surface cover, and shall be subject to **§17.50.300 B General Landscape Requirements** and the following conditions and requirements:

- 1). The required minimum depth of the frontage landscape setback shall be determined by the classification of the adjacent street as designated by the **City of Rapid City Street Design Criteria Manual**. Minimum setback depths shall be measured from the property line.

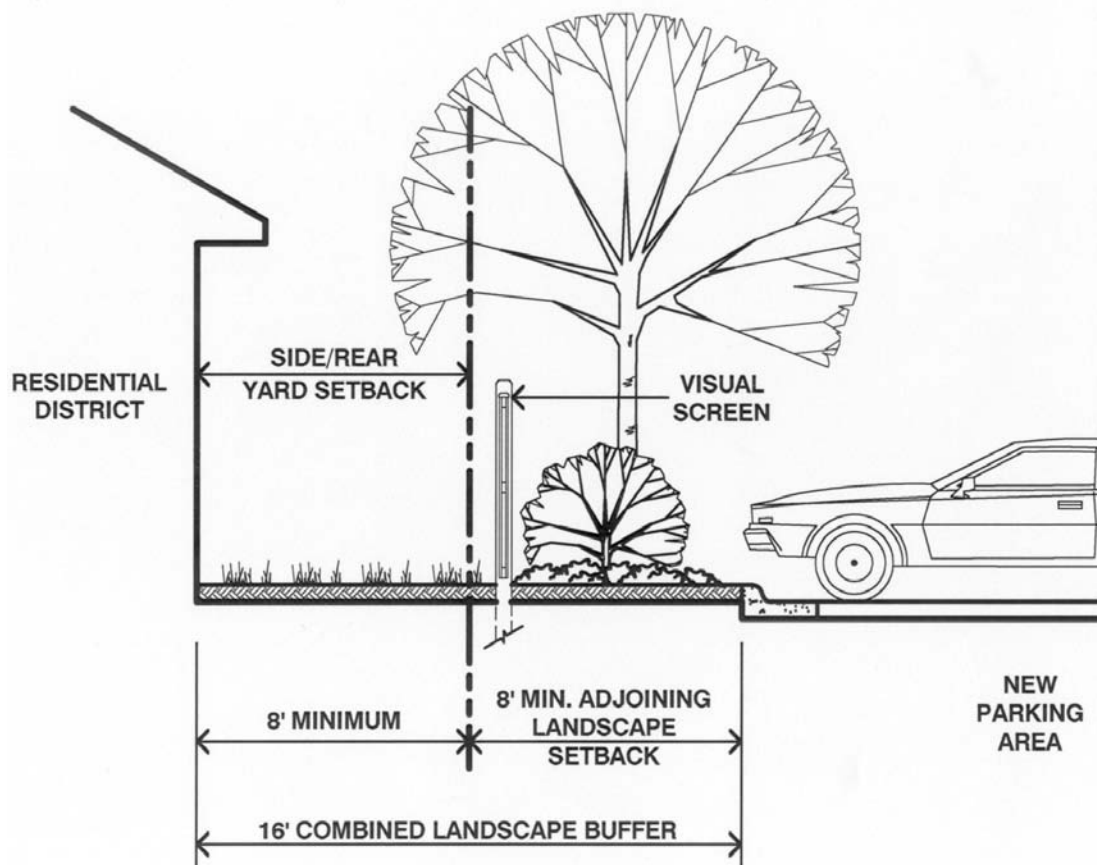
FRONTAGE LANDSCAPE SETBACK	ARTERIAL STREET	COLLECTOR STREET	INDUSTRIAL/ COMMERCIAL STREET	SUB-COLLECTOR STREET LANE/PLACE
Required Depth	16'	16'	12'	8'



- 2). No parking areas shall be permitted in the frontage landscape setback.
- 3). Driveways for access are allowed to cross the frontage landscape setback.
- 4). Fences and walls in the frontage landscape setback shall comply with **Chapter 15.40 Fences and Walls**, and the screening criteria of zoning districts as regulated in **Title 17 Zoning**.
- 5). One (1) tree per four hundred square feet (400 SF) of frontage landscape setback is required. The square footage shall be calculated as the linear frontage times the setback depth.
 - a) Trees provided to meet frontage landscape requirements may not be used to meet parking area landscape requirements.
 - b) Where a calculation of a requirement results in a fractional number (such as 14.2 required trees), the requirement shall be considered the next greatest whole number of trees.
 - c) Trees may be clustered in groups or placed individually according to site layout and design.
 - d) Existing trees located in the landscape frontage setback and/or boulevard may be used to meet tree requirements of the frontage setback.
- 6). Trees may be substituted with shrubs and ornamental grasses as follows:
 - a) Twenty-five percent (25%) of the required trees may be replaced with shrubs and ornamental grasses as follows;
 - b) Ten (10) shrubs shall be provided for each tree that is replaced; and
 - c) Two (2) ornamental grass clumps shall be provided for each shrub.
- 7). The required landscape setback trees may be located, in part or in total, in the adjacent boulevard subject to approval by the Urban Forester as regulated in **§12.40.080 Street Trees** and, in the case of a State or Federal Highway, approval by the South Dakota Department of Transportation (SDDOT) Area Engineer.

2. Adjoining Landscape Setbacks:

- a. Adjoining landscape setbacks are landscape areas located along side and rear property lines. Adjoining landscape setbacks are required wherever buildings are not located. Landscaping shall consist of screening vegetation, fences, walls, berms, and ground surface cover, and shall be subject to **§17.50.300 B General Landscape Requirements** and the following conditions and requirements:



ADJOINING LANDSCAPE SETBACK

- 1). The required minimum width of an adjoining landscape setback is eight feet (8').
- 2). Trees and other screening vegetation are generally not required in the adjoining landscape setback; however, nothing herein shall limit the ability of the Planning Commission or City Council to require the installation of trees and other vegetative screening for planned development and conditional use permits.
- 3). No parking areas, driveways, loading zones or other vehicular use areas shall be permitted in the adjoining landscape setbacks. However, a perpendicular crossing of the adjoining landscape setback may be allowed for driveway access.

- 4). Fences and walls in the adjoining landscape setback shall comply with **Chapter 15.40 Fences and Walls**, and the screening criteria of zoning districts as regulated in **Title 17 Zoning**.

3. Parking Areas – General Requirements:

- a. Landscape areas shall be provided within and/or adjacent to all parking areas. Landscaping shall consist of required trees, screening vegetation, fences, walls, berms, and ground surface cover, and shall be subject to **§17.50.300 B General Landscape Requirements** and the following conditions and requirements:
 - 1). Landscaping adjacent to the parking area shall be located within 8 feet (8') of the parking area perimeter.
 - 2). Landscaping shall be protected from damage by vehicles with concrete curbs, concrete wheel stops, walls, fences, or bollards.
 - 3). Landscape islands shall be a minimum two hundred forty square feet (240 SF) in area and eight feet (8') in any dimension.
 - 4). A minimum of one hundred twenty square feet (120 SF) of planting space shall be provided per tree.
 - 5). One (1) tree shall be provided for every ten (10) vehicular spaces or fraction thereof.
 - a) Trees provided to meet parking area landscape requirements may not be used to meet frontage landscape setback requirements.
 - b) Where a calculation of a requirement results in a fractional number (such as 14.2 required trees), the requirement shall be considered the next greatest whole number.
 - c) Trees shall be placed throughout the parking area and around its perimeter in order to mitigate negative effects on adjacent property.
 - d) Additional trees and other screening vegetation may be required at the discretion of the Planning Commission or City Council for planned development and conditional use permits.
 - e) Existing trees located within the parking area interior or within eight feet adjacent to the perimeter of the parking area may be used to meet tree requirements.

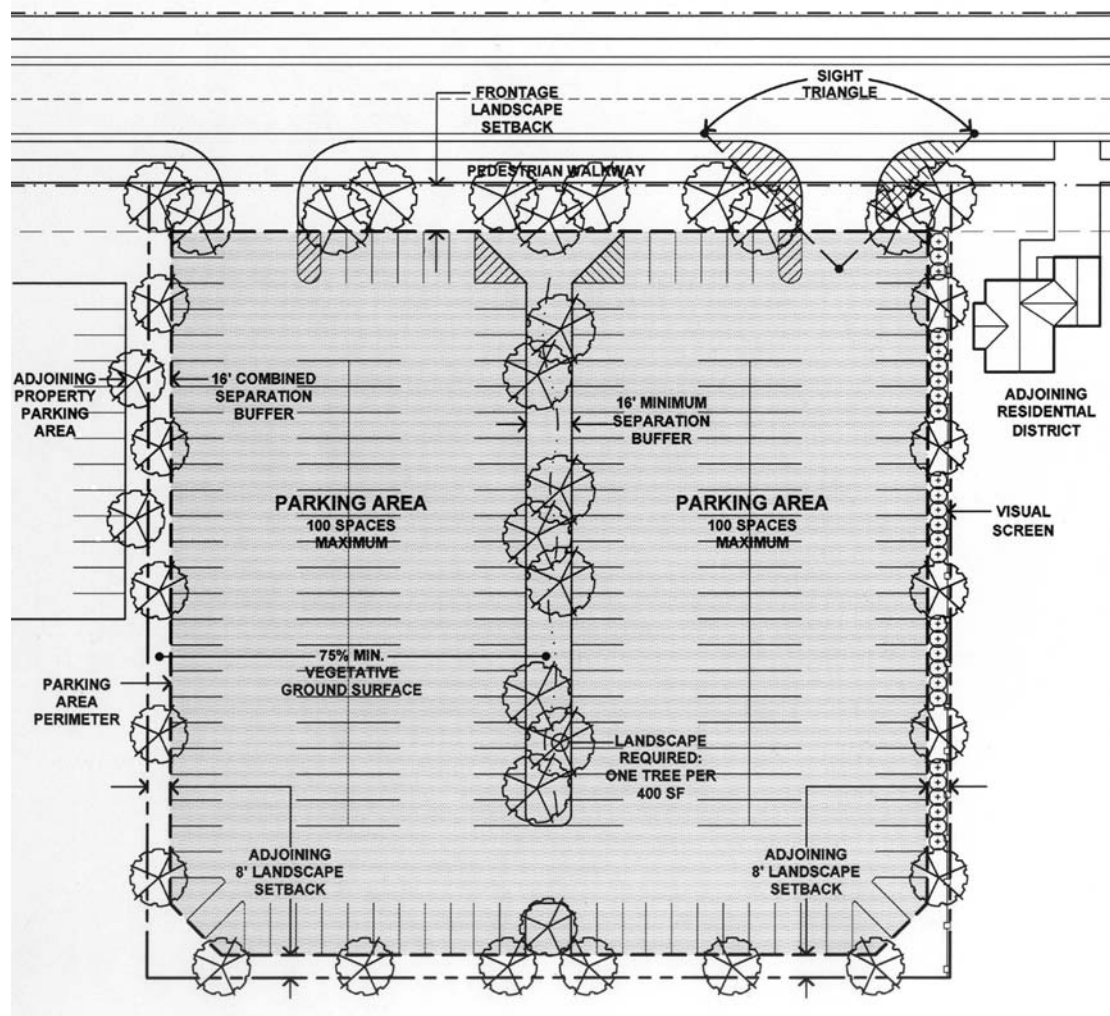
4. Parking Areas Greater than 100 Vehicular Stalls:

- a. Large parking areas shall be subject to all provisions of **§17.50.300 C 3 Parking Areas General Requirements** and shall comply with either of the two (2) following options for interior landscape requirements:

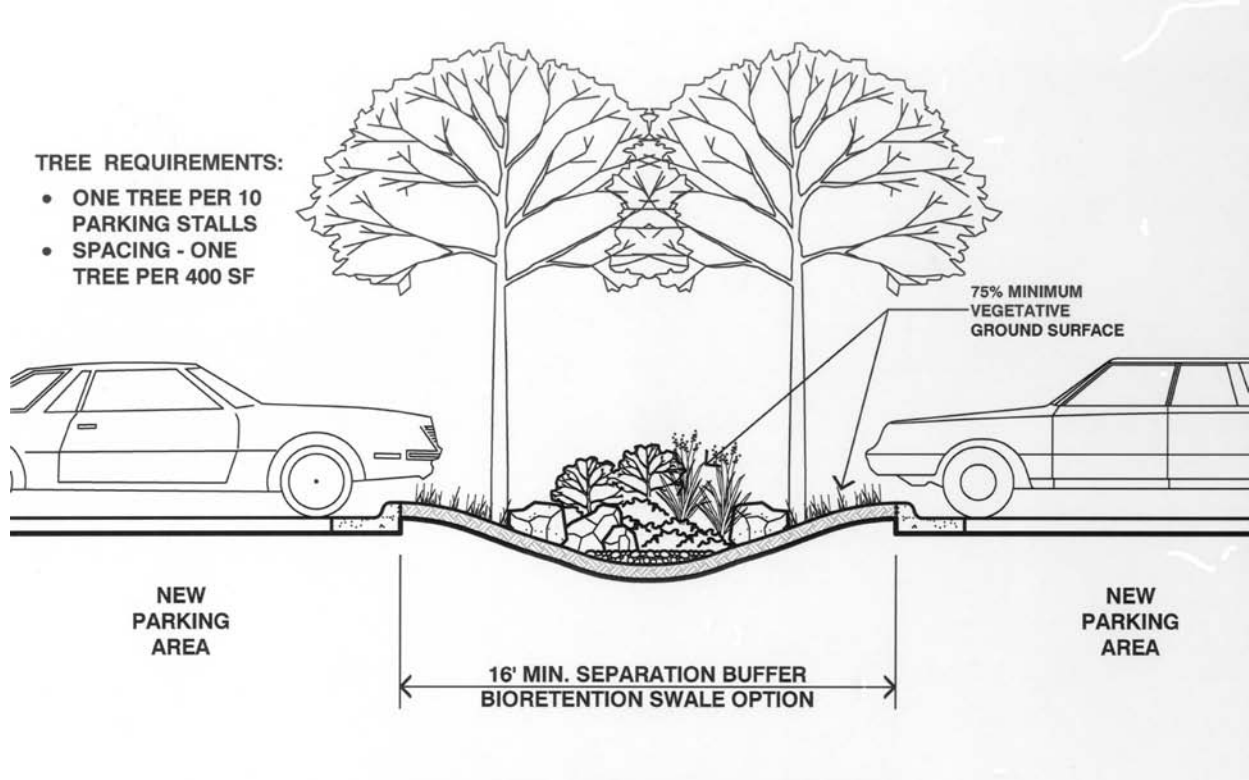
- 1). **Option 1:** Parking lots shall be divided into smaller parking areas not to exceed one hundred (100) stalls by a separation buffer(s).

a) The minimum width of a separation buffer shall be sixteen feet (16').

b) A portion of the required parking area trees shall be located in the separation buffer at a minimum rate of one (1) tree per four hundred square feet (400 SF) of separation buffer.

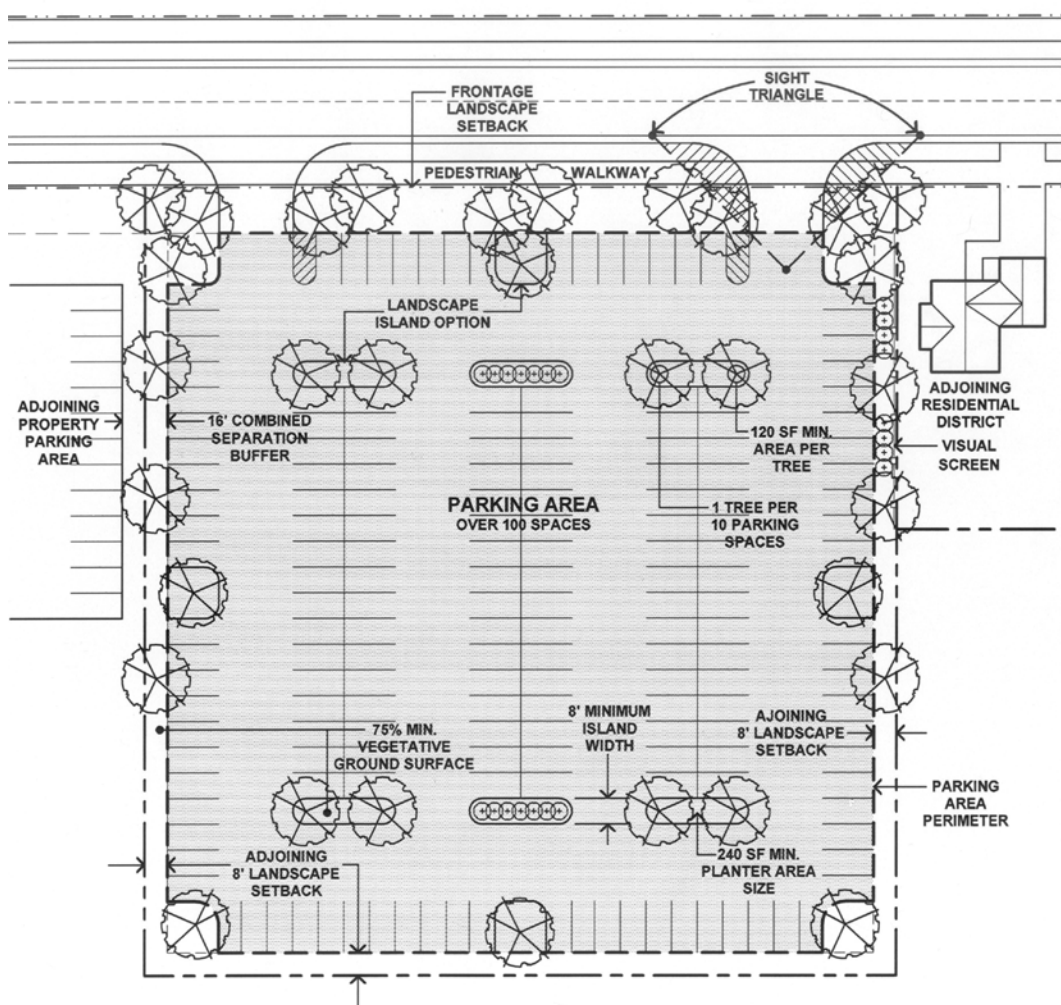


LARGE PARKING AREA – OPTION 1



PARKING SEPARATION BUFFER

- 2). **Option 2:** Landscape peninsulas and islands equal to five percent (5%) of the square footage of parking area shall be distributed within the lot.
- Square footage calculation of the parking area shall include vehicular stalls and circulation aisles. Designated loading/unloading zones shall not be included in the calculation.
 - Consolidated landscape peninsulas and islands may be considered when such islands provide a greater benefit including, but not limited to, effective storm water management, improved safety and circulation, enhanced screening and buffering, long-term plant viability and maintainability, and water conservation.
 - A minimum of fifty percent (50%) of the required parking area trees shall be located within the interior landscape peninsulas and islands.



LARGE PARKING AREA – OPTION 2

D. Installation, Verification, and Deferral.

1. All landscape, irrigation, and associated site work shown on the approved landscape and irrigation plans shall be properly installed prior to issuance of a certificate of occupancy.
2. In cases where all or some portion of the work cannot be installed due to seasonal conditions, unavailability of materials, or other unforeseen situations, the owner may post surety in a form accepted by the City Attorney in order to secure a temporary certificate of occupancy. The owner shall provide the Growth Management Department a description of the uncompleted work and an estimate of the cost required to complete the same. The surety shall equal one hundred twenty percent (120%) of the estimated cost. All work on the approved landscape and/or irrigation plan shall be completed within seven (7) months of the issuance of a temporary certificate of occupancy.

E. Maintenance.

1. Landscape maintenance shall be subject to ***§12.28 Weeds and Noxious Matter, §12.40 Trees***, and the following conditions and requirements:
 - a. The landowner shall be responsible for all regular and normal practices of landscape maintenance including, but not limited to, weeding, irrigation, fertilizing, pruning, and mowing. Plant materials that exhibit significant levels of insects, pests, diseases and / or damage shall be appropriately treated or replaced.
 - b. All dead plant materials shall be removed and replaced during the same growing season that death occurs with living plant materials according to the approved landscape plan. If death occurs late in the growing season, plants may be replaced during the following spring.
 - c. Vegetation shall be maintained so as to mitigate hazards including, but not limited to, the spread of wildfires, slope failures, soil erosion, and flooding.
 - d. Landscaping within public rights of way shall be maintained by the adjacent landowner.
2. Irrigation maintenance shall consist of all regular and normal practices of systems maintenance including, but not limited to, winterization, repairing/replacing broken components and leaking pipes, adjusting coverage of sprinklers, spray heads, and drip lines, and adjusting automatic controller watering schedules.

F. Required Plan Submittals and Review

1. When landscape and irrigation plans are required as part of the submittal process for planned development, conditional use permits, or building permit applications, the plans shall contain the information listed in this section.
2. All landscape and irrigation submittal requirements shall be met and approved by the City's reviewing authorities prior to issuance of a building permit or conditional use permit, or prior to the approval of final development plan. Requests for minor revisions to an approved landscape or irrigation plan due to lack of product availability or seasonal constraints may be submitted to the Growth Management Department.
3. Documents, through graphic symbols, notes, schedules, and details, shall clearly and completely demonstrate compliance with the Landscape Regulations.

- a. **Landscape Plan:** The document shall provide the following site and landscape information:

- 1). All development including, but not limited to, buildings, parking, vehicular drives, walkways, utilities, service areas, retaining and screening walls, fences, storm water management areas, and grading.
- 2). Natural features including, but not limited to, rock outcrops, waterways, and existing vegetation to be retained.
- 3). Proposed landscape areas and materials.
- 4). All items requested on the Landscape Plan Checklist. Submit completed checklist with Landscape Plan.

✓	LANDSCAPE PLAN CHECKLIST:
	North arrow and notation of scale with bar scale
	Legend for symbols used on plan
	Location, name, and classification of adjacent streets
	Delineation of Frontage Landscape Setbacks including dimensions, square footage, and calculation of tree requirements
	Delineation of Adjoining Landscape Setbacks including dimensions, and when applicable, square footage, and calculation of tree requirements
	Delineation of Parking Areas including dimensions, square footage, number of stalls, and calculation of tree requirements
	Schedule of plants to include quantity, common and botanical name, and installation size. Required trees by site category location shall be separately listed on the schedule.
	Location of proposed plants, drawn at appropriate mature size, labeled by type and quantity
	Location of proposed turf and grass areas, labeled by type

- 5). Specific information, unique to project, as requested by reviewing authorities.

b. **Irrigation Plan:** The irrigation plan shall take into account vegetation types, slopes, microclimates, prevailing winds, expansive or hazardous soil conditions, water infiltration rates, water pressure, and available water sources including non-potable or reclaimed water. The document shall provide the following site and irrigation information:

- 1). All development including, but not limited to, buildings, parking, vehicular drives, walkways, utilities, service areas, retaining and screening walls, fences, and storm water management areas.
- 2). Compliance with **Chapter 15.24 Plumbing Code** when applicable.
- 3). All items requested on the Irrigation Plan Checklist. Submit completed checklist with Irrigation Plan.

✓	IRRIGATION PLAN CHECKLIST:
	North arrow and notation of scale with bar scale
	Legend for symbols used on plan
	Water service location and static water pressure at point of connection
	Irrigation zones labeled and corresponding to hydrozones on the landscape plan
	Mainline and lateral line layout, labeled by pipe size and type
	Location of all equipment such as sprinklers, sprays, drip system components, zone valves, backflow preventors, isolation valves, or other water conservation devices
	Equipment schedule by quantity, part description, model number, and manufacturer

- 4). Specific information, unique to project, as requested by reviewing authorities.

G. Variances

1. The Zoning Board of Adjustment shall have the power to grant variances in accordance with **§17.54.020 Variances**. The following shall be used in determining whether a variance should be granted are as follows:

A *Standards for variances*. In granting a variance, the Board shall ascertain that the following criteria are met:

- 1 Variances shall be granted only where special circumstances or conditions (such as exceptional narrowness, topography or siting), fully described in the finding of the Board, do not apply generally in the district;
- 2 Variances shall not be granted to allow a use otherwise excluded from the particular district in which requested.
- 3 For reasons fully set forth in the findings of the board, the aforesaid circumstances or conditions are such that the strict application of the provisions of this title would deprive the applicant of any reasonable use of his or her land. Mere loss in value shall not justify a variance; there must be a deprivation of beneficial use of land;
- 4 Any variance granted under the provisions of this section shall be the minimum adjustment necessary for the reasonable use of the land; and
- 5 The granting of any variance is in harmony with the general purposes and intent of this title and will not be injurious to the neighborhood, detrimental to the public welfare, or in conflict with the comprehensive plan for development.

B. *Requirements for the granting of a variance.* Before the Board shall have the authority to grant a variance, the person claiming the variance has the burden of showing:

1. That the granting of the permit will not be contrary to the public interest;
2. That the literal enforcement of this title will result in unnecessary hardship;
3. That by granting the permit contrary to the provisions of this title the spirit of this title will be observed;
4. That by granting the permit, substantial justice will be done.

H. Exceptions

1. The Growth Management Director may grant exceptions special cases where there are unusual and practical difficulties or unnecessary hardships created in meeting the requirements of these regulations. Requests for exception shall be subject to the following conditions and requirements:

a. Frontage landscape setback depths may be reduced, but not eliminated.

1). Eight feet (8') shall be the minimum frontage landscape setback.

2). The number of trees required shall be based on the required landscape frontage setback before reduction. The priority for placing the trees shall be: 1) in the frontage landscape setback, 2) in the boulevard, and 3) elsewhere on the property and preferably in view of the public right of way.

b. Adjacent landscape setbacks may be reduced or eliminated. However, requirements for screening or buffering adjacent property, if applicable, shall not be waived.

c. The number of off-street parking spaces as regulated in ***§17.50.270 Minimum Off-Street Parking Requirements*** may be reduced in order to accommodate landscape requirements.

1). Ten percent (10%) of the required parking spaces shall be the maximum reduction allowed. If the formula for determining the reduction off-street parking spaces results in a fraction, the number of off-street parking spaces shall be rounded up to the nearest whole number.

2. A request for exception shall apply to the specific project for which it is requested and does not establish a precedent for assured approval for other requests.

† Definitions

Whenever used in this Chapter, the following words and phrases shall have the following meaning ascribed to them:

BERM: An earthen mound designed to provide visual interest on a site, simulate natural terrain, screen undesirable views, or reduce noise, etc.

BOULEVARD: That portion of the public street right of way typically located between the curb and private property line for which the adjacent property owner has a legal responsibility to maintain for the public good.

CANOPY: The upper vegetative cover of a tree or plant grouping.

DECIDUOUS: A plant with foliage that is shed annually.

EVERGREEN: A plant with foliage that persists and remains green year-round.

GROUND COVER: Plants, other than turfgrass, normally reaching an average maximum height of not more than twenty four inches (24") at maturity.

HYDROZONE: A portion of a landscape area having plants with similar water needs that are either not irrigated or irrigated by a circuit or circuits with the same schedule.

IRRIGATION PLAN: A two-dimensional (2-D) plan drawn to scale that shows the layout of irrigation components, component specifications, hydrozones, notes, and schedules as required to depict the irrigation design.

IRRIGATION SYSTEM: A permanent, artificial watering system designed to transport and distribute water to landscape plants.

LANDSCAPE ISLAND: A landscape area surrounded on all sides by parking area.

LANDSCAPE PENINSULA: A landscape area bordered on three sides by parking area.

LANDSCAPE PLAN: A two-dimensional (2-D) plan drawn to scale that shows the layout of all landscape components, component specifications, notes, and schedules as necessary to depict the landscape design.

LANDSCAPE SETBACK, FRONTAGE: A required landscape planting area on private property that is adjacent to a street right of way.

LANDSCAPE SETBACK, ADJOINING: A required landscape planting area on private property that is located along side or rear property lines including side or rear property lines adjacent to an alley.

MULCH: Nonliving organic and synthetic materials customarily used in landscapes to retard erosion and retain moisture, and that provide a protective covering around plants to reduce weed growth and to maintain even temperatures around plant roots.

ORNAMENTAL GRASS: A type of grass primarily planted for its decorative value of height, form, foliage, seasonal color, flowers, and seed heads. Typically, the plant is not mowed.

ORNAMENTAL TREE: A tree planted primarily for its decorative value, or for screening and that typically does not exceed a height of twenty feet (20') in Rapid City.

PERENNIAL: A plant that lives for more than two (2) years and resumes growth each growing season from overwintering buds above or below ground.

RAIN SENSOR OR RAIN SHUTOFF DEVICE: A device connected to an irrigation controller that overrides scheduled irrigation when significant precipitation has been detected.

SCREEN: A method of visually shielding or obscuring one adjoining or nearby structure or use from another by fences, walls, densely planted vegetation, or berms.

SHADE TREE: A deciduous (or rarely, an evergreen) tree planted primarily for its high crown of foliage or overhead canopy. A major shade tree at maturity reaches a height of at least 30 feet (30').

SHRUB: A self-supporting woody perennial plant characterized by multiple stems and branches continuous from the base, usually not more than twelve feet (12') in height at its maturity. It may be evergreen or deciduous.

SOIL MOISTURE PROBE: A device connected to an irrigation controller that overrides scheduled irrigation when adequate soil moisture levels have been detected.

STREET RIGHT OF WAY: The area of land designated for streets, sidewalks, utilities, and public use.

STREET TREE: A tree planted in the street right of way (boulevard) between the curb or edge of road and the adjoining property line to provide shade, spatial definition, and human scale, and to enhance the street environment.

TREE: A large, woody plant having one or several self-supporting stems or trunks and numerous branches. It may be classified as deciduous or evergreen.

TURF/TURFGRASS: Continuous plant coverage typically consisting of hybridized introduced or native grasses that, when regularly mowed, form a dense growth of leaf blades and roots.

VEGETATION: Plants in general or the sum total of plant life in an area.