



Landscaping Design, Buffering and Screening

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LANDSCAPE DESIGN, BUFFERING AND SCREENING

Residents of Surprise desire a greater quality, quantity and variety of landscaping in new residential and non-residential developments. There is particular interest in preserving existing mature trees; and in having standards that require the planting of a greater number of more mature trees, shrubbery, accent plants and other vegetation in new developments to provide an established landscape appearance and character upon opening of a new development. Residents also desire the utilization of thoughtful landscape design, buffering and screening techniques to enhance existing neighborhood and commercial areas, and to preserve existing landscape image and character assets of the City. The following guidelines focus on providing landscape design, buffering and screening techniques and approaches that will encourage:



- a higher quality of landscaping for new residential and non-residential development;
- the softening of the visual harshness of large surface parking lots;
- environmental enhancement of existing neighborhoods and commercial areas;
- water conservation through the use of drought-tolerant plant materials;
- reduction in air and noise pollution, sun glare, and heat radiation;
- energy conservation within structures; and
- the overall enhancement of the quality, character and image of the City.



Intended to promote the general health, safety and welfare of Surprise residents, landscaping, as presented in this section of the Planning and Design Guidelines Manual, is defined as the collective use of drought-tolerant trees, shrubbery, ancillary plant materials and vegetation, decorative walls, earthen berms, fencing, rock, stone or other hardened materials, lighting and irrigation systems to create a setting for a development, and to define its character and image in the community. The extensive use of landscaping throughout the City, along streets and in large surface parking areas, will contribute significantly to the formation, organization, reinforcement and implementation of the total community open space system and contribute significantly to the visual quality and continuity within and between developments and along street corridors.



LANDSCAPE DESIGN - *These guidelines are to be applied throughout the City; and should guide developers and their design staffs in preparing master landscape plans for residential and non-residential development sites. Emphasis is placed upon ways in which landscaping of new and existing developments can be provided in a balanced manner, yet maximized to assure that the landscaping is consistent with the environmental quality and community character desired by the City of Surprise.*

GENERAL LANDSCAPE DESIGN GUIDELINES

- Landscape design should be an integral component of any new development project, and should be maximized and balanced throughout the development site.
- New development should comply with the City of Surprise’s comprehensive master tree planting plan consisting of a list of desired and suitable tree species for each type of residential and non-residential street; and setting forth tree placement and size criteria for all plantings along streets and within medians.

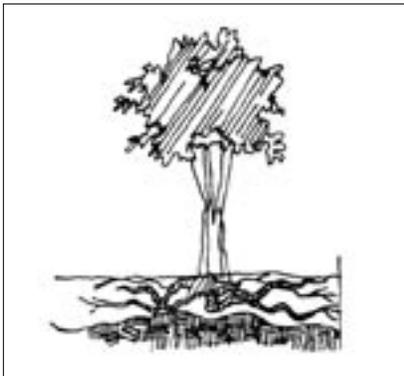


figure 6.1: Select Tree Species That Can Adapt to Desert Environment

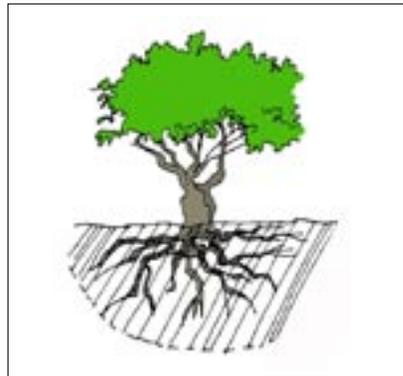


figure 6.2: Provide Adequate Root Zone



figure 6.3: Provide Water Basin Around Trees:

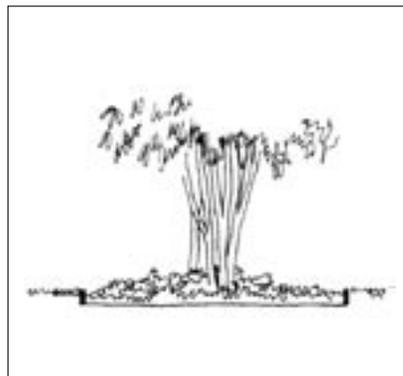


figure 6.4: Plant Ground Cover Within Dripline

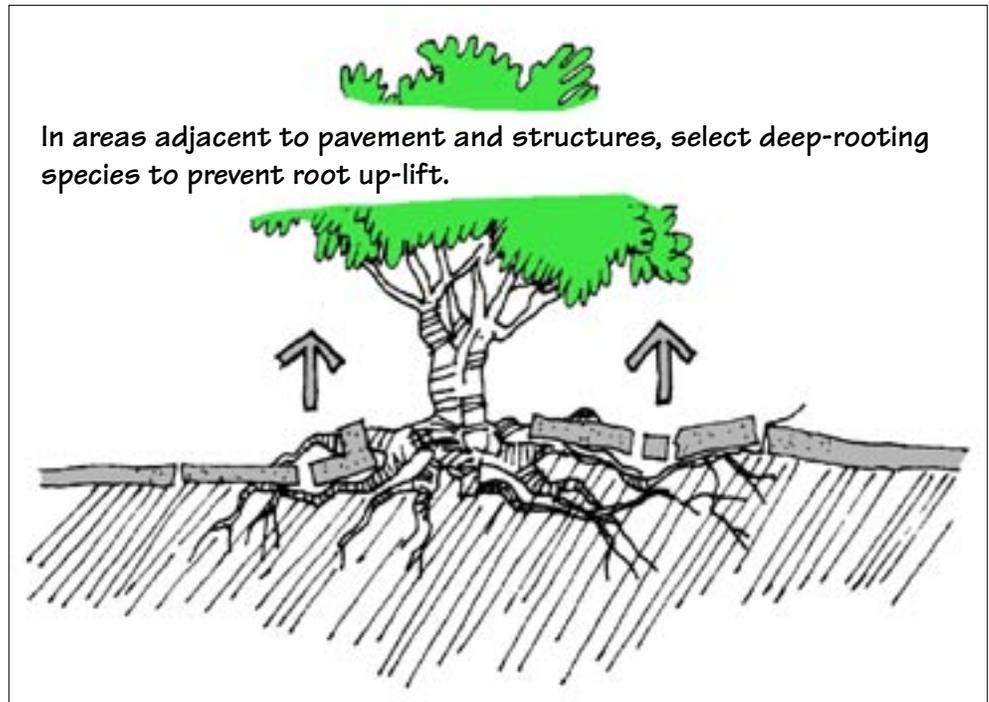


figure 6.5: Avoid Tree Planting Without Providing Deep Root Barriers

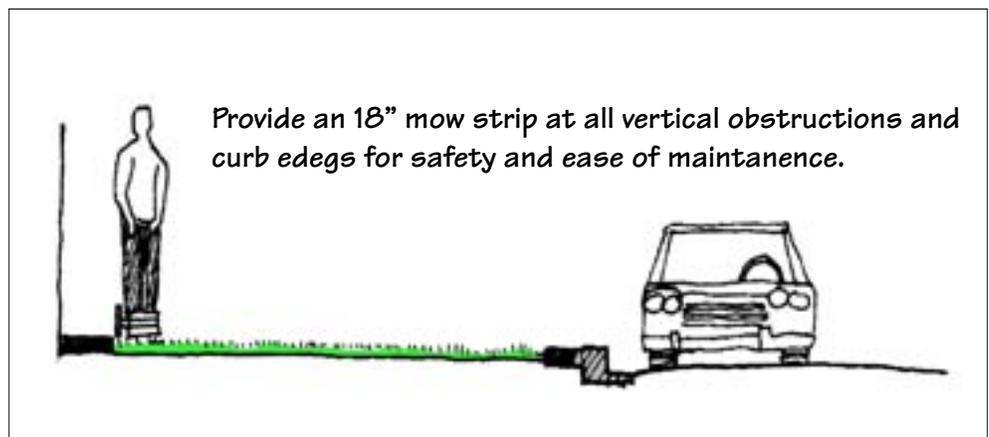


figure 6.6: Provide "Mow Strips" for Easier Maintenance



figure 6.7: Provide Growth Strips in Medians for Easier Maintenance

- A landscape master plan should be submitted with every new residential or non-residential development project, and should include a certified, automatic irrigation plan that complies with City of Surprise water utilization and conservation guidelines, and clearly depicts methods of irrigation.
- Landscape design should respect existing topographic and landscape attributes of a new development site, including existing mature trees on the site; and, at the same time, respond to the character and thematic environment created by surrounding areas and facilities.

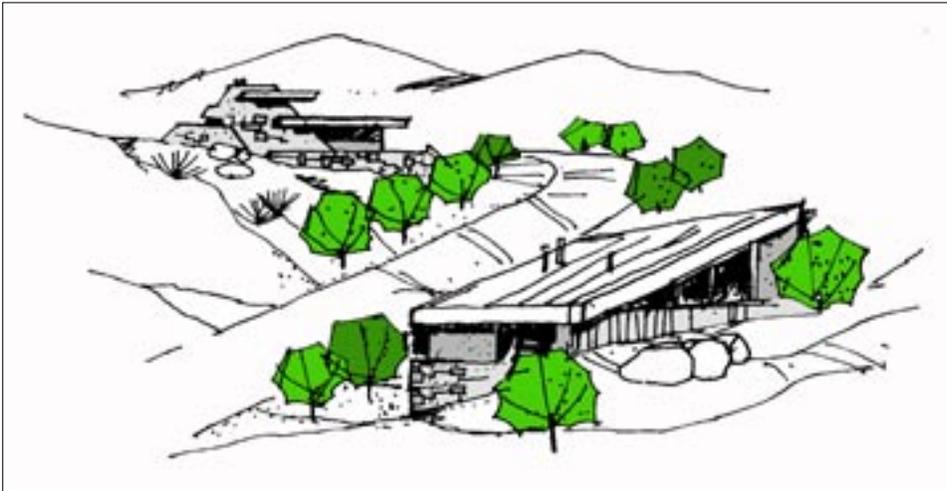


figure 6.8: Respect Existing Topography and Nature Vegetation

- Landscape design should be recognized as an important way by which a new project can be woven into the existing fabric of a neighborhood and the community; and the means by which existing developed areas of the City can be upgraded.
- Required landscaping for a development, should be installed in proportion to the construction phasing of the project, particularly when the project is adjacent to or across the street from any residential uses.
- New residential and non-residential developments should look “established” as quickly as possible by planting trees that are more maturely developed.
- In order to avoid over- or under-planting, excessive or inefficient maintenance and water practices and biotic conflict with other plant structures, the selection of plant materials, and how they are placed on a site, should be based upon the plant’s ability to acclimate to the desert environment.





- Landscaping should consist of a combination and diversity of tree and shrubbery types that can be intermixed to achieve a complementary and thematic landscape design for a project or thoroughfare.
- The use of sod/turf is discouraged in public medians and in other public rights-of-way, except as an integral part of a total landscape design developed to accent special areas.
- Palm trees should only be used for accent in executing a particular design theme, and should not be used to satisfy tree requirements for shade and visual screening purposes.
- Trees that produce large canopies and provide shade, as well as pines and other non-deciduous evergreen-type trees that provide dense screening and height, are especially encouraged.
- When planting trees, their spacing should be done in a manner that not only ensures their long-term health and growth, but also creates imagery and character for the City of Surprise.



- Placement of trees within a development, or along the public right-of-way, should be based upon a well-conceived spatial design pattern that incorporates a variety of placement approaches and appropriate locations; including the use of random clusters of trees where the clusters are spaced no more than thirty-five (35) feet apart, grid patterns and formal alignments of single and double rows of trees.
- Trees and other plant materials should be planted on a development site, along street rights-of-ways and in street medians in a manner that will maximize their ability to contribute to the reduction of air and noise pollution, sun glare and heat radiation.



figure 6.9: Provide Random Cluster of Plant Materials

- Trees and shrubbery, as well as accent, color or ground cover planting should be done in groupings and clusters to create strong accent points and highlight major entries to developments.

- Landscaping for new developments, especially in parks and along roadways, should be designed, located and maintained in a manner that provides visually clear, open, safe and secure landscape settings for passing pedestrians and bicyclists, building entries and surrounding areas.
- Landscaping should be sized and located to highlight and give definition to key crossroads, plazas, major pedestrian routes, and site and building entry points.

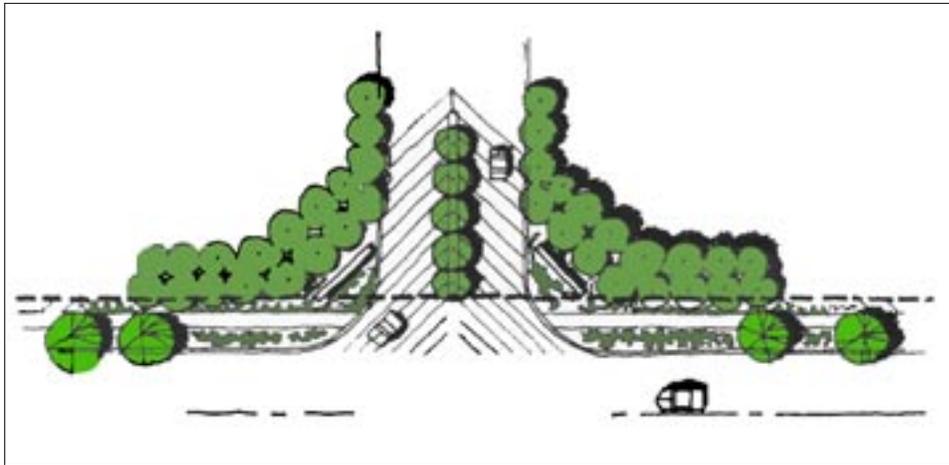


figure 6.11: Trees, Shrubbery and Parking Define Major Entries

- Landscaping should be used to provide thematic and visual continuity at major arterial street intersections, with tree plantings located in a manner to provide accent, consistency and definition to the street intersection.
- The indiscriminate use of plant species and spacing creates a disorganized streetscape image and should be discouraged.
- Different tree species, location and spacing should be used to enhance streetscape design and to define and identify the hierarchy of streets throughout the City.
- Landscape design and placement of landscape materials should deliberately influence pedestrian movement on a site, and should serve as a critical means of orienting and guiding pedestrians as they move through a site from parking areas, drop-off points and transit stops to the entrances of destination buildings.
- Dense landscaping, combined with architectural treatments, should be provided to screen unattractive views and features such as storage areas, trash enclosures, railroad sidings and yards, junk and wrecking yards, transformers, generators, heavy mechanical equipment and other similar eyesores.





- Electrical transformers, backflow prevention devices, large water standpipes, telephone panel boxes and any other obtrusively large electrical or mechanical device that is installed as a part of, or results from, a new development project should be located out of sight to the rear of the project site; and heavily screened from view through the use of landscaping and/or screening walls, or by placement underground. Where such devices currently exist at the front of a site, they should be screened by substantial landscaping and/or an architectural barrier.

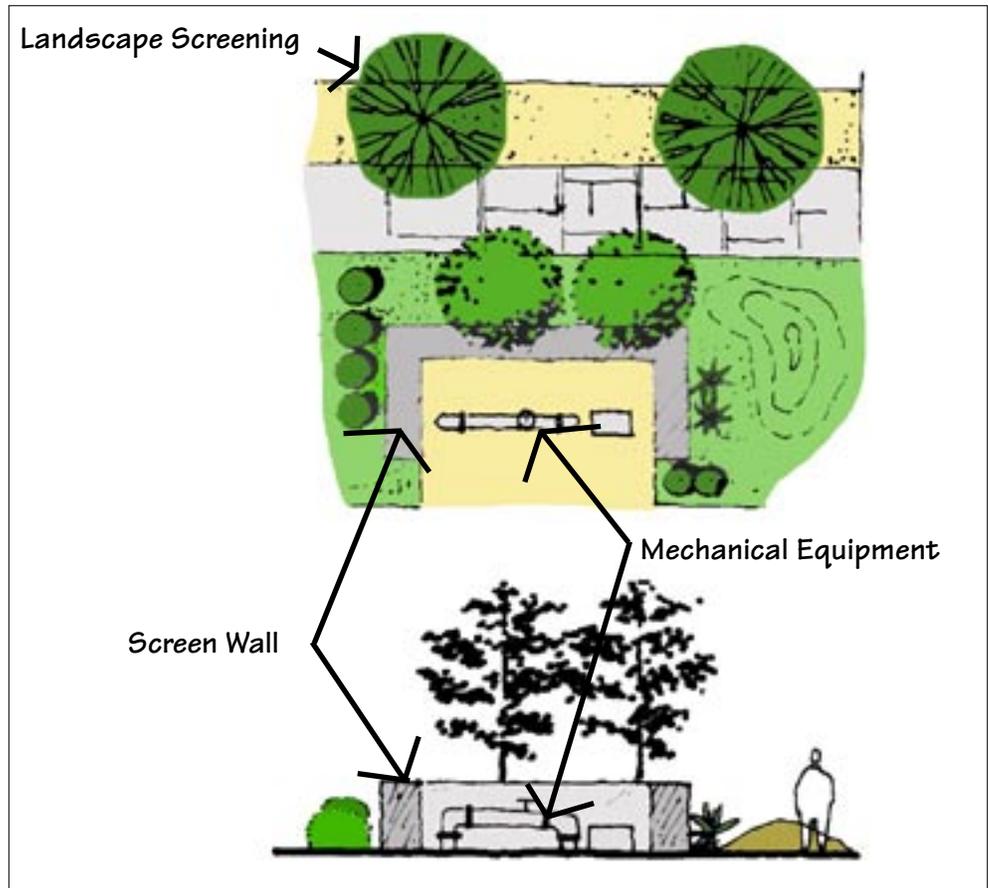


figure 6.13: Screening Techniques

- The combined use of planting materials and such architectural treatments as brick paving, articulated masonry walls, covered walkways, arbors and colonnade structures is strongly encouraged, provided it is done in a manner that is integral to the design of the project and enhances the overall development.
- Bare soil as part of a landscape element should not be permitted in any new development project, and dead vegetation should be promptly removed and replaced with healthy, living plant material.
- Emergency vehicles should not be impeded by landscape features of a site.

- All landscaping should be properly maintained by property owners and Homeowner Associations, except in and along those public rights-of-way and easements where the City of Surprise has agreed to provide maintenance.
- Existing and future landscaped areas must be properly maintained in accordance with standards set forth in the City of Surprise approved Landscape Plan.

LANDSCAPE GUIDELINES FOR RESIDENTIAL DEVELOPMENT

The following guidelines address landscaping in single family and multi-family residential developments. The guidelines focus on types of planting materials and landscape techniques that contribute to the creation and enhancement of the character and image of new residential developments.

Single Family Residential

- Entries to large planned residential developments and the edges of their perimeter roadways should have a “mature”, formal landscape treatment that combines layered plant materials consisting of trees, shrubbery, annual and perennial flowers, and ground cover; with such additional features as earth berms, possible water elements, decorative gates and structures, trellis work, lighting and signage.
- Plant materials should be integrated with entry monuments; and frame or provide a visual base for entry signs.
- The massing, spacing, grading and height characteristics of plant materials should complement the hierarchy of streets in a development, provide a variety of visual and open space experiences, and present an “established” and “mature” feel and appearance to the development.
- Median-divided arterials and collectors serving new developments should be lushly landscaped and consist of continuous clusters of low-maintenance, drought-resistance plant materials, tall canopy trees, street lighting and a drip irrigation system.
- Residential developments with local streets that have curb-separated sidewalks should contain in the planting area between the sidewalk and curb, a minimum of one (1) forty-eight (48) inch box, canopy-type shade tree with three (3) inch caliper for every twenty (20) linear feet of street frontage; as well as clusters of other plant materials as shrubbery and ground cover The use of palm trees to satisfy tree requirements in curb-separated planting areas should be discouraged.





- Where lot widths in a residential development are sufficiently wide, the clustering of shade trees within the curb-separated planting area should be permitted, provided the spacing between tree clusters does not exceed thirty-five (35) feet; and at least three (3) shade trees are located within a radius of forty-five (45) feet.
- The use of trees that produce fruit or seed pods, or that have a weak, fragile, branch structure that is susceptible to heavy winds or rain, should not be planted in street medians and curb-separated sidewalk areas.
- Residential landscape packages for each individual lot should incorporate specific planting plans that reflect the character and theme of the neighborhood; as well as the compatibility with, and connectivity to, adjoining lots.
- The number of plant materials allocated to an individual lot and reflected in a planting plan should be based upon the size of the lot, and whether or not the lot has a landscaped curb-separated sidewalk. The larger the lot, the greater the number of plant materials that should be provided over and beyond the minimum landscape package.
- For each individual single family lot in a new residential development, and for a residential infill lot in an existing neighborhood, a basic front and backyard landscape package should be provided that consists of a minimum of:
 - four (4), twenty-four inch (24”) box, canopy-type, shade trees;
 - a minimum mixture of forty (40) plants consisting of one (1), five (5) and fifteen (15) gallon shrubs of different varieties;
 - ground cover, including sod/turf;
 - various porous rock and/or decomposed granite materials; and
 - an irrigation system(s) appropriate for the plant material used.
- Basic front and backyard landscape packages should apply to all minimum lot sizes in a development.
- For individual lots in a development having landscaped curb-separated sidewalks, the front yard planting plan should include placement of at least one (1) canopy-type shade tree and a minimum of ten (10) shrubs.
- Backyard landscape packages for individual lots should be required to soften the harshness of continuous rows of rear facades of homes; and to contribute to the visual enhancement and continuity of the community.



figure 6.15: Rear Area Landscaping as an Effective Screen for Backyards



- The backyard landscape plan should provide options for placement of plant materials and irrigation systems to permit the later addition of a swimming or lap pool and/or other recreational improvements to the backyard.

Multi-Family Residential Development

- Entries to multi-family residential developments should provide an extensive, “mature appearance” with a formal landscape treatment that combines multi-layered plant material, monument signage, water features, earthen berms, and lighting.
- Entryway landscaping should be sized and placed so as not to obstruct vehicular or pedestrian lines of sight.
- Plant materials should be integrated with entry monument signs; and frame or provide a visual base for entry signs.
- In order to achieve an “established” and “mature” appearance for new multi-family development, as well as provide connectivity to adjoining community open space areas, a densely treed landscaped strip of mature trees and plant materials, at least seventy-five (75) feet wide, measured from the back of the street curb line, and running along the entire frontage of a new multi-family development, should be required.
- Where applicable, the landscaped strip should integrate multi-purpose pathways for pedestrian and bicycles into the landscaping.
- Trees, shrubs and ground cover to be planted in street set back areas, as well as front, side and rear yards of multi-family developments should consist of a mixture of twenty-four (24) inch, thirty-six (36) inch and forty-eight (48) inch box trees with three (3) inch caliper, with five (5), ten (10) and fifteen (15) gallon shrubs and ground cover.
- At least fifty (50) percent of all trees planted in multi-family developments should be forty-eight (48) inch box trees or larger with three (3) caliper.

- The rear and side yards of all multi-family residential developments should contain a continuous, heavily landscaped buffer area having a minimum width of twenty (20) feet and containing mature, dense foliage and plant materials to provide visual screening between adjacent uses.
- New multi-family development should have continuous, landscaped open space areas running through and among building units and parking pods that contain clusters of different types of drought-resistance shade trees, shrubbery and other plant materials; as well as grassy active and passive recreation, seating and barbeque areas, with architectural lighting consistent with the character of the development
- Parking in multi-family residential developments should be provided in interconnected, clustered parking pods that are heavily landscaped extensions of the development’s open space system.
- Carport parking areas that are detached from the building unit should be densely landscaped and screened from external views of the site.

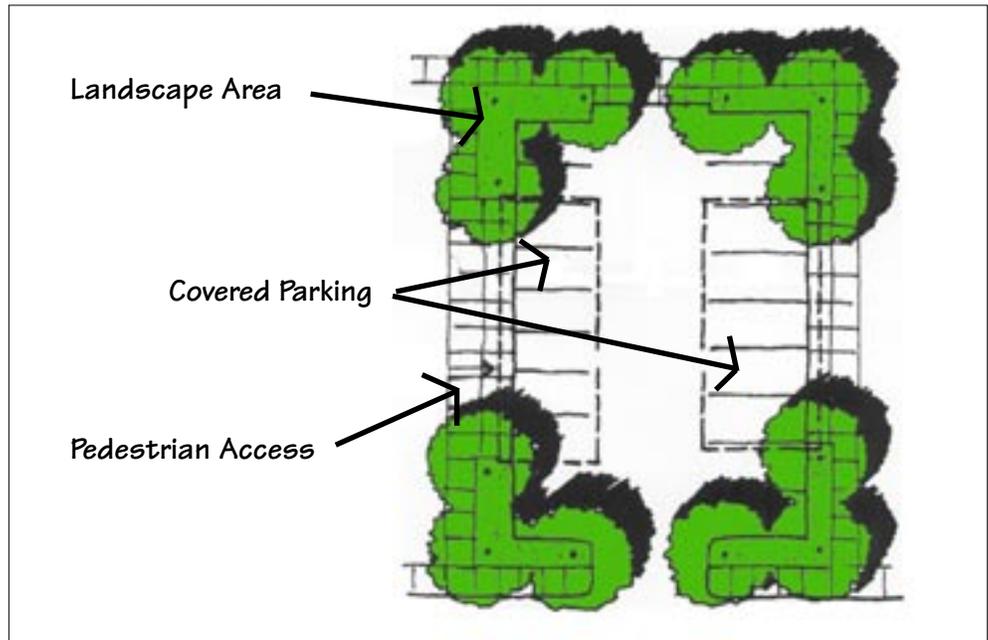


figure 6.16: Carport Screening

LANDSCAPE GUIDELINES FOR COMMERCIAL/OFFICE/BUSINESS/INDUSTRIAL PARK DEVELOPMENT

The following landscape design approaches and techniques are intended to assist existing and potential commercial, office, business park and industrial park property owners and developers in preparing landscape plans and designs that, when implemented, will: provide a “mature” and “established” look upon the opening of the development; enhance and be compatible with adjacent uses and neighborhoods; and reflect the quality, character and image of development desired by the residents of Surprise.

- A master landscape plan should be provided for every commercial, office, business park and industrial park development detailing: location and type of on-site and street right-of-way landscaping, retention areas, permanent water features, proposed irrigation systems, architectural lighting, signage, existing tree preservation techniques and guarantees; and any existing and proposed obstructions such as street lights, meters, backflow devices, utility covers, transformers and similar objects that may affect plant placement and installation limitations.
- Trees and other plant materials to be used in a development should be drought-resistance in order to minimize water usage; and should have root growth habits that will not cause damage to sidewalks and other paved surfaces.
- New trees in commercial, office, business park and industrial park developments should be selected that will contribute to energy conservation within structures on the site.
- In order to create a more “established” appearance for new development, the planting of new trees that are older and better developed are preferred over smaller, underdeveloped saplings.

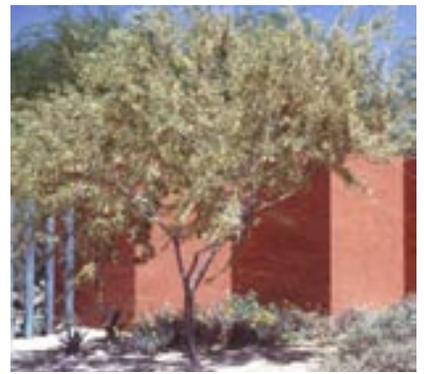


figure 6.18: Planting of More “Established” Trees Add to the Appeal of New Developments

- A mixture of twenty-four (24) inch, thirty-six (36) inch, and forty-eight (48) inch box trees with a minimum three (3) inch caliper; along with five (5), ten (10) and fifteen (15) gallon shrubs and ground cover, should be used for all commercial, office and business and industrial park development.
- Fifty (50) percent of all trees planted as part of the internal portion of a commercial, office and/or business/industrial park development site, especially in and around parking clusters and along the development’s perimeter road in the street right-of-way, should be composed of forty-eight (48) inch box , non-fruit bearing, canopy-type shade trees and evergreens, having a minimum calper of three (3) inches.

- Primary entryways to major commercial retail and office developments, as well as industrial or business parks, should have “mature appearing” formal landscape treatment that combines monument identification signage with layered plant materials consisting of trees, shrubs, flowers, ground cover, earth berms and lighting.
- All plantings and signs should be sized by growth height and placed to preserve vehicle and pedestrian lines of sight at entry drives, and to avoid screening of street light and traffic control devices.
- A heavily landscaped area of seventy-feet (70’), extending from the back of the curb line, and consisting of trees, shrubbery, earth berms and other landscape materials, should be provided around the perimeter of all commercial, office and industrial sites, except in those areas of the City designated as higher density urbanized gateway centers where “architecture forward” is encouraged and buildings are encouraged to be placed along the street right-of-way line.

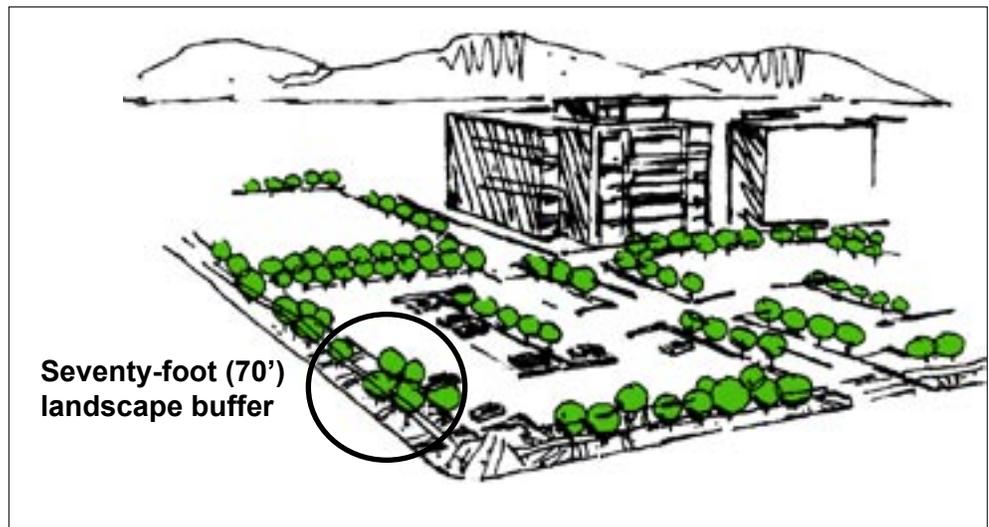


figure 6.18: Screen parking from Street View



- Outside main plazas and major pedestrian ways, trees should be planted and massed informally into large groupings to provide variation in open space character.
- The use of vines and/or other types of foliage, should be considered as a means by which large expanses of horizontal or vertical building surfaces comprised of a single material can be visually segmented and/or interrupted.
- The use of flowering plants, arbors, trellises and container plantings throughout a development is encouraged.

- Decorative plant containers of various sizes should be utilized as landscape accents to enhance sidewalk shops, arcades and outdoor dining areas.
- Landscaping within both public and private courtyards and atriums should include a balance of hard and softscape materials, as well as shaded seating areas, fountains and decorative plant containers.
- In commercial, office and business/industrial park developments where there is high pedestrian activity, the inclusion of landscaped plazas, courtyards, gardens and atriums as part of the site and building design are strongly encouraged.

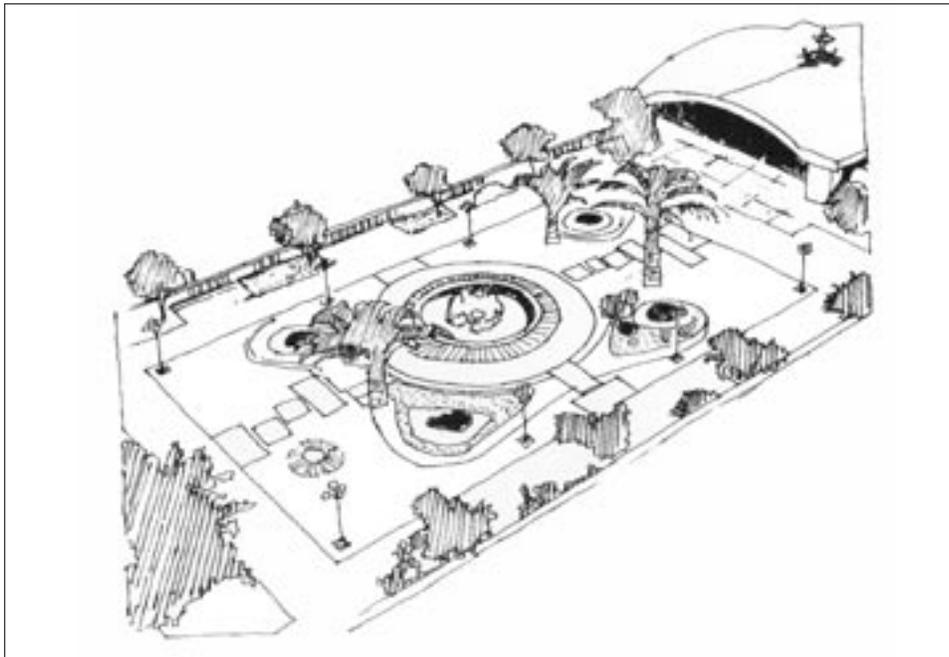


figure 6.19: Provide Variety and Interest in Landscaping and Materials



- All trees in paved areas should have “deep root” barriers and tree wells with automatic irrigation and metal grates.
- Landscaping in parking lots serving commercial, office and business/ industrial park developments should: accent the importance of entryways from the adjoining street; frame the major circulation aisles and highlight pedestrian pathways.
- Landscaping, including trees, shrubbery, and other plant materials, should always be provided to separate parking areas from buildings in a commercial, business park or industrial park development.
- Permanent landscape irrigation should be provided for all landscape materials, with the irrigation system designed to promote water conservation, including prevention of run-off and overspray.



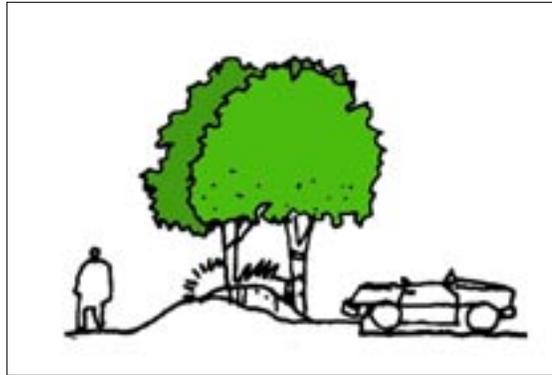


figure 6.20: Earth Berm Screens Parking Areas

- Earth berms should be incorporated into all landscaping along the perimeter roads of a commercial, office and business/industrial park development.

- Landscape design should facilitate and help reduce the cost of maintenance operations through the:
 - provision of adequate access to plantings for maintenance and repair;
 - utilization of plant materials acclimated to the desert that have growth habits and life spans that minimize pruning and plant removal and replacement;
 - the layout of paved areas to enable regular maintenance activities such as machine sweeping and cleaning; and
 - specification of durable landscape materials, street furnishings, signage and other features that can withstand wear, abuse and vandalism.

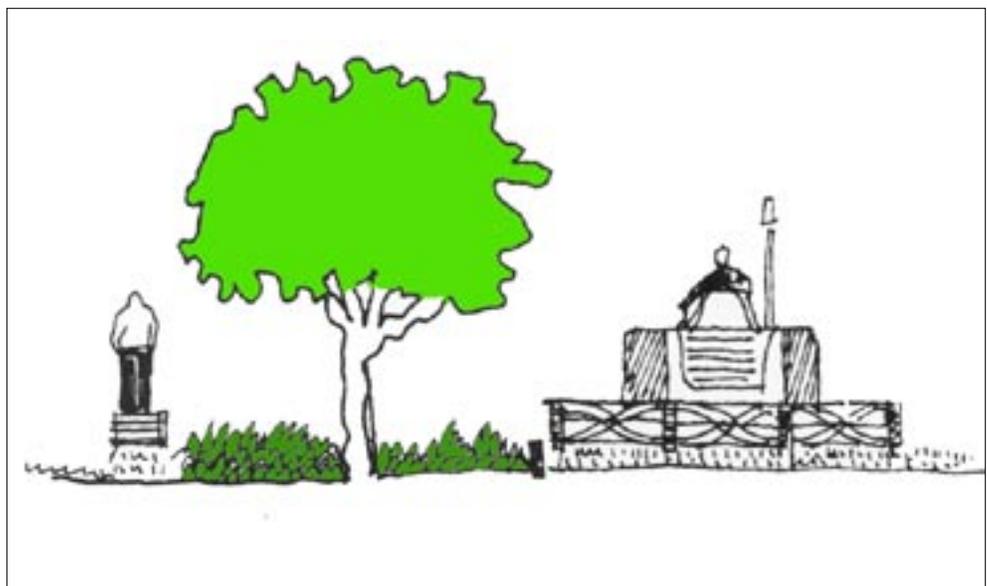


figure 6.21: Provide Adequate Landscaping Access to Allow for Efficient Maintenance

BUFFERING AND SCREENING - *The impact of new residential and non-residential development upon existing residential neighborhoods and rural agricultural and sensitive open space lands located on the edges of the urbanizing area of the City, has become a significant concern of the citizens of Surprise. The following guidelines provide landscape techniques for buffering and screening the physical, visual and noise impact of new developments upon existing neighborhoods, adjoining streets, rural lands and sensitive open space areas. The guidelines also address the buffering and screening of new infill development in existing single family neighborhoods, as well as in commercial and industrial areas.*

BUFFERING

- For purposes of this manual, buffering is defined as a landscaped technique whereby trees and other plant materials are used to create a wide, densely landscaped park- or garden-like area around the perimeter, or in the side and rear yard, of a property in order to physically and visually separate new development from existing uses and developments.
- A landscaped, park-like, buffer zone should be provided and maintained by all new multi-family, commercial, office and industrial developments that share a common property line with single family residential development, or with rural agricultural lands and sensitive open space areas along the edge of the urbanizing area of the City.
- The minimum width of landscaped buffers designed to separate new development from abutting rural residential, agricultural and sensitive open space lands should be one hundred (100) feet, measured from the edge of the abutting property line and extending inward into the new development.

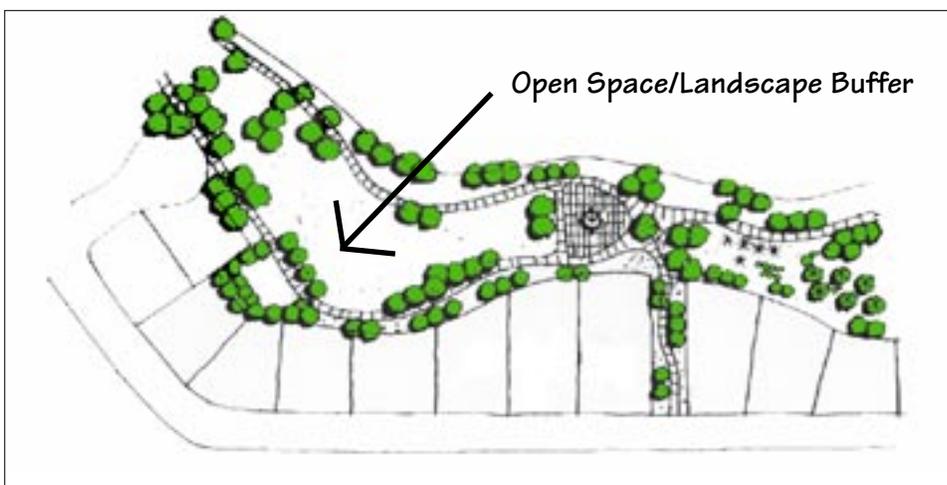


figure 6.22: Heavily Landscaped Buffers Between Uses

- “Edge-City” buffer zones should be developed and maintained as linear parks and consist of densely planted “mature appearing” trees, shrubbery and other plant materials, earthen berms, “see-through” walls, pedestrian and bicycle pathways, and architectural lighting.
- Landscaping materials in “edge-city” buffer zones should consist of a mixture of twenty-four (24) inch, thirty-six (36) inch, and forty-eight (48) inch box canopy, shade-type trees with a minimum three (3) inch caliper planted informally in clusters, along with five (5), ten (10) and fifteen (15) gallon shrubs and ground cover. The majority of trees should be thirty-six (36) inch box or greater.
- Landscaped perimeter road buffer zones having a minimum width of seventy (70) feet, measured from the back of the curb, should be provided and maintained along all streets adjoining new commercial, office, business and industrial parks; except in the proposed Surprise Center and those other areas of the City designated as urban Gateway Centers.
- Perimeter road buffers should include curb-separated sidewalks and/or multi-use pathways, as well as a mixture of thirty-six (36) inch and forty-eight (48) inch box trees planted in informal clusters.
- All landscaped buffer zones should be located and oriented to ensure physical, visual and noise separation between new development and existing uses and development, while at the same time providing direct connection to existing neighborhood and community open space systems.

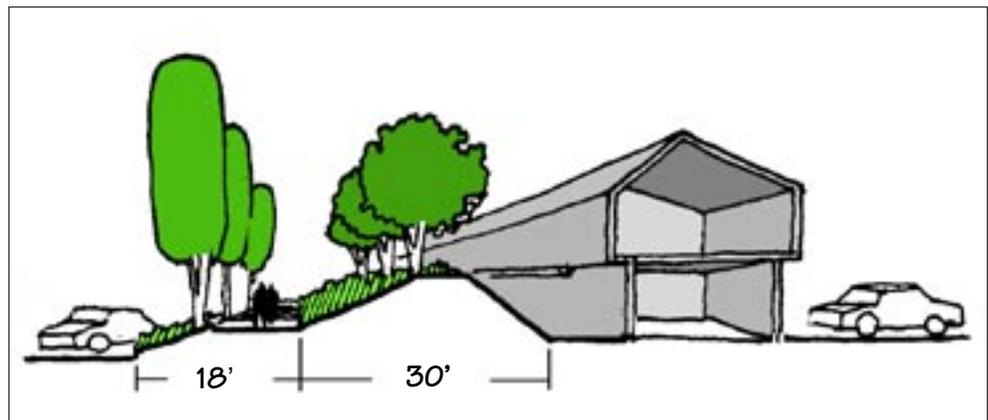


figure 6.23: Provide Physical, Visual and Noise Separation from Adjoining Streets

- Landscaped buffer areas should only be broken by necessary access points to a specific development.
- Infill development occurring on a lot(s) in an existing residential neighborhood, should have a densely landscaped front, side and rear yard with a depth sufficient to prevent physical, visual and noise encroachment on adjoining lot(s).

- Commercial and/or office infill development should have landscaping that is in keeping with the character of landscaping in adjoining developments and that connects to the community open space system.

SCREENING

Walls and fences are generally used for security purposes, and to screen areas from public view; and unless they are required for a specific purpose, they should not be used. In many instances, long, high walls around the perimeter of a development contribute to an unsafe and unsightly environment as the walls provide hiding places for intruders and surfaces for graffiti. As used in this Manual screening is defined as the combined use of both well-designed, articulated, walls and fences and soft landscape materials, to hide from view, such unsightly and visually obtrusive site improvements as: electric utility boxes and transformers; gas meters; roof and wall mounted mechanical equipment; backflow devices; telephone cabinets; power systems for building sites; loading and unloading docks; dumpsters and other trash receptacles.

- In order to promote a more “visually friendly” and open community, the construction of long, unbroken and monotonous expanses of high, solid fences and stucco walls around the perimeter of new single and/or multi-family residential developments should be strongly discouraged.
- If a fence or wall is determined to be appropriate for use around the perimeter of a development to screen and separate it from adjoining streets and other development, then either a view fence that incorporates a combination of a low solid wall base not to exceed three (3) feet in height with a wrought iron fence placed in between solid pilasters with cap, or a low wall developed in conjunction with an earth berm and landscaping is strongly encouraged.

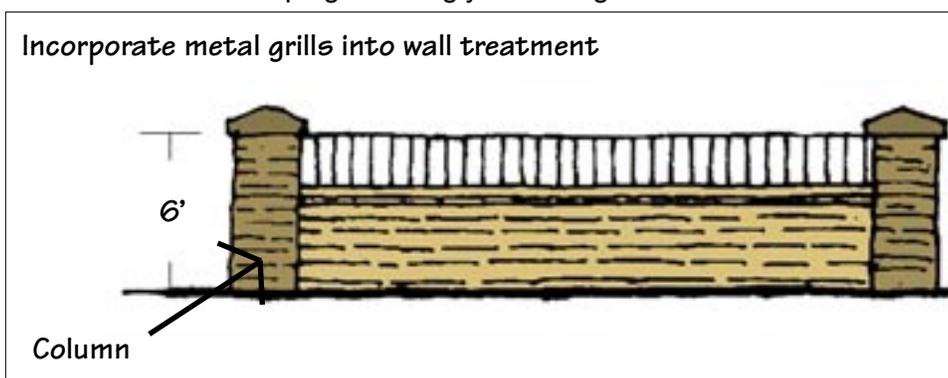


figure 6.25: View Fence

- Walls and fences should be kept as low as possible and be designed to blend with the site’s architecture through the use of similar materials and colors.



- Landscaping should be used in combination with screening walls to soften otherwise blank surfaces. The use of vines planted on walls is strongly encouraged to hide flat wall surfaces and to help reduce graffiti.

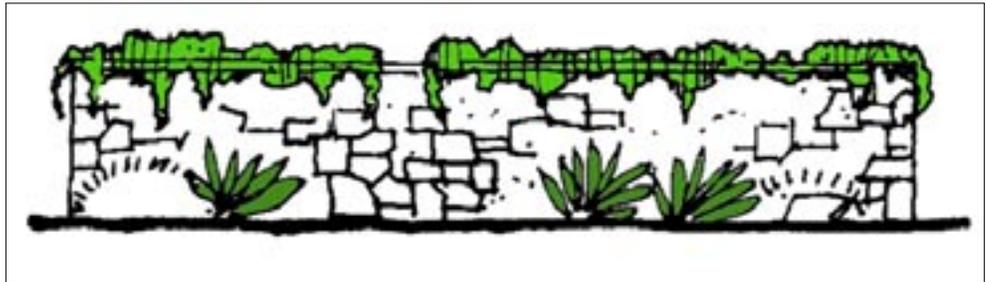


figure 6.26: Vines in Combination with Walls

- Walls and fences should be designed to minimize visual monotony by including: changes in the surface plane of the wall or fence; variable heights; articulated recesses and wall offsets sufficient in depth to permit landscaped pockets for the planting of significant clusters of mature trees and shrubbery; decorative material textures and colors appropriate to the theme and style of the development.

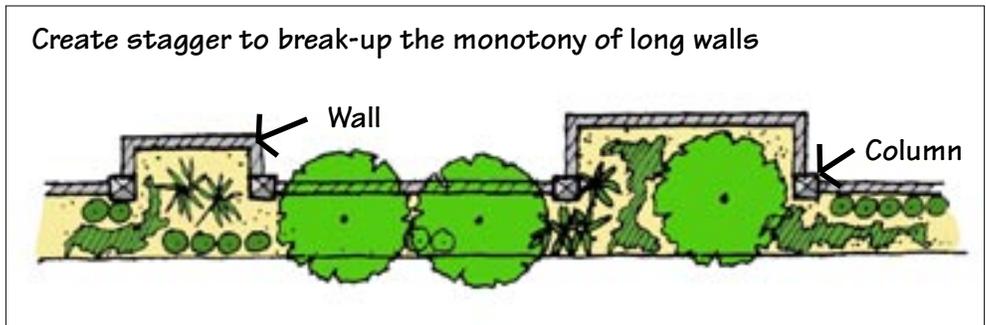


figure 6.27: Jogs Break Up Monotony

- The use of chain-link and/or slat-filled chain link fences for screening less visually attractive areas is strongly discouraged and should not be permitted, unless they are used in conjunction with mature, dense landscaping consisting of shrubbery at least six (6) feet in height.
- Electric transformers and similar utility structures should be placed underground or at the rear of a building site and/or away from an adjoining street . When undergrounding is not feasible due to a pre-existing condition such as a high water table, the facility should be enclosed within the building structure or adequately screened from public view by using a screening approach that combines:
 - an enclosure having a minimum six (6) foot decorative, masonry wall consisting of sound absorbent/sound scattering wall facing materials;
 - an earth berm; and
 - dense planting up to six feet (6') in height.

- All screening structures, whether underground, within a building structure or in a separate on-site screened area, should be readily accessible by service and maintenance vehicles and personnel.
- Outdoor trash and storage areas, service yards, loading docks and ramps, wood service poles, electric and gas meters, telephone cabinets, fire sprinkler valves, irrigation backflow prevention devices, transformers, chiller farms, and generators should be located to the rear of the building site and screened from view in a manner that is compatible with the building and site design.

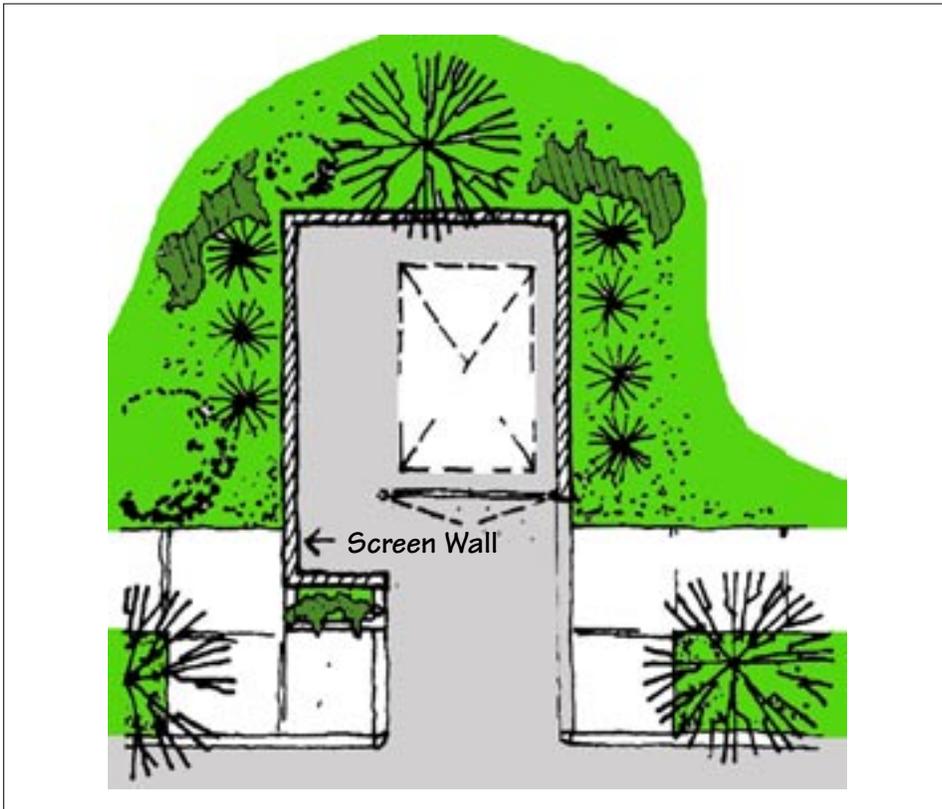


figure 6.28: Effective Screening of Trash Collection Area

- Roof and wall-mounted mechanical and electrical equipment and antennae should be screened from public view. Techniques used to screen such equipment should be an integral part of the total building architecture.

