



Silverleaf™

THE PARKS  
Design and Construction Manual

Landscape and Lighting Design Guidelines

# IV Landscape Design

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#### 4.1 Making a Difference

As the name suggests, The Parks is a neighborhood built around prominent green spaces. Richly landscaped streets and attractive homes enhance the feel of an urban oasis in the desert and pay homage to the great neighborhoods of the past.

The Parks philosophy is centered on the ideas that homes should “live” to the street and that a coherent and rich landscape fabric ties the neighborhood together. Special attention must be taken to landscaped areas that are within public view. Individual home landscape designs are part of the larger neighborhood composition, rather than stand-alone statements. For this reason, no one design should dominate the landscape but should instead provide subtle uniqueness that is appropriate to the overall environment. The end result should be individual homes interwoven together along with the open spaces to give these neighborhoods a sense of place.

The following guidelines establish principles for achieving design excellence in the landscape environment. The following criteria are essential to realizing this goal:

- Seamless shaping and attention to drainage
- Use of appropriate materials and finishes that complement the architectural style of your home
- Appropriate plant selections, quantities, associations, and placement
- Blending of architectural or hardscape elements into landforms
- Complementing and enhancing the architectural experience through the use of well-placed trees and shrubs
- Enhancing the pedestrian environment by selecting appropriate plants that offer shade, interest, and accessibility
- Creating individuality while respecting the desire for overall cohesiveness



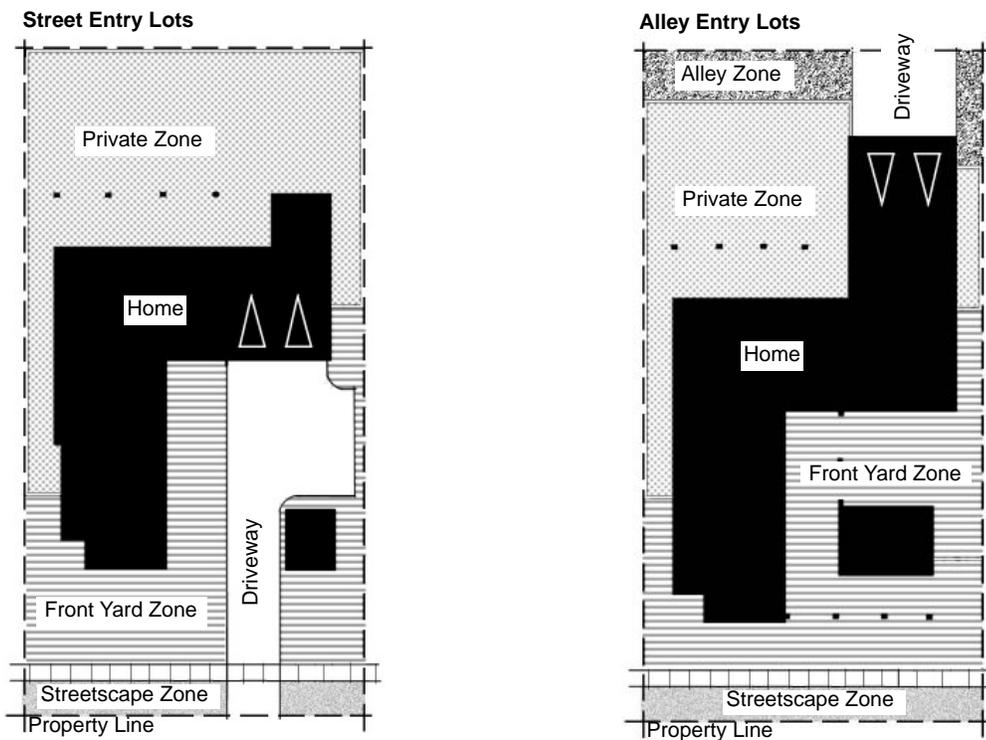
Rose gardens are a hallmark of Ethel's Garden.

In The Parks, residential lots have four distinct planting zones: Streetscape, Front Yard, Alley, and Private. Landscaping within these zones must meet specific criteria including density and coverage requirements, appropriate mix or blend of plant types, and the approved plant species for each zone.

## 4.2 Landscape Zones



### 4.2.1 Residential Zones



#### Streetscape Zone

- The Streetscape Zone is intended to provide a thread of continuity throughout The Parks street scene. The plant palette and density requirements meet site visibility criteria, provide accessibility to the street and allow a safe and pleasant pedestrian experience.
- Installation and ongoing maintenance of the street trees and the associated irrigation system will be performed by the Ranch Association.
- Installation and ongoing maintenance of all other landscape within the Streetscape Zone, not including the street trees, and the associated irrigation system is the Homeowner's responsibility.

#### Front Yard Zone

- The Front Yard Zone includes the area between the back of the sidewalk up to the rear yard enclosure.
- Walls and landscape should avoid closing off views to and from the yard. Visibility between the public street and the front porch is essential for the neighborhood character.
- Landscape design should take into account screening of utilities and enhancing architectural elevations with an appropriate framework of vegetation.
- The overall landscape should be a visually pleasing composition that unifies the Front Yard with the Streetscape.
- Landscape, irrigation, and on-going maintenance are the sole responsibility of the Homeowner.

## Alley Zone

- The Alley Zone extends from the curb up to the face of the garage, rear yard wall, or building.
- Refer to the Approved Plant Palette list later in this section for specific plants.
- Landscaping within the Alley should function to screen equipment, garbage cans, and above-ground utilities and to create privacy between neighboring yards as well as a pleasant streetscape.
- A 4 ft. buffer exists along the alley and doubles as an emergency access easement and for this reason no plants are to be installed within this area. The remaining 6-plus ft. of landscape area shall contain plant species that satisfy the density and ratio requirements outlined in the Landscape Coverage Chart.
- Installation, maintenance and irrigation of the Alley trees and landscape are the sole responsibility of the Homeowner.

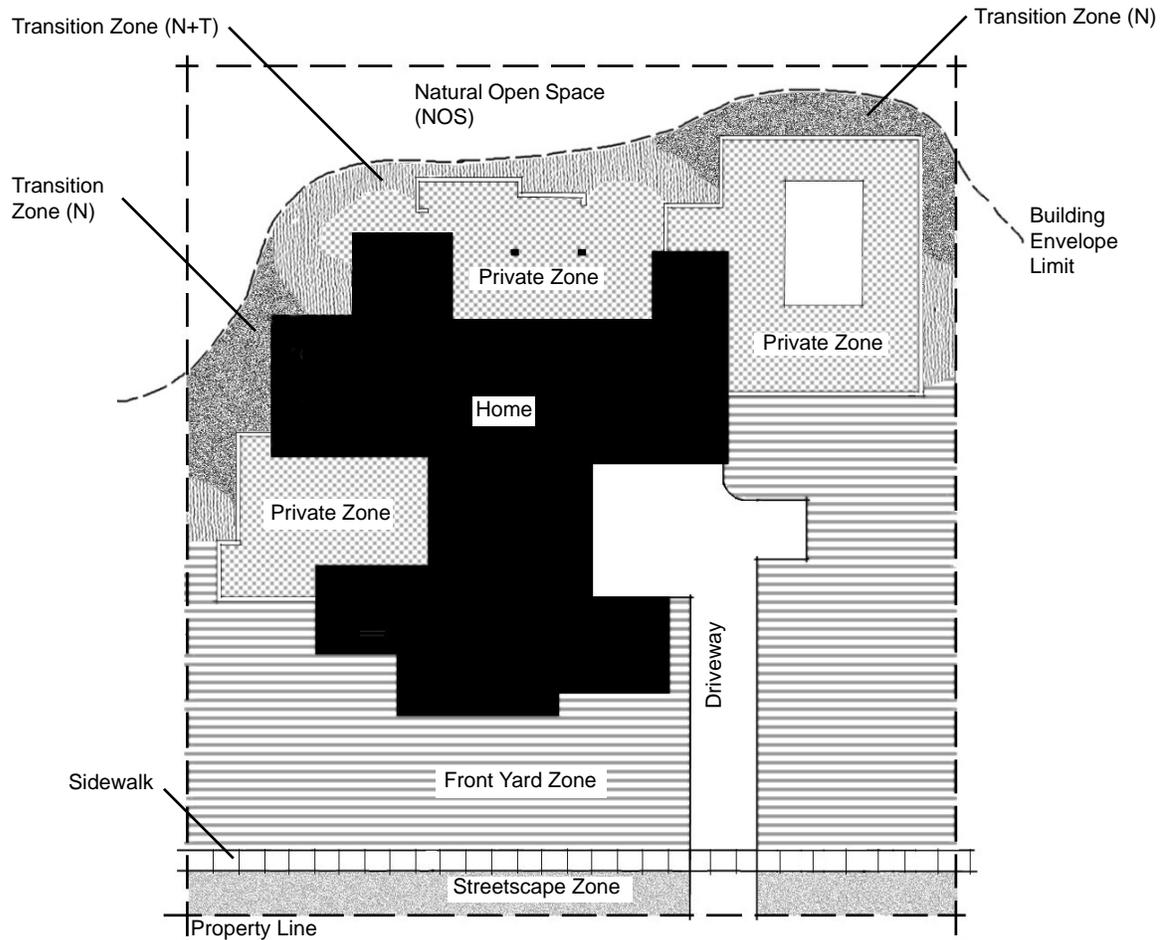
## Private Zone

- The Private Zone is the area closest to the home out of direct view from adjacent properties and the street.
- Refer to the Approved Plant Palette list later in this section for specific plants.
- Landscape may be designed to fully enclose individual spaces with walls and other hardscape elements or be left partially open.
- A successful Private Zone design uses a combination of enclosed and non-enclosed spaces to provide functional and attractive outdoor rooms.
- Trees and vines should be used to provide shade and comfort in the outdoor environment, and assist in cooling the interior of the home.
- In addition to the trees and vines, landscape in the Private Zone must include the use of shrubs and ground-covers to mitigate the reflectivity and starkness of patios and walls.
- The layering and massing techniques addressed in Section 4.3 (Landscape Composition & Coverage) should be employed in the design of Private Yard landscapes.

## Transition Zone

- Many Custom lots and a few Non-custom lots adjoin natural desert, indicated as Natural Open Space (NOS) on Plot Plans. To mitigate this condition a Transition Zone is used to blur the line between natural desert and improved areas.
- Refer to the Approved Plant Palette list later in this section for specific plants.
- Where a low physical improvement, such as a patio or seat wall is adjacent to an NOS area, plants marked with the symbols N & T in the Transition column of the Approved Plant Palette must be used. These plant species encompass a selected blend of natives and other arid region plants whose colors, forms, and irrigation requirements are similar to those found in the natural landscape. This Transition Zone should vary in width but must not be less than 10 ft wide at any point. (Refer to the Custom lot zones diagram)
- Where a tall physical improvement, such as a pool enclosure wall or home wall is adjacent to an NOS area, the disturbed area must be replanted with native species found in the NOS area. Only plants marked with the symbol N in the Transition column of the Approved Plant Palette should be used. (Refer to the Custom lot zones diagram)
- Privacy walls on these lots are encouraged to be discontinuous, allowing portions of Non-Enclosed Transition Zone and portions of Enclosed Transition Zones. (Refer to the section 3.5).

## Custom Lot Zones



### 4.2.2 Neighborhood Landscape Themes

The various neighborhoods in The Park have different landscape themes. These themes primarily define the streetscape landscape palette and help establish a unique identity for each park and street within The Park. The Plot Plan for each individual lot will indicate its theme. The Plant Palette, at the end of this section, lists the approved species for each neighborhood theme area.

Neighborhood landscape themes have unique street trees and plants in order to create a unique character for streets and parks.





## 4.3 Landscape Composition & Coverage

The unique character of The Parks promotes a more formal landscape composition within the residential yard than in other neighborhoods in DC Ranch. Massed and layered plantings provide a pleasing foundation that is softened by the irregular arrangements of accent plants, ground-covers, and flowering shrubs.

### 4.3.1 Planting Design Criteria

#### Plant Selection

- Offset plantings from sidewalks and curbs to allow room for plants to mature to their natural form, eliminating the need for unnatural pruning.
- Select appropriately sized, pedestrian-friendly plants for narrow spaces such as the 2 to 3 ft. area between the back of the sidewalk and a front yard wall. Refer to the Small Plants selection in the Approved Landscape Palette. Select low growing plants that will maintain a clear zone of at least 3 ft., with an average of 4 ft., between the top of the plants and the bottom of the street tree canopy. The height of the tree canopy will vary with the Street Tree species.
- Emphasize the pedestrian entry locations at each lot by focusing more of the small accents and color plants in these locations. Transition between lots with a more simplified palette.
- Extend plant species utilized in the Streetscape Zone, including trees, into the Front Yard landscape design. **At least one of the required Front Yard trees must be the same as the Street Tree.**
- When preparing a submission for a remodel or selecting plants for the Private Yard:
  - Select plant sizes that relate to the rate of growth of a plant.
  - Fast-growing species can be purchased in one-gallon containers. Slow-growing species, those that take three or more years to reach maturity, are better planted as 5-or 15-gallon containers.

#### Base Shrub Requirements

- Damianita (*Chrysactinia mexicana*) is the base shrub that must be used throughout the Streetscape, Front Yard, and Alley Zones.

- Native Bursage, Jojoba, and Creosote are the base shrubs in the Transition Zones. A minimum of 25% of all small shrubs must be Bursage and a minimum of 50% of the large shrubs must be native Jojoba and Creosote.

#### Landscape Character

- The size and configuration of Front Yards in The Parks will generally require more formal planting arrangements in order to achieve the desired plant coverage. Mass shrubs and groundcovers in layers using accents and color shrubs to punctuate the composition and soften the formality.
- Layer shrubs using plants from the small, medium, and large species to create a hierarchy between the ground and the tree layer.
- Refer to Section 4.3.3 for planting composition.

#### Screening Requirements

- Plants should be used functionally to soften and mitigate exposed stem walls, retaining or screen walls, and tall, less articulated walls along the side yard. Plant groundcovers to spill over the top of front yard retaining walls and train vines to grow up or over the top of walls. Within alleys, vines are required to be provided on all walls or fences that exceed 5 ft. overall. In front yards, vines must be used on any wall or view fence with a combined height of 3 ft. or more.
- Landscaping must address the exposed stem wall conditions that will exist in The Park. Select shrubs from the medium or large shrub category.
- Refer to Section 3.8 for requirements for screening utility transformers and telephone and cable equipment.
- Conceal light fixtures and valve boxes with plants.

## Trees

- Street Trees and the associated irrigation will be installed and maintained by the Ranch Association. Do not selectively prune or excavate around Street Trees. Any damage to these trees or the irrigation system serving these trees will be repaired by the Association at the Homeowner's expense.
- Provide PVC arbor guards (color to match tree trunk) on Front Yard trees placed in turf.
- All homes are required to have at least one tree in the front yard that is the same species as the Street Tree. Refer to the Landscape Coverage Chart.
- Street and alley tree species, quantity, and general location shall be provided by the Homeowner as illustrated on the Plot Plan. Maintenance of these trees will be the sole responsibility of the Homeowner, except for Alley and Front Yard trees, which will be maintained by the Ranch Association.

### 4.3.2 Landscape Coverage & Selection Requirements

The tables on the following pages list the type, form, size, and minimum quantities of plants for each landscape zone. The tables are arranged by house type.

Trees and vines do not count toward the minimum plant density requirement. Document actual versus required figures in your Landscape Submission. The following explains how to use the tables:

- Select the table that applies to your home type (Non-Custom or Custom Lot).
- The columns are arranged by plant category (groundcovers, shrubs, trees, etc.). The approved plant palette at the end of this section lists the specific plants in each category.
- The first row indicates the maximum number of species that are allowed of each plant category. This maximum applies to the entire lot excluding private zones. For example, no more than three approved groundcover species may be used on a Custom lot.
- The second row indicates the minimum size or number of plants of each species that can be used on the entire lot. For example, at least five of the same species of groundcover must be used on a Custom lot.
- The next four rows list the the percentage coverage requirements of each plant category in a particular landscape zone. For example in the Front Yard Zone of a Custom Lot, 18% of the plant count (excluding trees, vines and turf areas) should be groundcover plants.

- The minimum density of plants is listed under each zone as a ratio of one plant to a specified area. For example, the average density of all plants (excluding trees, vines and turf areas) in the Front Yard Zone of a Custom lot is 1 plant per 10 square feet.

**Non-Custom Lot**

Plant Category	Groundcover		Vines <sup>2</sup>	Shrubs			Trees <sup>2</sup>					
	Max. 3 species	Min. quantity of 5 plants per species		Max. 2 species in addition to base shrub	Small	Medium	Large	Color Accents	Small/Large Accents	Small	Medium/Large	
<b>Max. Number of Species Per Zone<sup>1</sup></b>	Max. 3 species	Min. quantity of 5 plants per species	Max. 2 species	Max. 2 species in addition to base shrub	Max. 2 species	Max. 2 species	Max. 2 species	Max. 3 species	Max. 1 species	At least one tree must be same species as Street Tree. Max 2 species		
<b>Quantity/Size</b>	Min. quantity of 5 plants per species	Min. quantity of 5 plants per species	No minimum	Min. quantity of 7 plants per species	Min. quantity of 5 plants per species	Min. quantity of 3 plants per species	Min. quantity of 3 plants per species	Min. quantity of 3 plants per species	Min. 24" box Size	Min. 36" box Size		
<b>Coverage and Density Requirements</b> Round up any fractional quantities												
<b>Street Zone<sup>1</sup> Minimum Plant Density 1:8</b>	32%		N/A	0% Small Shrub 45% Base Shrub	10%	N/A	5%	8%	Specified on Street Tree Master Plan	Specified on Street Tree Master Plan		
<b>Front Yard Zone<sup>1</sup> Minimum Plant Density 1:10</b>	18%		5%	7% Small Shrub 25% Base Shrub	20%	5%	10%	10%	2 small trees (or one (1) med/large tree)	2 per yard minimum		
<b>Alley Zone Minimum Plant Density 1:14</b>	20%		5%	15% Small Shrub 10% Base Shrub	20%	15%	8%	7%	Specified on Street Tree Master Plan	Specified on Street Tree Master Plan		
<b>Private Zone Minimum Plant Density 1:15</b>			Overall density of 1:15 is required; no coverage requirements specified								Min. 1 tree for every 600 SF of landscape area (including area covered by turf)	Min. 1 tree for every 1500 SF of landscape area (including area covered by turf)

<sup>1</sup> Street Zone & Front Yard Zone count as one zone for the purpose of determining maximum species allowed <sup>2</sup> Trees & vines do not count toward minimum density requirement

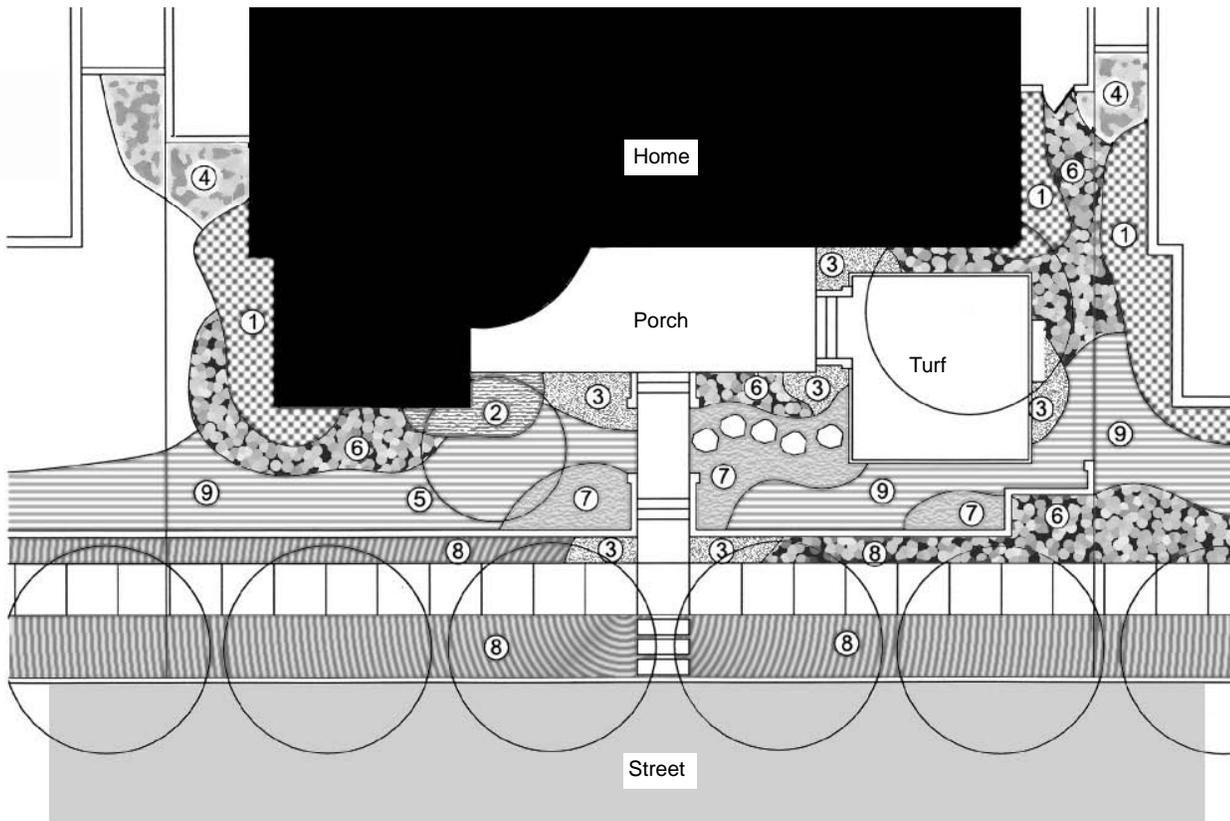
Custom Lot

Plant Category	Groundcover	Vines <sup>2</sup>	Shrubs			Trees <sup>2</sup>				
			Small	Medium	Large	Color Accents	Small/Large Accents	Small	Medium/Large	
<b>Max. Number of Species Per Zone<sup>1</sup></b>	Max. 3 species	Max. 3 species	Max. 3 species in addition to base shrub	Max. 4 species	Max. 3 species	Max. 4 species	Max. 3 species	Max. 4 species	Max. 2 species	At least one tree must be same species as Street Tree - Max 2 species
<b>Quantity/Size</b>	Min. quantity of 5 plants per species	No Min.	Min. quantity of 9 plants per species	Min. quantity of 7 plants per species	Min. quantity of 5 plants per species	Min. quantity of 3 plants per species	Min. quantity of 5 plants per species	Min. quantity of 3 plants per species	Min. 24" box	Min. 36" box
<b>Coverage and Density Requirements</b> Round up any fractional quantities										
<b>Street Zone<sup>1</sup></b> Minimum Plant Density 1:8	32%	N/A	0% Small Shrub 45% Base Shrub	10%	N/A	8%	5%	8%	Specified on Street Tree Master Plan	Qty & Species Specified on Street Tree Master Plan
<b>Front Yard Zone<sup>1</sup></b> Minimum Plant Density 1:10	18%	5%	7% Small Shrub 25% Base Shrub	15%	10%	10%	10%	10%	2 small trees (or one (1) med/large tree	3 per yard minimum
<b>Transition Zone</b> Minimum Plant Density 1:20	5%	5%	5% Small Shrub 35% Base Shrub	15%	20% ½ of large shrubs must be jojoba or creosote	5%	10%	5%	Min. 1 tree for every 600 SF of landscape area (including area covered by turf)	Min. (1) tree for every 1500 SF of landscape area (including area covered by turf)
<b>Private Zone</b> Minimum Plant Density 1:15	Overall density of 1:15 is required; no coverage requirements specified.									

<sup>1</sup> Street Zone & Front Yard Zone count as one zone for the purpose of determining maximum species allowed <sup>2</sup> Trees & vines do not count toward minimum density requirement

### 4.3.3 Front Yard & Streetscape Planting Composition

- 1-Utilize large evergreen shrubs, such as Hopseed Bush or Sage, to anchor building corners, provide privacy screening between lots, and mitigate “blank” walls adjacent to the house. Avoid placing large shrubs in the center of front yard planting areas or in close proximity to the sidewalk.
- 2-Provide a mix of small and large accent shrubs. Use large accents in the front yards at focal points adjacent to front walls and porches. On corner lots, the use of large accents in the side yard is recommended if they are arranged in masses or singularly as a component of a larger composition.
- 3-Utilize small and medium accents in conjunction with small shrubs and groundcovers at focal point areas (i.e., close proximity to entry walkways, steps, and front porches).
- 4-Utilize large sculptural accents such as Indian Fig or Agave Weberi against walls for a sculptural effect. Train vines on walls to provide a soft contrast to the accent composition and to mitigate the effect of continuous tall walls that will be common in alleys.
- 5-Locate trees (large and small) to mitigate tall walls and provide privacy screening where significant grade differential exists between lots. Consider the height of small trees’ canopies as a great solution for a tall, narrow screen.
- 6-Color shrubs should serve as focal points within the planting composition and should be arranged in masses or singularly as a component of a larger composition.
- 7-Groundcovers should be utilized to accentuate borders and accent compositions, to drape over walls, and as filler between the walkway connections that tie the street to the sidewalk.



8- Streetscape planting areas are intended to provide some consistency throughout The Parks' streets, while allowing limited individuality on a lot-by-lot basis through the incorporation of front yard shrubs, groundcovers, and accents that are consistent with each front yard palette. The Streetscape planting area should increase in density and detail adjacent to entry walk connections and decrease in detail at property edges.

9- Base shrubs provide continuous connectivity throughout the landscape composition. Use base shrubs in masses, not randomly spaced. Supplement base shrub massing with small shrubs and complement medium shrubs and groundcover massing in location, color, and texture.

**4.3.4 Alley Planting Composition**

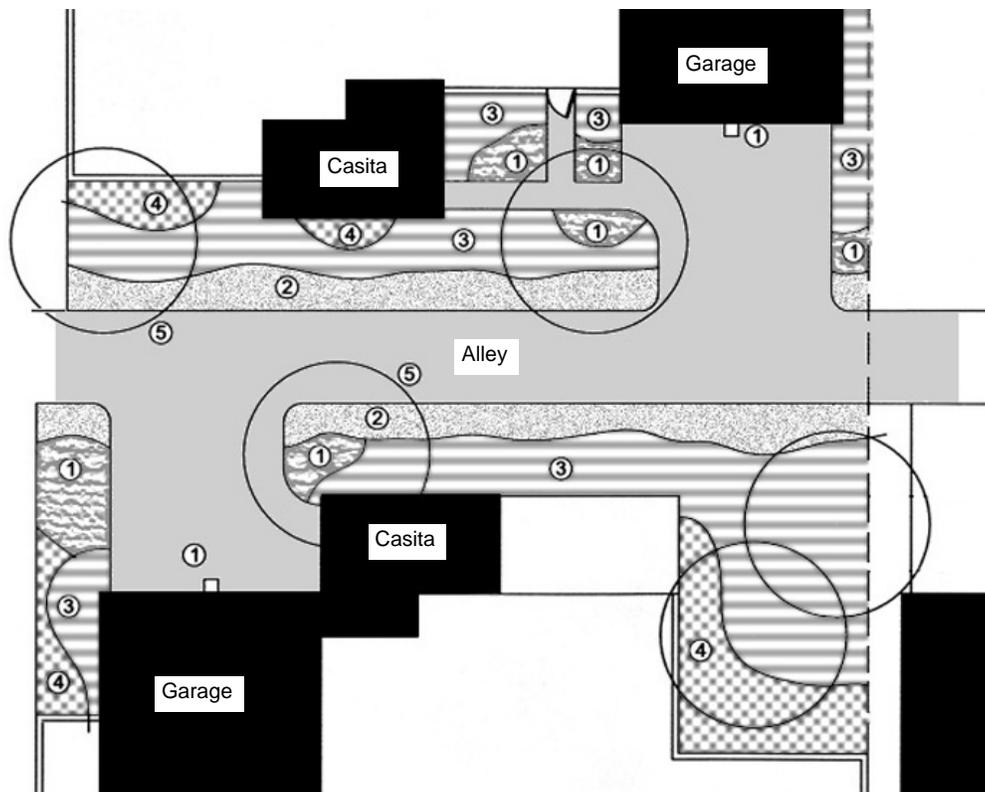
1-Planting concepts should emphasize entry points by concentrating small shrubs, accents, and groundcovers (i.e., detail planting) adjacent to the pedestrian access points and entry walks. Use a simplified palette of base and medium shrubs between lots to provide visual relief and transition.

2-Alley planting areas include emergency vehicular access clearance zones. Plants shall not extend into this zone. Meander small plants and groundcovers just beyond the limits of this zone to prevent a linear arrangement of materials to allow overgrowth of small “crushable” plants into the access zone. The “crushable” zone shall be compacted 3/4” minus granite purchased from an authorized DC Ranch supplier.

3-Utilize large shrubs and/or medium shrubs (depending on wall height) in a mass against walls to mitigate the visual impact. Layer medium shrubs in front of large shrubs or use to wrap corners. Locate color shrubs in proximity to pedestrian entry areas or, to a lesser extent, use as accent compositions between pedestrian-oriented areas.

4-Utilize large sculptural accents such as Indian Fig or Agave Weberi against walls for a sculptural effect. Train vines on walls to provide a soft contrast to the accent composition and to mitigate the effect of continuous tall walls that will be common in alleys.

5-Locate trees (large and small) to mitigate tall walls and provide privacy screening were significant grade differential exists between lots. Consider the height of small trees’ canopies as a great solution for a tall, narrow screen. Alley trees may be required on the plot plan.



### 4.3.5 Top-Dressing & Inert Materials

#### Mulch

The final surface treatment of any landscape area, other than the Private Zone, should be top dressed with the Silverleaf mulch standard. Please contact the Ranch Offices to obtain the exact specifications and application requirements for this mulch.

#### Alley Emergency Access Zone

Within the 4 ft. emergency access zone within the alleys a 2 in. thick application of 1/4" in. granite shall be applied. Granite must be purchased from an authorized DC Ranch retailer. (Please contact the Ranch Offices for more information.) Substitutions must not be used.



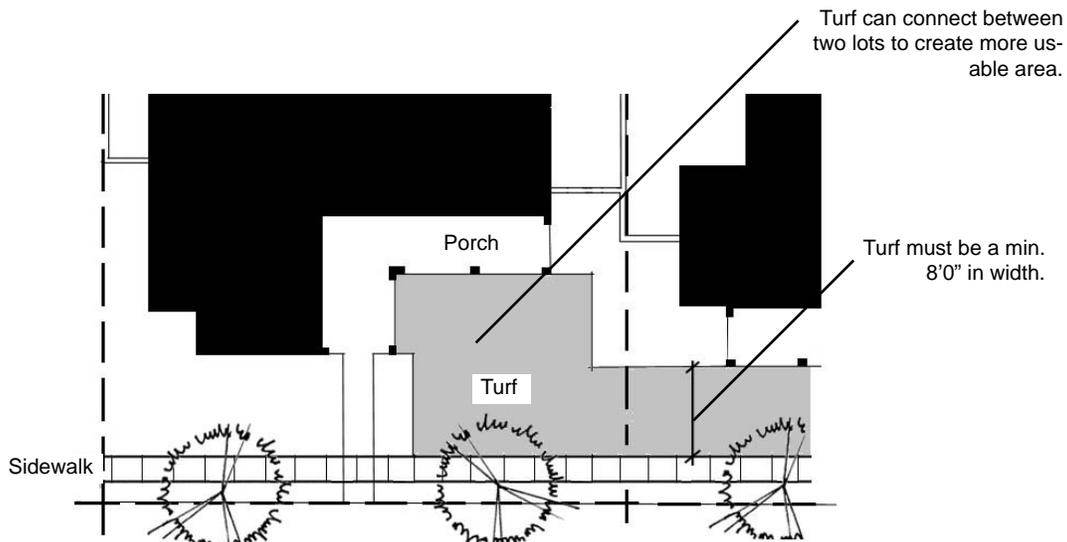
### 4.4 Turf

Turf is encouraged as a means to provide a functional space for recreation in the outdoor environment. Turf is permitted in any Front or Private Yard provided it meets the design criteria and size requirements described below (subject to the requirements of the City of Scottsdale). Turf is not permitted within the Alley or Streetscape Zone of any home. In Rowhomes, turf is only permitted within the Private Yard.

- Turf is discouraged on homes that are adjacent to a park with turf. Parks have been designed to provide many homes with direct access to large, usable, and functional turf areas.
- Turf should be an extension of usable, livable outdoor spaces such as porches and patios and not used solely as

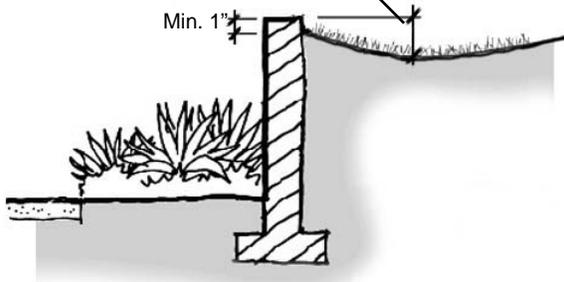
an aesthetic treatment or design element. Isolated islands of turf are not considered functional, and therefore are not allowed.

- In most cases the shape of turf areas should be more geometric than curvilinear in order to match the formal landscape concept of The Parks.

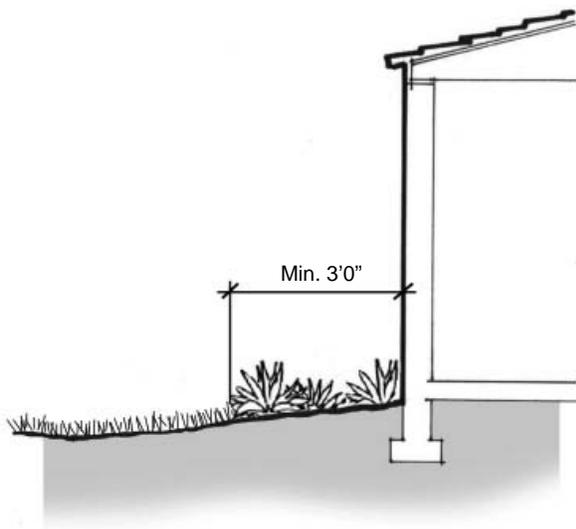


- Turf cannot cover more than 60% of the net landscape area (the front yard area less any hardscape, walls, or decomposed granite access walks). Turf areas must be a minimum size of 420 square feet with dimensions no less than 8 feet in width.
- The finished surface of turf must be 1 in. below the top of an adjacent wall or sidewalk. Turf shall be graded to provide positive drainage away from walls and walks to prevent irrigation runoff. Refer to Section 4.6.2, Turf Irrigation, for water management practices.

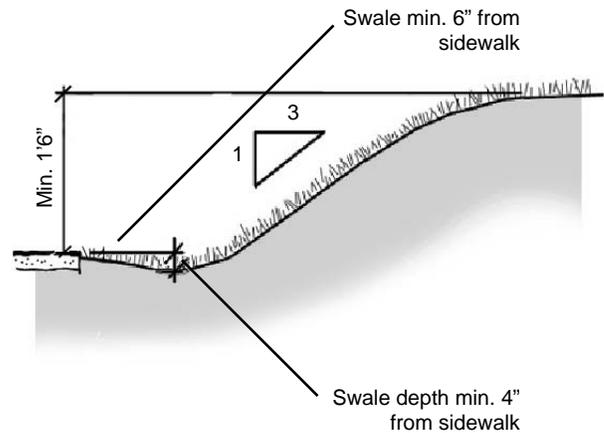
Turf must drain away from the wall to prevent water from draining down the face of the wall.



- A planting border of at least 3 feet average in width must be maintained between turf areas and the wall of the home. This is to ensure that the turf irrigation does not stain and discolor the home and that shrubs are provided around stem walls and adjacent structures.



- Turf may be used to transition the grade between the front yard pad and the sidewalk up to a 3:1 slope. The vertical height difference between curb and front yard grade should not exceed 18".



- No more than 2400 square feet of Turf may be used on an individual lot.

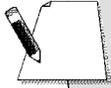
### Private Yards

- The minimum turf size requirement does not apply within a Private Yard. However, the maximum turf area within the Private Yard cannot exceed more than 60% of the net landscape area (total area less patios, pools, hardscape, etc.).

### Other Requirements

The use of turf in any yard must comply with the following requirements:

- All turf must be a hybrid Bermuda grass species, sod form.
- All turf must be overseeded with perennial Ryegrass between November 1st and April 15th.
- Turf must be irrigated on a permanent, automatic system.
- Turf cannot extend into the public right-of-way in accordance with the Arizona Department of Water Resources.
- Turf areas shall not terminate on the downside of any vertical hardscape element, to avoid unsightly efflorescence or staining.
- Turf must drain into the front yard drain (location shown on plot plan) or must drain away from sidewalks and adjacent lots.



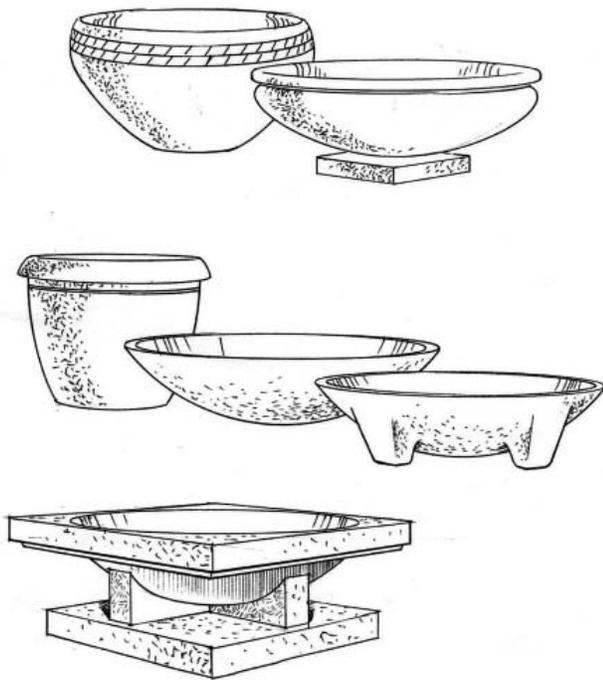
## 4.5 Pots, Containers & Annuals

Pots are much like furniture; they can be placed and customized to enhance the architectural character of a home. Potted plants are also an easy and flexible way to add seasonal color to the front yard of a home.

### Pots & Containers

- Must be finished in muted desert tones that complement the color and architectural style of the home. The images below show pottery styles and materials that are compatible with the DC Ranch architectural styles.

#### Concrete Pots



- Pottery must be planted with appropriate plant materials for the zone in which they are placed. For example, if containers are used within the Front Yard, then they must be planted with plant species approved for the Front Yard zone. Refer to the list below of some of the more traditional annuals that may be used in pots within the Front Yard. All other traditional annuals must be used within the Private Yard only.

#### Glazed Pots



## Metal/Stone/Wood Pots



## Terracotta Pots



### Seasonal Annuals

- Within the Front Yard, annuals should be limited to pots or containers and must be selected from the Front Yard Zone approved plant palette or from the approved annual plant list below.

- Seasonal annual beds are only acceptable for use within contained spaces of Private Zones. Contained spaces include raised or flush planters, pots, and containers or landscape areas that are contained behind courtyard walls or rear yard privacy walls.

**In addition to the plants approved for the Front Yard Zone, the following may be planted in pots within the Front Yard:**

Botanical Name	Common Name
<i>Coreopsis lanceolata</i> (Various sp.)	Coreopsis Dusty Miller
<i>Geranium sp.</i>	Geranium
<i>Iberis sempervirens</i>	Candytuft
<i>Lobelia sp.</i>	Lobelia
<i>Stachys byzantina</i>	Lamb's Ears
<i>Vinca sp.</i>	Vinca/Periwinkle

Additional species may be approved. Please contact the Ranch Offices for more information.



## 4.6 Irrigation System Requirements

The Parks' landscape is generally more lush and requires more careful attention than the native desert areas in DC Ranch. For this reason the irrigation system must meet strict criteria to ensure controlled plant growth, consistent appearance from home to home, and water conservation.

- All landscape areas (private and other) shall be maintained on a permanent, automatic, drip irrigation system.
- Native trees and cacti must receive supplemental water, consistent with local standards.
- Valve or other flush mounted boxes shall match the color of the ground surface (desert tan or green when in turf).
- Locate valve boxes, flush caps, etc., in inconspicuous areas of the site, no further than 3 feet away from the home. Set boxes flat to minimize visibility.
- Do not place any equipment other than irrigation tubing between the curb and sidewalk. Developer will supply irrigation sleeves to the Streetscape Zone for each Lot. The Homeowner must irrigate the landscape in this area, other than the street trees, from their private irrigation system.
- Do not place any equipment in the “crushable” landscape area in the alley. Locate valve boxes or other equipment behind screen walls along the side of the garage.
- Conceal all boxes from view with small shrubs. Avoid setting boxes on a tilted plane, instead always set boxes flat.
- Locate any wall mounted or above-ground equipment behind rear yard enclosure walls or within the refuse enclosure walls in the alley.
- Paint all free standing or wall mounted equipment to match the exterior color of the house or the walls on which they are mounted
- Any damage to the street trees and irrigation system, owned and operated by the Ranch Association, will be repaired by the Ranch Association at the Homeowner’s expense.

### 4.6.1 Valves

Different plant species require varying amounts of water and frequency of application. Proper valving can significantly reduce maintenance and water costs. Separate valves are required for:

- trees
- low water use shrubs
- ornamental shrubs
- turf
- pots or gardens

Additional valves should be considered to account for exposure differences. For example, most groundcovers and shrubs planted in a shady zone will require less water than the same plant used in an exposure that receives full sun. If both plants receive the same quantity and frequency of water, then the plant in the shady location will not have an opportunity to dry out and may rot while the plant in full sun will suffer from infrequent watering.

### 4.6.2 Turf Irrigation

- Spray irrigation is limited to turf areas only.
- If both rotors and low trajectory heads are needed to irrigate turf areas, provide separate valves to maximize control and efficiency of the system.
- Runoff into streets, on sidewalks, onto neighboring properties, or into natural areas, is not permitted.
- Offset heads 6” to 12” from pavement.
- Spray irrigation can create significant runoff only after a few minutes of operation. Homeowners must manage their irrigation water properly by:
  - Properly grading and sloping the land to hold runoff.
  - Preparing the soil prior to planting to ensure good drainage.
  - Selecting heads to fit the size and configuration of the turf area.
  - Managing the duration of the irrigation cycle to avoid runoff conditions. Select several short irrigation intervals during the day rather than one long setting.

The following is a list of all plant materials approved for use within The Parks. The plants are listed by type and what zone they may be used in.

## 4.7 Approved Plant Palette



A D W R	BOTANICAL NAME	COMMON NAME	MATURE SIZE (H x W)	SIZE	COLOR SHRUB	ZONES						NEIGHBORHOOD LANDSCAPE THEMES								
						ALLEY	FRONTYARD	ROWHOME FRONTYARD	PRIVATE (ENCLOSED)	TRANSITION (Custom)	PARCEL G - 1	HOMESTEAD PARK	ACACIA PLACE	THE GROVE	PARCELS G - 2 & G - 4	ETHEL'S GARDEN	PARCEL G - 3	CRESCENT PARK	JACARANDA SQUARE	ROW HOMES
<b>TREES</b>																				
X	Acacia abyssinica	Abyssinian Acacia	20'-25'	20'-25'	M					P										
X	Acacia aneura	Mulga	20'	12'	M		F			P										
X	Acacia berlandieri	Berlandier Acacia	15'	15'	S		F	1,2,3		P										
X	Acacia constricta	Whitethorn Acacia	10'	15'	S					P										
X	Acacia craspedocarpa	Leatherleaf Acacia	18'	10'	M					P										
X	Acacia crassifolia	Butterfly-leaf Acacia	10'-15'	10'-15'	S		F	1,2		P										
X	Acacia gerrardii	Gray-thorn Acacia	25'	25'	M					P										
X	Acacia greggii	Catclaw Acacia	10'	15'	S					P	N									
X	Acacia rigidula	Black-brush acacia	10'-15'	7'-9'	S		F			P										
X	Acacia roemeriana	Roemer Acacia	20'	25'	M					P										
X	Acacia saligna	Willow Acacia	15'-25'	10'-20'	M			1		P										
X	Acacia schaffneri	Twisted Acacia	15'-25'	15'-25'	M					P										
X	Acacia smallii (farnesiana)	Sweet Acacia	15'-20'	15'-20'	M	A	F	1,3		P	T	X	X	X	X					
X	Acacia tortillia	Umbrella Thorn	20'-30'	30'	L					P										
X	Acacia willardiana	Palo Blanco	20'	10'	M	A		2		P										
	Albizia julibrissin	Mimosa	20'-40'	40'	L					P										X
	Apple 'Anna'	Anna Apple Tree	15'	15'	S					P							X			
X	Bauhinia congesta	Anacacho Orchid Tree	6'-12'	6'-12'	S					P										
X	Bauhinia congesta 'Lunarioides'	Pink Orchid Tree	6'-12'	6'-12'	S					P										
X	Caesalpinia cacalaco	Cascalaco	15'-20'	15'	M	A	F	1,2,3		P										
X	Caesalpinia mexicana	Mexican Bird of Paradise	10'-15'	6'-12'	S	A	F	1,2,3		P										
X	Canotia holocantha	Crucifixion Thorn	15'	10'	S		F			P	T									
X	Cercidium 'Desert Museum'	Hybrid Palo Verde	25'	15'	M		A	F	3	P									X	X
X	Cercidium floridum	Blue Palo Verde	30'	30'-40'	L	A	F			P	N									
X	Cercidium microphyllum	Foothills Palo Verde	20'	25'	M		F			P	N									
X	Cercidium praecox	Palo Brea	20'	25'	M		F			P										
X	Cercis canadensis v. mexicana	Mexican Redbud	20'	20'	M		F	2		P							X			
X	Chilopsis linearis	Desert Willow	25'	20'	M		A	F		P	T									
X	Chitalpa tashkentensis hybrid	Chitalpa	20'-30'	20'-30'	M	A	F	1		P							X			
X	Cordia boissieri	Anacahuita	10'	10'	S		F	1,2,3		P										
X	Dalbergia sissoo	Sissoo Tree	30'	25'	L					P										
	Eysenhardtia orthocarpa	Kidneywood	18' max.	3'-10'	S		F			P										
X	Forestiera neomexicana	Desert Olive	12'	8'	S		F	3		P										
	Fraxinus greggii	Littleleaf Ash	15'	15'	S		F	2		P										
	Jacaranda mimosifolia	Jacaranda	25'-40'	15'-30'	L					P										
	Lagerstroemia indica	Crape Myrtle	5'-15'	5'-15'	S					P										
X	Leucaena retusa	Golden Ball Lead Tree	15'	20'	M		F			P										
X	Lysiloma candidum	Baja Lysiloma	10'-30'	10'-30'	M		F			P										
X	Lysiloma microphylla v. thornberi	Desert Fern	15'-20'	12'	M	A	F	1,3		P	T									
	Malus 'Veitchii'	Crabapple	15'	15'	S			2		P							X			
	Nicotiana glauca	Tree Tobacco	10'-30'	10'-30'	S					P	T									
X	Olneya tesota	Ironwood	30'	30'	L		F	3		P	N									
X	Pithecellobium flexicaule v. thomy	Texas Ebony	20'	20'	M		F			P										
X	Pithecellobium mexicanum	Mexican Ebony	20'-30'	15'-25'	M		F	2,3		P	T									
X	Pithecellobium pallens	Tenaza	15'	15'	S		F			P										
X	Prosopis alba 'Phoenix'	Argentine Mesquite	30'	30'	L	A	F			P							X	X	X	X
X	Prosopis chilensis	Chilean Mesquite	30'	30'	L		F			P										
X	Prosopis glandulosa 'Maverick'	Texas Honey Mesquite	30'	20'	L	A	F			P										X
X	Prosopis nigra	Black Mesquite	20'-30'	20'-30'	L		F			P										
X	Prosopis pubescens	Screwbean Mesquite	20'	20'	M		F			P	T									
X	Prosopis velutina	Native Mesquite	30'	30'	L	A	F	3		P	N	X	X	X	X					
X	Punica granatum 'Wonderful'	Pomegranate	10'	5'-10'	S					P										
	Robinia neomexicana	New Mexico Locust	25'	20'	M					P										
X	Sophora secundiflora	Texas Mountain Laurel	15'-20'	8'-10'	S	A	F	1,2,3		P										
X	Sophora secundiflora 'Silver Peso'	Texas Mountain Laurel	15'-20'	8'-10'	S	A	F	1,2,3		P										
X	Thevetia peruviana	Yellow Oleander	6'-8' min.	6'-8' min.	S					P										
X	Tipuana tipu	Tipu Tree	25'-40'	30'-60'	L					P										
X	Ungnadia speciosa	Mexican Buckeye	15'	15'	S		F	1		P										
X	Vitex angus-castus	Chaste Tree	20'-25'	15'-25'	M		F			P										

L = LARGE (> 25' for trees; >4' for shrubs; >5' for accents)  
M = MEDIUM (15'-25' for trees; 30"-4' for shrubs)  
S = SMALL (up to 15' for trees; up to 30" for shrubs)  
G = GROUND COVER  
V = VINE  
C = COLOR SHRUB

A = ALLEY  
S = STREETSCAPE  
F = FRONTYARD  
1 = ROWHOME FRONTYARD IN PARCEL G - 1  
2 = ROWHOME FRONTYARD IN PARCEL G - 2  
3 = ROWHOME FRONTYARD IN PARCEL G - 3  
P = PRIVATE

NOTES: The streetscape zones indicate which species can be planted according to parcel, park, or rowhome location. Refer to streetscape zone plans. Color shrubs refer to frontyard and rowhome frontyard shrubs.

A D W R	BOTANICAL NAME	COMMON NAME	MATURE SIZE (H x W)	SIZE	COLOR SHRUB	ZONES							NEIGHBORHOOD LANDSCAPE THEMES										
						ALLEY	FRONTYARD	ROWHOME FRONTYARD	PRIVATE (ENCLOSED)	TRANSITION (Custom)	PARCEL G - 1	HOMESTEAD PARK	ACACIA PLACE	THE GROVE	PARCELS G - 2 & G - 4	ETHEL'S GARDEN	PARCEL G - 3	CRESCENT PARK	JACARANDA SQUARE	ROW HOMES	PARCEL 5.1	PROSPECT PARK	
<b>ACCENTS</b>																							
X	Agave americana	Century Plant	6'	6'	L		F		P														
X	Agave angustifolia	Agave	3-5'	6-8'	L		F		P														
X	Agave attenuata	Ghost Agave	1 1/2' - 4'	2-4'	S		F	1,2,3	P														
X	Agave deserti	Desert Agave	1 1/2'	2'	S		F	3	P	T	X												
X	Agave desmettiana	Agave	3'	3'	S		A	F	2,3	P													
X	Agave geminiflora	Twin-flowered Agave	2-3'	2-3'	S		A	F	2,3	P		X	X	X	X	X	X	X	X	X	X	X	
X	Agave macrocarantha	Agave	1 1/2'	2'	S		A	F	1,2,3	P					X	X	X	X	X	X	X	X	
X	Agave murpheyi	Hohokam Agave	3'	3'	S		F	1,2,3	P	T													
X	Agave ocahui	Agave	1 1/2'	3'	S		A	F	1,2,3	P	T	X	X	X	X	X	X	X	X	X	X	X	
X	Agave parryi v. huachuensis	Parry's Agave	3'	3'	S		A	F	1,2,3	P	T	X											
X	Agave parryi v. truncata	Parry's Agave	2'	2'	S		A	F	1,2,3	P	T	X											
X	Agave schidigera 'Durango Delight'	Schidigera Agave	2'	2'	S		F		P		X				X	X				X	X		
X	Agave stricta	Rabo de Leon	3-6'	3-6'	S		F	1	P														
X	Agave toumeyana	Toumey's Agave	1'	2'	S		F	1,2,3	P	T													
X	Agave victoriae-reginae	Queen Victoria Agave	1 1/2' - 2'	1 1/2' - 2'	S		F	1,2,3	P									X					
X	Agave vilmoriana	Octopus Agave	6'	6'	L		F		P														
X	Agave weberi	Smooth-leaf Agave	5'	6'	L		F		P														
X	Aloe barbadensis	Aloe Vera	3'	3'	S		F	1,2,3	P														
X	Aloe hybrid 'Blue Elf'	Blue Elf Aloe	1'	1'	S		F	1,2,3	P		X	X		X		X	X	X	X	X	X		
X	Aloe saponaria	Tiger Aloe	1'	1'	S		F	1,2,3	P													X	X
X	Aloe species	Aloe	VARIABLES	VARIABLES	S		F	1,2,3	P													X	X
X	Aloe striata	Coral Aloe	1 1/2'	1 1/2'	S		F	1,2,3	P													X	X
X	Asclepias subulata	Desert Milkweed	3 1/2'	4'	S		A	F	1,3	P	T			X		X							
X	Beaucarnea recurvata	Ponytail Palm	6-8' max.	3-4'	L				P														
X	Bulbine frutescens	Bulbine	1 1/2'	3'	S		F	1,2,3	P														
X	Carnegiea gigantea	Saguaro	40'	2'	L		A	F		P	N												
X	Cereus hildmannianus	Hildmann's Cereus	15'	10'	L		F	1,2,3	P														
X	Cereus hildmannianus v. monstrose	Curiosity Plant	15'	10'	L		F	1,2,3	P														
X	Cereus peruvianus	Night Blooming Cereus	12-18'	15'	L		F	1,2,3	P														
X	Chamaerops humilis	Mediterranean Fan Palm	10-20'	20'	L				P														
X	Cycas revoluta	Sago Palm	8'	5'	L				P														
X	Cyperus alternifolius	Umbrella Plant	4'	3'	L				P														
X	Dasyliirion acrotiche	Green Desert Spoon	4'	5'	L		F	2,3	P														
X	Dasyliirion longissimum	CN	10'	6'	L		F	2,3	P														
X	Dasyliirion wheeleri	Desert Spoon	6'	5'	L		A	F	1,3	P	T												
X	Dioon edule	Mexican Sago	3'	3-5'	S				P														
X	Echinocactus grusonii	Golden Barrel Cactus	2'	4'	S		F	1,2,3	P	T				X	X	X	X						
X	Echinocactus horizontalis	Turk's Head	1'	1 1/2'	S		F		P														
X	Echinocereus engelmannii	Engelmann's Hedgehog	1 1/2'	3'	S		A	F		P	N												
X	Echinocereus pectinatus v. rigidissimus	Rainbow Cactus	1'	1/2'	S		F		P														
X	Euphorbia antisiphilitica	Candelilla	1'	3'	S		F		P	T													
X	Euphorbia milii	Crown of Thorns	3-4'	3-4'	S				P														
X	Euphorbia myrsinites	Euphorbia	1/2'	1'	S				P														
X	Euphorbia rigida	Gopher Plant	2'	4'	S		F	1,2,3	P					X			X	X	X				
X	Euphorbia tirucalli	Pencil Bush	2'	1/2'	S				P														
X	Ferocactus acanthodes	Fire Barrel	4'	2'	S		A	F		P	N												
X	Ferocactus wislizenii	Fishhook Barrel	3'	2'	S		A	F		P	N												
X	Fouquieria splendens	Ocotillo	15'	10'	L		A	F		P	N												
X	Hesperaloe funifera	Coahuilan Hesperaloe	6'	6'	L		F	2,3	P														
X	Hesperaloe parviflora	Red Hesperaloe	3'	4'	S		A	F	2,3	P				X	X	X	X	X	X	X	X	X	X
X	Hesperaloe parviflora (yellow)	Yellow Hesperaloe	3'	4'	S		A	F	2,3	P				X	X	X	X	X	X	X	X	X	X
X	Lophocereus schottii	Senita Cactus	10'	4'	L		F	1,2,3	P														
X	Lophocereus schottii v. monstrosus	Totem Pole Cactus	10'	4'	L		F	1,2,3	P														
X	Mammillaria microcarpa	Pincushion Cactus	1/2'	1/2'	S		F		P	N													

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A D W R	BOTANICAL NAME	COMMON NAME	MATURE SIZE (H x W)	SIZE	COLOR SHRUB	ZONES					STREETSCAPE ZONES										
						ALLEY	FRONTYARD	ROWHOME FRONTYARD	PRIVATE (ENCLOSED)	TRANSITION (Custom)	PARCEL G - 1	HOMESTEAD PARK	ACACIA PLACE	THE GROVE	PARCELS G - 2 & G - 4	ETHEL'S GARDEN	PARCEL G - 3	CRESCENT PARK	JACARANDA SQUARE	ROW HOMES	PARCEL 5.1
<b>TREES</b>																					
X	Opuntia acanthocarpa	Buckhorn Cholla	5'	5'	S		A	F	P	N											
X	Opuntia basilaris	Beavertail Prickly Pear	1 1/2'	4'	S			F	P	T											
X	Opuntia bigelovii	Teddybear Cholla	5'	2'	S			F	P	N											
X	Opuntia chlorotica	Pancake Prickly Pear	6'	2'	L			F	P												
X	Opuntia engelmannii	Engelmann's Prickly Pear	3'	4'	S		A	F	P	N	X				X						
X	Opuntia ficus-indica	Indian Fig Prickly Pear	15'	6'	L		A	F	1,2,3	P	T				X		X	X	X		
X	Opuntia fulgida	Chainfruit Cholla	10'	8'	L			F	P	N											
X	Opuntia imbricata	Tree Cholla	6-8'	10'	L			F	P												
X	Opuntia leptocaulis	Christmas Cactus	3'	3'	S			F	P	N											
X	Opuntia microdasys	Bunny Ears	2'	5'	S			F	2	P										X	X
X	Opuntia robusta	Prickly Pear	8'	5'	L			F	3	P											
X	Opuntia santa-rita	Purple Prickly Pear	3'	4'	S		A	F	2,3	P	T				X		X	X		X	
X	Opuntia spinosior	Cane Cholla	8'	8'	L			F	P												
X	Opuntia violacea v. macrocentra	Santa Rita Prickly Pear	5'	4'	S		A	F	1,2,3	P					X		X	X		X	
X	Pedilanthus macrocarpus	Lady's Slipper	2'	3'	S			F	P												
X	Philodendron selloum	Selloum Philodendron	5'	6'	L				P												
X	Stenocereus marginatus	Mexican Fence Post	8'	5'	L			F	1,2,3	P											
X	Stenocereus thurberi	Organ Pipe Cactus	15'	12'	L			F	P	T											
X	Trichocereus species	Trichocereus	VARIABLE	VARIABLE	S			F	P												
X	Yucca aloifolia	Spanish Bayonet	10'	10'	L			F	P												
X	Yucca angustifolia	Narrow-leaf Yucca	2'	4'	S			F	P												
X	Yucca baccata	Banana Yucca	3'	6'	S		A	F	P	N											
X	Yucca brevifolia	Joshua Tree	20'	15'	L			F	P												
X	Yucca elata	Soaptree Yucca	15'	10'	L			F	P	T											
X	Yucca filamentosa	Adam's Needle	4'	8'	L			F	P												
X	Yucca rigida	Blue Yucca	8'	3'	L			F	P												
X	Yucca pallida	Yucca	1 - 1 1/2'	1 - 2 1/2'	S			F	P												
X	Yucca rostrata	Beaked Yucca	12'	5'	L			F	P												
X	Yucca rupicola hybrid	Twisted-leaf Yucca	2'	3'	S			F	3	P											
X	Yucca thompsoniana	Thompson's Yucca	4'	4'	S				P												
<b>SHRUBS</b>																					
X	Abutilon palmeri	Indian Mallow	3'	4'	M			F	P	N											
X	Acacia schottii	Schott Acacia	4'	5'	L				P												
X	Acanthus mollis	Acanthus	5'	6'	L				P												
X	Aloysia wrightii	Wright Lippia	6'	5'	L			F	P												
X	Alyogyne huegelii	Blue Hibiscus	8'	6'	L				P												
X	Ambrosia ambrosioides	Canyon Ragweed	3'	4'	M				P	N											
X	Ambrosia deltoidea	Bursage	2'	3 1/2'	S				P	N											
X	Ambrosia dumosa	White Bursage	2'	3'	S				P												
X	Anigozanthos flavidus	Kangaroo Paw	3-5'	3'	M	C		F	1,2	P											
X	Anisacanthus quadrifidus v. brevifolius	Mountain Flame	5'	5'	L			F	P												
X	Anisacanthus quadrifidus v. wrightii 'Mexican Flame' TM	Flame Honeysuckle	5'	5'	L			F	P												
X	Anisacanthus thurberi	Desert Honeysuckle	4'	4'	M	C		F	3	P											
X	Aquilegia chrysantha	Golden-spurred Columbine	3'	3'	M	C		F	1,2,3	P											
X	Aspidistra elatior	Cast-iron Plant	2 1/2'	3'	S				P												
X	Atriplex canescens	Fourwing Saltbush	5'	8'	L				P	T											
X	Atriplex lentiformis	Quail Brush	8'	12'	L				P	T											
X	Bebbia juncea	Chuckwalla's Delight	4'	3'	M				P	N											
X	Bougainvillea 'Rosenka'	Bush Bougainvillea	3'	5-8'	M	C			1,2	P											
X	Brickellia coulteri	Brickellia	3'	3'	M				P	N											
X	Buchloe dactyloides	Buffalo Grass	4'	1'	M				P												
X	Buddleia marrubifolia	Woolly Butterfly Bush	5'	5'	L			F	P												
X	Buxus japonica	Japanese Boxwood	4-5'	4-5'	L				P												
X	Caesalpinia gilliesii	Desert Bird of Paradise	5'	5'	L	C	A	F	1,2,3	P	T										
X	Caesalpinia pulcherrima	Red Bird of Paradise	6-10'	6-10'	L	C	C	F	1,2,3	P											
X	Calliandra californica	Baja Red Fairy Duster	5'	5'	L	C	A	F	1,2,3	P	T										
X	Calliandra eriophylla	Fairy Duster	3 1/2'	4-5'	M	C	A	F	1,2,3	P	N										
X	Carissa grandiflora 'Tuttle'	Compact Natal Plum	3'	5'	M				P												
X	Caryopteris x. clandonensis 'Blue	Blue Mist	3'	4'	M	C	A	F	P												
X	Cassia artemisioides	Feathery Cassia	6'	6'	L				P												
X	Cassia nemophila	Desert Cassia	6'	6'	L				P												

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# V Lighting

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- 5.1 Philosophy & Objectives**
  - 5.2 Quantity of Illumination**
  - 5.3 Quality of Illumination**
  - 5.4 Shielding**
  - 5.5 Safety and Security**
  - 5.6 Light Trespass**
  - 5.7 Light Sources**
  - 5.8 Typical Fixtures and Applications**
    - 5.8.1 Approved Fixtures & Characteristics
    - 5.8.2 Fixtures to Avoid
  - 5.9 Zones and Specifications**
    - 5.9.1 Lighting Zones
    - 5.9.2 Typical Lighting Plans
    - 5.9.3 Specifications Table



## 5.1 Philosophy & Objectives

The Lighting Philosophy for DC Ranch is to achieve reduced light levels throughout the community by strategically illuminating landscape and outdoor spaces as needed. The objective of these guidelines is to establish a concise and consistent methodology of design and construction of lighting components.

The lighting philosophy for DC Ranch is to integrate quality lighting solutions into the community that will be minimally obtrusive yet provide functional value. The key to achieving this goal is to minimize overall light levels within the community and strategically illuminate areas for night-time functions, security, and enhancement of night-time experience within the community. Lighting should be used only where needed.

The following guidelines serve as criteria for lighting the residential environment and have been developed to direct the homeowner, builder, and designer in selecting appropriate lighting fixtures. These guidelines outline lighting criteria that will provide proper aesthetics and functionality for the residential exterior environment. These issues address specific needs that can be integrated into a cohesive and pleasing lighting composition for the Homeowner and community.



These guidelines further serve to guide future development and maintenance for the lighting environment of DC Ranch. The owner, builder, or designer needs to assess the visual importance to all of the elements in the exterior environment, and define the night-time uses of the areas.

When identifying areas of the outdoor environment to be illuminated the following should be considered:

- **Function** - The activities and uses for the intended area
- **Safety** - The level of comfort and security
- **Aesthetics** - The look and feel desired

After identifying areas to be illuminated; the lighting design needs to meet the following objectives:

- Integrate lighting hardware with architecture and landscape.
- Locate light fixtures only where needed.
- Select lighting hardware that blends with the landscape and architectural character of the home.
- Minimize environmental impact and observe the Dark Sky philosophy.
- Attain low overall light levels.
- Conserve energy.
- Integrate the lighting design with the overall DC Ranch community.

Each home should have its own unique character and should employ lighting solutions suited for its surrounding environment and landscape composition.

DC Ranch promotes a “Dark Sky” philosophy by encouraging a minimal approach to night-time outdoor lighting. The quantity of illumination from individual light fixtures is controlled in order to minimize light pollution and maximize visual comfort.

## 5.2 Quantity of Illumination



### Eye Adapts to Lower Light Levels

At night the eye adapts to lower ambient light levels. For example, the light from a full moon is enough to see objects adequately without the need for any electric light. Less light does not necessarily mean reduced visibility. However, when the eye is adapted to lower ambient light levels, it becomes more sensitive to uncontrolled brightness (glare).

### Shielded or Diffused Light Is More Comfortable

At night the eye becomes sensitive to sources of light that are unshielded or not adequately diffused. The most effective way to control uncomfortable brightness is to shield light sources so they cannot be seen in your normal field of view. Another effective technique is to diffuse the light source with a translucent medium. However, it is essential that the translucent medium be adequately diffused so that an image or silhouette of the light source is not visible through the medium when the light source is on.

### Dark Sky Philosophy

The Dark Sky philosophy has been adopted at DC Ranch and Silverleaf to preserve dark skies and to improve the nighttime environment within the community. The goal of the International Dark-Sky Association is to be effective in stopping the adverse environmental impact on dark skies by:

- Building awareness of the problem of light pollution and of the solutions.
- Educating everyone about the value and effectiveness of quality night-time lighting.
- Preserving dark skies and improving the night-time environment.

For more information on the Dark-Sky philosophy visit the International Dark-Sky Association (IDA) Web site: [www.darksky.org](http://www.darksky.org).



Light pollution across the United States (as seen from space)



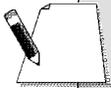
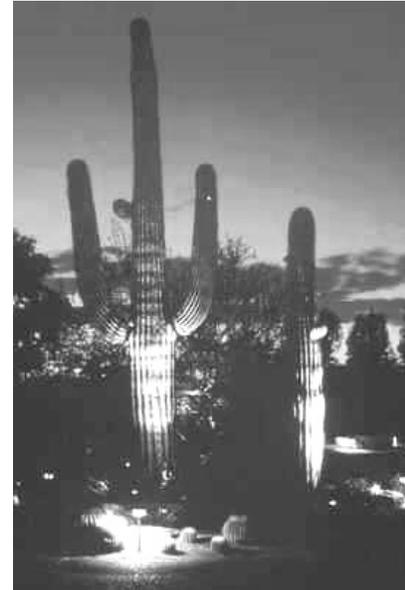
### 5.3 Quality of Illumination

DC Ranch seeks to maximize the quality of illumination throughout the project by encouraging lighting design that is aesthetically pleasing and visually comfortable.

Lighting is the fourth dimension of architecture. Sensitively integrated, quality lighting conveys the spirit of a home or landscape and enables the activities of its occupants. Without a quality lighting design even the most brilliantly crafted space may not succeed.

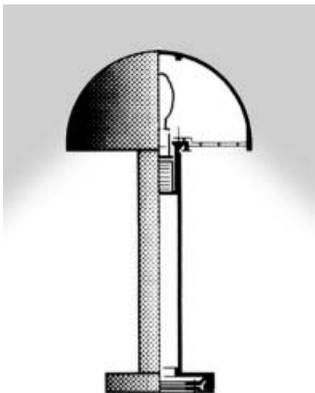
A quality lighting design sets the mood, enhances the space, and achieves specific needs such as safety and energy conservation. A quality design requires a great deal of time and consideration and meets all of the objectives outlined in the residential lighting design guidelines.

Quality lighting fixtures are recommended for the DC Ranch community. The light fixtures will be an essential attribute of the overall design and experience.



### 5.4 Shielding

All light fixtures should be well shielded to conceal the light source or bulb and eliminate glare. This reduces light “hot spots” and greatly enhances the overall look and feel of the night-time environment.



Lighting direction is controlled and bright bulb is never visible.

Light fixtures with good optical control enable light to be distributed in the most effective and efficient manner. Cut-off fixtures emit light from zero degrees (down) to ninety degrees (horizontal) and have no light above the horizontal. Use of shielded outdoor light fixtures is required except for decorative wall sconces, on which translucent glass must be used.

Good security lighting can be achieved by placing lights only where needed, instead of overlighting around the home.

## 5.5 Safety & Security



The objective for security lighting is to provide visibility in order to enhance a sense of safety. Security lighting does not necessarily mean large amounts of illumination, but rather strategically placed fixtures. The result should be an effective yet efficient lighting scheme.

The security lighting must be completely shielded (no exposed lamps allowed) and not exceed the maximum wattage and lumen requirements described in the lighting requirements in Section 5.9.3. Glare should be avoided when considering security lighting, therefore care must be taken when aiming security lighting. Locating lights at door locations, pathways, and driveways wired to a combination photocell/infrared sensor can act as a deterrent to intruders.

### Combination Photocell/Infrared Sensors

The use of building-mounted security flood lighting is discouraged. Building-mounted security lights that function as floodlights must be controlled by a combination photocell/infrared sensor. These devices have two sensors: one for light sensing and one for concentrated heat detection (warm-blooded mammals). The infrared sensor can only turn on the light at night, avoiding nuisance operation during the daytime and minimizing operation of the security lighting at night.

Light fixtures should be selected and aimed to deliver light for the intended location and purpose. Care must be taken to prevent unwanted light spill.

## 5.6 Light Trespass

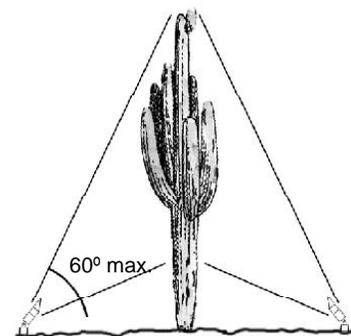


Light trespass is defined as unwanted light received in adjacent properties and excessive brightness occurring in the normal field of vision. The following recommendations will help control light trespass:

- Select luminaires that have tightly controlled intensity distributions using cut-off reflectors and refractors.
- Contain light within the design area (property) by carefully selecting, locating, mounting, and aiming the luminaires.
- Use well-shielded luminaires or select hardware that can be shielded.
- Keep aiming angles high so that the beam falls within the intended lighted area.
- Aim lighting fixtures away from street and neighbor's yard.

### Aiming Light Fixtures

Placement and aiming of light fixtures are a crucial part of a successful lighting design. Aiming should be done to avoid glare to surrounding properties. When uplighting large plants and trees, fixtures should not be aimed **below** an angle of 60° measured off the horizontal axis. The intent of this requirement is to avoid glare to surrounding properties. Where uplighting is proposed, the beam spread of the lamp must be selected to focus all of the available light on the object being illuminated. For example, do not use a wide beam lamp (flood) to uplight a cactus. A narrow beam lamp (spot) would be much more appropriate for this application. A wide beam lamp would be effective for uplighting a large palo verde or mesquite tree.





## 5.7 Light Sources

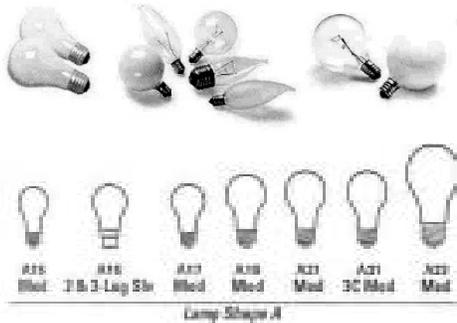
There are various lamp sources that are permitted for the exterior environment at DC Ranch. Lamp sources should be selected for their quality and quantity of light. For maximum wattages and lamp characteristics refer to Section 5.9.3.

### Color of Light

Slight differences in the color makeup of light are measured using the color temperature scale. Warm light sources have low color temperatures (2,700°K - 3,000°K) and feature more light in the red/orange/yellow range. Cool light sources have a higher color temperature (4,000°K) and feature more light in the green/blue/purple range. A neutral or midrange color temperature (3,500°K) enhances most colors equally. See the Specifications Table in Section 5.9.3.

- **Incandescent** - A-lamps, T-lamps, R-lamps, and candelabra-based lamps are the warmest in color and have a “soft” output, but are not as compact as some halogen sources.

### A-Lamps



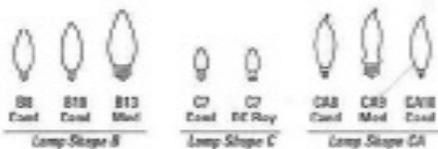
### R-Lamps



### T-Lamps



### Candelabra-based Lamps



- **Halogen** - These are available in both 120 volt and 12 volt configurations. An example of a 120 volt halogen source is a PAR lamp; some examples of a 12 volt halogen source are an MR-11, an MR-16, or a bi-pin that would typically be used for landscape lighting.

### Halogen PAR Lamps



### MR-11 and MR-16 Lamps



V

Lighting

- **Compact Fluorescent** - These are available in warm color temperatures (2,700K°) as well as cool (3,500K°) and typically have long life properties (10,000 hours).



High-intensity discharge sources like Metal Halide and High Pressure Sodium are *not* permitted and do not comply with the maximum lumen output described in the Specifications Table in Section 5.9.3.

Since lamp technology changes so rapidly, some additional lamp sources that are not listed above may be approved, but must be submitted to the Covenant Commission for review.

### **Energy Conservation**

New lighting techniques and equipment as well as more efficient light sources provide the tools to meet the requirements for the outdoor environment and the increasing cost of energy. Much energy and money are wasted on poor lighting. Maintenance is key for energy efficiency.

The three major lamp (bulb) manufacturers (General Electric, Osram Sylvania, and Philips) have improved lamp technology over the past few years. Lamp sources now have high efficiencies, excellent color rendering properties, long life, and lower wattages, and some are available at low costs. Most lamp sources are available in an energy-saving configuration. Most energy-efficient sources have:

- Longer rated life
- Lower wattages
- Lower energy consumption

Learn more about lamps at the following Web sites:

General Electric

[www.gelighting.com/na/home/products.html](http://www.gelighting.com/na/home/products.html)

Osram Sylvania

[www.sylvania.com/lighting/home/welcome.htm](http://www.sylvania.com/lighting/home/welcome.htm)

Philips

[www.lighting.philips.com/nam/prodinfo/index\\_body\\_1.shtml](http://www.lighting.philips.com/nam/prodinfo/index_body_1.shtml)



## 5.8 Typical Fixtures & Applications

Lighting hardware should be selected for its quality, ease of maintenance, and maximum useful life. The goal is to use the appropriate number and type of fixtures for a particular application. Criteria for specific applications and examples of fixtures are described in this section. Other fixtures that meet the lighting criteria described in this section can also be approved.

### 5.8.1 Approved Fixtures & Characteristics

#### Quality of Lighting Fixtures

Quality lighting hardware is recommended for DC Ranch because it's durable, UL listed, tested for various environments it could be exposed to, and warranted for a minimum of one year. The lighting hardware finishes recommended at DC Ranch are natural materials like copper, solid brass, bronze, and wrought iron and must match the architectural style of the home. All light fixtures must comply with the shielding criteria and meet the maximum wattages and lumen output as described in these guidelines.

To conform with the natural setting of the DC Ranch desert landscape, the lighting is to be concealed, shielded, and low-wattage, and the quantities of fixtures should be minimized. Natural hardware finishes blending with the rustic color palette of the project site, including copper, dull brass, bronze, and wood, are preferred.

#### Wall Sconces/Lanterns

These products are intended to provide low-level general illumination at doorways, gates, and patios. Providing comfortable illumination and controlling glare are the most important features of these luminaires.

Shielded luminaires provide the most effective glare control and minimize spill light to the night sky. Diffused luminaires allow more light to spill to the night sky. However, they provide more uniform illumination and therefore better visibility in areas such as entries, patios, and driveways. Transparent lenses, i.e., "seeded" glass lenses, lightly sandblasted clear glass, and acrylic prismatic lenses do not adequately diffuse the lamp image. The best diffusers include thick translucent colored glass where the color is integral to the glass or lenses that have a combination perforated screen and translucent diffuser.



**Description:** Wall mounted 120 volt lantern  
**Feature(s):** Honey swirl diffused glass lens  
**Manufacturer:** SPJ Lighting  
**Partial catalog no.:** SPJ29  
**Manufacturer's Web site:** [www.spjlighting.com](http://www.spjlighting.com)  
**AZ manufacturer's representative:** Wild West Lighting



**Description:** Wall mounted 120 volt lantern  
**Feature(s):** Honey swirl diffused glass lens  
**Manufacturer:** SPJ Lighting  
**Partial catalog no.:** SPJ29  
**Manufacturer's Web site:** [www.spjlighting.com](http://www.spjlighting.com)  
**AZ manufacturer's representative:** Wild West Lighting



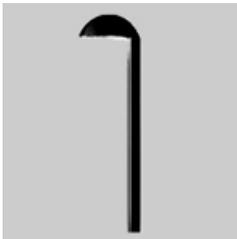
**Description:** Wall mounted 120 volt lantern  
**Feature(s):** Direct shielded, choice of light sources  
**Manufacturer:** Justice Design Group  
**Partial catalog no.:** 1260  
**Manufacturer's Web site:** [www.idg.com](http://www.idg.com)  
**AZ manufacturer's representative:** Arizona Lighting Sales

## Garden Lights

These products are intended to provide illumination for paths, walkways, gardens, and patio perimeters. Aesthetically, they are most effective when installed next to colorful flowers and/or plants. Luminaires mounted 30 in. above grade are more effective than luminaires mounted closer to the ground. These luminaires must not be installed in a row along the edge of a path or driveway in order to avoid a contrived appearance.



**Description:** Ground mounted 12 volt garden light  
**Feature(s):** Shielded light source  
**Manufacturer:** SPJ Lighting  
**Partial catalog no.:** SPJ502  
**Manufacturer's Web site:** [www.spjlighting.com](http://www.spjlighting.com)  
**AZ manufacturer's representative:** Wild West Lighting



**Description:** Ground mounted 12 volt garden light  
**Feature(s):** Shielded light source  
**Manufacturer:** Lumiere (Cooper Lighting)  
**Partial catalog no.:** 1506  
**Manufacturer's Web site:** [www.cooperlighting.com](http://www.cooperlighting.com)  
**AZ manufacturer's representative:** Inverse Lighting



**Description:** Ground mounted 12 volt garden light  
**Feature(s):** Shielded light source  
**Manufacturer:** Lumiere (Cooper Lighting)  
**Partial catalog no.:** 1503  
**Manufacturer's Web site:** [www.cooperlighting.com](http://www.cooperlighting.com)  
**AZ manufacturer's representative:** Inverse Lighting



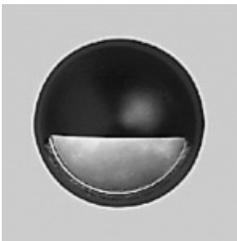
**Description:** Ground mounted 120/12 volt garden light  
**Feature(s):** Shielded light source  
**Manufacturer:** Kim Lighting  
**Partial catalog no.:** KLV115  
**Manufacturer's Web site:** [www.kimlighting.com](http://www.kimlighting.com)  
**AZ manufacturer's representative:** Arizona Lighting Sales

## Step Lights

These products are intended to provide task illumination for stairways and doorways. They are most effective when the light source is completely shielded. Luminaires mounted 30 in. above grade are more effective than luminaires mounted closer to the ground. Luminaires with fluorescent lamps and louvers use less energy and require much less maintenance.



**Description:** Recessed 120 volt step light  
**Feature(s):** Shielded light source; compact fluorescent lamp available  
**Manufacturer:** Lumiere (Cooper Lighting)  
**Partial catalog no.:** 1211 Series  
**Manufacturer's Web site:** [www.cooperlighting.com](http://www.cooperlighting.com)  
**AZ manufacturer's representative:** Inverse Lighting



**Description:** Recessed 12 volt step light  
**Feature(s):** Shielded light source.  
**Manufacturer:** Lumiere (Cooper Lighting)  
**Partial catalog no.:** 1203 Series  
**Manufacturer's Web site:** [www.cooperlighting.com](http://www.cooperlighting.com)  
**AZ manufacturer's representative:** Inverse Lighting

## Trees, Cacti, and Shrubs

Ground mounted 12 volt halogen accent lights are the most effective way to uplight these plant and simultaneously minimize light spill to the night sky. These luminaires combine efficient use of a 12 volt halogen lamp in a fixture package that provides a high degree of glare control. Refer to Section 5.6 for specific recommendations on location and aiming.

The largest trees allowed in DC Ranch can be effectively illuminated with a maximum of three luminaires. Smaller specimens can be attractively lighted with one luminaire if viewed from a single direction.

Tree mounted 12 volt halogen downlights provide a pleasant way to accent plant material under the tree as well as provide low-level area illumination.



**Description:** Ground mounted 12 volt MR16 accent light  
**Feature(s):** Shielded light source  
**Manufacturer:** Lumiere (Cooper Lighting)  
**Partial catalog no.:** 213  
**Manufacturer's Web site:** [www.cooperlighting.com](http://www.cooperlighting.com)  
**AZ manufacturer's representative:** Inverse Lighting



**Description:** Tree mounted 12 volt MR16 light with spread lens  
**Feature(s):** Shielded light source  
**Manufacturer:** Lumiere (Cooper Lighting)  
**Partial catalog no.:** 213  
**Manufacturer's Web site:** [www.cooperlighting.com](http://www.cooperlighting.com)  
**AZ manufacturer's representative:** Inverse Lighting



**Description:** Recessed adjustable flush-to-grade 12 volt accent light  
**Feature(s):** Shielded, adjustable, wet location  
**Manufacturer:** Lumiere (Cooper Lighting)  
**Partial catalog no.:** 1409  
**Manufacturer's Web site:** [www.cooperlighting.com](http://www.cooperlighting.com)  
**AZ manufacturer's representative:** Inverse Lighting



**Description:** Ground mounted 120/12 volt accent light  
**Feature(s):** Shielded light source  
**Manufacturer:** Kim Lighting  
**Partial catalog no.:** KLV115  
**Manufacturer's Web site:** [www.kimlighting.com](http://www.kimlighting.com)  
**AZ manufacturer's representative:** Arizona Lighting Sales

## Security Lighting

Installing wall mounted security floodlights is not encouraged. However, when they are desired by the homeowner, 12 volt MR16 floodlights are required. They are very compact and, when painted to match the wall they are mounted on, are very unobtrusive.



**Description:** Surface mounted 120/12 volt security light  
**Feature(s):** Shielded light source  
**Manufacturer:** Lumiere (Cooper Lighting)  
**Partial catalog no.:** 900 Series  
**Manufacturer's Web site:** [www.cooperlighting.com](http://www.cooperlighting.com)  
**AZ manufacturer's representative:** Inverse Lighting



**Description:** Surface mounted 12 volt down light  
**Feature(s):** Shielded light source  
**Manufacturer:** Lumiere (Cooper Lighting)  
**Partial catalog no.:** 904 Series  
**Manufacturer's Web site:** [www.cooperlighting.com](http://www.cooperlighting.com)  
**AZ manufacturer's representative:** Inverse Lighting

## Underwater Lighting

These products are preferred because they incorporate the functionality and energy efficiency of 12 volt halogen lamps. They can be used in a wide variety of applications including pools, fountains, and custom water features. Thoughtful placement of these lights is important to avoid a source of glare to adjacent properties.



**Description:** Adjustable submersible 12 volt accent light  
**Feature(s):** Submersible  
**Manufacturer:** Lumiere (Cooper Lighting)  
**Partial catalog no.:** 1407  
**Manufacturer's Web site:** [www.cooperlighting.com](http://www.cooperlighting.com)  
**AZ manufacturer's representative:** Inverse Lighting



**Description:** Surface mounted submersible 12 volt accent light  
**Feature(s):** Submersible  
**Manufacturer:** Lumiere (Cooper Lighting)  
**Partial catalog no.:** 1409  
**Manufacturer's Web site:** [www.cooperlighting.com](http://www.cooperlighting.com)  
**AZ manufacturer's representative:** Inverse Lighting



**Description:** 12 volt wet niche pool/fountain light  
**Feature(s):** Submersible  
**Manufacturer:** Bronzelite, a Genlyte Company  
**Partial catalog no.:** 55175LVRG  
**Manufacturer's web site:** [www.bronzelite.com](http://www.bronzelite.com)  
**AZ manufacturer's representative:** Lightolier-Genlyte

## 5.8.2 Fixtures to Avoid



- ⊘ Avoid fixtures that are not properly shielded. Glare control visors are required.



- ⊘ Avoid fixtures where the light source is visible. To rectify this problem the following strategies could be used:
  - A shield can be installed over the light bulb.
  - A thicker more translucent glass can be used.
  - The light source can be placed facing down at the top of the fixture from the inside.



- ⊘ Avoid fixtures that are placed in the landscape and distribute light 360° around. Fixtures with good optical control are better because the light can be directed where it is needed.



- ⊘ Avoid low quality plastic fixtures. Higher quality fixtures last longer and generally look more attractive.



## 5.9 Zones & Specifications

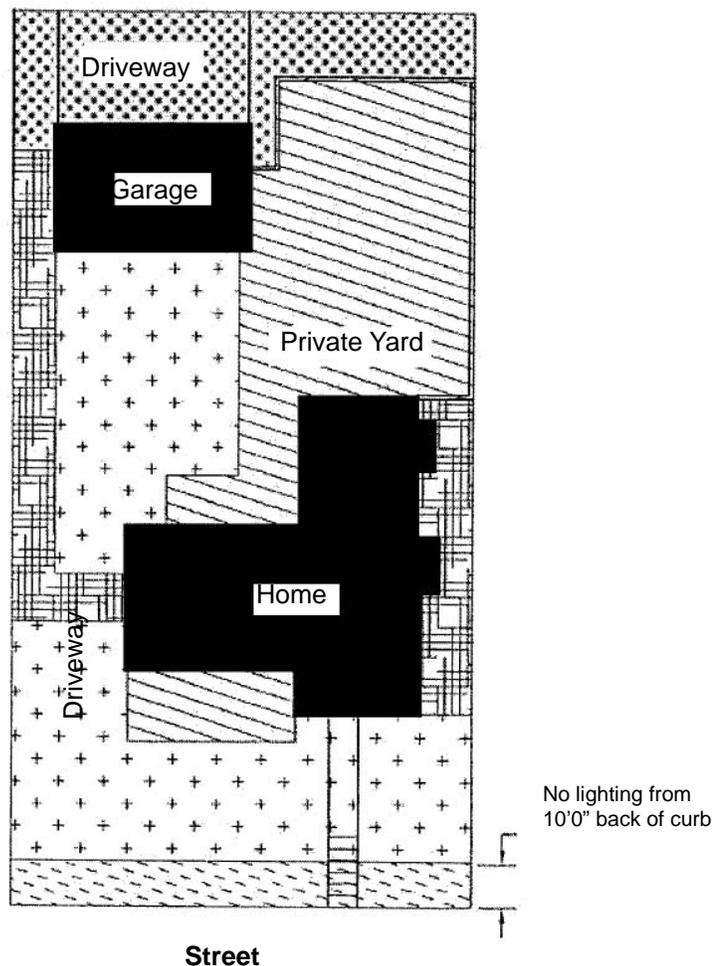
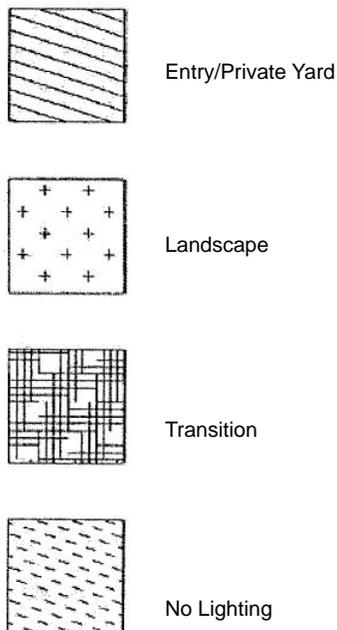
To aid in selecting the appropriate location, quantity, and type of lighting fixtures that can be installed in The Parks, the following zoning diagrams and Specifications Table are provided.

### 5.9.1 Lighting Zones

#### Street Entry Lots

- Zone 1 = Entry/Private Yard Zone:** Highest light levels on lot. Typical zone has wall sconces at door locations, step lights or path lights, landscape lights, and water feature lights if desired.
- Zone 2 = Landscape Zone:** Medium level of light; used only where needed. Path lights are not permitted on driveway. Landscape may be illuminated along side of drive using tree uplights or downlights with narrow beam lamps (10° max.). Step lights are permitted in this zone if required.
- Zone 3 = Transition Zone:** Lowest level of light on lot. Lighting to occur only at door locations. No landscape lighting permitted in this zone.
- Zone 4 = No Lighting Zone:** No lighting permitted, with the exception of step lights.

#### Lighting Zones

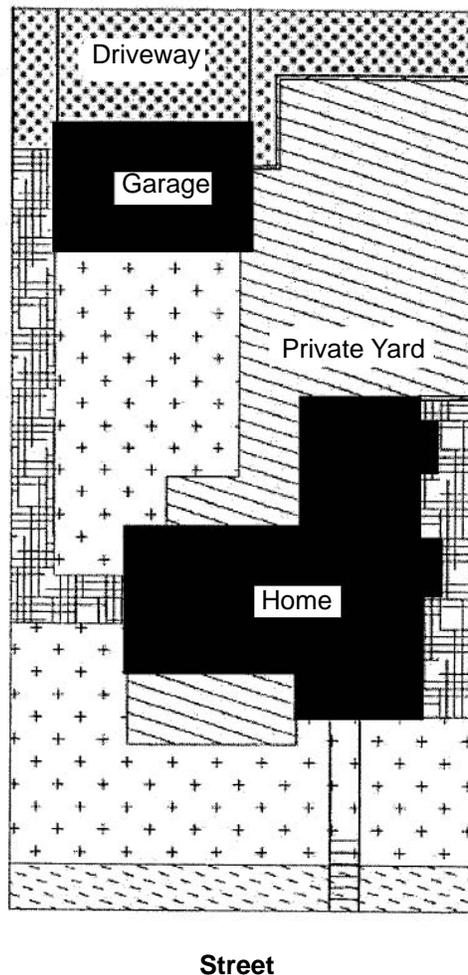
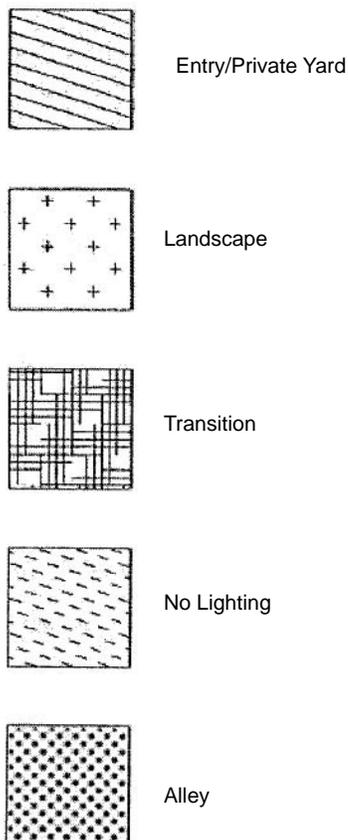


Lighting

## Alley Entry Lots

- Zone 1 = Entry/Private Yard Zone:** Highest light levels on lot. Typical zone has wall sconces at door locations, step lights or path lights, landscape lights, and water feature lights if desired.
- Zone 2 = Landscape Zone:** Medium level of light; used only where needed. Path lights are not permitted on driveway. Landscape may be illuminated alongside of drive using tree uplights or downlights with narrow beam lamps (10° max.). Step lights are permitted in this zone if required.
- Zone 3 = Transition Zone:** Lowest level of light on lot. Lighting to occur only at door locations. No landscape lighting permitted in this zone.
- Zone 4 = No Lighting Zone:** No lighting permitted, with the exception of step lights.
- Zone 5 = Alley Zone:** Minimal lighting allowed. Focus lighting around entry walks, driveways, and other activity areas. Wall mounted lighting may be used to illuminate an area for recreational activity (such as a basketball hoop) but must be turned off after use and must be aimed down and away from neighboring homes. *Two wall mounted photocell lights are required to illuminate the alley in the rear.*

### Lighting Zones

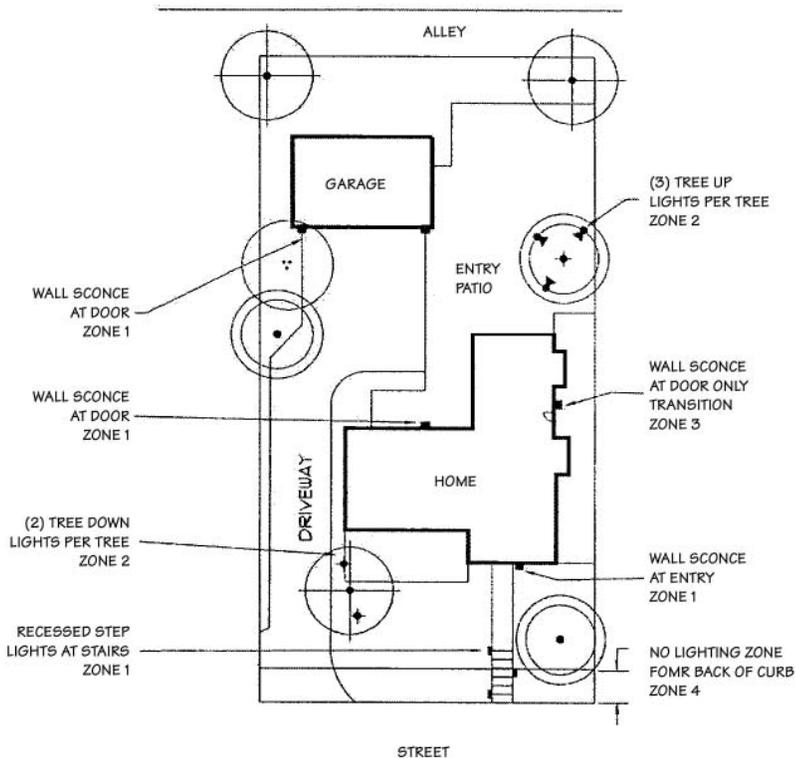
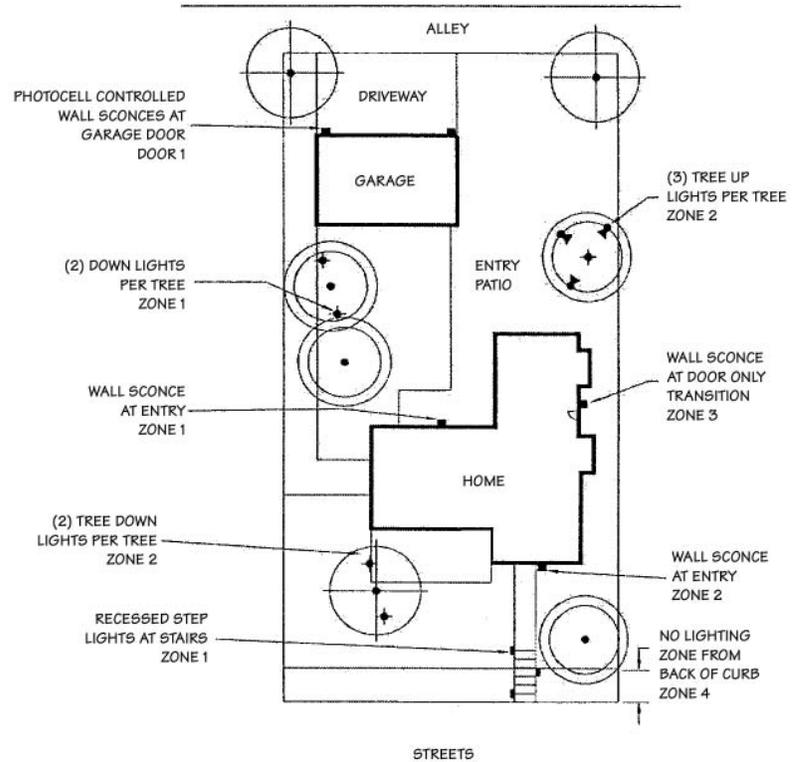


Lighting

## 5.9.2 Typical Lighting Plans

### LIGHTING FIXTURE LEGEND

- ▲ TREE UP LIGHT
- ◆ TREE DOWN LIGHT
- WALL SCONCES
- RECESSED STEP LIGHT



Lighting

## 5.9.3 Specifications Table

**Table of Maximum Wattages, Approved Lamp Characteristics and Mounting Heights For All Areas**

	Maximum Wattage	Maximum Lumens	Maximum Color Temp.	Light Distribution	Pole Mounting Height Above Finished Grade	Bollard/Path Light Mounting Height Above Finished Grade	Wall Sconce Mounting Height Above Finished Grade
Entry	Incandescent	500 lumens	2700 K	Direct Shielded	8'-0"	2'-6"	8'-0"
	Halogen	350 lumens	3200 K				
	Compact Fluorescent	400 lumens	2700 K				
Driveway	Incandescent	500 lumens	2700 K	Direct Shielded	8'-0"	2'-6"	8'-0"
	Halogen	350 lumens	3200 K				
	Compact Fluorescent	N/A	N/A				
Steps	Incandescent	200 lumens	2700 K	Recessed Direct / Louvered	8'-0"	2'-6"	8'-0"
	Halogen	140 lumens	3200 K				
	Compact Fluorescent	250 lumens	2700 K				
Planting	Incandescent	500 lumens	2700 K	Direct Shielded	N/A	2'-6"	8'-0"
	Halogen	350 lumens	3200 K				
	Compact Fluorescent	N/A	N/A				
Trees	Incandescent	200 lumens	2700 K	Direct Shielded	N/A	N/A	N/A
	Halogen	350 lumens	3200 K				
	Compact Fluorescent	N/A	N/A				
Water Feature /Pools	Incandescent	865 lumens	2700 K	Direct Shielded	N/A	N/A	N/A
	Halogen	900 lumens	3200 K				
	Compact Fluorescent	N/A	N/A				

### Definitions

#### Lumen

A unit of luminous flux equal to the light emitted in a unit solid angle by a uniform point source of one candle intensity. Lumens measure illumination levels. Lamps have a lumen rating to express how much light they produce.

#### Watt

The absolute meter-kilogram-second unit of power equal to the power produced by a current of one ampere across a potential difference of one volt: 1/746 horsepower.

Watts measure electricity levels. Lamps have a wattage rating to express how much electrical power they consume.