City of Palm Springs
Department of Planning Services

TECHNICAL ASSISTANCE FOR APPLICANTS (revised September, 2024)

Topic: TURF REMOVAL and WATER-EFFICIENT LANDSCAPES

Planning a turf removal project at your home, business, office complex or home-owners association?
"Turf-buy-back" programs sometimes offered by the City and Water Agency are a great way to start, but converting a landscape requires more than replacing grass with gravel and a few desert plants.

Converting a landscape from "*grass and petunias*" to "*groundcovers and succulents*" should not result in a dry barren look! Professional landscape designers can help you choose hardy plants and shade trees that meet the new water-efficient regulations and retain the GREEN! Here are some basic suggestions for creating LUSH but EFFICIENT landscapes… "after the grass is gone".

3 Simple Points to Remember:

1. Revisions to approved landscape plans including tree removal and replacement require design approval through the Planning Department PRIOR to seeking DWA or City rebates and prior to making the landscape change.
2. Water-efficient landscapes require 50% live ground coverage at plant maturity.
3. Shade trees are encouraged (and no topping or improper thinning of shade trees).

So… Let's begin!

1. **Rock, Gravel or decomposed granite – not more than 50% of your landscape.**

a. **<u>Not more than 50% gravel, rock or DG</u>** (called "inert groundcover") or decomposed granite ("DG") should comprise the area of your landscape project. Do not use DG adjacent to roads and sidewalks where it can erode and wash onto the pavement in storms and in windy zones where it creates wind-borne dust. In these areas use pea gravel instead of DG.

b. **<u>Sandy colored</u>.** Gravels and decomposed granite are available in many colors. Because most of Palm Springs lies on the sandy flat part of the valley, sand-colored, light gold or light brown gravels and granites create the most natural-looking desert landscapes. Avoid pink, white, black, or brown-colored gravels or DG.

c. **<u>Rocks in Clusters</u>.** Clustering piles of accent rocks and boulders together in greys, tans, and browns is a way to bring the natural "desert varnish" seen on the surrounding mountainsides into your design. Boulders should be the same general color as the inert groundcover (i.e. don't use grey "Cresta" boulders with a tan "Copper Canyon" gravel or DG.)

d. **<u>Dry Streambeds</u>**. Where there's enough space, creative placement of rock in a slight "gulley" can give the appearance of a dry streambed. See more details later in this guide for creating natural-looking dry streambeds.

Inert groundcovers: Decomposed Granite ("DG"), Gravel, Rocks, and Boulders:

Choose a neutral 'sandy' color, the natural tones of the sandy valley floor in which Palm Springs is located. This color will be used for roughly 50% of your landscape. Select from the colors below for your inert groundcover for parkways and medians along the streetfront. For accents of clusters of boulders or rocks, explore some of the river rock or crushed rock that capture the dark "desert varnish" seen on rocks from the surrounding mountains:


Brimstone Decomposed Granite


Desert Gold Decomposed Granite


Paradise Gold Decomposed Granite


Cresta Blonde


Chamois Beige Pea Gravel


Parchment Pebble


Mojave Gold Decomposed Granite


Rainbow Rock Boulders


Mojave Gold Crushed Rock


Horse Creek


Palm Springs Gold Crushed


Mexican Gold Onyx Boulders


Arizona River Rock


Copper Canyon Crushed Rock


Baja Cresta Rubble


(DRY STREAMBED)

2. Creating Dry Streambed Features in Landscapes.

a. If "dry streambed" features are created, do so in a naturalized appearance, placing a random scattering of larger boulders and rocks near the edges, smaller stones and gravel toward the middle – the way streambeds occur in nature.
b. Use rock of the same color as the adjacent gravel or inert groundcovers. Rounded grey river rock does not just suddenly appear in a natural dry streambed. The rock color of your dry streambed should be the same color family as the adjacent DG or gravel.
c. Notice how often ornamental grasses grow up around streambeds; consider adding ornamental grasses to your design. Keep in mind you're trying to create a naturally occurring condition.

EXAMPLES OF NATURAL-LOOKING DRY STREAMBED WITH RAMDOM EDGES AND VARIED ROCK SIZES.

DRY STREAMBED FEATURES CAN ALSO CREATE GOOD TRANSITIONS BETWEEN EXISTING TURF AND WATER-EFFICIENT LANDSCAPES

EXAMPLES OF WHAT NOT TO DO IN CREATING A DRY STREAMBED FEATURE

Avoid stone that doesn't match the adjacent gravel or DG. In the examples below, the stone sizes are too uniform, better integration of plants with the dry streambed is needed. Observe natural dry streambeds in the nearby mountains; most are not comprised of "rounded river rock"; rather they are usually fractured; reflecting the turbulent effect of intermittent storms.

3. Shade Trees, Groundcovers, Shrubs and Other Plants – the other 50%.

The other 50%. Shade trees, groundcover plants and shrubs should cover the remaining half of your project area. Here is just a small sample of water-efficient groundcover plants to consider:

 Natal Plum (Carissa-Green Carpet)	 Bacharis	 Sierra Gold Dalea	 Yellow Dot	 Bush Morning Glory
 Ice Plant (Drosanthenmum)	 Blackfoot Daisy	 Purple Trailing Lantana	 Trailing Gazania	 Japanese Garden Juniper
 New Gold Lantana	 Trailing Indigo Bush	 Trailing Rosemary	 Peruvian Verbena	 Small Leaf Myoporum

4. Put groups of the same type of plants together – 6 to 12 or more in a cluster.

When designing a landscape, plants look best when several of the same variety are planted together.

a. **Like a certain plant? Buy a dozen**. Plant a dozen of your favorite plant. Draw a good-sized circle on the ground and plant a dozen or so of the same plants together. Then, leave several feet of open space for gravel or decomposed granite. Eight or ten feet away, create another grouping of the same or different plants. Larger landscape areas may require a greater number of individual plants to be clustered together. The open space between plant clusters create visual movement through the landscape. (See examples later in this guide.)

b. **Creating groupings of the same plant or complementary plants.** Planting clusters of the same plant type and then allow some open space between the clusters creates variety and allows your eye to move from one grouping to another. This is what Landscape Architects mean when they say **"*Create movement and composition in the design of your landscape.*"** These groupings can incorporate two or three different plants that work harmoniously together; (example: yellow aloe and yellow lantana with miniature jade or Muhlenbergia rigens (deergrass).)

c. **Avoid a "Grandma's Garden" look.** By this we mean individual plants of varying species all scattered equally apart from one another. The plants should be grouped and selected with an eye for overall cohesive landscape design.

5. Choose some leafy plants and some "prickly" plants for visual VARIETY.

a. **Vary the HEIGHT of plants.** Plan some clusters of low-lying plants and then a cluster of taller plants behind**.** Select some plants in your water-efficient landscape that stay low-to-the-ground and some that are tall. For example a nice carpet of NATAL PLUM (Carissa Green Carpet) can form a lush groundcover as can spreading yellow or Sunset LANTANA, Angelina Sedum, Creeping thyme, Snow-in-summer (Cerastium tomentosum), or prostrate rosemary. Taller mid-range plants include TEXAS RANGER, Encilia, and others that have a bit more height can go further back. This is often referred to as plant "Hierarchy".

b. **Vary the TEXTURE of plants.** Bunch together a dozen "prickly" plants like CACTUS or AGAVE, then leave some open space with your "inert groundcovers", and then some "soft" plant such as ENCILIA or DEERGRASS for visual variety.
The plants below represent a sampling of different colors, textures, and height. All these plants should be arranged in groups or clusters, never "*one here and one there*".

c. **Vary the COLOR.** Even in the heat of the summer or the chilly nights of winter, there are rich color variations in desert plants. Consider a punch of color in one or two areas of your landscape.

 Encilia	 Texas Ranger	 Deergrass	 Yellow Bells	 Ruella
 Barrell Cactus	 Pencil Cactus	 Fencepost Cactus	 Dwarf Bottle Bush	 Angelina Daisy

d. **Self-propagating – Plants that reseed.** Plants like Angelina Daisy, Damianita Daisy, Verbena, Gazania and others are self-propagating and great as infill choices.






e. A brief word about Agaves: Like all live plants, agave are vulnerable to insects and disease. If you include agaves in your new landscape plan, be prepared to treat them annually against agave weevils, a beetle-like insect that eats the insides out of an agave and ultimately kills them. Sagging, drooping or withered spears on the agave are the telltale sign, and by the time you see it, it's usually too late to save the plant. Best to remove it, inspect other agave in your garden nearby, and treat against agave weevil right away. Your favorite garden or home improvement store can advise you on proper care and treatment.

 Agave Potatorum	 Agave Angustifolia	 Agave Americana	 Infested Agave	 Agave Weevil

6. "Lead by Example".

There are many wonderful examples around town of water efficient landscaping in residential and commercial properties as well as parkways, medians, and front yards. Notice in the photos below many of the design principles noted above: roughly 50% groundcover, 50% "inert" gravels, texture, color, variation in height, "visual movement" such that the planting draws your eye from area to area.

The following pages contain photos of landscape parkway and medians that have been done around Palm Springs in a water-efficient manner:

Deergrass behind Red Yucca

Clusters of Aloe and Creeping Bottle Brush

A nice grouping of Agave

Sandy field with dry streambed (remember rushing water pushes the big rocks to the side, smaller rocks in a jumble in the middle; irregular, scattered)

Linear movement using deergrass

Deergrass, Natal Plum, dark boulders light colors gravel

Aloe and Purple Lantana

Aloe and sandy decomposed granite

A field of gazanias

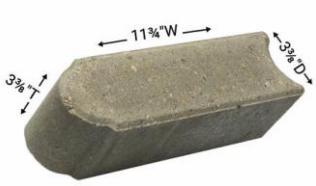
If you are unsure of what a good example of a well-designed landscape might look like, go ahead and take a few photos of landscapes that appeal to you and bring it into the Planning Department, one of our knowledgeable planners can review it and give you some suggestions.

7. **Avoid using "Benderboard or metal edging.**

It almost always comes out. Instead create a natural transition between turf and desert lansdscaping.

a. Use stepping stones as the transition between turf and desertscape.
b. Use of weed cloth or plastic sheeting beneath the stepping stones to control sedge or weed grass from sneaking through.
c. Use spreading groundcovers at the transition between turf and desertscape to hide the metal edging such as Trailng Lantana, Carrissa Green Carpet, Prostate Rosemary, Miniature Jade .

d. **ALTERNATIVELY, USE ORNAMENTAL GRASSES OR SPREADING GROUNDCOVER PLANTS AS A TRANSITION** to create natural borders between turf and desertscape as shown below.
e. Alternatively concrete edging could be considered either in a poured concrete edge or modular edge blocks as seen below which can be purchased for just over a dollar per foot.

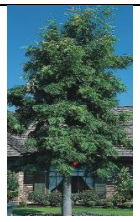


8. Always Include Shade Trees:

Trees are a vital part of a desert landscape, giving shade to you, your garden, your vehicles and your home but also to replace the cooling effect of TRANSPIRATION that is lost with the removal of turf.




Who hasn't circled a parking lot looking for that last shaded parking space under a tree? Trees are a natural refuge from the harsh desert sun and an important component of a drought tolerant landscape. There are many species of drought tolerant shade trees. Some popular ones are noted below but there are many other tree species to choose from.

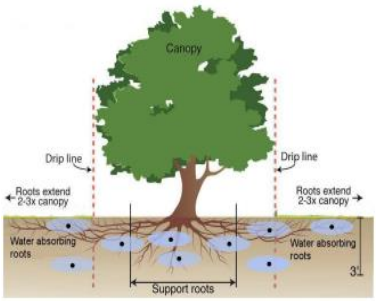
					
Seedless Chilean Mesquite	Bottle Tree	Velvet Ash Tree	Chinese Pischache Tree	TipuanaTree	Mountain Laurel
					
California Sycamore	Raywood Ash	Fruitless Mulberry	Eucalyptus	Aleppo Pine	Silk Oak or Live Oak

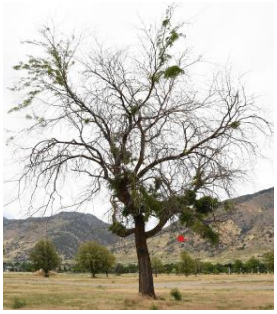
a. When choosing and locating a shade tree, be mindful of the tree's full size at maturity and that it is provided with adequte ground space for estalbishing strong roots.
b. Consider including shade trees near sidewalks, parking lots and driveways but allow at least a six foot by six foot ground area for healthy root growth and development.
c. Avoid Shoestring Acacias which tend to be droopy-looking, stressed and afford very little shade.
d. Trees count toward the goal of 50% live groundcover at maturity. Always include shade trees in your desertscape.
e. Occasionally old trees die out or become diseased or are planted too close and begin to affect sidewalks and structures and need to be removed. The City is very accommodating when it comes to tree replacement in existing landscapes– applying a "one for one" policy: remove a shade tree, plant a new shade tree of similar species to maintain good shade coverage over time. If a shade tree needs to be removed a new shade tree needs to be planted. It can be at or near the location of the tree that is scheduled for removal.

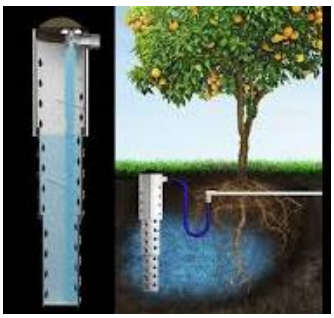
A Special Note about proper irrigation for your existing shade trees before and after the turf is removed:

Mature trees are irreplaceable. New irrigation systems for existing trees that have been surrounded by turf for many years must be very carefully designed so the trees don't die from the reduced amount of water. Three or four bubblers or emitters for a mature tree is not enough. Install and maintain a 4-6 inch depth of organic mulch to protect roots from heat and help preserve moisture. Use care not to damage roots during turf removal. Provide deep watering of the trees prior to turf removal. New irrigation for exisitng trees should include drip rings or emitters to provide 75% or more of the water previously supplied to the tree by turf sprayers and should provide water to the

entire root zone (ideally two times the diameter of the existing tree canopy). Deep watering tubes help the tree grow roots downward (photo below right). Consult a qualified arborist for proper design & watering to preserve your existing mature trees.







9. Turf Alternatives

The landscape industry is developing groundcovers that have similar characteristics to turf, but that thrive on considerably less water than conventional grasses such as Burmuda Grass. New hybrids such as Kurapia, Fescue as well tried-and-true California native grasses such as Bent Grass, Buffalograss, Dune Sedge, (Carex), even Clover are replacing conventional turf areas with water savings up to 50 to 70%, and reducing frequency for watering from daily to every 2 to 4 weeks. These may be options for the small areas where it is desirable for some turf to remain.



10. Financial Incentives and Assistance – Desert Water Agency (DWA) and Palm Springs Sustainability Department.

From time to time, the City of Palm Springs and the Desert Water Agency (DWA) offer financial incentives for property owners to remove water-thirsty turf and install drought tolerant landscapes. The DWA has its own technical assistance guidelines and frequently-asked-questions on line at (www.dwa.org/turf). There are often incentives for turf, spray nozzles, and automatic irrigation valves – seek rebates for all parts of your project that qualify. (https://programs.dwa.org/rebate/grass_removal).

The Palm Springs Sustainability Department has information about any City rebate programs. Both programs are administered slightly differently and offer different incentives. ALL projects must begin with design approval through the Planning Services Department.

Begin by reading over both agency's incentive program instructions and qualifications. City-offered turf-removal incentive programs are coordinated between the Sustainability Department, the Planning Department and the DWA. The Sustainability Department administers the financial incentive component, the Planning Department administers the landscape design review component, and the DWA reviews the technical aspects for conformance with the City's Water-Efficient Landscape Ordinance (Municipal Code Section 8.60, found on-line).
Phone numbers: Sustainability: 760.323.8214; Planning: 760.323.8245; Desert Water Agency: 760.323.4971 and websites are listed at the end of this document.

For more information on the City's water conservation ordinance, visit (https://library.qcode.us/lib/palm_springs_ca/pub/municipal_code/item/title_8) Chapter 8.60 of the Municipal Code is the water-efficient landscape ordinance and Chapter 11.06 is the water conservation ordinance. Landscape revisions greater than 2,500 square feet must conform to the City's Water Efficient Landscape Ordinance (PSMC 8.60)

11. Putting your Ideas on paper – Getting City Approvals.

How does one get a water-efficient landscape plan designed and drawn that the City Planning Department or DWA will approve?

a. **Architectural Review for Landscapes?** Yes, The Zoning Code terminology for review of landscapes is called "architectural review"; it simply means review against a standard set of guidelines. Use the form "Minor Architectural Application" found on the City's On-line Application Portal on the Planning homepage of the City website (www.palmspringsca.gov) which provides submittal instructions.

*** All landscape alterations require Planning Department approval, including individual tree removal and turf conversions. ***

b. **Staff-level Approvals** Most landscape revisions for multi-family, commercial and industrial developments can be approved at staff level. The Planning Director has the authority to forward a landscape application to the Architectural Review Committee ("ARC") for consultation before rendering a decision. Typically larger, more complex projects involving landscape revisions may require ARC review and recommendation. The guidelines in this technical assistance guide and those from the "architectural review" section of the zoning code (Section 94.04) as well as Municipal Code Section 8.60 (Water Efficient Landscape Ordinance) are the basis of evaluation for conformance and approval of landscapes.

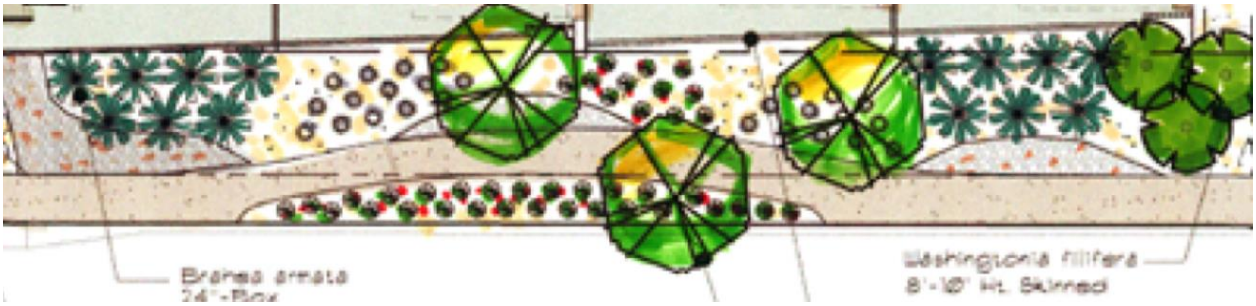
c. **Landscape Submittal Requirements:** Landscape plans, like building plans, must be drawn clearly and convey the information necessary for the City to grant an approval. Below is a sample Plant List or "Legend" showing some of the required information:
   i. Plant Name and Symbol. It doesn't matter what symbol you use for each plant, but identify the plant name associated with each symbol that you use in the Legend (see example below). Use the common name of plants where possible (rather than the botanical name).
   ii. Quantity and Size of each plant type (usually in gallons or w/trees "24-inch, 36-inch or 42-inch box").
   iii. Area of the landscape allocated for each plant type. This helps you visually plan your landscape. IMPORTANT: show the plant symbols at roughly the size of the plant at its maturity. The DWA plant list has a handy "coverage" listing for each drought tolerant plant type. The drawings need to show the plants on the plans at maturity; so the symbol on the landscape plan for tree will be much bigger than that for a shrub.
   iv. Estimated water use (Landscape Architects and plant nurseries may be able to assist you with this info).

SAMPLE PLANT LIST OR LEGEND: (for your proposed drought tolerant landscape, create a plant list like this:)

Plant ID symbol	Plant Name	Quantity	Size (gallons)	Area Coverage	Water Use
1 	Natal Plum	24	1 gallon	4 ft x 4 ft	Mod. 0.5
2 	Deergrass	18	5 gallon	3 ft x 3 ft	Low 0.2
3 	Texas Ranger Bush	15	15 gallon	5 ft x 5 ft	Mod. 0.5
4 	Creeping Rosemary	9	1 gallon	6 ft x 6 ft	Mod. 0.5
5 	Thornless Mesquite	9	24 inch box	25 ft x 25 ft	Mod 0.5

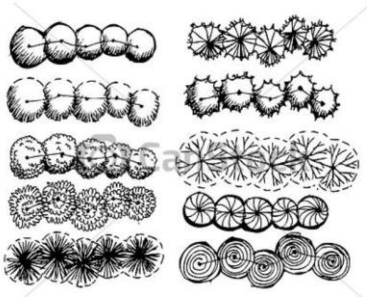
d. **But what if we can't afford a landscape architect? Does the Planning Department have standard landscape templates we can just apply to our project?** We don't have templates, however we can point to examples of good

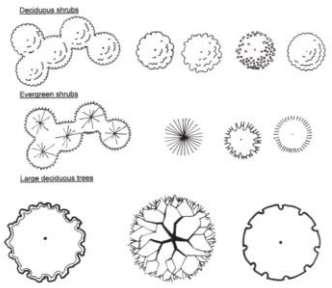
landscape design around town. The City encourages project applicants to seek assistance from professional landscape consultants. Many good desert landscape ideas can be found via an on-line search for "drought tolerant landscapes" or "water efficient landscapes". On the next page are examples of simple landscape plans for parkways and medians. There are also many examples of plant symbols one could use. Use a different symbol for each plant type. Notice the grouping or clustering of similar plants together with open areas of "inert groundcover" (gravel and granite) in between. Notice also the plants symbols are showing the relative size of the plant at maturity, tree symbols are bigger and small shrub symbols are smaller.

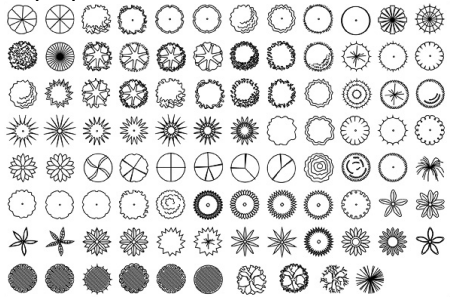


Notice in the first photo below a natural-looking arrangement of boulders and smaller fractured rocks, yellow aloe, desert marigold, miniature jade and ornamental grasses are clustered together – creating an ensemble of texture and color. Natural areas of fallen boulders and fractured rock often hold moisture - allowing tall grasses and self-propagating flowers to take hold. Creating this kind of natural-looking collection of plants can be very effective.

Below are sample plant symbols you might use in your own landscape plan.

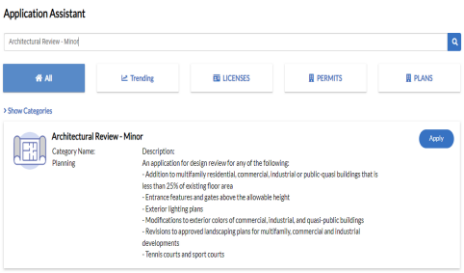






You may contact the Planning Department at 760 323 -8245 or Planning@palmspringsca.gov and review your preliminary conceptual landscape plan with a staff planner for basic conformance with these guidelines. Then submit your proposed landscape alteration project for processing through the "Palm Springs Online" application system. A link can be found on the Planning home page of the City website (www.palmspringsca.gov).

Click on the link, create an account, apply under “Plans” and choose “Architectural – Minor”:



12. Good Examples, Bad Examples:

Proper maintenance of your water efficient landcape.

GOOD EXAMPLES cluster low to high, vary rock & gravel, use flat stones & ornamental grasses instead of benderboard for edges between grass & desertscape.

“*PLANT MATERIALS SHALL BE RETAINED IN THEIR NATURAL SHAPE*.” Zoning Code Section 93.19.00

It is not uncommon for landscape maintenance crews to carve shrubs into spheres, squares, cylinders and cones – This is NOT how water-efficient desert landscapes should be maintained. Harsh pruning results in fewer blooms and dead branches. Open cuts in branches also are potential sources for infection, disease and damage from insects.

Do not allow this kind of pruning to occur on your landscape:



Instead, instruct your landscape maintenance crew to trim, not shear, your shrubs to maintain their natural form and appearance.



<u>WHAT MAKES THE NEXT GROUP POOR EXAMPLES OF LANSCAPE DESIGN?</u>
Plants too far apart, no heirarchy of height, no clustering of plants, wrong gravel color, no overall composition, inadquate live plant coverage, barren-looking.



<u>BAD EXAMPLES OF PRUNING: Do NOT allow your bushes to be shaved into balls, cylinders and squares, allow them to grow naturally – trimming them sparingly to control size. Place, or relocate large spreading shrubs away from roads and sidewalks to allow natural growth and reduce maintenance costs for trimming.</u>




BAD EXAMPLES OF TREE THINNING, "LION-TAILING" AND TOPPING –

Trees do not need this severe pruning! Its ugly, unhealthy, unnecessary and damages the tree! It is prohibited pursuant to Municipal Code Section 11.72.170 and Zoning Code Section 93.19.00.

The cuts expose the tree to blight, insects and disease. It deforms the natural canopy of the tree and compromises the structure by causing new growth only at the ends of branches. Proper tree maintenance does NOT require severe pruning, thinning or topping.

Look around town and notice the trees and shrubs that look the most healthy, have the most bloom and best natural shape – they are NOT trees and shrubs that have been harshly pruned and chopped in this manner. Even in windy areas, trees do not require this degree of severe pruning.

Topping a tree causes unnecessary stress on a tree. It leads to a rapid re-growth of foliage making the tree top-heavy and susceptible to wind damage, wounds to branches and limbs that may lead to decay, and permanent deformation to the natural form of the tree canopy.

Lion-tailing consists of removing a significant amount of branches from the tree and stripping the foliage from the interior of the tree which stresses the tree, causing it to form suckers, exposing interior trunk and branches to sun damage and branch breakage due to excessive end weight.

Do NOT allow your landscape maintenance company prune your trees in this manner. (Google: "*Why topping hurts trees*"). More information on pruning or thinning trees can be found in the CVWD Publication "*Lush and Efficient*".

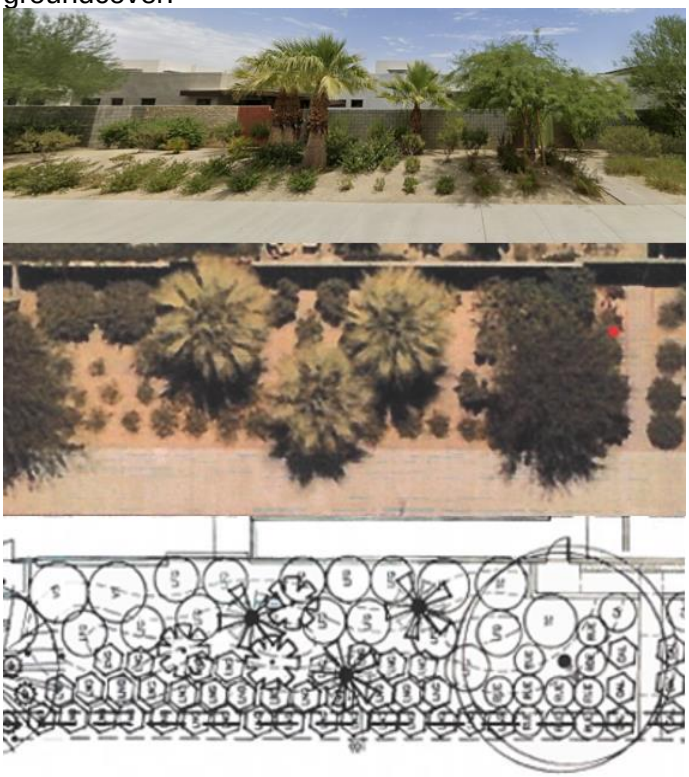
Additional Resources:

a. Palm Springs Planning Department – 760 323 8245; www.palmspringsca.gov/government/deparments/planning
b. Palm Springs Sustainability Department – 760 323 8214.
c. Desert Water Agency – 760 323 4971; www.dwa.org/turf.
d. Coachella Valley Water District CVWD publication: "Lush & Efficient, Landscape Gardening in the Coachella Valley"
e. The Metropolitan Water District of Southern California www.bewaterwise.com) (plant guides and related info).

13. WHAT IS MEANT BY 50% LIVE GROUND COVERAGE AT PLANT MATURITY?

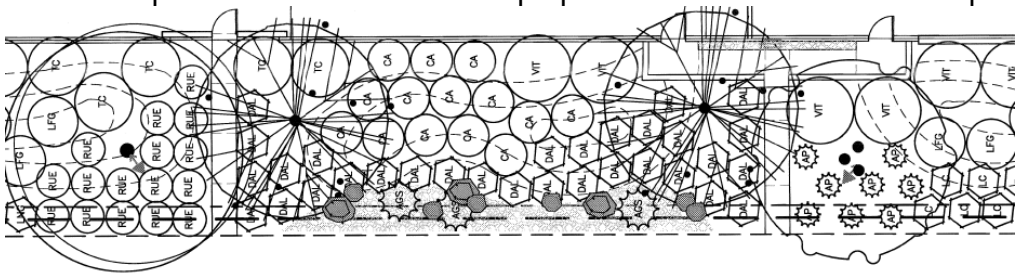
Below are two landscape examples showing street view, aerial view and the lanscape design drawings. The project at the left shows good live ground coverage, while the one on the right needs more shade trees and groundcovers.

Below left is an example of a well done water efficient landscape design that achieves 50% live groundcover.



Below right is an example of a landscape that provides inadequate plant coverage and is barren. It needs both shade trees and more groundcovers.

Here is another example of a successful landscape plan and the resultant landscape as planted.



In summary, good landscape design that helps our community transition from water-thirsty lawns to water-efficient landscapes achieves the goal of water conservation while also increasing shade and maintaining the lush, verdant and attractive community that we all enjoy.

(Above: A water-efficient landscape of Yellow Aloe, Desert Marigold, Miniature Jade, Muhlenbergia Grasses, Boulders)

"The Desert… when the sun comes up…I couldn't tell where heaven stopped and Earth began" ---Tom Hanks

Further questions? Contact the Palm Springs Planning Department at 760 323 8245.