

Designing a Low Water Use Landscape with Florida Friendly Landscape Practices

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What is low water use landscape design?

A “low-water use” landscape design promotes water conservation through the use of:

1. Efficient irrigation
2. Appropriate plant selection and placement
3. Soils amendments
4. Practical use of turf grass
5. Use of mulch
6. Proper maintenance practices

1. Efficient Irrigation

- Water requirements change throughout the year
- It is important to adjust your irrigation system accordingly
- Over or under watering can result in unnecessary stress on plants, which can lead to costly replacements



How do we increase irrigation system efficiency?

1. Update irrigation controllers
2. Install a rain shut-off switch
3. Utilize high-efficiency nozzles
4. Drip irrigation
5. Irrigate at the correct time of day....When?
6. Irrigate correctly.....How?
7. Perform routine system checks
8. HIRE A PROFESSIONAL!!!!



2. Appropriate Plant Selection and Placement

- Select plants based on the following requirements:
 - ✓ Aesthetics – how the plant looks, feels, smells i.e. color, texture, growth habit and size.
 - ✓ Function – will the plant perform a function in the landscape i.e. screening, accent, foundation etc..
 - ✓ Site conditions – requirements that a particular plant needs to perform well i.e. light, water, soil etc.



Right plant, right place

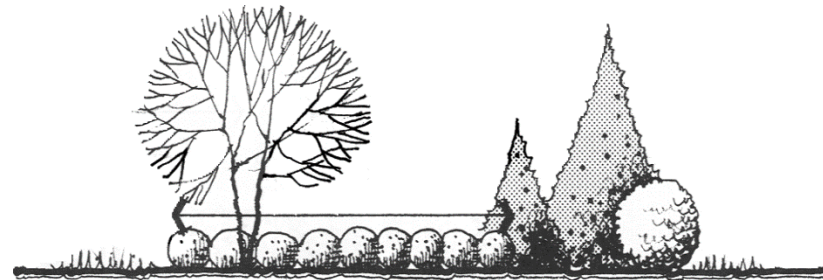
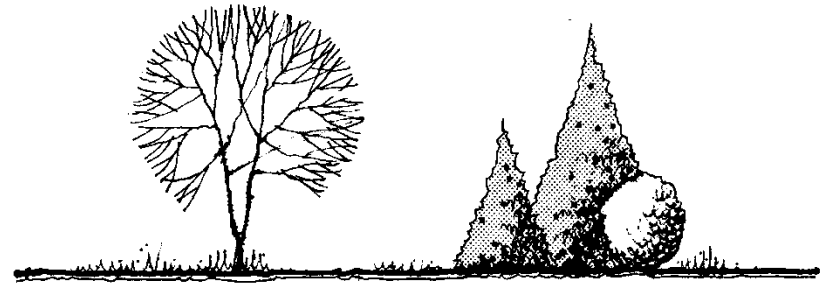
- Benefits of choosing wisely:
 - ✓ Healthier plants
 - ✓ Increased life spans
 - ✓ Less maintenance



= money saved over time!

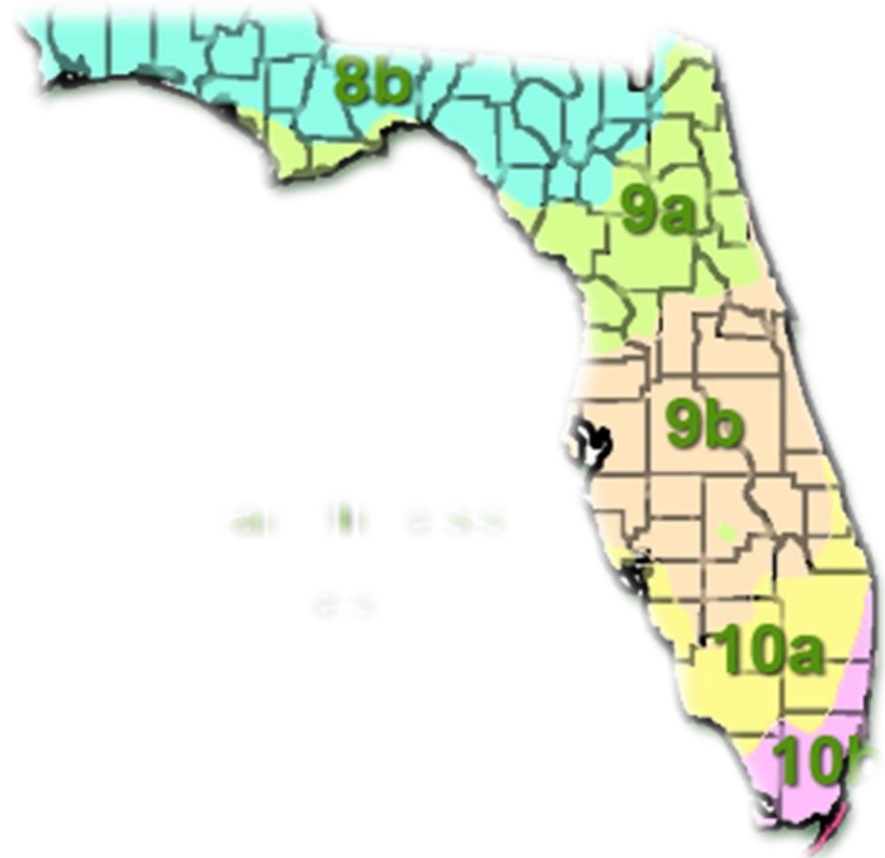
Right plant, right place

- Group plants with similar requirements



- Use low maintenance groundcovers instead of turf when appropriate

Plant Hardiness Zones



Plant placement



- Maintenance
- Space

- Ecological requirements
- Growth requirements



12-1-90

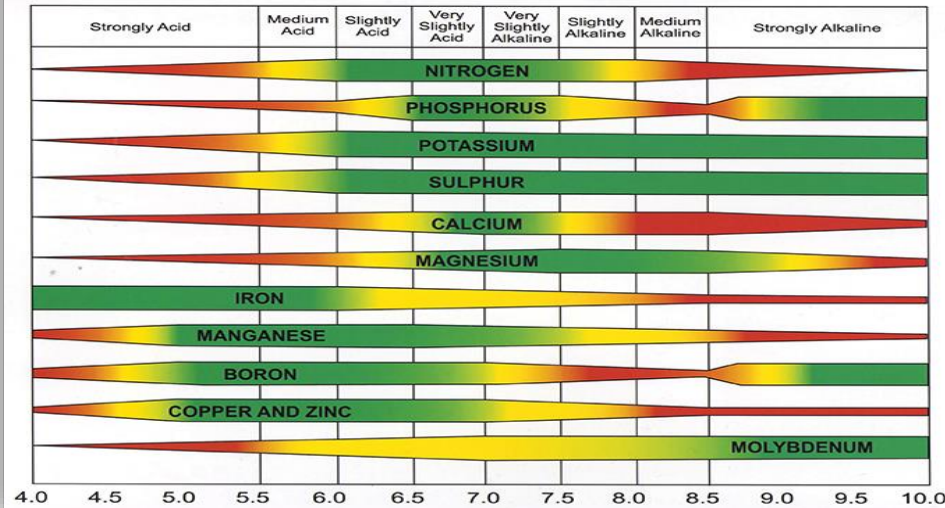
3. Soil Amendments

- Identify type
 - acidic or alkaline
 - sand, clay or gravel
 - fertility
- Identify depth of topsoil
- Identify depth of bedrock
- Identify percolation rate



Soil chemistry

How soil pH affects availability of plant nutrients.



Ideal pH?



Test	Results	SOIL TEST RATINGS					Calculated Cation Exchange Capacity
		Very Low	Low	Medium	Optimum	Very High	
Soil pH	7.8						13.6 meq/100g
Buffer pH	7.98						
Phosphorus (P)	130 LB/ACRE						Calculated Cation Saturation
Potassium (K)	124 LB/ACRE						%K 1.2
Calcium (Ca)	5060 LB/ACRE						%Ca 93.0
Magnesium (Mg)	140 LB/ACRE						%Mg 4.3
Sulfur (S)	64 LB/ACRE						%H 0.0
Boron (B)	1.2 LB/ACRE						%Na 1.5
Copper (Cu)	4.0 LB/ACRE						
Iron (Fe)	240 LB/ACRE						
Manganese (Mn)	28 LB/ACRE						
Zinc (Zn)	23.8 LB/ACRE						
Sodium (Na)	92 LB/ACRE						
Soluble Salts							K : Mg Ratio
Organic Matter	2.1 % ENR 88						0.27
Nitrate Nitrogen							

SOIL FERTILITY GUIDELINES

Crop : ZOYSIAGRASS LAWN

Yield Goal : 1

Rec Units: LB/1000 SQ FT

(lbm)	LIME (lbm)	N	P ₂ O ₅	K ₂ O	Mg	S	B	Cu	Mn	Zn	Fe
0		3-5	0	5	0	0	0	0	0.1	0	
Crop :											
Rec Units:											

Comments :

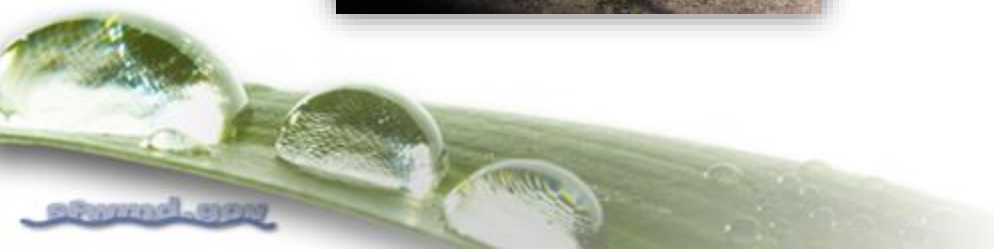
ZOYSIAGRASS LAWN

The soil pH is too high for the plants indicated. Apply 15 lbs sulfur/1000 sq ft in spring and fall. Water thoroughly. Test, again before making additional applications of elemental sulfur. If grass is chlorotic (yellow), a foliar iron source may hasten color improvement.

Soil test report

4. Practical Use of Turf Grass

- Select turf for functional reasons beyond aesthetic value.
- Avoid narrow turf strips. Consider maintenance!!



5. Use of Mulch

- Affects soil temps
- Reduces soil erosion
- Inhibits weed growth
- Improves soil over time
- Aesthetically pleasing
- ***Aids in maintaining soil moisture***



6. Proper Maintenance

- Shrub/Hedge Pruning



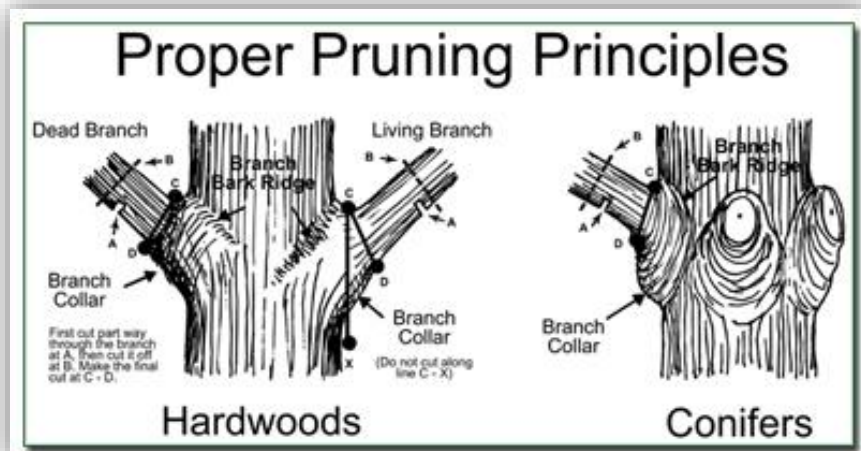
Correct



Incorrect

Figure 11. Proper Hedge Pruning

- Tree Trimming
(Hire a Professional)



Proper maintenance

- Integrated Pest Management –
Spot treatments vs blanket
applications
- Correct mowing heights
- Proper application of
SLOW RELEASE
Fertilizers



Additional Florida Friendly Practices:

1. Efficient irrigation
2. Appropriate plant selection and placement
3. Soils amendments
4. Practical use of turf grass
5. Use of mulch
6. Proper maintenance practices
7. Reduce storm water runoff
8. Attract wildlife
9. Recycle
10. Protect the waterfront



7. Reduce Stormwater Runoff

- Direct downspouts and gutters onto lawn or landscape beds, use rain barrels or rain gardens



8. Attract Wildlife

- Plant larval, nectar and fruiting plants



***Zamia floridana* - Coontie**



Coontie is a slow growing native that is frequently used in the landscape as a specimen/accent plant or planted in small masses. Coontie has leathery, dark green, fern-like foliage. It can reach heights of four feet with a four foot spread, but is typically found much smaller in the landscape. It prefers full sun to lightly shaded locations and is tolerant of most soils.

Coontie also plays a vital role in the butterfly community. It is the sole host plant for larvae of the rare Atala butterfly. As the larvae of the Atala consume the foliage of the coontie, they retain the plant's natural toxins, which makes them a non-desirable meal for birds and other predators. Once the larval development is complete, the coontie will recover, but it will look a bit unsightly until new foliage develops.



Helianthus debilis – Dune Sunflower



Dune sunflower is a fast growing native perennial that is well suited for sandy locations. It is often used in mass plantings or as an accent plant in sunny locations throughout Florida. Dune sunflower rarely gets more than 2' tall, but can have a spread of up to 4'. The showy yellow flowers persist year round. Dune sunflower may need to be cut back in the spring, because they can become leggy or thin looking through the cooler months.

Stachytarpheta jamaicensis – Blue Porterweed



Blue porterweed is a semi-woody perennial groundcover that will thrive in hot dry locations. It produces blueish/purple flowers throughout the year that attract a wide variety of butterflies. Blue porterweed requires full sun for maximum color. In full sun it will rarely reach 2.5' in height, but it can spread 3' or more. It is highly drought tolerant once established, and will tolerate sandy nutrient poor soils.

Hamelia patens – Firebush



Looking for a plant to attract birds, butterflies and even hummingbirds? Look no further than Firebush. Firebush is a fast growing native shrub or small tree that is commonly used in buffer plantings or as an accent or specimen plant. In shrub or tree form Firebush can reach 10-12' or more in height and 6-8' in width. It produces showy reddish tubular flowers and juicy purplish berries year round. It is typically found with multi-trunks, and performs best in full to partly sunny locations.

9. Recycle

- Utilize composting bins and mulching mowers



10. Protect the Waterfront

- Establish a maintenance-free zone around waterbodies



What does a “low-water use” landscape look like?



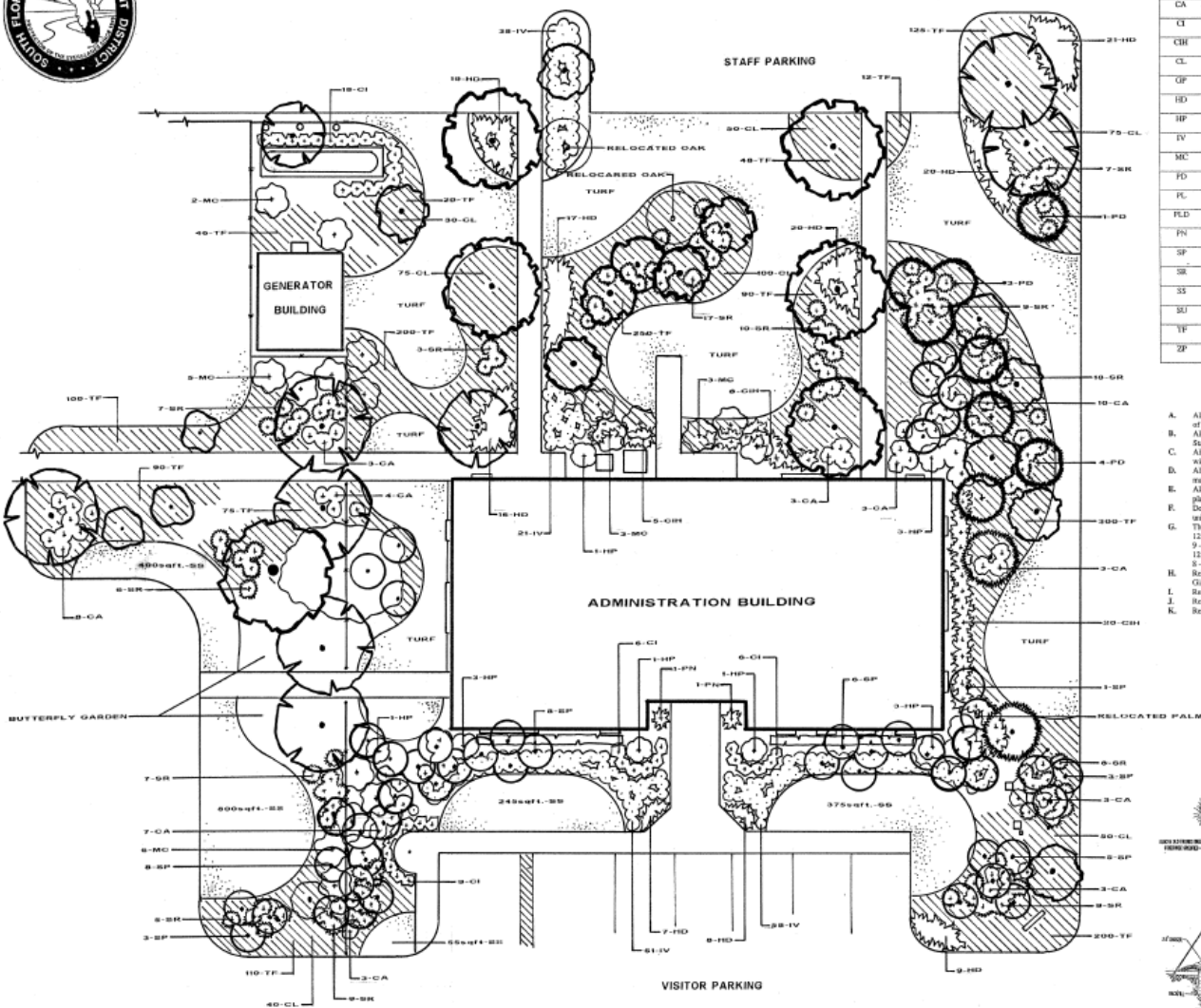
- Low-water use landscape?



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Examples of a Florida friendly landscape



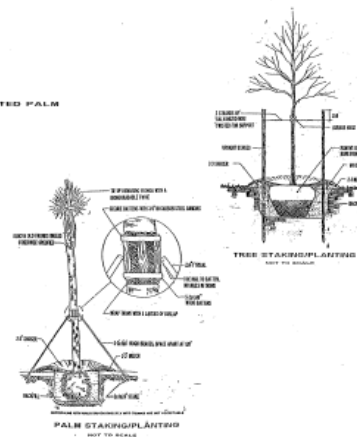


PLANT SCHEDULE

SYMBOL	QUANTITY	PLANT NAME BOTANICAL COMMON	SIZE	NOTES
AC	12	<i>Asclepias speciosa</i> - Beeblossom	1 gal.	Orange
CA	20	<i>Callisaya americana</i> - Am. Scaevola	3 gal.	Full
CI	50	<i>Chrysanthemum</i> - Chrysanthemum	3 gal.	Full
CH	35	<i>Chrysanthemum</i> - Chrysanthemum	3 gal.	Full
CL	420	<i>Campylopus</i> - Campylopus	1 gal.	Full
GP	17	<i>Gaultheria</i> - Gaultheria	1 gal.	Full
HD	145	<i>Holoptelechia</i> - Holoptelechia	1 gal.	Full
HP	13	<i>Hemiphragma</i> - Hemiphragma	3 gal.	Full
IV	168	<i>Illex verticillata</i> - Dwarf Hollibaugh Holly	3 gal.	Full
MC	19	<i>Myrica verticillata</i> - Wax Myrtle	3 gal.	Multiple
PD	8	<i>Pinus densa</i> - South Florida Slash Pine	3 gal.	Mixed colors
PL	31	<i>Pinus laevis</i> - Pine	1 gal.	Mixed colors
PLD	14	<i>Psychotria ligustralis</i> - Dwarf Wild Coffee	3 gal.	Full
PN	2	<i>Psychotria nervosa</i> - Wild Coffee	3 gal.	Full
SP	34	<i>Sabal palmetto</i> - Cabbage Palm	15-20"	Horizon out
SR	115	<i>Sorbus sp.</i> - Star Palmetto	3 gal.	Full
SS	1,875	<i>Stenotaphrum secundatum</i> - Pavane St. Augustine grass	3 gal.	Blue
ST	9	<i>Stenotaphrum secundatum</i> - Blue St. Augustine	3 gal.	Blue
TP	1,560	<i>Typhonium flexuosum</i> - Florida Star Grass	1 gal.	Full
TP	12	<i>Zamia parvifolia</i> - Coastal	8-10"	Multiple

NOTES

- All plant material will be Florida No. 1 or greater. As defined by the Florida Department of Agriculture and Consumer Services, "Grades and Standards for Nursery Plants".
- All Soil Pans will be marked at the time of planting in accordance with the "Palm Staking/Planting" detail. (As shown).
- All single trunk trees, i.e. Shrub plants will be marked at the time of planting in accordance with the "Tree Staking or Grading details. (As shown).
- All planting beds will be marked with a minimum of three (3) inches of District approved mulch. (Cypress mulch will NOT be accepted).
- All *Cycas revoluta* - Tolerant will be planted randomly in groupings of 20-25 plants throughout specified beds.
- Details generated by the best preparation process will be disposed of by the contractor, unless otherwise directed by the District Project Manager.
- The butterfly garden plantings will include the following plants:
12 - *Asclepias speciosa* 17 - *Gaultheria*
9 - *Stenotaphrum secundatum* 14 - *Psychotria ligustralis*
12 - *Zamia parvifolia* 31 - *Pinus laevis*
8 - *Illex verticillata*
- Relocate six (6) *Cycas revoluta* - King Sago and fifty (50) *Liriodendron tulipifera* "Swamp White" to the butterfly garden area.
- Remove and dispose of all existing *Eugenia* and *Euphorbia* spp.
- Relocate one (1) *Sabal palmetto*.
- Relocate three (3) *Quercus virginiana*.



REVISIONS	BY

WEST PALM BEACH FIELD STATION ADMINISTRATION
BUILDING LANDSCAPE RENOVATION PLAN
SOUTH FLORIDA WATER MANAGEMENT DISTRICT
801 SANBURY WAY
WEST PALM BEACH, FLORIDA 33411



DESIGN	JSP
CHECKED	
DATE	1-15-20
SCALE	1"=20'-0"
SHEET	2
SHEETS	2

This is so true....

There is always a need to carry on.

Marjory Stoneman Douglas



Lake Okeechobee

When this is possible at any given time!



Lake Okeechobee, 2007



Lake Okeechobee, 2011



Clear Lake, WPB 2015

QUESTIONS?

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