Let’s Get Started
“Making The Revenant was about man's relationship to the natural world. Our production needed to move to the southern tip of this planet just to be able to find snow. Climate change is real, it is happening right now. We need to support leaders around the world…

Let us not take this planet for granted.”
San Diego County Water Authority

- Wholesale water agency created by the State Legislature in 1944
- Serve 3.3 million people -- 97% of county’s population -- through 24 member agencies and 310 miles of pipeline
- $220 billion economy
- Builds, owns, operates and maintains regional water infrastructure
- Provide about 75% of the water used across the
San Diego Has Few Natural Water Assets

Very Little Groundwater
San Diego Has Few Natural Water Assets

Very Little Rainfall

1946

Sacramento 18.5"
San Francisco 24"
Bakersfield 6.5"
Los Angeles 15"
San Diego 10"
Tucson 12"
San Diego County’s Water Sources

16% Local Supply
64% Colorado River
20% State Water Project
We’re at the End of Very Long Pipelines
Droughts are Common in California
Supply Diversification

- Conservation
- Canal Linings
- Reclaimed Water
- Carlsbad Desal Plant
- Potable Water Reuse
- Local Surface Water

San Diego County Water Authority
Our Region’s Trusted Water Leader
Grass Requires 40" of Water a Year

Imported Water Each Year

San Diego Averages 10" of Rain a Year
Joni German
Water Resources Specialist
San Diego County Water Authority
(858) 522-6705
jgerman@sdcwa.org
WaterSmart Landscape
MAKEOVER SERIES

Let’s Get Started!
Housekeeping:

Breaks: mid-class, after lab
Restrooms (please respect closed-off areas)
Please silence your cell phones
If you can’t attend, contact us!

WaterSmart Series Contacts:

Michelle Landis, Project Manager
Leticia Perez Isaac, Project Coordinator
Rania Theodosi, Project Coordinator
Studio West Landscape Architecture + Planning
Email: landscapemakeover@sdcwa.org
Introductions

Please introduce yourself...

- Name
- Geographic area
- Personal Goals

Thank you!
How many of you are here to ...

- Reduce your water use?
- Learn which plants to use?
- Get curb appeal?
- Get a planting plan?
- Learn how to retrofit irrigation?
- Reduce maintenance?
Course Goals

Learn the knowledge and skills necessary to convert a high-water-use turf area into a beautiful, WaterSmart landscape, including how to:

1. Identify Your Landscape Target
2. Create a Basic Plot Plan
3. Evaluate Your Site
4. Design Your WaterSmart Landscape
5. Implement Your Plan
6. Care for Your WaterSmart Landscape
WaterSmart Landscape MAKEOVER SERIES

Class 1
Let’s Get Started
Watersheds, Base Plan, Scale, Soil, Stormwater & Site Evaluation

Class 2
Shaping Spaces
Landscape Design Fundamentals, Plant Selection & Functional Design

Class 3
Make it Happen
Irrigation Design, Turf Removal, Implementation & Maintenance

Class 4
Design Coaching
LID, Planting and Irrigation Plans & Evaluations
Let’s Get Started

Learning Objectives

Water and San Diego County
Reasons to be WaterSmart

Course Orientation
Goals
Materials

Why Remove Turf?
Water Requirements
Rainfall in SD
Sample Projects

Steps to WaterSmart
1. Identify Your Target
2. Create a Plot Plan
3. Evaluate Your Site
   Watersheds
   First Flush
   Soil
   Managing On-Site Water Techniques

Achieving a WaterSmart landscape requires careful planning and implementation, but the many benefits you will derive — which include improving the beauty of your property, reducing maintenance, minimizing water pollution due to runoff, and conserving water — are well worth the effort.
Course Materials

• **Notebook**
  - Presentations
  - Homework and work sheets at end of each Class section
  - Support Materials: Reference material and some larger slides
  - Final Survey

• **A Homeowner’s Guide to a WaterSmart Landscape**
  - Details of entire process
  - Reinforces class material
  - WaterSmart Plant Palettes

• **Base Plans**
  - Class 1: L-1 Property with Details
    - L-2 for Low Impact Development
  - Class 2: L-3 Planting Plan with fewer details
  - Class 3: L-4 Irrigation Plan
  - Class 4: Bring them ALL

Available On-line Resources

https://landscapemakeover.watersmartsd.org/

• **Videos On Demand**

• **Sustainable Landscape Guidelines (SLP)**
WaterSmart Landscape
MAKEOVER SERIES

Scale

Reference:
Sunset Western Garden Book

Circle Template
Average ETo in San Diego

Integrated Zone Map

Map zones determined by analysis of United States Department of Agriculture (USDA) 2012 ‘Plant Hardiness Zone Map’, California Irrigation Management Information System (CIMIS) ‘Reference Evapotranspiration Zone Map’ (2012) and Sunset Western Garden Book ‘The West’s Climate Zones’ data (2012). Geographic Information Systems (GIS) data layers of terrain and roadways were also used in creation of this zone map illustration.
Regional Perspective

Turf’s Water Needs vs. Annual Rainfall

<table>
<thead>
<tr>
<th>Zone 4</th>
<th>Required</th>
<th>Avg. Yearly Rainfall</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>47”</td>
<td></td>
</tr>
</tbody>
</table>

Why Remove Turf?
Regional Perspective:
Turf’s Water Needs vs. Annual Rainfall

What does 40” of annual rainfall look like?
Regional Perspective

- Easy water savings!
- Landscapes can easily be retrofitted for water efficiency.
- Some skills and technical knowledge are necessary.
- Our goal is to educate you to succeed!
Case Study

Before Installation
After Installation
Case Study

6 months after installation
One year after installation
Two years after installation
Case Study

Close Up Details
Before After

WaterSmart Landscapes
Steps to WaterSmart Landscape Design Process Overview

Identify Your Target

Base Plan

Soil & Site Analysis

Bubble Diagram
  Functional

LID Plan

Hardscape & Preliminary Planting Plan

Finished Planting Plan

Irrigation Plan
Steps to WaterSmart Landscape Implementation Overview

Demolition

Contouring

Soil Prep

Irrigation

Plant Placement

Installed

Maintained

Two Years Later
If you don’t know where you’re going, anywhere will do.

Landscape Target Factors:

• Turf Area
• Plant Selection
• Irrigation Efficiency
## IDENTIFY YOUR LANDSCAPE TARGET

**STEP ONE**

### WaterSmart Matrix

<table>
<thead>
<tr>
<th>Plant Selection</th>
<th>Irrigation Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Low to moderate water use plants</strong></td>
<td><strong>Low efficiency irrigation</strong>&lt;br&gt;Conventional Sprinklers&lt;br&gt;Impact Rotors&lt;br&gt;<code>IE = 0.55^*</code></td>
</tr>
<tr>
<td><strong>Low water use plants</strong></td>
<td><strong>Moderate efficiency irrigation</strong>&lt;br&gt;Rotary Nozzles&lt;br&gt;Precision Sprays&lt;br&gt;<code>IE = 0.70^*</code></td>
</tr>
<tr>
<td><strong>Very low water use plants</strong></td>
<td><strong>High efficiency irrigation</strong>&lt;br&gt;Drip Emitters&lt;br&gt;Bubblers&lt;br&gt;Micro Spray&lt;br&gt;<code>IE = 0.80^*</code></td>
</tr>
</tbody>
</table>

- **Plant Selection:**
  - Low to moderate water use plants:
    - 45% Low water use
    - 45% Moderate water use
    - 10% High water use average PF = 0.40^*
  - Low water use plants:
    - 90% Low water use
    - 10% High water use average PF = 0.26^*
  - Very low water use plants:
    - 50% Very Low water use
    - 50% Low water use average PF = 0.15^*

- **WaterSmart Star Rating:**
  - 1 Star: Compliant with the water conservation ordinance.
  - 5 Stars: Maximum water savings potential. Congratulations!

---

*IE = Irrigation Efficiency*
IDENTIFY YOUR LANDSCAPE TARGET

Plant Selection

PLANT FACTOR - represents the estimated percent or portion of supplemental water needed relative to the Eto value of particular location.

Source: Landscape Plants for California Gardens by Bob Perry
**STEP ONE**

**IDENTIFY YOUR LANDSCAPE TARGET**

**Irrigation Efficiency**

- **Low** (High Precipitation)
  - Conventional Overhead Spray Heads

- **Medium** (Low Precipitation)
  - Rotating Stream Nozzles
  - Large Rotors

- **High**
  - Pressure Compensating Drip Irrigation Bubblers
IDENTIFY YOUR LANDSCAPE TARGET

STEP ONE

WaterSmart Star Rating

Compliant with the water conservation ordinance.

Maximum water savings potential. Congratulations!

Homework: Determine Your Star Rating

New regulations eliminate anything less than one star
Basic Plot Plan L-1 provided for you

- Bird’s Eye View
- Drawn to scale
- Locates house and permanent features
- North Arrow
- Irrigation system info
- Dynamic PSI
- Turf - Cool / Warm Season
- ETWU (Estimated Total Water Use) for turf
CREATE A BASIC PLOT PLAN

Scale

Architectural

1/4 Scale: 1/4” = 1’ or 1” = 4’
1/8 Scale: 1/8” = 1’ or 1” = 8’

Engineering

Large Size Properties

1/10 Scale: 1” = 10’
1/20 Scale: 1” = 20’
Measure your property

- Start with one dominant point to measure from (i.e. a wall corner)
- Locate features that stay (walls, hardscape, trees, fences, etc.)
- Alternate: use outside source (property description, Google Earth)
Using Graph Paper

- Select grid paper to match scale
- Draw in scale on grid paper
- Align “0” and measure
- Add Legend:
  - Scale
  - N arrow

\[ \frac{1}{4}” = 1’0” \]
Measuring in Scale

Architectural Scale: 1/8” or 1/4” Scale
For example…measuring 5’ in scale

*Standard Inch Ruler of 1/8” = 1’0” Scale*

*Standard Inch Ruler of 1/4” = 1’0” Scale*

*Architectural Scale of 1/8” = 1’0” Scale*

*Architectural Scale of 1/4” = 1’0” Scale*
Measuring in Scale

Engineering Scale: 1/10” or 1/20” Scale
For example…measuring 8’ in scale

Decimal Ruler 1/10” = 1’0”

Engineering Scale 1/10” = 1’0”

Engineering Scale 1/20” = 1’0”
Without putting it on paper

Flag Method
- Mark flags with selected plants and size
- Place flags for each plant
Without putting it on paper

Flag Method
- Plan & measure for mature plants
- Rearrange as needed
- Count to create plant list
- Plant according to flags
Soil: Why Do We Care?

- Soil can cleanse water
- Soil can store water
- Soil influences everything related to water
  - Infiltration
  - Holding capacity
  - Movement
  - Irrigation scheduling
• Mineral

• Organic

• Pore Space
EVALUATE YOUR SITE

STEP THREE

- Mineral
- Organic
- Pore Space
## Soil Texture

<table>
<thead>
<tr>
<th>Particle Type</th>
<th>Water Movement (Drainage)</th>
<th>Water Holding</th>
<th>Nutrient Holding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sand</td>
<td>Fast</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Silt</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
</tr>
<tr>
<td>Clay</td>
<td>Slow</td>
<td>Yes, once wet</td>
<td>Rich!</td>
</tr>
<tr>
<td>Loam</td>
<td>Medium</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*Sand: Fast water movement, no water holding, no nutrient holding.
Silt: Medium water movement, medium water holding, medium nutrient holding.
Clay: Slow water movement, yes, once wet, rich nutrient holding.
Loam: Medium water movement, yes, yes nutrient holding.*
Determining Soil Texture

Soil Sampling: Dig a hole

- Remove mulch or surface matter
- Dig 12” x 12” x 12” hole
- Take sample from side of hole, at least 6” down
STEP THREE

EVALUATE YOUR SITE

Determining Soil Texture

Jar Testing for Soil Texture

USDA Soil Texture Pyramid

Sand

0-10% clay
0-10% silt
80-100% sand

10-30% clay
30-50% silt
25-50% sand

50-100% clay
0-45% silt
0-45% sand

Loam

Clay
Determining Soil Texture

Want more?
Find the “Thien Feel Test” online.

Taken from USDA-NCRS (Modified from S.J. Thien. 1979. A flow diagram for teaching texture by feel analysis. Journal of Agronomic Education. 8:54-55.)
Determining Soil Texture

Thien Feel Test

1. Wet the soil sample to playdough consistency. Make a ball and poke it.
   - *Does it fall apart?*
   - *Does it hold together?*

2. Squeeze the ball into a ribbon of soil. How big is it?
   - *Less than 1 inch?*
   - *Between 1 inch and 2 inches?*
   - *More than 2 inches?*

3. Wet it excessively and feel it.
   - *Is it slippery?*
   - *Is it gritty?
Back in 15 minutes!

Lab Time

Break
STEP THREE

EVALUATE YOUR SITE

• Mineral

• Organic

• Pore Space
Sustainable Soil

- Soil Food Web
- Organisms build soil
- Encourage them with proper organic matter, moisture, oxygen, etc.
STEP THREE

EVALUATE YOUR SITE

Soil Food Web

Suggested reading:
Teaming with Microbes by Lowenfels & Lewis

Bacteria

Weeds

Fungi

Worms

Plants
STEP THREE

EVALUATE YOUR SITE

Soil Food Web

Suggested reading: Teaming with Microbes by Lowenfels & Lewis

Bacteria

Weeds

Fungi

Worms

Plants
STEP THREE
EVALUATE YOUR SITE

• Mineral

• Organic

• Pore Space
Soil Aggregation

- Created by bacteria, fungi and humic acid from organic matter
- Allows water
  - infiltration & percolation
  - storage
Soil Aggregation

• Creates soil pores which contain

OWL:
Oxygen
Water
Life

• Purifies runoff water
• Creates water holding capacity

Water uptake by Plant Roots

Water enter the root hairs by OSMOSIS.
STEP THREE

EVALUATE YOUR SITE

Soil Compaction

Urban Compaction

Compaction Remediated
Organic Matter

• Reverses compaction
• Improves root penetration
• Improves plant success
Remediating Compaction

- Add organic matter
- Build the health of the soil food web
- By the way ... ADD ORGANIC MATTER!
  - IN the ground: compost for soil amendment when planting
  - ON the ground: mulch after planting

Compost Soil Amendment

Mulch
Soil Amendment

- Use compost when planting
- Small particles, usually less than ¼”
- Mix compost with backfill soil
  - 30% most plants
  - 15% natives in disturbed soil
- Available in bags or bulk

Compost for soil amendment
Soil Amendment

Planting
- Dig hole 2 x wide
- Fill hole with water before planting
- Loosen or slice roots
- Plant crown above soil level

Use amended soil mixture to backfill planting hole
Mulch

- Blanket over soil surface
- Continues to feed the soil as it breaks down
- Adds organic matter in areas already planted
- Prevents
  - Erosion
  - Evaporation
  - Weeds
  - Compaction
Mulch Application

- After planting, lay 4” layer on top of soil
- Leave open space around plant stem or crown
- Add additional mulch when areas are thin
- Rule of thumb: 1¼ CY covers about 100 sq ft at 4” depth

Brush Mulch

Chipped Mulch
Mulch Types

**Longevity: Wood Chips or Bark**

- **Wood Chip Mulch**: Okay for pathways, but not for beds or slopes.
- **Colored Wood Chip Mulch**: NOT good for soil health or slopes.
- **Bark Nuggets**: Not recommended for use in gardens or slopes.

_San Diego County Water Authority_
Mulch Types

✓ **Soil Building**: chipped tree trimmings or coarse compost
  - Texture varied particle sized
  - Water passes through
  - Holds in place on slopes and in wind

- Brush or Chipped Mulch
- Chipped Mulch
- Blended Mulch
# Soil Building

## Products at Miramar Greenery

<table>
<thead>
<tr>
<th>Material Type</th>
<th>Description</th>
<th>Price/Cubic Yard (incl. tax &amp; loading)</th>
</tr>
</thead>
<tbody>
<tr>
<td>City Resident Self-Loading Composted 4&quot; Mulch</td>
<td>Up to 2 cubic yard</td>
<td>FREE</td>
</tr>
<tr>
<td>1/2&quot; Compost</td>
<td>10 week processing of yard waste and food waste, screened to 1/2&quot;</td>
<td>$12</td>
</tr>
<tr>
<td>4&quot; Mulch</td>
<td>2 week processing of yard waste only</td>
<td>$5</td>
</tr>
<tr>
<td>2&quot; Mulch - <em>Preferred Mulch</em></td>
<td>2 week processing of brush and branches (no curbside material)</td>
<td>$12</td>
</tr>
<tr>
<td>Coarse Chips (2&quot; Compost Overs)</td>
<td>10 week processing of yard waste &amp; food waste, screen to 1/2&quot; - 2&quot;</td>
<td>$5</td>
</tr>
<tr>
<td>Natural Wood Chips <em>Fine for Paths</em></td>
<td>Logs ground to 2&quot; - 4&quot; and screened to remove fines</td>
<td>$24</td>
</tr>
<tr>
<td>Natural 1/2&quot; Fines</td>
<td>Logs ground and screened to 1/2&quot;</td>
<td>$24</td>
</tr>
<tr>
<td>Plain Wood Chips <em>Fine for Paths</em></td>
<td>Dimensional lumber ground to 2&quot; - 4&quot;</td>
<td>$24</td>
</tr>
<tr>
<td>Colored Wood Chips: <em>Fine for Paths</em></td>
<td>Dimensional lumber ground to 2&quot; - 4&quot; and colored with non-toxic dye</td>
<td>$34</td>
</tr>
</tbody>
</table>

*Do not use for sheet mulching

*Recommended*
How does your soil handle water?

- Organic matter remediates compaction
- Percolation and infiltration effected by
  - Soil texture
  - Soil aggregation
  - Layers of compaction or rock
Soil Drainage and Percolation Test
(Homeowner’s Guide)

**Day 1**
1. Dig one cubic foot hole (12”x12”x12”)
2. Fill the hole with water to saturate the soil
3. Let drain overnight

**Day 2**
1. Lay a stick over the hole
2. Refill the hole with water to the level of the stick
3. Wait one hour
4. Measure how far the water level has dropped to determine the infiltration rate per hour

Tip: Use the soil from the hole to do a worm count & test the texture of your soil
## Soil Drainage and Percolation Test

<table>
<thead>
<tr>
<th>Inches per hour</th>
<th>Drainage</th>
<th>Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 1”</td>
<td>Slow</td>
<td>Add organics&lt;br&gt;Select tolerant plants&lt;br&gt;Create mounds</td>
</tr>
<tr>
<td>1” - 3”</td>
<td>OK</td>
<td>Add organics&lt;br&gt;Select tolerant plants&lt;br&gt;Create mounds</td>
</tr>
<tr>
<td>More than 3”</td>
<td>Fast</td>
<td>Add organics&lt;br&gt;Select tolerant plants&lt;br&gt;Create mounds</td>
</tr>
</tbody>
</table>
Sustainable Soil

Soil organics

Soil aggregation

Percolation

Water storage

Stormwater management
What is a Watershed?

A watershed is the area of land where all of the water that falls in it and drains off of it goes to a common outlet.

Photo: http://sandieghomesforsale.com/communities/lakeside
You Live in a Watershed

- San Diego has 11 westward draining watersheds
- Find your watershed at ProjectCleanWater.org
You Live in a Watershed

The benefits of using a watershed approach to landscaping:

- Improves our environment
- Protects our waters
- Preserves our coast
- Reduces beach closures from pollution
- Saves water in landscape
- Saves energy used in water transport
- Preserves groundwater
Your Yard is a Mini-Watershed!

Map your drainage
- Where does it flow from?
- Where does it flow to?

Gutter ➔ Storm Drains ➔ Ocean
The First Flush

Old Town San Diego

Can the polluted water be cleaned?
YES! Healthy soil breaks down pollutants.

Can the water be utilized?
YES! It can be stored in your soil, rain barrels and cisterns.

First Seasonal Flush

Subsequent Storm Event
How can water capture work for you?

LID = Low Impact Development = Retain Stormwater

• Use rainwater instead of irrigation water
• Store the water in your soil
EVALUATE YOUR SITE

How can water capture work for you?

Question #1:
How much water do I plan for?

Answer:
• Site Observations (class 1)
• Determine your collection area and landscape feature (class 2)
**Question #1:** How much water do I plan for?

- Evaluate your mini-watershed
- Explore your yard with new eyes
Question #1: How much water do I plan for?

- Use Google Earth to see your roof lines
How do I plan for runoff water?

- Make notes on your LID Base Plan (L-2)
- Show water flow direction, gutters, downspouts, puddles, ridgelines & slopes
Evaluate your site
Estimating Slopes & Hillsides

- Estimate your slope on your L-2 plan for your site evaluation
- Use soil-building mulch type (brush mulch, chipped mulch with specified texture) on all slopes
- Decomposed granite (DG) used only on slopes less than 5%
Evaluate your site

Estimating Slopes & Hillsides

**How steep is your slope?**

Run = Horizontal distance  
Rise = Vertical distance  
Slope = \((\text{Rise} / \text{Run}) \times 100\)

**Example:**

\(\text{Rise} = 24"\)

\(\text{Run} = 20' = 20' \times 12" = 240"\)

\(\text{Slope} = \left(\frac{24\text{"}}{240\text{"}}\right) \times 100 = 10\%\)
Utilities

Locate and plan to avoid conflicts

Locate the water meter and utility boxes

Locate overhead utility lines
Architectural Style and Materials
Can provide inspiration for your re-envisioned landscape

Architectural styles, colors and materials are repeated in these designs
Views – Enhance or Screen

Explore your yard with new eyes

Views to distant features, like these mountains, can be emphasized

Undesirable views can be screened
Existing Trees

Well placed mature trees:

- Add value to the property
- Provide climate adjustments to your property and the region
STEP THREE  EVALUATE YOUR SITE

Anatomy of an Irrigation System
Site Observations

LID = Low Impact Development = Stormwater Infiltration

• Where does it flow from?
• Where does it flow to?
• Gutter → Storm Drains → Ocean
• Record observations on your LID L-2 plan
Site Observations

- Starting point of a successful design
- Take photos
- Assess existing situation
  1. Drainage conditions
  2. Structural conditions
  3. Design considerations
     - House style
     - Views and screening
     - Existing trees & plants
     - Functional
        - Use patterns
        - Prevailing wind
        - Necessary shade

Homework: Site observations

---

Workshop 1 Homework
SITE INVENTORY AND ANALYSIS CHECKLIST

Take photos and bring them to class next week

Existing Structural Considerations
- Utilities: water meter, A/C units, trash cans, storage or work areas, overhead or underground utility lines, septic tanks or other utilities
- Easements
- Locate downspouts
- Drainage
- Sewer Clean outs
- Irrigation lines and components controller, shut off, heads
- Landform: notable changes in grade, slopes or terraces

Access Design Considerations
- Materials: Record color of house and materials
- Door & Window locations: locate on plan and identify rooms
- Views: Record existing views to preserve, views to frame/exploit/create, views to mitigate
Site Observations

- Starting point of a successful design
- Take photos
- Assess existing situation
  1. Stormwater conditions
  2. Structural conditions
  3. Design considerations
  4. HOA requirements

Homework:
Site observations
Site Observations

- Starting point of a successful design
- Take photos
- Assess existing situation
  1. Stormwater Conditions
  2. Structural Conditions
  3. Design Considerations
  4. HOA requirements
  5. Growing Conditions
    - Soil type
    - Exposure: sun/shade/wind
    - Wet/dry patterns
Homework for Class 2

Read
- A Homeowner’s Guide to a WaterSmart Landscape Steps 1-4

Conduct
- A soil drainage test
- An LID analysis based on your L-2 base plan
- A site analysis and complete the questionnaire

Identify
- Your star rating

Apply for
- Turf replacement rebates at SoCalWaterSmart.com

Watch
- Videos On Demand episodes 1 through 8 at landscapemakeover.watersmartsd.org

For more technical information, refer to the Sustainable Landscape Guidelines online at landscapemakeover.watersmartsd.org/resources
Landscape Makeover Videos On Demand

Follow Steps 1 – 6 for additional episodes

Episode 1

Episode 2

landscapemakeover.watersmartsd.org
Landscape Rebates & Incentives

SoCalWaterSmart.com

- Turf removal
- Rotating sprinkler nozzles
- Weather-based irrigation controllers
- Rain barrels & cisterns
- Soil moisture sensor systems

Note: To qualify for a turf rebate, DO NOT remove your turf until you receive a Notice to Proceed.
WaterSmart Landscape
MAKEOVER SERIES

Class 2 – Shaping Spaces

Learning Objectives

Landscape Design
Functional Planting
Shape Your Space
Design Factors

Plant Selection
Putting It All Together
QUESTIONS?