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Part of the Solution

Making \$ense through Education



COMPLEXITY & EDUCATION

- Crew Leader as Educator & Ambassador
 - Technology
 - Ecology
 - Legislation
- Building VALUE through Greater Understanding
 - Holistic Landscape Assessments
 - Case Studies and ROI
 - Conservation & Pollution Prevention
- Land Stewardship, Job Satisfaction, & Collaboration



Complex Systems Management

- Ecology
- Geography
- Geology
- Succession
- Climatology
- Entomology
- Sociology
- Mechanical
 - Irrigation
 - Lighting
 - Sound
 - Pools/Spas
 - Outdoor Cooking
- Structural
 - Decks
- Retaining Walls
- Arbors
- Steps & Paths
- Architecture
- Engineering
- Political & Regulatory
 - Accessibility
 - Building Codes
 - WELO / CalGreen

-Education & Understanding
in each discipline
-Holistic & Synergistic
Application



“Becoming a Part of the Solution”



October 2011



The Benefits of
Mulch & Idling
Myths
Debunked

Welcome to the C&D Sustainability Newsletter!

This newsletter will be sent out monthly by Dave Phelps and the GO Team. Through this communication, we hope to provide you with information on sustainable products and services, updates on the organic test sites, projects GO Team is working on, upcoming events, as well as articles on various aspects of sustainability.

Mulch

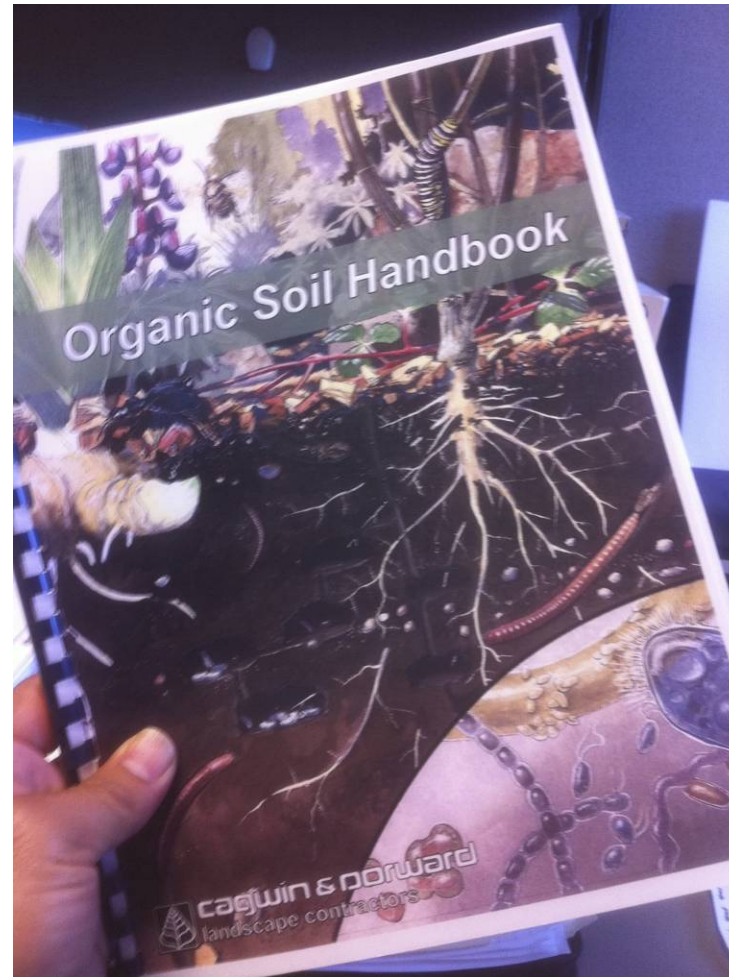
Mulch, a protective layer of organic material placed over the soil to retain moisture, reduce erosion, provide nutrients, and suppress weed growth, is one of the most cost effective ways to improve the health of your customers landscape and increase the curb appeal of their property.

Below are some talking points to help you discuss the benefits of mulch with your customers:

- Sustainability Managers
- Sustainability Newsletters
- Testing of Materials and Best Management Practices
- Collaboration & Leadership
- Training & Outreach

Building Ecoliteracy builds Customer Value





...and more:

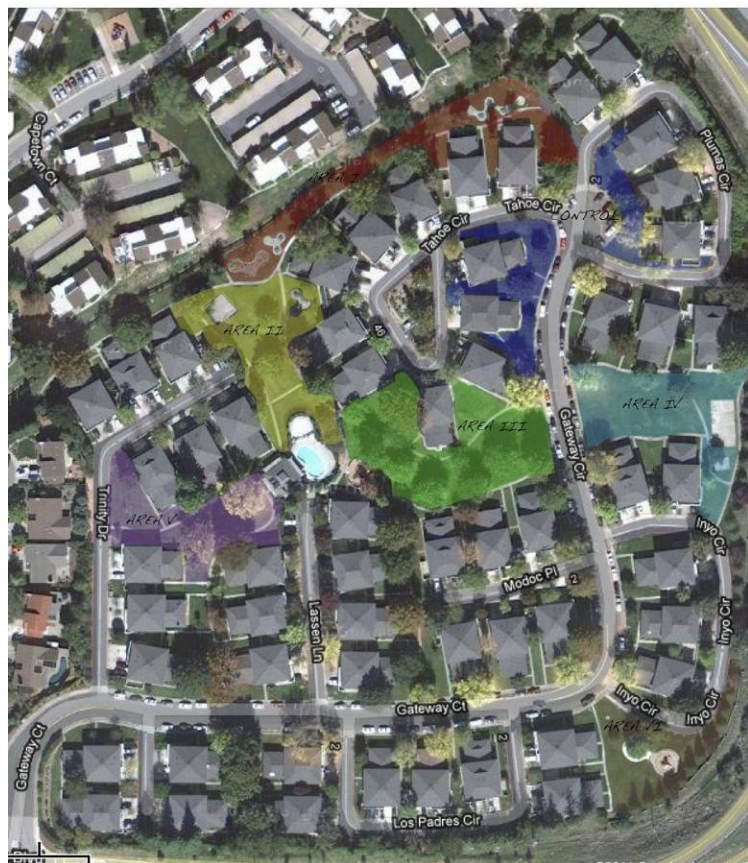
A Holistic View to Landscape Management: Land Stewardship



Commercial Sites Rating System; A Quantitative and Applicable Approach

Tests
&
Analysis





GATEWAY FERTILIZER TEST:

AREA I
17,850 SQ. FT.
[Phyta-Grow 7-5-7](#) (organic), Target
@5.5 lbs/1000 = 98 lbs or 2 bags

AREA II
14,850 SQ. FT.
[Spread it & Forget it](#)
43-0-0 (Synthetic), Target
@5.8 lbs/1000 = 115 lbs or 2.3 bags

AREA III
27,150 SQ. FT.
[Perfect Blend 8-4-5](#) (Bridge) Ewing
@8 lbs/1000 = 217 lbs or 4.3 bags

AREA IV
19,300 SQ. FT.
[Perfect Blend 4-4-4](#) (organic), Ewing
@8 lbs/1000 = 154 lbs or 3 bags

AREA V
17,200 SQ. FT.
[Nature Safe 10-2-8](#) (organic), Target
@5 lbs/1000 = 86 lbs or 1.7 bags

AREA VI
12,300 SQ. FT.
[Phyta-Boost 7-1-2](#) with 3/8" [Mallard Plus](#) compost top dressing (organic), JohnDeere & Sonoma Compost
@8 lbs/1000 = 98 lbs or 1 bag
Plus 3/8" compost = 17 c.y.

CONTROL: 15,790 SQ. FT.
[Ex-Cote 43-0-0](#) & [Best 30-3-5](#) (standard program control, synthetic), Target
@3.6 LBS/1000 = 57 lbs or 1.1 bag

REMAINDER: 114,430 SQ. FT
[Phyta-Boost 7-1-2](#) (organic), JohnDeere
@8 lbs/1000 = 915 lbs or 18.3 bags

Total Turf on Site:
243,870 SQ. FT.: 5.6 Acres



Gateway

Controls, Organics, Synthetics, and Bridge Products...
All on one site with similar soil, irrigation, and turf



Sustainable Solutions

- Health & Fertility
- Design Elements
- Pest Management
- Education & Legislation



Health & Fertility

1. Compost Top-Dressing
2. Aeration
3. Organic Mulch
4. Organic or “Bridge” Fertilizer Programs
5. Natural Pruning Techniques
6. On-Site Composting
7. Grass cycling
8. Compost Tea and Extracts
9. Mycorrhizae, Humates, Kelp, and other additives
10. Organic Fertigation Systems





Design Elements



1. Native or Climate Appropriate Planting
2. Turf Transition to Mulched Plants on Drip
3. Native Grass and other Lawn Alternatives
4. Edible Landscaping
5. Habitat Plantings
6. Revegetation Projects
7. Permeable Paving
8. Rainwater Harvesting
9. LED Lighting Solutions
10. Bio-swales
11. Right Plant-Right Place
12. Distribution Uniformity



Pest Management

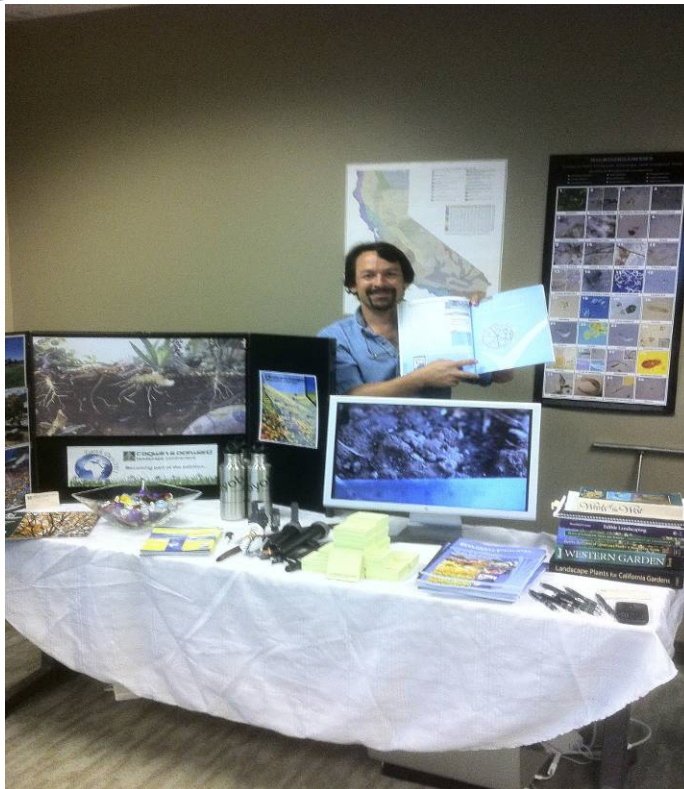


1. Sheet Mulching
2. Biological Control
3. Organic or Less Toxic Pesticides
4. Cultural Controls
5. Minimize Resistance
6. IPM Programs
 1. Host, Pest, & **Cause ID**
 2. Monitoring
 3. Analysis & Threshold Discussion
 4. Education & Informed Decisions
 5. Strategic, synergistic , & Less toxic actions/practices
 6. Follow-up Monitoring

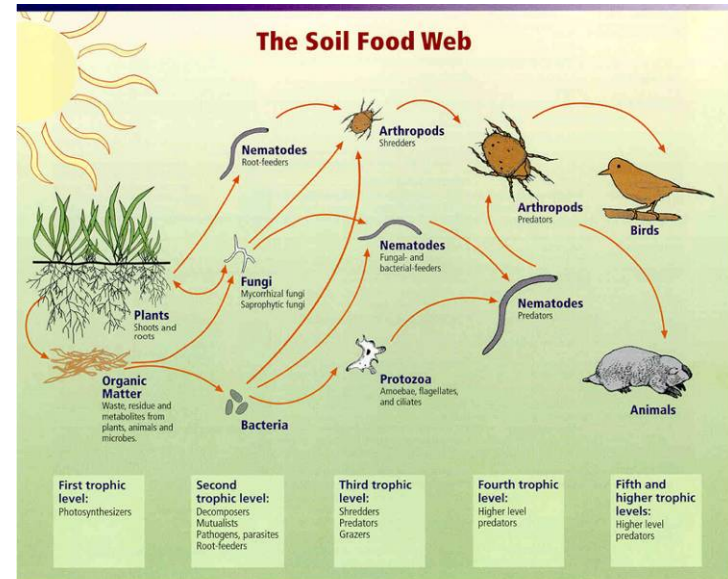




Education & Legislation



1. Bay-Friendly Commercial Sites Rating and Advising
2. LEED, Sustainable Sites, and Green Point Rating
3. WELO and CAL Green compliance
4. Presentations, Outreach, and Lunch & Learns
5. Sustainable References & Information Sources
6. Pollution Prevention Measures
7. Conservation Advice
8. Case Studies

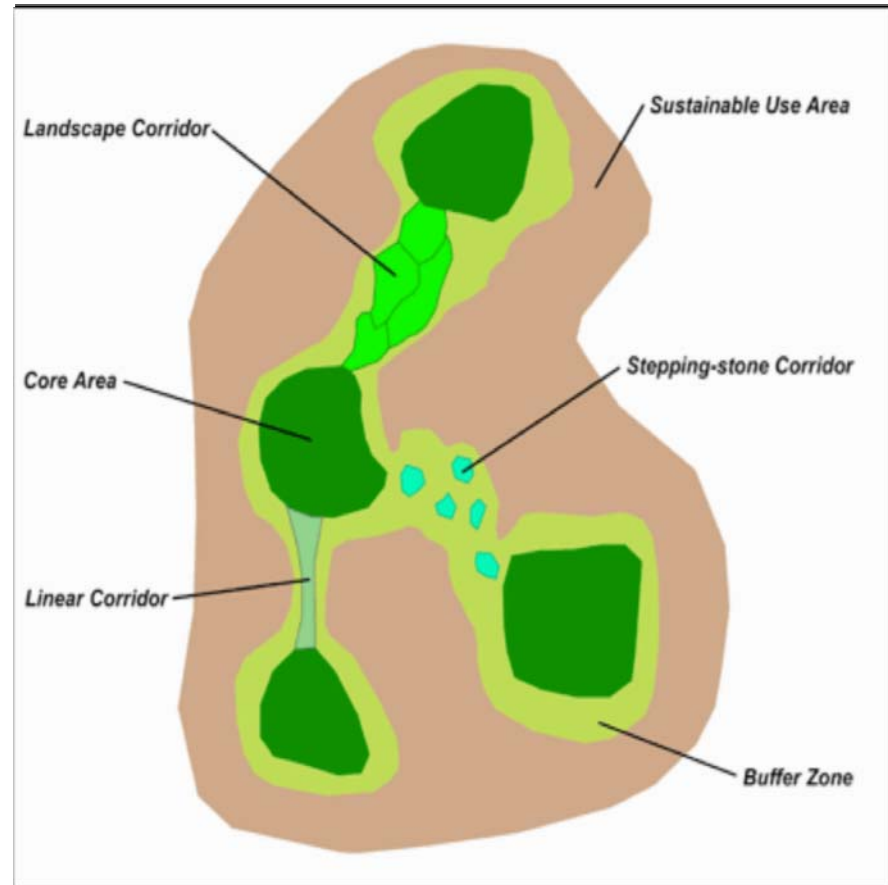


Relationships between soil food web, plants, organic matter, and birds and mammals
Image courtesy of USDA Natural Resources Conservation Service
http://soils.usda.gov/sqi/soil_quality/soil_biology/soil_food_web.html.



Ecology

Migratory Patterns
Urban Interface
Green Corridors
Habitat Fragmentation
Ecotones
Diversity/Stability
Plant Communities
Right Plant ~ Right Place
Invasive Organisms
Soil Ecology



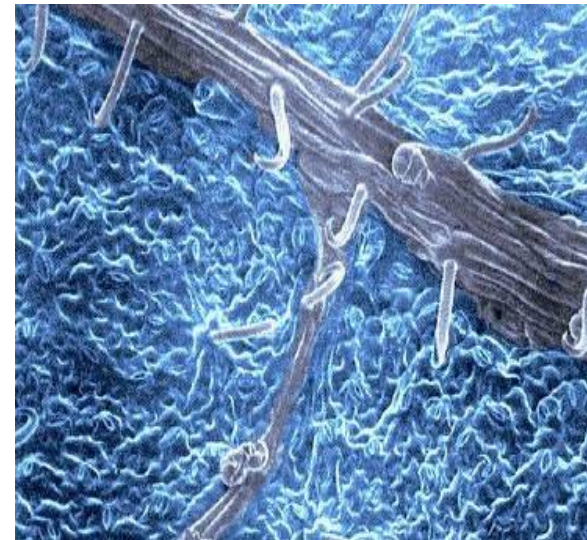
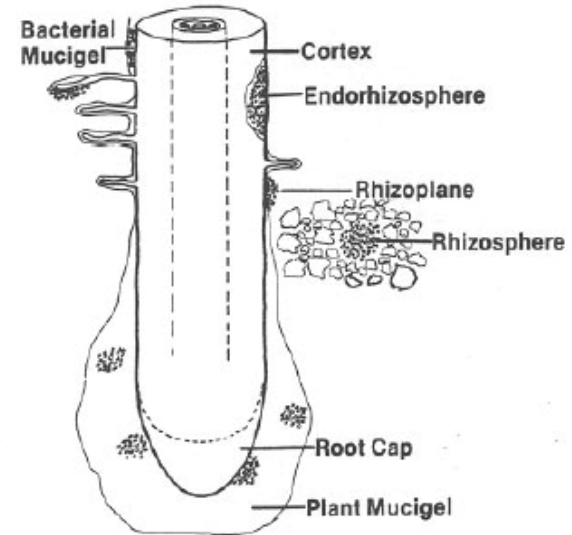
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Rhizosphere & Phyllosphere



The Soil Food Web
Saprophytes
Nutrient Cycling
Carbon Sequestration
Plant Root Exudates
Niche Management





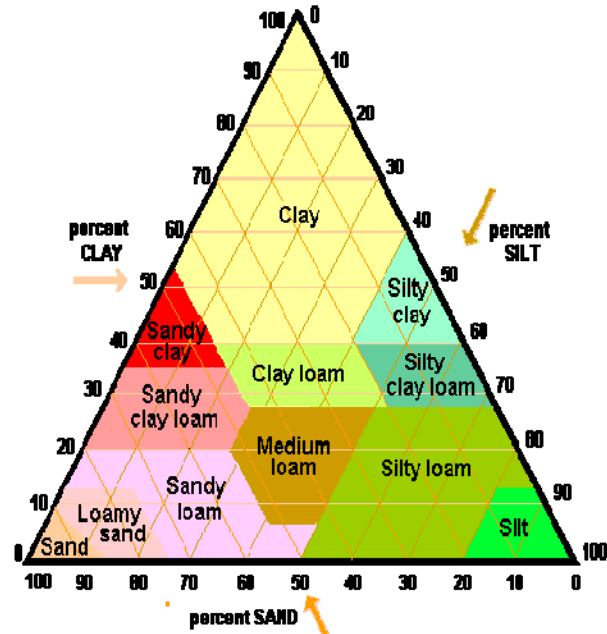
Geography

Grading
Erosion
Bioswales
Infiltration Systems
Mounds
Riparian Corridors
Storm Water
Ground Water

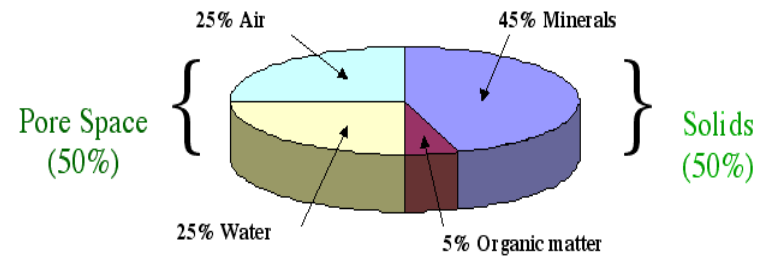
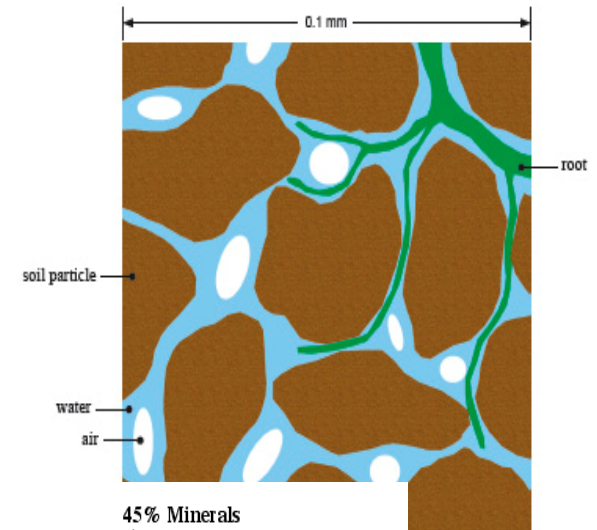




Geology & Soil Science



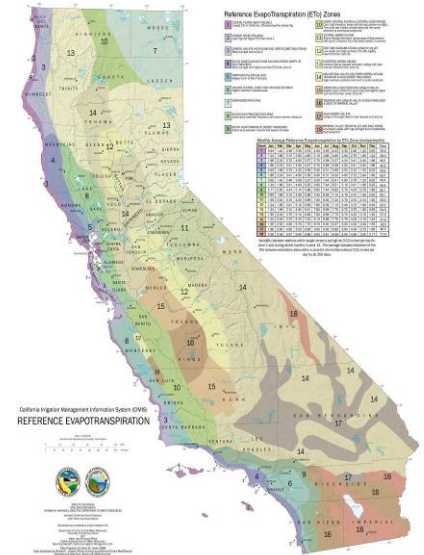
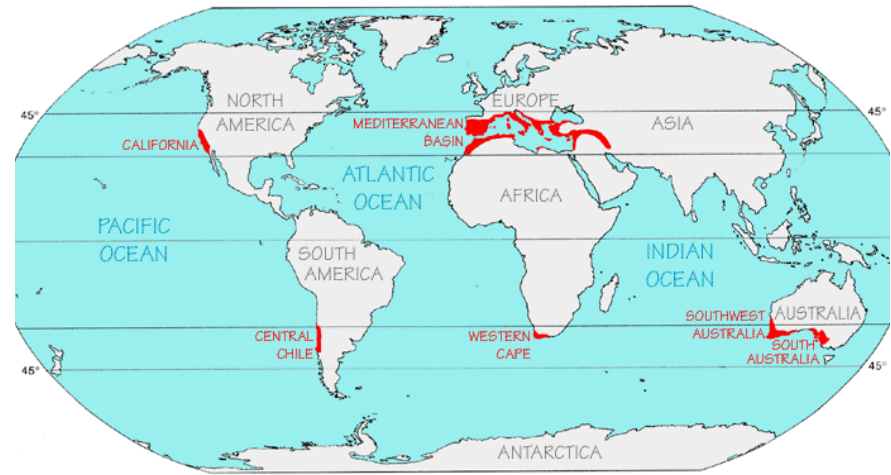
- Parent Material
- Weathering
- Pedogenesis
- Compaction
- Pore Space
- Water Holding Capacity





Climatology

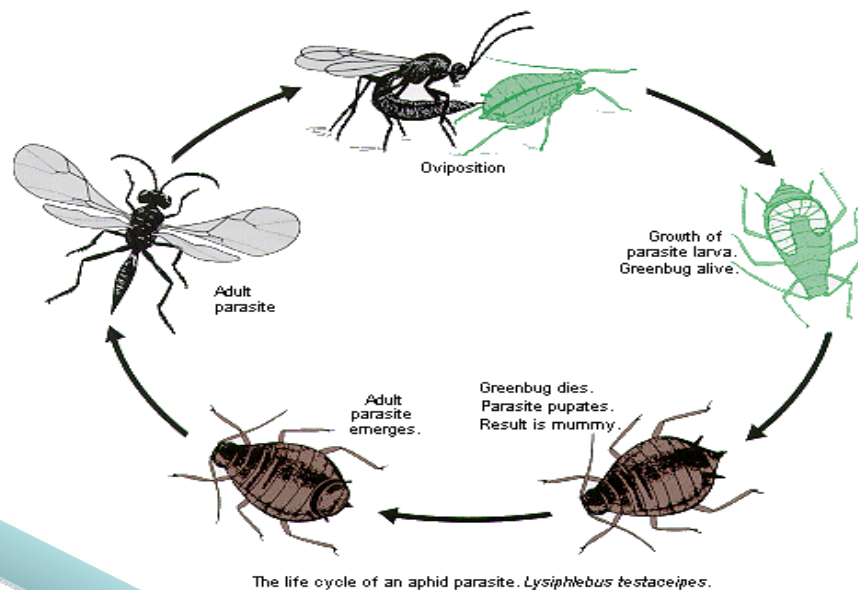
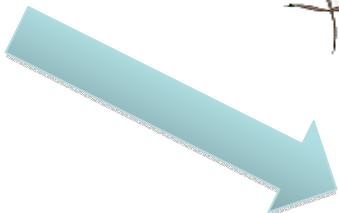
- Microclimate
- Wind Tunnel Effect
- Heat Islands
- Humidity
- Eto
- Hydrozones





Entomology

- Habitat
- Food
- Life Cycles
- Predators
- Biological Controls
- Pesticides
- Collateral Damage
- Thresholds
- Alternate Hosts
- Overwintering Sites



- Nematodes
- Bacteria
- Parasitic Wasps
- Predacious Insects
- Hawks, Owls, & OMRI listed Deterrents



Hawk Perches and Owl Boxes



\$154.99





Sociology & Health

Negative Ions
Clean Air
Beneficial Microbes

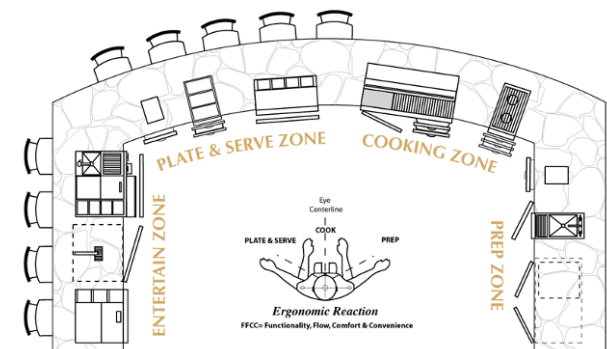
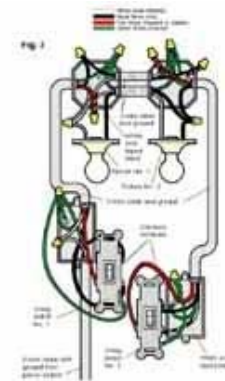
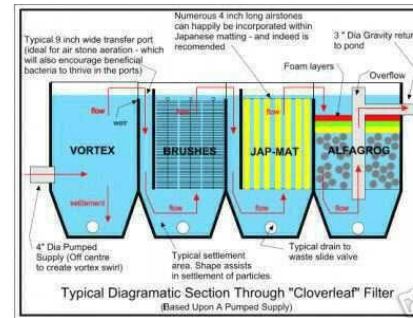
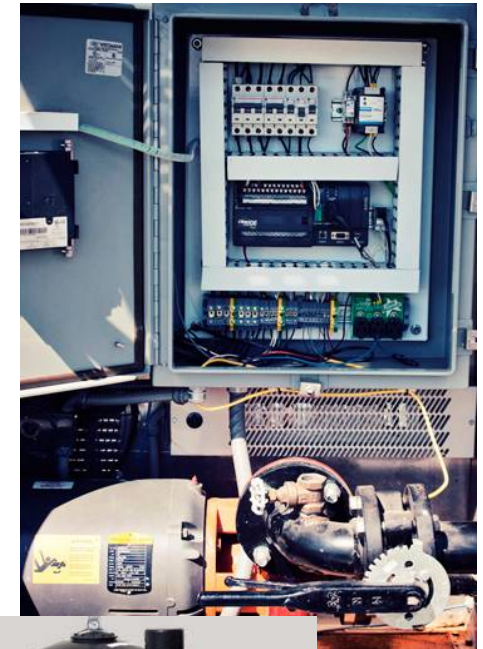
Therapeutic Gardens
Beauty
Nature
Play
Social Gathering
& Interaction
Education
Nutrition





Mechanical

- Irrigation
- Lighting
- Sound
- Pools/Spas
- Water Features
- Outdoor Kitchens

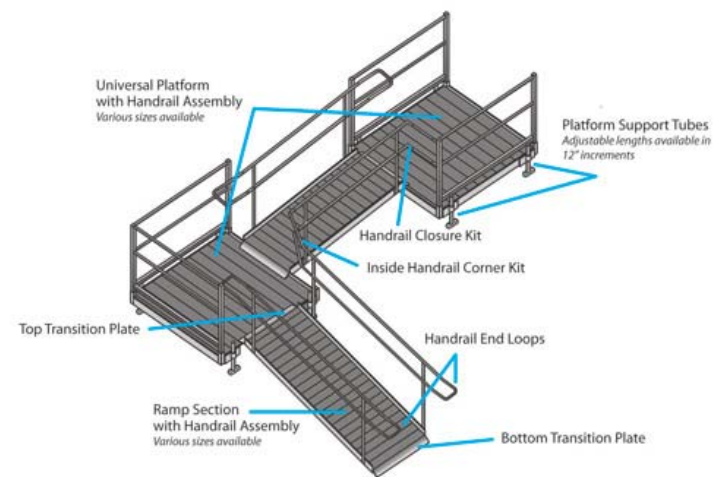
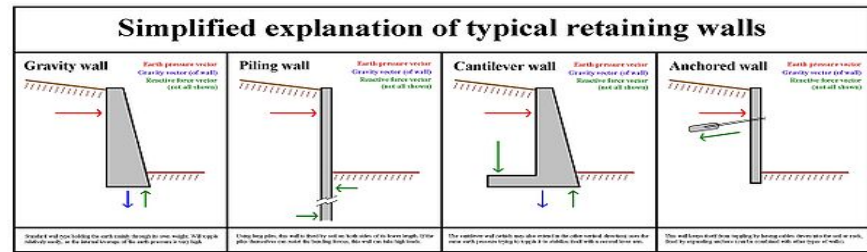


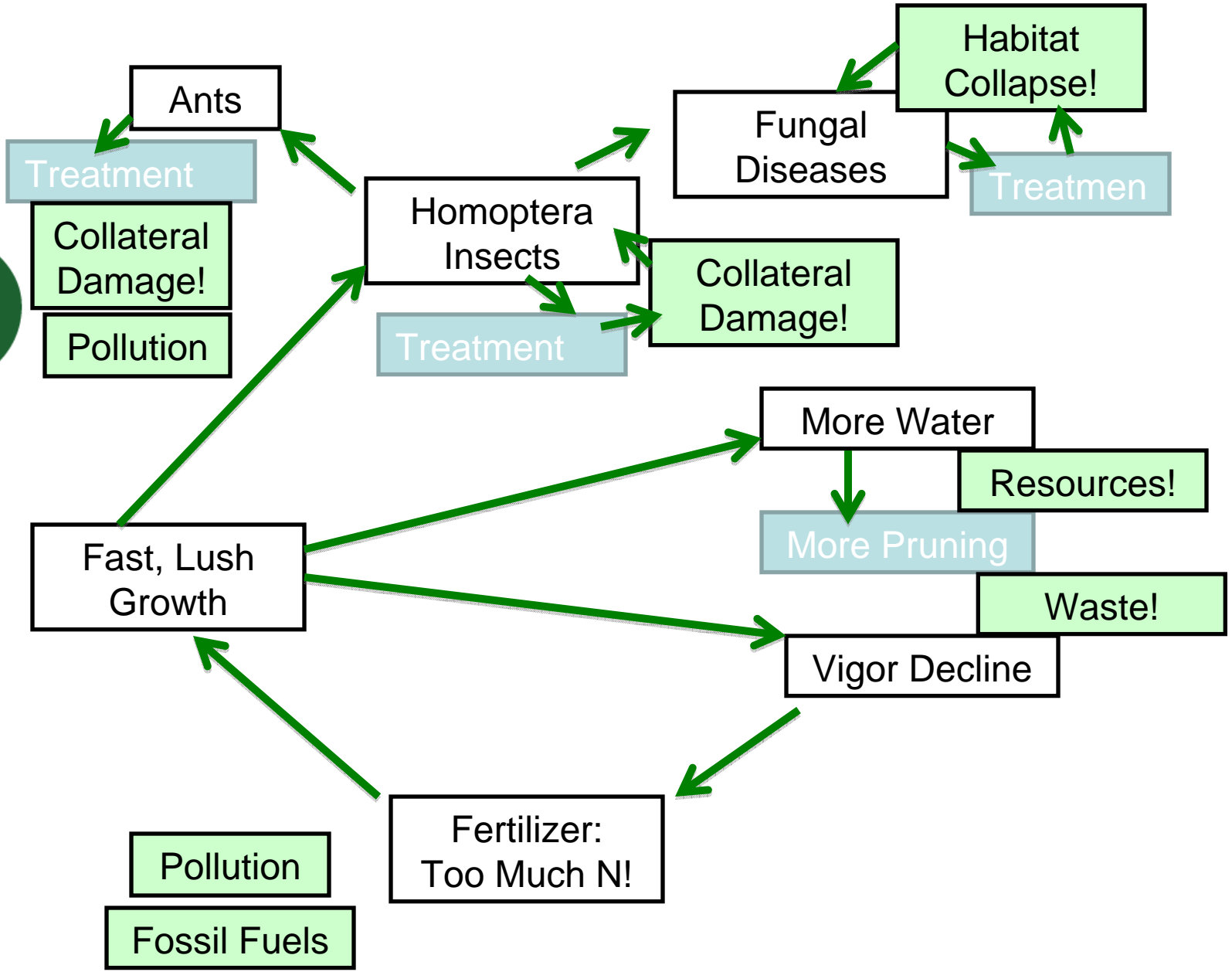


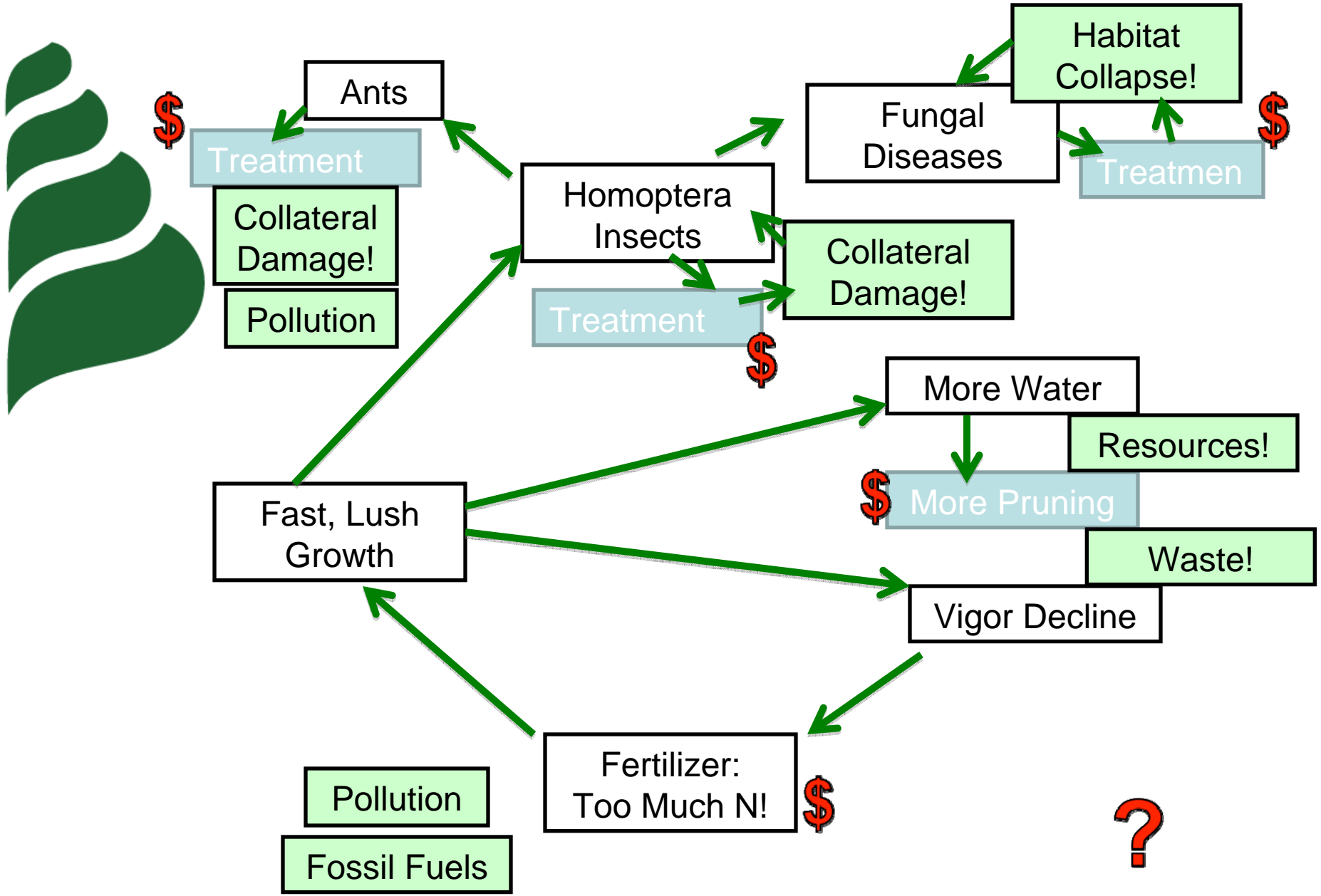
Structural

- Decks
- Retaining Walls
- Arbors
- Steps and Paths

- Architecture
- Engineering
- Building Codes
- Accessibility
- Safety









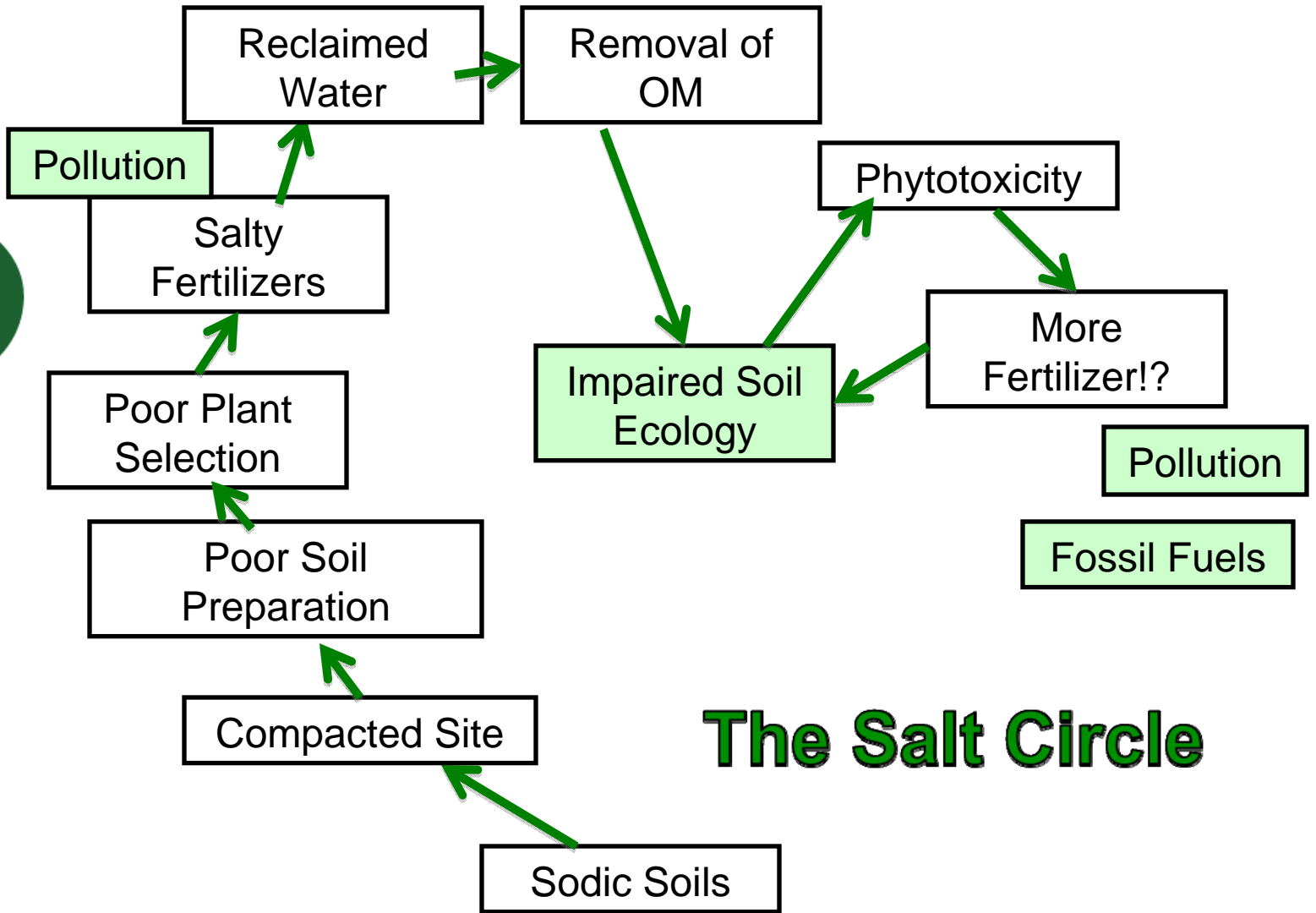
OR.....

Feed the Soil

Work with the Natural System

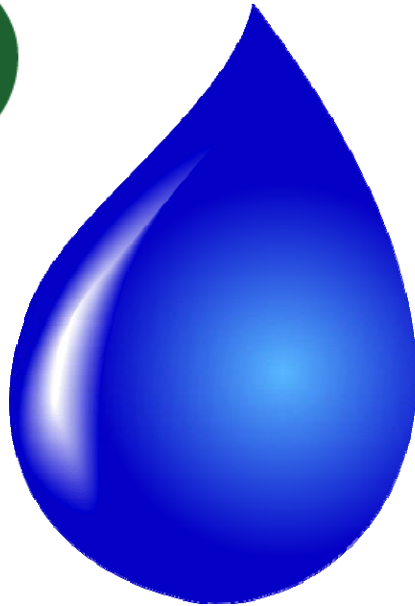
- Compost
- Mulch
- Organic Fertilizers
- Biological and/or Less Toxic Materials





The Salt Circle

The Easy Way...

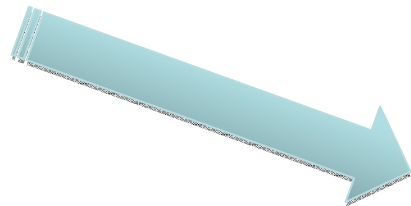




Tools

- WELO and CAL Green (20/20)
- Endangered Species Regulation
- Case Studies
- Education, Education, Education!
- Rebate Programs
- CLCA Water Management Program

We ARE the Ambassadors and
Emissaries of the Landscape.



- SHOW THEM THE \$
- SHOW THEM THE LAW
- SHOW THEM THE OPTIONS

PROMOTE INFORMED DECISIONS



Case Study

Blackhawk Home Owners Association



Becoming part of the solution by committing to preserve the beauty that surrounds us and to heal our planet for future generations

Results Achieved in the First Phase of the Project:

- Watering cost reduced by **\$51,000**
- Rebates of **\$50,000** in credits found
- In first 12 months, irrigation water use reduced by **27%**
- Savings based on the first 4 of 40 water meters to be upgraded

Customer Goals:

- Reduce annual water expenditures
- Improve irrigation efficiency
- Complete irrigation improvements within fiscal budget
- Improve aesthetics of the landscape
- Reduce synthetic pesticide and fertilizer use

Challenges Faced by Customer:

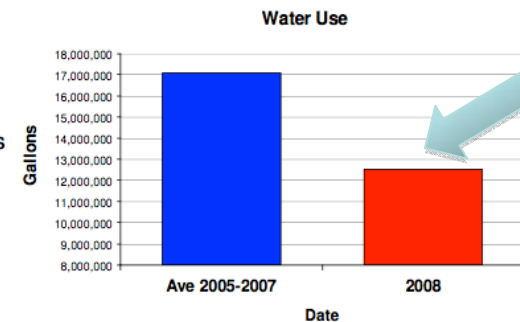
- Increasing water costs
- 25 year old irrigation system
- Arid climate with an average of ½" of rain between May and September
- Compacted clay soil throughout the site

Project Site Details:

- Home Owners Association
- Danville, California
- Age of site: 25 years
- 900 acres
- 16 acres of turf
- 14 acres of shrubs
- 4 parks
- 4 sports fields
- 12 miles of parkway strips and medians

Solutions:

- Organic products and services used to improve soil health
- Installed CalSense "smart" controllers
- Installed master valves and flow meters at backflows and wired to controller
- Installed weather station
- Installed rain gauge irrigation interrupt system
- Renovated existing sprinkler layout
- Reduced turf in selected areas



References for this case study and others like it are available upon request



Blackhawk HOA
Blackhawk Road
Danville, CA 94506



Collaboration ~Relationships are Everything~







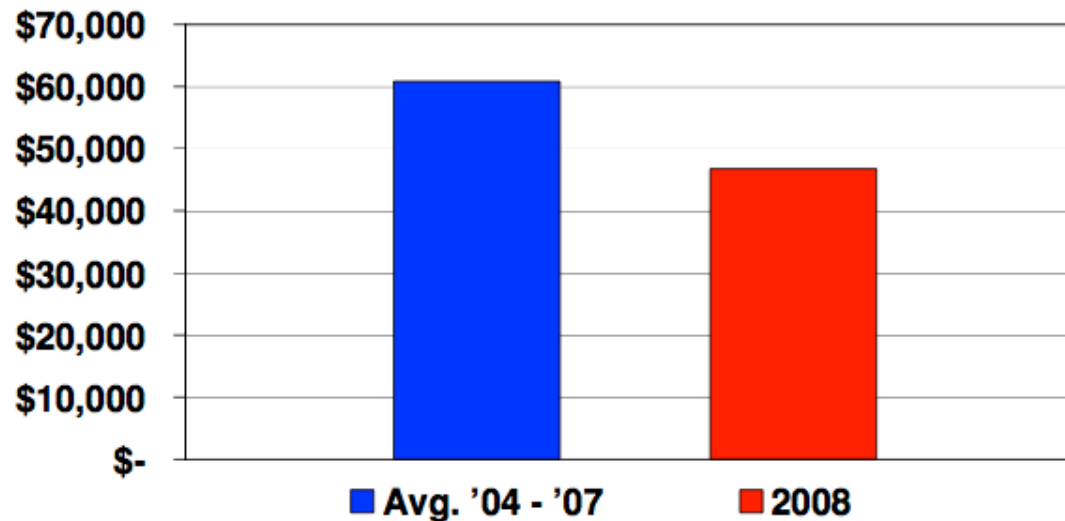
Project Goals

- ◆ Conserve Water
- ◆ Protect Water and Air Quality
- ◆ Create Habitat for Pollinators, Beneficial Insects
- ◆ Increase Native Plant Population
- ◆ Education: Encourage Sustainable Practices
- ◆ Buy Local Materials
- ◆ Use Organic Methods



Serious Water Savings!!!

WATER COSTS



Results Achieved:

- Landscape watering costs reduced by **\$14,000**
- Irrigation water reduced by **5 million gallons**
- Water consumption reduction of **26%**
- Return on Investment **Less than 2 years**





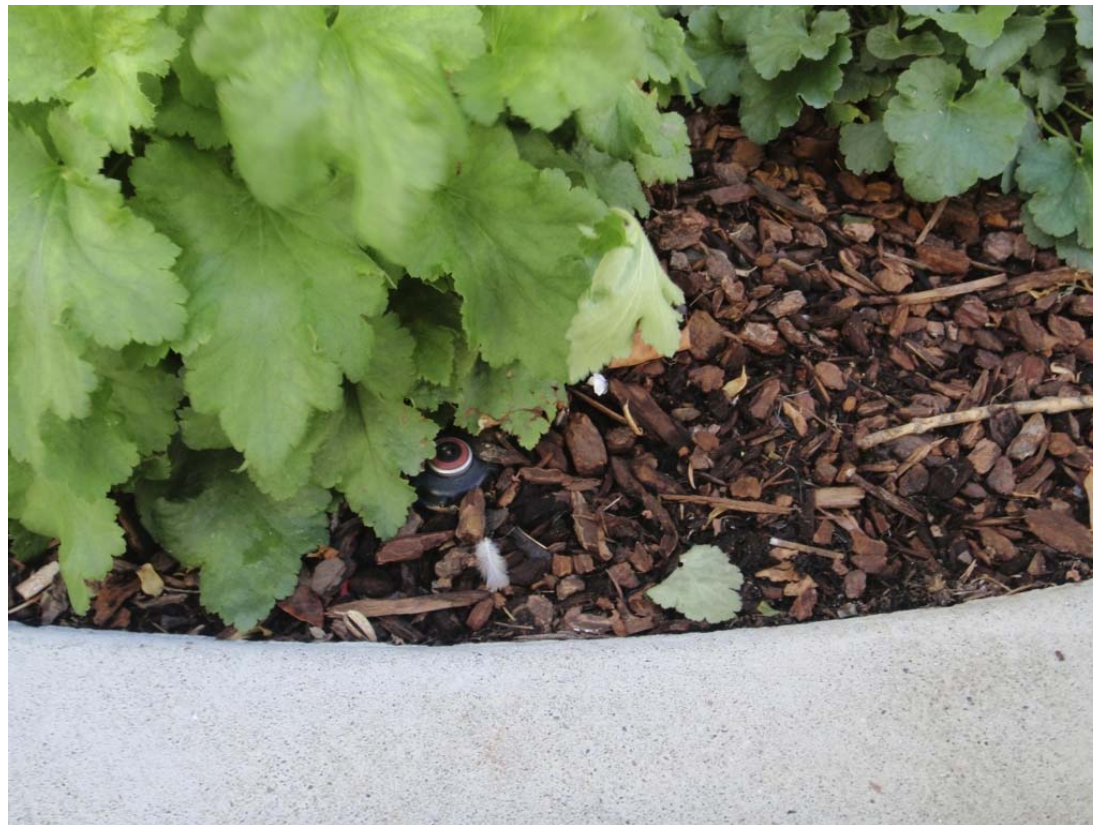
Compost

Vermicompost

Beneficial Insect
Educational
Display



“ET” Weather-Based
Irrigation Controllers (7)



MP Rotators..
Low Volume, Efficient Irrigation



Habitat and Bio-Swales!

“No-Mow” turf!



Beneficial Insect Releases



Educational Events



Cagwin & Dorward Press Release

August 13, 2010
For Immediate Release

Contact: Jacob Voit, Sustainability Manager 800-891-7710 jacob.voit@cagwin.com

Cagwin & Dorward in partnership with Colliers International,
UC Davis Arboretum, California Center of Urban Horticulture & Contra Costa Master
Gardeners Announces:

THE GRAND OPENING OF THE WILLOWS ECO-GARDENS

THINK GLOBALLY, PLANT LOCALLY!

**ONE OF A KIND SHOPPING CENTER GARDEN!
SPECIAL OPENING HOW-TO'S, PLANT SALE,
TREASURE HUNT, & RAFFLE!**

This event is free and open to the public

Saturday, September 25, 2010, 11am – 2pm

**The Willows Shopping Center - 1975 Diamond Blvd,
(at Willow Pass Road), Concord, California 94520**

*The Willows Shopping Center and partners are pleased to introduce its new
Eco Gardens, Composting System, and Critter Farm of beneficial insects!*

What you can learn about the Eco Gardens on Sept 25th:

- Water Conservation Techniques
- Organic Soil Management
- Using Native Plant Varieties
- How to Compost
- How to Raise Earthworms
- Bay Friendly Landscaping Techniques
- How to Create Habitat for Beneficial Insects
- How to Introduce Natural Predators

We can also design special events and classes to meet your groups' needs

- Pollinator Plants & Beneficial Insect Class
- School Field Trips
- Homeowner How-To's
- All-Stars Design
- Landscape Professional How-To
- Composting, Soil and Worms

For more information: www.cagwin.com, <http://ccuh.ucdavis.edu/>,
<http://ccmg.ucdavis.edu/> or http://arboretum.ucdavis.edu/arboretum_all_stars.aspx

Contact: Jacob Voit, Sustainability Manager 800-891-7710 jacob.voit@cagwin.com

Think Globally,
Plant Locally!

Sept. 25, 2010



cagwin & dorward





Aerobic
Compost
Tea!!!





Educational Signage

Marino Avila- Willows Acct. Mgr.



Harbor Bay Business Park – Bay-Friendly Landscape Beautification Groundbreaking Community Event

When: Wednesday October 27, 11:30 am

Where: Harbor Bay Shoreline Park, on Harbor Bay Pkwy, north of North Loop Rd

What: A groundbreaking ceremony for the largest Bay-Friendly project in the Bay Area

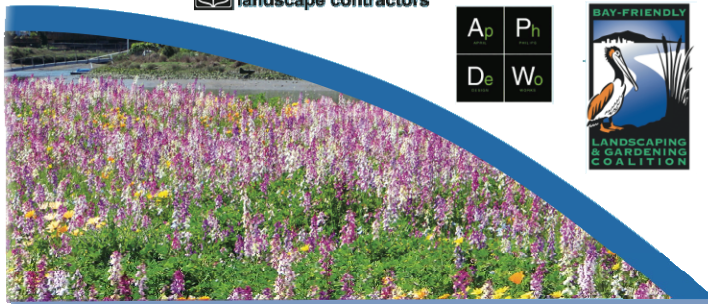
- Learn about Bay-Friendly landscaping
- Watch a sheet mulching demonstration
- Enjoy refreshments with community members and city officials

Event Partners:



Harbor Bay Business Park Association

Managed by



For more information, please visit www.harborbay.com or www.cagwin.com/harborbay





Sheet Mulching Process





Irrigation System

- Toro DL2000 on plants & no-mow Fescue
- Toro Intellisense with Weathertrak
- EZ-Flo Fertigation








Value Engineering & ROI

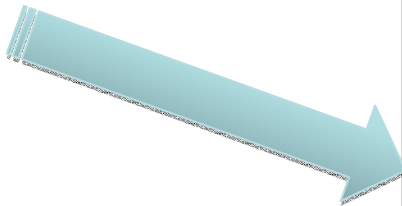
- Reduced project cost by 20% or \$100K
- ROI - Analysis comparing historical & current costs





Less Toxic Materials

- Organic Fertigation
- Burndown, Oil-based Herbicides
- Bacterial and OMRI Fungicides
- OMRI Pest Deterrents 



50% Reduced Water Costs!
23 MILLION Gallons!



Case Study

Centre Pointe Office Park



Becoming part of the solution by committing to preserve the beauty that surrounds us and to heal our planet for future generations

Results Achieved Over 5 Years:

- Water consumption reduced by 47%
- Irrigation water reduced by 23 million gallons
- Reduced water costs by 50%

Project Site Details:

- Office Park
- Walnut Creek, CA

Customer Goals:

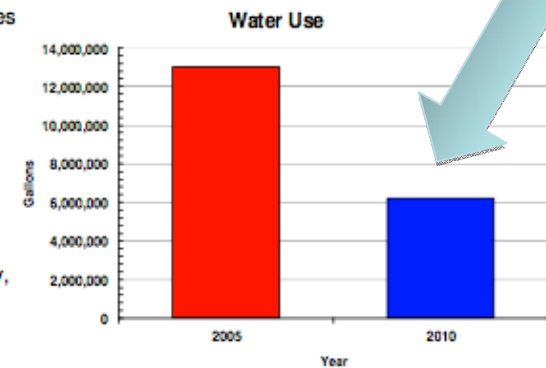
- Reduce annual water expenditures
- Reduce water use without upgrading existing irrigation system
- Maintain aesthetics of the landscape while reducing water use

Challenges Faced by Customer:

- Excessive water pressure throughout site
- Aging irrigation system
- Frequent pipe breaks and leaks

Solutions:

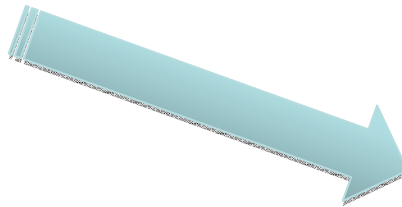
- Identified shade areas such as turf under trees and around buildings that require less water
- Created separate irrigation programs for shrubs, turf, shady areas and trees
- Removed high water use plants, capped unnecessary irrigation heads, and spread mulch in planter beds
- Worked with the Property Manager to identify, flag, and repair all irrigation leaks and pipe breaks quickly.
- Installed pressure regulators to reduce flow
- Adjust controller programming frequently to maximize efficiency.



cagwin & forward
landscape contractors

References for this case study and others like it are available upon request

Centre Pointe
Alhouse Deaton Management
Lennon Lane
Walnut Creek, CA 94958



NO fertilizer or pesticides since March '08!
Water Reduced 50%!



Case Study

Oakmont East Village Homeowners' Association



Becoming part of the solution by committing to preserve the beauty that surrounds us and to heal our planet for future generations

Results Achieved:

- No commercial fertilizer or pesticides used since **March 2008**
- Irrigation water reduced by **1.2 million gallons**
- Water consumption reduced by **50%**

Customer Goals:

- Save water by reducing turf areas and increasing the efficiency of the existing irrigation system
- Maintain a beautiful landscape without applying chemicals

Challenges Faced by Customer:

- Average irrigation annual rate increase = 9%
- Recreational center that has high exposure to community needed to be aesthetically pleasing.

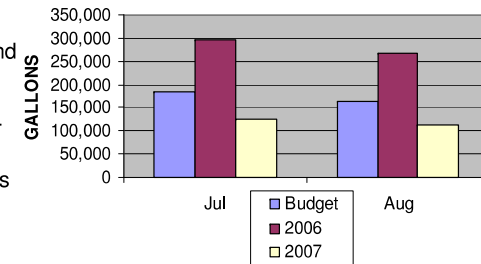
Customer Profile:

- Home Owners Association
- Santa Rosa, CA
- 67,000 sq ft of landscape
- Age of site: 25 yrs.
- Retirement community at Oakmont Golf Course

Solutions:

- Water budget developed
- Selected areas of turf were sheet mulched and low water use, native plant material was installed.
- Existing irrigation was renovated to low water use nozzles and drip irrigation.
- Weekly meters read and water-budget reports compared
- Annual plant health program was developed

WATER USE



Here's what the customer had to say:

"Our landscape appearance has improved significantly with the use of native plants and eliminating turf. Our resident's are excited about the changes we have made. They feel safe using the recreational center knowing that we are not using chemicals." **Landscape Improvement Committee Chair**



Oakmont Village Association
6637 Oakmont Dr
Santa Rosa, CA 95409

References for this case study and others like is are available





**Are you a part of
The Solution?**

**Are your crews
informed, excited,
and enthusiastic to
be Good Land
Stewards?**



cagwin & forward



Review / Take-Aways

- Work Smarter, not harder
- We are Knowledge Workers
- Raise the Bar of The Industry
- Land Stewardship: a higher calling on behalf of our customers
- Ambassadors of the Land
- A part of the Solution



Thank
You!



Becoming Part of the Solution...

www.cagwin.com

Dave Phelps

Dave.Phelps@cagwin.com

(415) 215-5785

