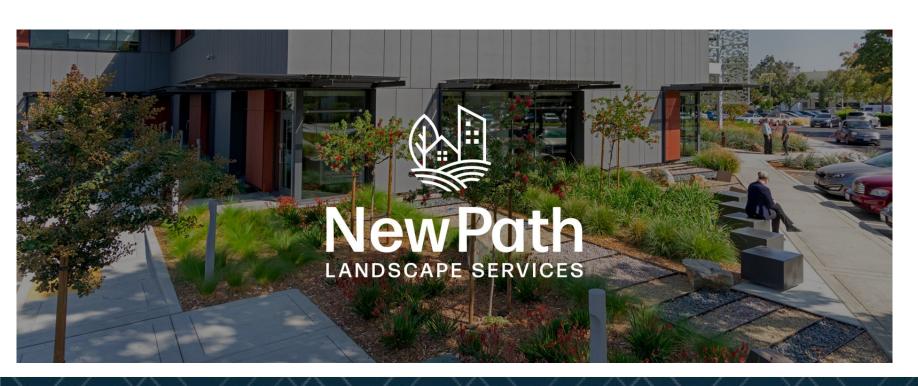
# Non-Functional Turf and Irrigation Regulations

Presented by Kyla Phillips
Account Manager, Recycle Water Site Assessor,
ISA Certified Arborist WE-10239A and Tree Risk Assessment Qualified











- Founded in 2006 By Filiberto Fonseca, a lifelong Santa Clara county resident. Born and raised in south county.
- Company FKA Allied Landscape Services South until 2019 when we rebranded as NewPath Landscape Services, Inc
- Started working in Commercial Landscape Development in 2012
- Current company size 140 employees
- Based in Morgan Hill, CA





#### What we do:



#### **Commercial Landscape Maintenance**

We service Commercial Sites, HOAs, Apartments, Shopping Centers, and Municipalities, and Master Planned communities, etc.

#### **Enhancements**

We provide our maintenance clients recommendations to upgrade worn or wasteful landscapes into aesthetically pleasing and environmentally friendly landscapes.

We have multiple teams who work on renovation projects such as lawn conversions, fence or hardscape repairs, and planting renovations.

#### Irrigation

We audit all our properties regularly to check for leaks and to prevent water loss. Our team of Certified Irrigation Technicians provide upgrade recommendations to reduce water usage and waste.

We have nearly 20 years of experience working with landscape rebate programs with different water districts.

#### **Landscape Development**

We are also a full-service landscape construction company.

We develop and landscape entire communities, commercial properties, retail centers, city parks, and much more from the ground up.

- · Irrigation and Planting
- Grading and Drainage
- Concrete and Pavers
- Wood and Metal Structures
- Playground structures and Sports fields
  - Bio- Swales and Detention Basins
    - Synthetic Turf









HOAs, more than other client base, tend to have a negative reaction to restricting their ability to have lush green lawns.

Top Factors that contribute to their initial negative response can be:

#### **Initial Costs and limited budgets**

- Tight budgets; landscaping is only 1 of many other fiscal items they must address yearly
- Building and safety concerns come first
- Large lawn conversion projects may adversely affect homeowners as their monthly HOA fees can increase to account for more site investments

#### Reduced public space and Misc Lawn Usage

- Many residents walk their dogs around properties or children play along the common area lawns even though
- they are not designated as playgrounds or sports fields
  Many "common areas" of older HOAs include the front yards of family homes, not just the park strips. Different homes in the same valve zone have different front yard space.

#### **Aesthetics and Property Value Loss**

- Accustomed to always having had green lawn
- Decline in property value
- Difficulty attracting new tenants
- Overall aesthetic decline of the landscape

- Establishment periods and Expectations on Reduced Water Use
  New plants need regular water to establish; It takes 2-3 years for most plant roots to establish. This delay in major water use reduction often lowers client satisfaction.
- Statistics from water suppliers, irrigation product manufacturers, and case studies greatly help in selling projects and setting expectations for the client.

#### **Future Costs**

- Re-occurring mulch replenishments every 2-3 years if no ground cover filler
- Plant replacements (turf vs. plant lifespans)
- Concerned how to temporarily water tree roots for Tree Health and Retention; replacing trees is very expensive





#### **Water District and City Incentives**

Rebate incentives help return a small percentage of the initial conversion costs for communities to re-invest

Rebates help show a partnership and collaboration across multiple agencies and an understanding that this is not an easy task

#### Some differences between HOA's and Commercial Sites

#### 1. Management and Decision Makers-

HOAs involve a board consisting of volunteers and a property manager who is also responsible for multiple properties. They need to vote on plans and get a majority to approve any work as week as need to agree on space usage and how to use their limited budget to maintain buildings, hardscapes, and landscapes.

Commercial Sites may have multiple tenants, but usually there is 1 manager or owner in charge of making site decisions.

#### 2. Time

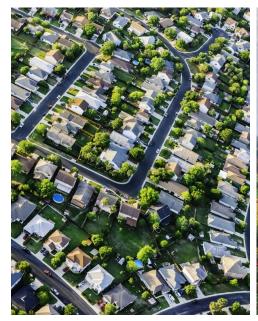
HOA's take more time to make and approve plans; most boards only meet quarterly.

#### 3. Site Usage

HOA's consist of more diverse groups with different outdoor space needs. Most use outdoor lawn areas a lot more than Commercial and Industrial Sites

#### 4. Budgets and Scale

Commercial/Industrial Sites have a greater ability to approve larger projects at once instead of in phases, which saves them money in overall cost due to less crew and equipment mobilization





#### **HOA Requests**

- A plan to allow a 5+ years of phased out lawn removals over time. This is more economically realistic and practical
- More water rebate incentives for turf areas with mature trees due to higher irrigation installation costs (for example, adding a valve for separate tree water needs) and tree root protection work

## Tree Retention in Lawn Areas

#### The Importance of Tree Roots:

- Tree roots store the energy needed to produce leaves, they absorb water and minerals, produce important hormones, and act as an anchor to stabilize the tree.
- Root damage or loss during construction causes canopy dieback, this stress can lead to further decline, insect or disease infestations, premature failures, or death.



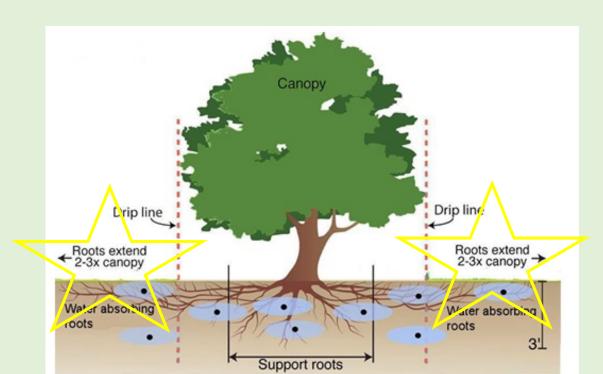
#### The Location of Tree Roots:

- Tree roots extend well beyond the canopy of trees. About 50% of the root system grows beyond the dripline and can be 3x as far as the crown.
- The majority of tree roots grow horizontally in the top 4"-18" of the soil so they can access oxygen and water
- In urban areas, trees rarely grow tap roots; those established in lawns (with overhead spray only) have even more shallow roots than trees established with deep-root watering

Multi-use sites have a critical role in helping cities address climate change.

Urban forests are more vulnerable in extreme weather events due to high levels of impervious cover, pollution, and built structures that intensify the impacts of increasing temperatures, drought, and extreme weather.

Protecting trees is very important in urban areas to lower carbon emissions, filter pollution, mitigate extreme heat and precipitation, reduce land erosion/flooding, slow strong winds, and provide refuge for wildlife.



# Tree Retention in Lawn Areas

Keep trees healthy during Lawn Renovations!

It is essential to properly irrigate and protect the tree roots before, during, and after renovation work!

#### 1. Before Lawn Removal

- Soak Tree Roots (Deep Root Water to reduce stress)
- Install Tree Protection Zones to avoid compaction

#### 2. During Lawn Removal

- Do NOT use heavy equipment like tractors or rototillers
  - Carefully remove sod over surface roots
- Do NOT raise the soil grade over the roots, root flare, or trunk
- Install full irrigation coverage for tree roots (grid pattern extended beyond drip line)
- Install a separate valve for tree irrigation to allow for longer and less frequent applications
  - Plant Factor: Not all plants use water at the same rate under the same conditions.

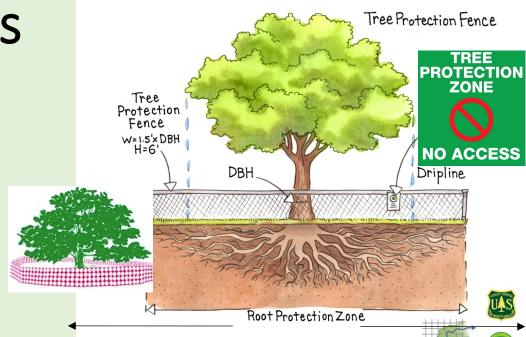
Calculating water use by mature plants: Based on research-derived plant factors, mature trees require 2x the amount of water

o.80 Mature shade trees (broadleaf) < VS> o.40 Established low-water use/native plants

Gallons per Plant = 0.623 x Plant Area x <u>Plant Factor</u> x Potential ET (evapotranspiration) per drip per Day

#### 3. **After** Lawn Removal:

Do NOT bury the root flares in mulch



#### **Tree Protection Zones**

They should be at least 1.25-1.5ft for every inch of trunk diameter

Tree Zone Width from Trunk= 1.5' x DBH / Height= at

least 4'

#### Sources:

Bardon et al. 2019; North Carolina State Extension Service

Belingheri, Andy | How To Protect Trees During A Turf Conversion | JAIN by Rivulis (jainsusa.com)

<u>Climate Resilient Urban Greening Best Practices - Southern California</u> Association of Governments

Kunhs, Mike. and Tipton, Jimmy. <u>Drip Irrigation for Trees | Forestry | Extension | USU</u>

Southern Nevada Arborist Group (SNAG) <u>protectingEstablishedTrees.pdf</u> (starnursery.com)

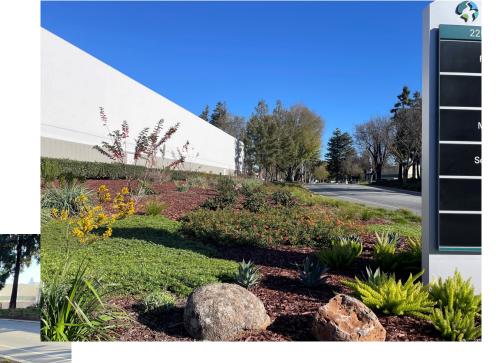
Urban Forestry | US Forest Service Research and Development (usda.gov)



### **Commercial Lawn Conversions**





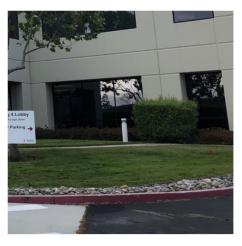


After



## **Commercial Lawn Conversions**

Before:















After



## **HOA Lawn Conversions**

#### Before:









#### After:









Thank you!