



# Landscape Maintenance Options for Citywide Parks, Civic Sites and Roadway Landscapes

City Council Study Session  
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Jen Santos, Deputy Director – Parks

# Background

- Emerging issue relating to landscape maintenance is the use of chemicals to control weed growth
- Contracted Landscape Maintenance is provided at city parks, civic sites and roadways landscape areas
- Council approved final contract extension August 2018 - 2019 eliminated the use of synthetic methods of weed control (including Glyphosate) – Park maintenance also eliminated the use of synthetics
- Current Landscape Maintenance Contract expired August 30, 2019 with a one month procured extension to September 30, 2019

# Definitions

- Glyphosate - Glyphosate is a synthetic herbicide. It is applied to the leaves of plants to kill both broadleaf plants and grasses. The sodium salt form of glyphosate is used to regulate plant growth and ripen specific crops.
- Neonicotinoids - Any of a class of systemic water-soluble insecticides chemically related to nicotine that are used especially in agriculture to control destructive pests (such as aphids and mites) and that selectively bind to the postsynaptic nicotinic receptors of insects to produce paralysis and death
- Weed – Any unwanted soil-based vegetation, typically invasive compared to native or purposely planted

# IPM

- Integrated Pest Management (IPM): A plan/strategy for selecting the least invasive/toxic method for removal/reduction of weeds as undesired vegetation
- Options for IPM from most preferred to least:
  - Physical prevention
  - Cultural
  - Mechanical
  - Biological
  - Chemical herbicide (Synthetic and Organic)
- Non-chemical sites (chemical controls are never used at):
  - Playgrounds, dog parks, picnic areas, creek, bio-swales or bio-retentions or similar
  - Healthy Schools Act applies to all school-park sites



# Organic and Synthetic Herbicides

- Herbicides (chemical weed control) are regulated by;
  - Environmental Protection Agency and State Agricultural Office regulates with authority from the Federal Insecticide, Fungicide and Rodenticide Act (FIRFA)
  - Sonoma County Agricultural Commissioner's office regulates locally
- Herbicides are both organic and synthetic chemical weed control methods
  - City and contracted park maintenance staff rely upon Federal, State and locally approved chemical herbicide products only for both organic and synthetic
  - EPA and State Ag approves the use of synthetic and organic products, including the use of Glyphosate as the chemical in some synthetic herbicide products

# Organic Herbicides

- Organic herbicides (chemical weed control)
  - Chemically burns the above ground portion of a weed and does not impact roots
  - Eradication – typically multiple applications per plant, per season
  - Burning characteristic requires applicators to exercise increased caution through the use of personal protective equipment
  - Generally dissipates after 24 hours
  - Some organic products not regulated for use in herbicide treatments in landscapes
  - City relies upon the Organic Materials Review Institute (OMRI) approval of organic compounds in the use for weed removal

# Organic Herbicide Example Site



Day 1



Day 3



Day 5

A five-day test of an organic weed control product was conducted at Galvin Park baseball field

# Synthetic Herbicides

- Synthetic herbicides (chemical weed control)
  - Chemically treats the above ground portion of a weed and the roots
  - Eradication – typically one application per plant, per season
  - Requires applicators to exercise standard caution through the use of personal protective equipment
  - Generally dissipates after 24 hours
  - All synthetic weed control products are regulated for use in herbicide treatments in landscapes
  - City relies upon the EPA, State Ag and Sonoma County Ag Commissioner for approval of synthetic herbicides used in the landscape



# Weed Control Examples



100% weed control

# Weed Control Examples



90% weed control



70% weed control



# Weed Control Examples



50% weed control



25% weed control



# Weed Control Examples



0% weed control



# Weeds at Baseball In-fields





# Weeds adjacent to paths





# Weeds adjacent to roadway





# Weeds at Neighborhood Park





# Weeds at Picnic Site





# Weeds at Playground





# Weeds at Fence





# Weeds in Parking Area





# Landscapes with reduced weeds



Dutch Flohr Park



# Landscapes with reduced weeds



Finali Park

# Landscapes with reduced weeds



Luther Burbank Homes and Gardens



# Landscapes with reduced weeds



Juilliard Park

# Current Contract

- Current Landscape Contract limitations;
  - Weed removal only twice per year – is based on use of synthetic weed control products
  - Reduced need for contracted staff in roadway maintenance with increased need for city staff to compensate for limitations in contract dependent upon weed removal twice per year
  - Not effective for accountable contract service
  - Council approved final contract extension August 2018 - 2019 eliminated the use of synthetic methods of weed control (including Glyphosate)
  - City park maintenance staff have increased their care of areas normally maintained by the contract by at least 30% to compensate for contract limitations from August 2018 - 2019
  - Current annual budget for existing landscape contract is \$550,000

# Weed Control Application Sites

- Park and Civic Sites
  - Organic method of weed control 50% after three years
  - Synthetic method of weed control 70%
  - Combined method: It is feasible to maintain park and civic sites with organic products as the primary source for 50% weed control with synthetic products used for select targeted poison oak and baseball in-fields areas for 70% weed control
  - Most weeds are currently controlled by city staff maintenance

# Weed Control Application Sites

- Roadway Landscape sites
  - Organic method of weed control 50% after three years
  - Synthetic method of weed control 70%
  - Combined method: It is feasible to maintain roadway sites with organic products as the primary source for 50% weed control with synthetic products used only for landscapes requiring lane closure (medians and narrow planting areas adjacent to roadway)
  - Sites within the roadway result in additional safety concerns
  - Use of organic herbicides requires more labor as mechanical methods are considered part of an organic weed control plan for roadways
  - Most weeds are controlled by contract maintenance



# Example Cities/Agencies

- City of Davis
  - Moved to an all organic landscape contract for two years with major issues in certain areas
  - Now considering a hybrid approach to use synthetic products in roadways and other non-recreational planter beds
- City of Clayton (Bay Area)
  - Discontinued use of Glyphosate in all areas except medians/roadway landscapes
  - Majority of maintenance is funded by landscape maintenance districts
- Town of Healdsburg
  - Discontinued use of glyphosate in 2016
  - Employed additional staff to weed-whip increased weeds to keep from encroaching into paths/rec areas
  - Funded from TOT and lighting and landscape district



# Questions?

