

CITY OF MADISON ENGINEERING DIVISION 2020 ANNUAL INTEGRATED PEST MANAGEMENT REPORT

SECTION 1 – City Facilities Maintained by Engineering

Summary of Non-Chemical Pest Control Management

The Engineering Division contracts Plunkett’s Pest Control for pest control in facilities maintained by Engineering. These include Madison Municipal Building, Police Stations and Police outbuildings, Fire Stations and Engineering facilities and outbuildings. Pests controlled include flying insects, crawling insects and rodents.

Plunkett’s Pest Control uses exclusion and sanitation as first approaches to pest control. If these approaches are ineffective they must seek permission from a contact at each building to use pesticides. Plunkett’s uses snap traps for rodent control inside buildings. They remove spider webs and stinging insects with a de-webber dusting tool and place insect zone monitors around buildings. They plug smaller holes and cracks as possible. After a service visit, Plunkett’s may prepare a “Client Action” report with recommendations for fixes that may help with pest control—these reports include photos of areas of concern. Examples of solutions that may be suggested include door sweeps needing repair, sanitation concerns, cracks and holes that need to be addressed, or other possible methods of exclusion.

There were no pesticide applications at the following Engineering maintained facilities in 2020:

Building	Location
Fire Administration Bldg	325 W Johnson Street
Fire Motor Equipment	1234 E Washington Avenue
Fire Station #01	316 W Dayton Street
Fire Station #14	3201 Dairy Dr
Fleet Services Building	200 N First St
Police Training Facility	5702 Femrite Dr
Police Storage (L-shaped)	200 N First Street
Police Storage Shed #991702	200 N First Street
Madison Police South	825 Hughes Place
Madison Police Midtown	4020 Mineral Point Road
Madison Water Utility	#2134001
Engineering Services Bldg	1600 Emil St
Streets East Facility	4602 Sycamore Ave
Engineering Facility	#50013
Warner Park Facility	1625 Northport Dr

Summary of Chemicals and Quantities Used

Pesticide applications at facilities maintained by the Engineering Division are summarized below.

Location	Date	Pesticide	Quantity	EPA #	Active Ingredient	% by Weight	Mice Caught
Police North #9213561	4/2	Demand CS	2 gal	100-1066	Lambda-cyhalothrin	9.70	0
	4/30	Talstar Xtra	2.5 lb	279-9552	Zeta-Cypermethrin	0.05	
					Bifenthrin	0.25	
	7/17	Demand G	2 lb	100-1240	Lambda-cyhalothrin	0.045	
	9/3	Demand G	2 lb	100-1240	Lambda-cyhalothrin	0.045	
Police East #370701	5/11	Termidor SC	2 gal	7969-210	Fipronil	9.10	0
	8/4	Termidor SC	1.5 gal	7969-210	Fipronil	9.10	
	8/14	CB80	6 oz	279-3393	Pyrethrins	0.5	
					Piperonyl Butoxide	4.0	
	8/17	CB80	6 oz	279-3393	Pyrethrins	0.5	
					Piperonyl Butoxide	4.0	
Police West #370702	5/12	Termidor SC	2.5 gal	7969-210	Fipronil	9.10	0
	8/5	Termidor SC	2.5 gal	7969-210	Fipronil	9.10	
Madison Vehicle Impound #2029684	6/30	Suspend Polyzone	10 gal	432-1514	Deltamethrin	0.42	7
Madison Police Training #2060124	7/7	Demand CS	1 gal	100-1066	Lambda-cyhalothrin	9.70	23
	7/20	Demand CS	4 oz	100-1066	Lambda-cyhalothrin	9.70	
	7/20	CB80	4 oz	279-3393	Pyrethrins	0.5	
					Piperonyl Butoxide	4.0	
	7/20	Delta Dust	0.2 oz	432-772	Deltamethrin	0.05	
Madison Municipal Bldg (MMB) #2011099	5/13	Demand CS	4 gal	100-1066	Lambda-cyhalothrin	9.70	
	7/6	Demand CS	4 gal	100-1066	Lambda-cyhalothrin	9.70	
	9/2	Demand CS	4.5 gal	100-1066	Lambda-cyhalothrin	9.70	
Madison Water Utility #2134001	8/5						1
Fairchild Bldg #2008468	8/5	Demand CS	0.5 gal	100-1066	Lambda-cyhalothrin	9.70	1
Streets East (Sycamore) #2054018							22
DPW Olin #2002550	5/26	Demand CS	1.5 gal	100-1066	Lambda-cyhalothrin	9.70	10
	7/27	Demand CS	1.5 gal	100-1066	Lambda-cyhalothrin	9.70	

	10/26	Suspend Polyzone	1.5 gal	432-1514	Deltamethrin	0.42	
Engineering Services Bldg (Emil St) #2054017							13
Engineering #50013							12
Fire Station #7 McKenna #2014538	5/7	Demand CS	1.5 gal	100-1066	Lambda-cyhalothrin	9.70	
	7/14	Termidor SC	0.5 gal	7969-210	Fipronil	9.10	
	8/27	Tempo 1% Dust	4 oz	432-1337	Cyfluthrin, cyano methyl 3-2, 2-dimethylcyclopropane-carboxylate	0.01	
		CB80	4 oz	279-3393	Pyrethrins	0.5	
Fire Station #5 Cottage Grove #2015472	5/1	Demand CS	1 gal	100-1066	Lambda-cyhalothrin	9.70	
Fire Station #3 Williamson St #2015469	5/1	Demand CS	1.5 gal	100-1066	Lambda-cyhalothrin	9.70	
Fire Station #2 Grand Canyon #2015467	4/28	Talstar Xtra	2 lb	279-9552	Zeta-Cypermethrin	0.05	
	6/26	Demand G	2 lbs	100-1240	Lambda-cyhalothrin	0.045	
Fire Station #1 Dayton St #2014495							6
Fire Station #6 Badger Rd	5/5	Taurus SC	1 gal	53883-279	Fipronil	9.1	4
	6/9	Suspend Polyzone	1.5 gal	432-1514	Deltamethrin	0.42	
	7/8	Taurus SC	1 gal	53883-279	Fipronil	9.1	
	8/13	ExciteR	2 gal	89459-41	Pyrethrins	6	
					Piperonyl butoxide	60	
		Demand CS	2 gal	100-1066	Lambda-cyhalothrin	9.70	
Fire Station #4 Monroe St #2015470	5/1	Demand CS	1.5 gal	100-1066	Lambda-cyhalothrin	9.70	
Fire Station #9 Midvale Blvd #2015475	4/29	Talstar Xtra	1 lb	279-9552	Zeta-Cypermethrin	0.05	1
Fire Station #8 Lien Rd #2015474	5/1	Demand CS	1.5 gal	100-1066	Lambda-cyhalothrin	9.70	
Fire Station #10 Troy Dr #2015476	5/28	Demand G	1 lb	100-1240	Lambda-cyhalothrin	0.045	
	7/14	Termidor SC	1 gal	7969-210	Fipronil	9.10	
	8/11	Suspend Polyzone	2 gal	432-1514	Deltamethrin	0.42	
Fire Station #11 Morgan Way #2015477	5/1	Taurus SC	1 gal	53883-279	Fipronil	9.1	13
Fire Station #13 Town Center Dr #2151913	4/9	Demand G	5 lb	100-1240	Lambda-cyhalothrin	0.045	14
	5/1	Taurus SC	2 gal	53883-279	Fipronil	9.1	

Fire Station #12 South Point Rd #2044394	5/11	Taurus SC	2 gal	53883- 279	Fipronil	9.1	
	7/13	Taurus SC	2 gal	53883- 279	Fipronil	9.1	

Estimated Size of Total Area Managed

The Engineering Division is responsible for Integrated Pest Management services at 34 buildings totaling over 800,000 square feet. These facilities include office, vehicle storage and maintenance facilities as well as Police and Fire Stations. The goal for the Engineering Division Integrated Pest Management is to control the insect and rodent population at the buildings identified above. Engineering is responsible for integrated pest management at the following facilities:

Building	Location	SF
Engineering Services Bldg	1600 Emil Street	78,242
Fairchild Bldg	120 S Fairchild Street	52,329
Fire Administration Bldg	314 W Dayton Street	23,867
Fire Motor Equipment	1234 E Washington Avenue	8,236
Fire Station #01	316 W Dayton Street	37,841
Fire Station #02	421 Grand Canyon Drive	7,609
Fire Station #03	1217 Williamson Street	8,372
Fire Station #04	1437 Monroe Street	10,328
Fire Station #05	4418 Cottage Grove Road	8,052
Fire Station #06	825 W Badger Road	11,874
Fire Station #07	1810 McKenna Boulevard	12,539
Fire Station #08	3945 Lien Road	10,054
Fire Station #09	201 N Midvale Boulevard	5,564
Fire Station #10	1517 Troy Drive	5,959
Fire Station #11	4011 Morgan Way	11,204
Fire Station #12	400 South Point Road	12,500
Fire Station 13	6350 Town Center Dr	12,725
Fire Station 14	3201 Dairy Drive	21,758
Fleet Service Bldg	120 N First St	40,000
Madison Municipal Bldg	215 Martin Luther King Jr Boulevard	74,154
Police East District Station	809 S Thompson Drive	14,125
Police South District Station	825 Hughes Place	10,387
Police North District Station	2033 Londonderry Drive	7,901
Police West District Station	1710 McKenna Boulevard	12,249
Police Midtown District Station	4020 Mineral Point Road	31,071
Police Training Facility	5702 Femrite Road	33,000
Police Vehicle Impound Storage	29 Marsh Court	9,600
Police Storage (heated) #2077484	200 N First Street	1,600
Police Storage (L-shaped)	200 N First Street	3,741
Police Storage Shed #991702	200 N First Street	364
Streets East	4602 Sycamore Avenue	138,000
Streets South Point Facility	402 South Point Rd	25,452
Streets Waste Transfer Station	121 E Olin Avenue	26,000
Street West	1501 W Badger Road	76,000
Total Square Footage		843,697

SECTION 2 - City Engineering Stormwater Right-of-Way Maintenance

Summary of Non-Chemical Pest Control Management

The Engineering Division is responsible for the design, construction, operation, and maintenance of the City's stormwater conveyance system. This conveyance system includes retention/detention/infiltration ponds, greenways and non-active stormwater management land or "natural areas." The vegetation in the stormwater management system is designed to slow down stormwater and provide some level of treatment by helping to remove sediment and nutrients. The Engineering Division also does some vegetation maintenance on select bike paths and non-stormwater land owned or leased by Engineering.

Encouraging the growth of native plant species is the primary vegetation management goal for stormwater land. Native plantings are beneficial in numerous ways. Besides providing habitat in urban areas, native plantings do not require frequent mowing—this decreases both maintenance costs and grate clogging, which is a serious hindrance to stormwater system function. Native plants tend to have deep roots that open up the soil and allow for faster infiltration. They also slow runoff, store nutrients, fix carbon, and provide stability to steep slopes. Native plants also provide habitat to native wildlife including pollinators. The biggest threat to native plants are invasive plants. The effective maintenance of native plant communities involves the monitoring and control of invasive plants.

Monitoring is the most important management tool used on Engineering land. Engineering spent approximately 2,750 hours monitoring sites in 2020, up from approximately 2,000 hours spent in 2019. Monitoring involves walking sites and noting desirable species, invasive species, sources of invasive species, disturbed areas, pollution or litter, erosion and any other issues that can disrupt the ecological functioning of a site. Without monitoring there is no way to know which sites require and will benefit from additional maintenance. With this in mind, in 2020 Engineering decided to again hire two Greenway Restoration Interns to assist the Greenway Vegetation Coordinator with vegetation maintenance on stormwater land. The interns both had academic backgrounds in ecological restoration and several seasons of prairie and wetland maintenance experience that they applied to vegetation maintenance and monitoring on stormwater land. A former intern from 2019, Emily Jorgensen, was asked to stay on with Engineering for the 2020 season. Emily instructed and worked alongside interns in the field. As a side-effect of the pandemic, Engineering was fortunate to have two redeployed workers from Monona Terrace to provide further assistance in vegetation maintenance including monitoring. An Operation Fresh Start (OFS) Crew of three students and one crew supervisor was also engaged in vegetation maintenance.

Mowing is the second most common management tool used on Engineering land. Most ponds and greenways were mowed at least once in 2020. Mowing sets back undesirable tree and shrub growth that can shade out herbaceous species and lead to erosion. Some woody plants are aggressively invasive (i.e. buckthorn, honeysuckle) and can greatly reduce plant diversity in an area. Mowing can also help control herbaceous invasive species if timed appropriately—usually when the plant is in bloom. Engineering may request selective spot mows in conjunction with timed mows to preserve desirable blooms and reduce unnecessary mowing. 2020 had drier spells in mid-summer and early fall which allowed for mowing in areas that had been inaccessible in 2019, for example, some sections of the Country Grove Greenway system on Madison's southwest side.

Prescribed burns are a management tool used on sites with large populations of native species. Many of Wisconsin's native plants evolved with fire and may increase in population or vigor after a burn. Burning also opens up areas to allow for better monitoring and control of invasives. Most fire-adapted native species are "warm season" plants that green up later in the season. Many invasive plants are "cool season" and green up very early. After a well-timed burn, invasives can be easily identified as some of the first plants to green up and start growing. In 2020 Engineering contracted spring burns on eight sites. The contractor was able to complete one burn before burn permits were suspended by Madison Fire Department and Wisconsin Department of Natural Resources (DNR) due to unknowns surrounding the pandemic. In fall 2020 Engineering staff were able to complete burns on six small rain gardens or bioretention ponds, and one larger median greenway at Broad Creek Blvd. The

contractor was able to complete burns at two of the originally contracted sites, and attempted a burn at a third site (Woodman’s channel), but was unable to complete the burn due to wet conditions.

Where brush cutting has occurred to remove invasive trees and shrubs, brush piles may be burned to reduce the amount of effort needed to haul brush off site. Piles are burned in winter when conditions are wet to reduce the chance of fire escaping. OFS engaged in some brush pile burning in early 2020.

Goat grazing was a vegetation management tool used for the first time by Engineering in 2020. Goats preferentially eat woody plants, and can cause further damage to invasive shrubs and trees by climbing, yanking and rubbing. A herd of about 40 goats was contracted to graze the heavily wooded Robin Parkway Greenway in a residential area on the west side of Madison. The greenway has a shrub canopy that is overrun with invasive buckthorn, mulberry, honeysuckle and Japanese knotweed. Goats were on site for 7 days and stripped the shrub canopy bare of all green foliage, including the Japanese knotweed.

Other non-chemical management tools used to control pests on stormwater land include hand digging, cutting and pulling to eliminate invasives in small areas as well as overseeding with native species and planting with native plant plugs. Engineering interns, redeployed staff and OFS working together performed more hand removal of invasive species than any other year on record.

As Engineering shifts the focus of stormwater management to a stronger focus on native plants, wildlife habitat and resilient ecosystems, management approaches will necessarily change. From a dynamic mowing approach, to the incorporation of prescribed burns and targeted pesticide applications, all management techniques may need to be employed. Initially, areas that are a management focus will require more attention and have more issues with pests. With careful planning over the years, problem populations will be diminished leading to lower input in labor and less herbicide use.

Below is a break-down of how the Greenway Restoration interns and Emily Jorgensen spent their time on various management activities:

Method	Labor Hours Spent	Percent of Time Spent
Hand-digging or pulling	355.5	33.3
Planting native plugs	86.5	8.1
Collecting, processing distributing native seed	281.25	26.33
Spot mowing	33.75	3.2
Prescribed burning	20.5	1.92
Herbicide Application	290.5	27.2

Below is a break-down of how the redeployed workers spent their time on various management activities:

Method	Labor Hours Spent	Percent of Time Spent
Hand-digging or pulling	167.5	27.62
Planting native plugs	120	19.79
Collecting, processing distributing native seed	274.5	45.26
Spot mowing	0	0
Prescribed burning	20.5	3.39
Herbicide Application	24	3.96

Below is a break-down of how the Operation Fresh Start Crew spent their time on various management activities:

Method	Labor Hours Spent	Percent of Time Spent
Hand-digging or pulling	167.5	27.62
Planting native plugs	120	19.79
Collecting, processing distributing native seed	274.5	45.26
Spot mowing	0	0
Prescribed burning	0	0
Herbicide Application	24	3.96

Summary of Chemical Pest Control Management

The primary pesticides used on Engineering land are herbicides. Engineering employees or contractors that applied herbicides in 2020 included the Greenway Vegetation Coordinator, former intern and field worker Emily Jorgensen, the two Greenway Restoration interns and the OFS crew supervisor. These employees are Wisconsin certified pesticide applicators in Category 6: Right-of-Way & Natural Areas. These employees may have applied herbicide via foliar spraying or cut-stump applications.

The two redeployed workers from Monona Terrace and some OFS crew members applied herbicide only in the limited capacity of applications to cut woody stumps. As an enhanced safety measure in 2020, our redeployed workers (who are handy) built herbicide application wands from PVC pipes. These wands store the herbicide inside the PVC tube and allow for application of herbicide to cut stumps via a sponge on the end of the pipe. A spigot allows the flow of herbicide to be turned off when not in use. The sponge application, rather than a spray bottle, reduces overspray and allow applicators to keep hands further away from herbicide.

Employees prioritize safe and proper storage, mixing, and application of herbicides. Foliar applications with a backpack sprayer are targeted directly onto the leaves of plants. Trees and shrubs are treated with a spot application directly to the cut stump. Wherever possible, employees chose herbicides that are specific to the plant family they are targeting to avoid affecting non-target species. To further avoid overspray, herbicide equipment is regularly maintained. In 2020 Emily Jorgensen and the Greenway Restoration Interns spent 4 hours gaining hands-on instruction in backpack sprayer maintenance from an experienced restoration contractor at Good Oak Ecological Services who kindly volunteered his time. As a result, Engineering backpack sprayers were rebuilt and repaired several times throughout the 2020 season reducing waste and preventing potential leaks and other issues.

Engineering uses chemical pest control as a management tool when the species or site conditions merit it.

Areas that may merit the use of herbicides:

- Have significant populations of species that threaten human health (i.e. poison ivy, wild parsnip) in areas of heavy public use
- Primarily native and/or desirable vegetation
- Have good connectivity to other sites that are primarily native or desirable vegetation
- Have a good chance of being improved with minimal follow-up work, or where funds and resources have been specifically designated for follow-up improvements
- Where control or eradication is highly likely

Species that may merit chemical control include those having a growth method that resists, or even benefits from, hand digging or mowing; species that are perennial, clonal or spread through rhizomatous roots; species that emit chemicals into the soil that render it inhospitable for other plants, or species that are notoriously aggressive. Species that do not have these growth methods may still warrant chemical control if they meet site conditions listed above, if they pose health hazards to people or pets, or if they are species with a legal status requiring control. Species that Engineering typically controlled with herbicide in 2020 included:

- Poison ivy
- Teasel
- Crown vetch
- Bird's foot trefoil
- Buckthorn
- Purple loosestrife
- Canada thistle
- Wild parsnip
- Honeysuckle
- Multiflora rose
- Reed canary grass

Species that merit chemical control because of a legal status requiring action *or* because of an extremely limited distribution in our region include:

- **Japanese knotweed** (*Polygonum cuspidatum*)—listed as “Prohibited” under Wisconsin Administrative Code NR 40; listed as a noxious weed under City of Madison General Ordinance 23.29. The City of Madison has a grant from WDNR to pursue eradication of this species on wetlands or in areas adjacent to wetlands. This clone-forming herbaceous plant has an extremely aggressive growth habit and is especially prone to taking over shorelines and wetlands.
- **Porcelain berry** (*Ampelopsis brevipedunculata*)—listed as “Prohibited” under Wisconsin Administrative Code NR 40; relatively rare in Madison. WDNR has a grant to pursue the eradication of this species and has been pursuing eradication across Dane Co including on City of Madison land. It is a vine that grows rapidly, producing huge mats of vegetation that suppress the growth of all plants in the area.
- **Tree of Heaven** (*Ailanthus altissima*)—locally rare and chance of eradication is strong. This species grows rapidly producing weak wood (and hazard trees) and outcompetes other forest species.
- **Wild chervil** (*Anthriscus sylvestris*)—locally rare and chance of eradication is strong. This herbaceous species has an extremely high seed production rate. It escaped from gardens where it is planted as an herb.

In 2020 Engineering hired a contractor to manage areas infested with Japanese knotweed. Engineering contracted Heartland Ecological Services to treat Japanese knotweed at various sites around the City. Some of these contracted treatments were paid for by a DNR grant awarded to the City of Madison to control Japanese knotweed in wetlands or wetland-adjacent land. Other contracted treatment not paid for by the DNR grant occurred along the Southwest Commuter Bike Path in areas that have been treated since 2016.

Quercus Land Stewardship Services also applied herbicides as part of an ongoing contract to maintain the sections of the shorelines of Wingra Creek and the west branch of Starkweather Creek. The sections of shoreline that were being maintained consist of high quality, diverse native vegetation. The vegetation maintenance contract began in 2018 and ended in 2020.

Engineering allows experienced volunteers to assist in invasive plant removal up to and including herbicide applications. Si Widstrand, retired City of Madison Parks Development Manager, volunteers his time and expertise to cut and treat invasive brush and manage other invasive plant species in various stormwater management areas. Si volunteers up to 30 hours a week on Engineering land and may apply herbicides as part of his management approach. Si is a Wisconsin certified pesticide applicator in Category 6: Right-of-Way & Natural Areas.

In 2020, Engineering allowed UW-Extension (UWEX) to use land owned by the Streets Division at 402 South Point Rd on the far west side of Madison for research. UWEX was studying the effectiveness of various treatments on the aggressive invasive plant crown vetch. The site at 402 South Point Rd is an open field that is dominated by a monoculture of crown vetch. UWEX compared treatment plots of various herbicides as well as a control (untreated) plot.

Engineering also allows residents to adopt ash trees on Engineering property that meet pre-defined requirements. Tree Health Management, the contracted company, used the insecticide, Tree-Age, to prevent Emerald Ash Borer from killing the adopted ash trees.

Summary of Chemicals and Quantities Used

The following summary of pesticides includes quantities of active ingredient used by all employees, volunteers and contractors on the City's Stormwater and Right-of-Way Management system and bike paths leased by the City and managed by Engineering Division:

In-House Herbicide Use

Trade Name	EPA Reg. #	Active Ingredient	AI % by Weight	Total Active Ingredient Used (oz)	Use
Garlon 4	62719-527	Triclopyr	60.45	56.64	Broadleaf species and woody species
Milestone	62719-519	Aminopyralid	40.6	46.04	Legumes, thistles, knapweeds
Intensity	34704-976	Clethodim	26.4	6.938	Reed canary grass (Grass specific)
Aquaneat	228-365	Glyphosate	53.8	379.83	Non-selective for aquatic uses
Polaris AC	228-480	Isopropylamine	53.1	3.417	Non-selective, main use for Japanese Knotweed

Contracted Herbicide Use (including OFS)

Trade Name	EPA Reg. #	Active Ingredient	AI % by Weight	Total Active Ingredient Used (oz)	Use
RoundUp Custom	228-365	Glyphosate	53.8	3.15	Woody species, herbaceous non-specific
Escort	352-439	Metsulfuron	60	.389	Herbaceous species
Milestone	62719-519	Aminopyralid	40.6	4.21	Legumes, thistles
Method	432-1565	Aminocyclopyrachlor	25	.54	Broadleaf invasives
Vastlan	62719-687	Triclopyr choline	54.72	.42	Broadleaf invasives & woody species
Intensity	34704-864	Clethodim	26.4	44.58	Invasive grasses
Polaris AC	228-480	Isopropylamine	53.1	12.96	Non-selective, main use for Japanese Knotweed
Element 4	62719-40	Triclopyr	61.6	1	Broadleaf invasives
Garlon 4	62719-527	Triclopyr	60.45	150.8	Woody cut-stump

Volunteer Herbicide Use

Trade Name	EPA Reg. #	Active Ingredient	AI % by Weight	Total Active Ingredient Used (oz)	Use
Milestone	62719-519	Aminopyralid	40.6	2.768	Legumes, thistles
Crossbow	62719-260	2, 4-D	34.4	0.52	Non-specific herbaceous, woody stumps
		Triclopyr BEE	16.5	0.261	
Garlon 4	62719-527	Triclopyr	60.45	2	Woody stumps

Makaze	34704-890	Glyphosate	41	1.53	Woody species, herbaceous non-specific
Intensity	34704-864	Clethodim	26.4	1.5	Invasive grasses
T-Zone	2217-976	Triclopyr BEE	7.72	0.12	Broadleaf herbaceous
		Sulfentrazone	0.66	0.016	
		2, 4-D	29.32	0.421	
		Dicamba	2.22	0.048	

UW-Extension Herbicide Use

Trade Name	EPA Reg. #	Active Ingredient	AI % by Weight	Total Active Ingredient Used (oz)	Use
Tordon 22k	62719-6	Picloram	24.4	2.536	Broadleaf invasives & woody species
Duracor	62719-739	Aminopyralid	8.95	8.258	Broadleaf invasives
		Florpyrauxifen-benzyl	.76	1.21	Legumes, thistles
Telar	432-1561	Chlorsulfuron	75	0.7 grams (dry flowable)	Broadleaf invasives
Loyant	62719-698	Florpyrauxifen-benzyl	2.7	0.406	Selective grass, sedge, broadleaf
Elevore	62719-718	Halauxifen-methyl	6.87	0.101	Annual broadleaf weeds
Milestone	62719-519	Aminopyralid	40.6	0.372	Legumes, thistles
Method 240SL	432-1565	Aminosyclopyrachlor	25	0.203	Broadleaf invasives & woody species
Transline	62719-259	Clopyralid	40.9	0.642	Broadleaf invasives & woody species
Korvetto	Not registered for comm. use in U.S.	Halauxifen-methyl, Clopyralid		0.372	Broadleaf invasives
GF-3635	Not registered for comm. use in U.S.	Fluroxypyr, Halauxifen, Triclopyr		0.203	Broadleaf invasives

Estimated Size of Total Area Managed

The City's greenway system consists of more than 1,500 acres located throughout the City. The Engineering Division has maintenance responsibility for 971.29 acres of ponds and greenways, and approximately 500 acres of miscellaneous open space.

Engineering is responsible for mowing along 10.89 miles of bike paths. These bike paths include the Southwest Commuter Path from the Capital City Trail in Fitchburg to North Shore Drive; Cannonball Bike Path from Seminole to Fish Hatchery Road; Capital City Trail from Garrison Street to Stoughton Road (Hwy 51).

Annual Summary of Complaints

Engineering received a few complaints about vegetation that was, or was perceived to be, overgrown. Complaints came from property owners abutting various greenways. Engineering's response to these complaints was spot mowing.

Engineering received a few complaints about mows and the timing of mows from the perspective of wildlife habitat preservation. Engineering's response to this depended on the site. If the site harbored high quality vegetation, the explanation was offered that these sites were already on a closely monitored mowing schedule (or no mowing schedule) to preserve and improve the plant diversity and habitat. If the site had invasives that could

be controlled by mowing and Engineering was prioritizing timed mows for invasive species reduction, this was conveyed to concerned residents. If the site was low diversity or had many invasives that were unlikely to be controlled with mowing, the explanation was provided that these sites were not prioritized for mowing given limited resources. Engineering reminded mowing operators to avoid mowing milkweed plants whenever possible.

Engineering received complaints from employees at Fire Station 12 near the UW-Extension crown vetch study site. Employees at the Fire Station were concerned about exposing fire fighters to pesticides, particularly given the elevated levels of exposure fire fighters encounter in their regular line of duty. Engineering took these concerns very seriously. A site walk-through was organized by the Greenway Vegetation Coordinator with a lieutenant from the fire station. Concerns were allayed when the study area was identified and the nature of the study explained. Engineering also responded to this complaint by directly notifying the employees at Fire Station 12 via email 24 hours in advance of applications, and by having UWEX applicators visit the station in person immediately before beginning applications. Signage was posted according to the City Pesticide Use Policy.

SECTION 3 - Pest Management Requirements as set by City Policy

Our agency will maintain appropriate records of pest monitoring data, pest control actions attempted (both non-chemical and chemical), and results of pest control activity. We plan to submit our annual report no later than March 1st of the following year to the Pest Management Advisory Committee. This report will contain the following information:

When chemical pest control is necessary we will provide at a minimum, readily visible posting for a period of 24 hours prior to a pesticide application (when possible) and a minimum of 48 hours following the application. These time intervals may be extended based on health or safety concerns. For areas that receive pesticide applications on a regular basis, permanent signs will be posted.

Any complaints regarding health effects possibly related to pesticide applications will be reported to the Public Health Department at the earliest opportunity.

Any unusual amount of pesticide use due to unusual circumstances will be reported to the Director of Public Health or his/her designee at the earliest opportunity.

The IPM Coordinator and all supervisors having responsibility for the handling, application, disposal or storage of pesticides will be State certified under the Department of Agriculture, Trade and Consumer Protection's Pesticide Applicator Certification Program for Commercial Applicator - Government. All employees and volunteers applying pesticides will be State certified or working under the direct supervision of a certified applicator. All employees having any involvement with pesticide handling, application, disposal or storage will receive basic training in pesticide safety.

Our agency will store, apply, and dispose of pesticides and pesticide containers in accordance with label directions and any other State and Federal regulations.

Any contractor hired by our agency will be required to comply with the City Policy.

Our agency will not apply chemical pesticides to control dandelions and other broadleaf weeds on general parklands, median strips, street terraces, roadsides, general lawn areas, and athletic fields that are not reserved, nor are fees paid for their use. Lawns and garden areas (including medians) will be managed using non-toxic methods.

Our agency will not apply any pesticides that are currently under EPA Special Review.