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Management of Turfs Based on Location and Use in Public Gardens

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Turfs in public gardens require routine mowing and fertilization. They may also be irrigated to prevent severe drought stress. In addition to mowing, fertilization and irrigation, supplementary cultural practices such as core aeration, topdressing, dragging and rolling may be needed to maintain healthy turf. Pesticides may be applied on an as-needed basis to prevent or control turfgrass diseases, weeds and insects.

Highly visible and heavily trafficked turfs in a public garden usually receive more care than infrequently used utility turfs. The three zones with varying levels of management intensity presented in this publication are intended to serve as examples of areas commonly maintained in public gardens. Budgets are included to provide an estimate of costs associated with the management of each zone.

Zone A, requiring a high-management intensity on a total of 0.8 acres, is composed of a mixture of tall fescue and Kentucky bluegrass. These two turfgrasses make up about 90 percent of the total vegetative cover. Weed problems include yellow and purple nutsedge, chickweed, henbit, wild garlic, wild violet, ground ivy, crabgrasses and goosegrass. Recently, white clover has become more of a problem, most likely due to wet spring months, limited nitrogen fertilization and compacted soil. A recent soil test report indicates soil pH, phosphorus and potassium levels of 6.6, 51 pounds per acre (medium) and 227 pounds (high) per acre, respectively. Soil texture is a clay loam. Large brown patch, which appears in late spring and early summer, has become a major problem. Several species of white grubs have also injured the turf. Zone A can be irrigated.

Zone B, a medium-intensity management zone totaling 5½ acres, is predominately tall fescue. Several weed grasses and broadleaf weeds are very competitive. These include crabgrasses, goosegrass, buckhorn plantain, dandelion, knotweed, purple deadnettle and mouse-ear chickweed. Brown patch has been a problem every year since the garden opened; however, white grubs (e.g., Japanese, June and May beetle larvae) are only occasional pests. Soil test results indicate pH, phosphorus and potassium levels of 6.5, 44 pounds per acre (medium) and 190 pounds per acre (medium), respectively. Several areas averaging 15 or more feet in diameter are void of turfgrass. Soil texture is a clay loam. Zone B is not irrigated.

Zone C, a gently sloping area of tall fescue on the SW perimeter of the garden, covers about 2.75 acres and is managed at a relatively low level of intensity. Large crabgrass has become a problem in recent years, along with winter annual broadleaf weeds including henbit, chickweed, common speedwell and purple deadnettle. This zone continues to serve as a source of weed seeds that are carried by wind and water to other areas of the garden. White grubs are not a problem; however, large brown patch is frequently observed. Persons attending outdoor concerts held throughout the summer often sit in lawn chairs or on blankets. Automobiles are parked in Zone C during the annual, three-day homecoming. Last year's soil test results indicated the need to apply dolomitic limestone at the rate of 50 pounds per 1,000 ft.² Pelletized limestone was applied last fall. According to a recent soil test, pH, phosphorus and potassium levels are 6.9, 60 pounds per acre (medium) and 260 pounds per acre (high), respectively. Soil texture is a silt loam. Zone C is not irrigated.

Table 1. Example maintenance practices by management intensity zone.

Management zone / Maintenance practice	A High intensity	B Medium intensity	C Low intensity
Mowing			
Height (inches)	2 to 2½	2 to 2½	2½ to 3
Frequency (per week)	2	2	1
Irrigation			
Amount (inches per week)	½ to ¾	none	none
Number of irrigations (per week)	2	none	none
Aeration			
Core aeration (number per year, walk-behind, rotary-motion core aerifier w/ hollow tines, ½-inch in diameter)	2	none	none
Core aeration (number per year, tractor-drawn, rotary-motion core aerifier w/hollow tines, 5/8-inch in diameter)	none	1	1
Inter-seeding			
Slit-seeder adjusted to plant a tall fescue blend at 4 lbs. per 1,000 ft. ²	1	strategic, area seeding on an as-needed basis	none
Topdressing			
Number per year, ¼-inch of sludge + mature compost (e.g., carbon:nitrogen ratio of 15:1)	2	1	none
Dragging			
Number per year, tractor-drawn steel drag mat used to mix soil and/or compost w/thatch	2	strategic, as needed	1
Rolling			
Number per year w/ three-ton, motorized roller	none	strategic, as needed	1
Number per year w/pull-behind, water-ballast roller	1	1	1
Fertilization (lbs. N, P₂O₅ or K₂O per 1,000 ft.² , annually)			
Nitrogen (N)	4	2.5	1.75
Phosphate (P ₂ O ₅)	1.7 (0.7 P)	1.9 (0.8 P)	0.75 (0.3 P)
Potassium (K ₂ O)	1.3 (1.0 K)	1.3 (1.0 K)	1.5 (1.2 K)
Fungicide	2	2	2
Herbicide			
Pre-emergence	2 (w/ fertilizer)	1 (w/ fertilizer)	none
Post-emergence	5	4	4
Insecticide	1	none	none

**Table 2. Example annual turf care practices and products^a for Zone A:
High level of management intensity.**

Treatment Date	Products / Management Practices
1. Early March	Core aeration – 1 pass w/walk-behind core aerifier 32 inches in width; topdressing – ¼-inch sludge + compost; dragging – tractor-drawn steel drag-mat; fertilization + pre-emergence herbicide – 21-3-8 w/ 0.426% Barricade® + 25% sulfur-coated urea @ 4 lbs. product /1,000 ft. ² ; post-emergence herbicide – 2,4-D + triclopyr @ 1½ fl. oz. product / 1,000 ft. ²
2. Late April	Fertilization + pre-emergence herbicide –19-5-9 w/ 0.172 % Dimension® + 60% organic N (Harmony®) @ 2.9 lbs. product / 1,000 ft. ² ; and post-emergence herbicide – Trimec® (2,4-D + MCPP + dicamba) @ ½ fl. oz. product /1,000 ft. ²
3. Early June	Fertilization (liquid) – 12-0-0 w/6% iron @ 6 fl. oz./1,000 ft. ² ; fungicide – Heritage® (azoxystrobin) 50WDG @ 0.3 oz./1,000 ft. ² ; insecticide – Merit® (imidacloprid) 75WP @ 0.16 oz. product/1,000 ft. ² ; and post-emergence herbicide – Manage® (halosulfuron) 75DF @ 0.9 grams product/1,000 ft. ² (spot treat as needed)
4. Mid-July	Fertilization (liquid) – 12-0-0 w/ 6% iron @ 6 fl. oz./1,000 ft. ² ; fungicide – Bayleton® (triadimefon) 50 T&O @ 1 oz. product/1,000 ft. ² ; and post-emergence herbicide – Drive® (quinclorac) 75DF @ 0.37 oz. product/1,000 ft. ² (spot treat as needed)
5. Mid-September	Core aeration – 1 pass w/walk-behind core aerifier 32 inches in width; topdressing – ¼-inch sludge + compost; inter-seeding – improved turf-type tall fescue blend @ 5 lbs./1,000 ft. ² planting rate (seeding with walk-behind, slit-seeder); dragging – 2 passes, tractor-drawn mat 4 ft. in width; rolling – tractor-drawn, water-ballast roller; and fertilization – 15-20-10 w/35% slow-release N (sulfur-coated urea) @ 7 lbs. product/1,000 ft. ²
6. Late October	Fertilization – 42-0-0 w/50% slow-release N (sulfur-coated urea) @ 3½ lbs. product/1,000 ft. ² and post-emergence herbicide – Fluid Broadleaf Weed Control w/ 2,4-D + 2,4-DP @ 1¾ fl. oz./1,000 ft. ² (spot treat as needed)

^a The use of example brand or trade names is intended to aid in the clarity of information and does not imply the approval or endorsement of the product to the exclusion of others of similar or suitable composition and effectiveness. Product standard is not guaranteed. Always read and follow instructions on the product label.

**Table 3. Example annual turf care practices and products^a for Zone B:
Medium level of management intensity.**

Treatment Date	Products / Management Practices
1. Early March	Fertilization + pre-emergence herbicide – 21-3-8 w/0.426% Barricade® + 25% sulfur-coated urea @ 4 lbs. product/1,000 ft. ² ; and post-emergence herbicide – 2,4-D + triclopyr @ 1½ fl. oz. product/1,000 ft. ²
2. Late April	Fertilization – 14-28-14 w/30% sulfur-coated urea @ 5 lbs. product/1,000 ft. ² ; and post-emergence herbicide – Trimec® (2,4-D + MCPP + dicamba) @ ½ fl. oz. product/1,000 ft. ²
3. Early June	Fertilization (liquid) – 12-0-0 w/ 6% iron @ 6 fl. oz./1,000 ft. ² ; fungicide – Bayleton® (triadimefon) 50 T&O @ 1 oz. product/1,000 ft. ²
4. Mid-July	Fertilization (liquid) – 12-0-0 w/ 6% iron @ 6 fl. oz./1,000 ft. ² ; fungicide – Bayleton® (triadimefon) 50 T&O @ 1 oz. product/1,000 ft. ² ; and post-emergence herbicide – Drive® (quinclorac) 75DF @ 0.37 oz. product/1,000 ft. ² (spot treat as needed)
5. Mid-September	Core aerification – 1 pass w/tractor-drawn core aerifier (tines 5/8-inch in diameter); topdressing – ¼-inch sludge + compost; inter-seeding – as needed, improved turf-type tall fescue blend @ 5 lbs./1,000 ft. ² planting rate (seeding with walk-behind, slit-seeder); dragging – 2 passes, tractor-drawn mat 4 ft. in width; rolling – as needed, tractor-drawn, water-ballast roller; and fertilization – 20-10-10 w/ 100% WSN @ 4 lbs. product/1,000 ft. ²
6. Late October	Post-emergence herbicide – Fluid Broadleaf Weed Control w/ 2,4-D + 2,4-DP @ 1¾ fl. oz./1,000 ft. ² (spot treat as needed)

^a The use of example brand or trade names is intended to aid in the clarity of information and does not imply the approval or endorsement of the product to the exclusion of others of similar or suitable composition and effectiveness. Product standard is not guaranteed. Always read and follow instructions on the product label.

**Table 4. Example annual turf care practices and products^a for Zone C:
Low level of management intensity.**

Treatment Date	Products / Management Practices
1. Early March	Fertilization – 20-10-10 w/100% WSN @ 5 lbs. product/1,000 ft. ² and post-emergence herbicide – 2,4-D + triclopyr @ 1½ fl. oz. product/1,000 ft. ²
2. Late April	Post-emergence herbicide – Trimec® (2,4-D + MCPP + dicamba) @ ½ fl. oz. product/1,000 ft. ²
3. Early June	Fungicide – Bayleton® (triadimefon) 50 T&O @ 1 oz. product/1,000 ft. ²
4. Mid-July	Fungicide – Bayleton® (triadimefon) 50 T&O @ 1 oz. product / 1,000 ft. ² ; and post-emergence herbicide – Drive® (quinclorac) 75DF @ 0.37 oz. product/1,000 ft. ² (spot treat as needed)
5. Mid-September	Core aerification – 1 pass w/tractor-drawn core aerifier (tines 5/8-inch in diameter); dragging – 1 pass, tractor-drawn mat 4 ft. in width; rolling – 3-ton roller; and fertilization – 15-5-20 w/ 100% WSN @ 5 lbs. product/1,000 ft. ²
6. Late October	Post-emergence herbicide – Fluid Broadleaf Weed Control w/ 2,4-D + 2,4-DP @ 1¾ fl. oz./1,000 ft. ² (spot treat as needed)

^a The use of example brand or trade names is intended to aid in the clarity of information and does not imply the approval or endorsement of the product to the exclusion of others of similar or suitable composition and effectiveness. Product standard is not guaranteed. Always read and follow instructions on the product label.

Zone A. High Intensity maintenance on 0.80 acre, mixture of tall fescue and Kentucky bluegrass.

34,848 sq.ft.

	Labor			Equipment			Materials			Labor Cost per 1000 ft ²	Equipment Cost per 1000 ft ²	Materials Cost per 1000 ft ²
	Number of hours	Cost per hour ^b	Cost per entire area	Cost per hour ^a	Cost per entire area	Cost per unit	Rate per 1000 ft ²	Cost per entire area				
Maintenance activity performed												
Early March												
a. Core aeration: 1 pass w/ walk-behind core aerifier 32 inches in width	2.93	\$10.00	\$29.27	3.01	\$9.06					\$0.84	\$0.26	
b. Topdressing: sludge/compost 0.7 yd. ³ per 1,000 ft. ² (¼ inch depth) w/ tractor + spreader	0.38	\$10.00	\$3.83	21.82	\$8.36	\$5.50 cu.yd.	0.70	\$134.16	\$0.11	\$0.24	\$3.85	
c. Dragging: 2 passes w/ tractor and steel mat 4 ft. in width	0.07	\$10.00	\$0.70	20.00	\$1.39				\$0.02	\$0.04		
d. 21-3-8 w/ 0.426% Barricade® + 25% SCU @ 4 lbs. product / 1,000 ft. ²	0.35	\$10.00	\$3.48	21.25	\$7.41	\$0.43 lb	4.00	\$59.94	\$0.10	\$0.21	\$1.72	
e. 2,4-D + triclopyr @ 1 ½ fl. oz. product / 1,000 ft. ²	0.07	\$12.50	\$0.91	23.70	\$1.73	\$0.33 oz.	1.50	\$17.25	\$0.03	\$0.05	\$0.50	
Late April												
a. 19-5-9 w/ 0.172% Dimension® + 60% organic N (Harmony®) @ 2.9 lbs. product / 1,000 ft. ²	0.35	\$10.00	\$3.48	21.25	\$7.41	\$0.56 lb	2.90	\$56.59	\$0.10	\$0.21	\$1.62	
b. Trimec® (2,4-D + MCPP + dicamba) @ ½ fl. oz. / 1,000 ft. ²	0.07	\$12.50	\$0.91	23.70	\$1.73	\$0.34 oz.	0.50	\$5.92	\$0.03	\$0.05	\$0.17	
Early June												
a. 12-0-0 w/ 6% iron @ 6 fl. oz. / 1,000 ft. ²	0.35	\$10.00	\$3.48	21.25	\$7.41	\$0.12 oz.	6.00	\$25.09	\$0.10	\$0.21	\$0.72	
b. Heritage® (azoxystrobin) 50WDG @ 0.3 oz. / 1,000 ft. ²	0.07	\$12.50	\$0.91	23.70	\$1.73	\$21.57 oz.	0.30	\$225.50	\$0.03	\$0.05	\$6.47	
c. Merit® (imidacloprid)/75WP @ 0.16 oz. product / 1,000 ft. ²	0.07	\$12.50	\$0.91	23.70	\$1.73	\$19.25 oz.	0.16	\$107.33	\$0.03	\$0.05	\$3.08	
d. Manage® (halosulfuron) 75DF @ 0.9 grams product / 1,000 ft. ² (spot treat as needed)	0.07	\$12.50	\$0.91	23.70	\$1.73	\$61.54 oz.	0.03	\$67.98	\$0.03	\$0.05	\$1.95	
Mid-July												
a. 12-0-0 w/ 6% iron @ 6 fl. oz. / 1,000 ft. ²	0.35	\$10.00	\$3.48	21.25	\$7.41	\$0.12 oz.	6.00	\$25.09	\$0.10	\$0.21	\$0.72	
b. Bayleton® (triazimefon) 50 T&O @ 1 oz. product / 1,000 ft. ²	0.07	\$12.50	\$0.91	23.70	\$1.73	\$2.66 oz.	1.00	\$92.70	\$0.03	\$0.05	\$2.66	
c. Drive® (quinclorac) 75DF @ 0.37 oz. product / 1,000 ft. ² (spot treat as needed)	0.07	\$12.50	\$0.91	23.70	\$1.73	\$5.31 oz.	0.37	\$68.47	\$0.03	\$0.05	\$1.96	
Mid-September												
a. Core aeration: 1 pass w/ walk-behind core aerifier 32 inches in width	2.93	\$10.00	\$29.27	3.01	\$9.06				\$0.84	\$0.26		
b. Topdressing: sludge/compost 0.7 yd. ³ per 1,000 ft. ² (¼ inch depth)	0.38	\$10.00	\$3.83	21.82	\$8.36	\$5.50 cu.yd.	0.70	\$134.16	\$0.11	\$0.24	\$3.85	
c. Dragging: 2 passes w/ tractor and mat 4 ft. in width	0.03	\$10.00	\$0.35	20.00	\$0.70				\$0.01	\$0.02		
d. Rolling: tractor-drawn, water-ballast roller	0.07	\$10.00	\$0.70	20.00	\$1.39				\$0.02	\$0.04		
e. Inter-seeding: improved turf-type tall fescue blend @ 5 lbs. / 1,000 ft. ² planting rate (walk-behind slit seeder)	1.58	\$10.00	\$15.84	18.75	\$29.70	\$0.95	5.00	\$165.53	\$0.45	\$0.85	\$4.75	
f. 15-20-10 w/ 35% slow-release N (SCU) @ 7 lbs. product / 1,000 ft. ²	0.35	\$10.00	\$3.48	21.25	\$7.41	\$0.24	7.00	\$58.54	\$0.10	\$0.21	\$1.68	
Late October												
a. 42-0-0 w/ 50% slow-release N (SCU) @ 3 ½ lbs. product / 1,000 ft. ²	0.35	\$10.00	\$3.48	21.25	\$7.41	\$0.42	3.50	\$51.23	\$0.10	\$0.21	\$1.47	
b. Fluid Broadleaf Weed Control w/ 2,4-D + 2,4-DP @ 1 ¾ fl. oz. / 1,000 ft. ² (spot treat as needed)	0.07	\$12.50	\$0.91	23.70	\$1.73	\$0.20	1.75	\$12.20	\$0.03	\$0.05	\$0.35	
Subtotal												
			\$82.73		\$117.24			\$1,307.69	\$2.37	\$3.36	\$37.53	
Mowing (32 weeks total)												
Mowing: 2x per week, 42" rotary mower, 24 weeks	28.80	\$10.00	\$288.00	4.57	\$131.62				\$0.34	\$0.08		
Mowing: 1x per week, 42" rotary mower, 8 weeks	4.80	\$10.00	\$48.00	4.57	\$21.94				\$0.17	\$0.08		
Grand Total												
								\$1,997.21			\$43.94	

^a Labor hours and equipment costs are obtained from the 2004 RSMMeans Site Work & Landscape Cost Data, the PGMS Grounds Maintenance Estimating Guidelines, 8th Edition, and the NLA Landscape Designer & Estimator's Guide, 3rd Edition.

^b Labor rates include labor burden (e.g. \$8.00 + 25% burden = \$10.00 per hour; \$10.00 + 25% burden = \$12.50)

Zone B. Medium Intensity maintenance on 5.50 acres, predominately fescue.

239,580 sq.ft.

Maintenance activity performed	Labor		Equipment		Materials			Labor Cost per 1000 ft ²	Equipment Cost per 1000 ft ²	Materials Cost per 1000 ft ²
	Number of hours	Cost per hour ^b	Cost per entire area	Cost per hour ^a	Cost per entire area	Cost per unit	Rate per 1000 ft ²			
Early March a. 21-3-8 w/ 0.426% Barricade® + 25% SCU @ 4 lbs. product / 1,000 ft. ² b. 2,4-D + triclopyr @ 1 ½ fl. oz. product / 1,000 ft. ²	2.40 0.07	\$10.00 \$12.50	\$23.96 \$0.91	21.25 23.70	\$50.91 \$1.73	\$0.43 lb \$0.33 oz.	4.00 1.50	\$412.08 \$118.59	\$0.21 \$0.01	\$1.72 \$0.50
Late April a. 14-28-14 w/ 30% SCU @ 5.0 lbs. product / 1,000 ft. ² b. Trimec® (2,4-D + MCPP + dicamba) @ ½ fl. oz. / 1,000 ft. ²	2.40 0.07	\$10.00 \$12.50	\$23.96 \$0.91	21.25 23.70	\$50.91 \$1.73	\$0.21 lb \$0.34 oz.	5.00 0.50	\$251.56 \$40.73	\$0.21 \$0.01	\$1.05 \$0.17
Early June a. 12-0-0 w/ 6% iron @ 6 fl. oz. / 1,000 ft. ² b. Bayleton® (triadimefon) 50 T&O @ 1 oz. product / 1,000 ft. ²	2.40 0.07	\$10.00 \$12.50	\$23.96 \$0.91	21.25 23.70	\$50.91 \$1.73	\$0.12 oz. \$2.66 oz.	6.00 1.00	\$172.50 \$637.28	\$0.21 \$0.01	\$0.72 \$2.66
Mid-July a. 12-0-0 w/ 6% iron @ 6 fl. oz. / 1,000 ft. ² b. Bayleton® (triadimefon) 50 T&O @ 1 oz. product / 1,000 ft. ² c. Drive® (quindorac) 75DF @ 0.37 oz. product / 1,000 ft. ² (spot treat as needed)	2.40 0.07 0.07	\$10.00 \$12.50 \$12.50	\$23.96 \$0.91 \$0.91	21.25 23.70 23.70	\$50.91 \$1.73 \$1.73	\$0.12 oz. \$2.66 oz. \$5.31 oz.	6.00 1.00 0.37	\$172.50 \$637.28 \$470.70	\$0.21 \$0.01 \$0.01	\$0.72 \$2.66 \$1.96
Mid-September a. Core aeration: 1 pass w/ tractor-drawn core aerifier (times 5/8-inch in dia.) b. Topdressing: sludge/compost 0.7 yd. ³ per 1,000 ft. ² (¼ inch depth) c. Dragging: 2 passes w/ tractor and mat 4 ft. in width d. Rolling: tractor-drawn, water-ballast roller e. Inter-seeding: improved turf-type tall fescue blend @ 5 lbs. / 1,000 ft. ² planting rate (walk-behind slit-seeder) f. 20-10-10 w/ 100% WSN @ 4 lbs. product / 1,000 ft. ²	1.68 2.64 0.48 0.48 10.89 2.40	\$10.00 \$10.00 \$10.00 \$10.00 \$10.00 \$10.00	\$16.77 \$26.35 \$4.79 \$4.79 \$108.90 \$23.96	3.01 21.82 20.00 20.00 18.75 21.25	\$5.19 \$57.50 \$9.58 \$9.58 \$204.19 \$50.91	\$5.50 cu.yd	0.70	\$922.38	\$0.02 \$0.24 \$0.04 \$0.04 \$0.85 \$0.21	\$0.35 \$3.85
Late October a. Fluid Broadleaf Weed Control w/ 2,4-D + 2,4-DP @ 1 ¾ fl. oz. / 1,000 ft. ² (spot treat as needed)	0.07	\$12.50	\$0.91	23.70	\$1.73	\$0.20 oz.	1.75	\$83.85	\$0.01	\$0.35
Subtotal			\$286.87		\$550.98			\$5,210.79	\$2.30	\$21.75
Mowing (32 weeks total) Mowing: 2x per week, 42" rotary mower, 24 weeks Mowing: 1x per week, 42" rotary mower, 8 weeks	198.00 33.00	\$10.00 \$10.00	\$1,980.00 \$330.00	4.57 4.57	\$904.86 \$150.81				\$0.08 \$0.08	
Grand Total								\$9,414.31		\$25.92

^aLabor hours and equipment costs are obtained from the 2004 RSMeans Site Work & Landscape Cost Data, the PGMS Grounds Maintenance Estimating Guidelines, 8th Edition, and the NLA Landscape Designer & Estimator's Guide, 3rd Edition.

^bLabor rates include labor burden (e.g. \$8.00 + 25% burden = \$10.00 per hour; \$10.00 + 25% burden = \$12.50)

Zone C. Low Intensity maintenance on 2.75 acres, predominately sloping area of tall fescue.

119,790 sq.ft.

Maintenance activity performed	Labor			Equipment		Materials			Labor Cost per 1000 ft ²	Equipment Cost per 1000 ft ²	Materials Cost per 1000 ft ²
	Number of hours	Cost per hour ^b	Cost per entire area	Cost per hour ^a	Cost per entire area	Cost per unit	Rate per 1000 ft ²	Cost per entire area			
Early March a. 20-10-10 w/ 100% WSN @ 5 lbs. product / 1,000 ft. ² b. 2,4-D + triclopyr @ 1 ½ fl. oz. product / 1,000 ft. ²	1.20 0.07	\$10.00 \$12.50	\$11.98 \$0.91	21.25 23.70	\$25.46 \$1.73	\$0.16 lb \$0.33 oz.	5.00 1.50	\$95.83 \$59.30	\$0.10 \$0.01	\$0.21 \$0.01	\$0.80 \$0.50
Late April a. Trimec@ (2,4-D + MCPP + dicamba) @ ½ fl. oz. / 1,000 ft. ²	0.07	\$12.50	\$0.91	23.70	\$1.73	\$0.34 oz.	0.50	\$20.36	\$0.01	\$0.01	\$0.17
Early June a. Bayleton@ (triadimefon) 50 T&O @ 1 oz. product / 1,000 ft. ²	0.07	\$12.50	\$0.91	23.70	\$1.73	\$2.66 oz.	1.00	\$318.64	\$0.01	\$0.01	\$2.66
Mid-July a. Bayleton@ (triadimefon) 50 T&O @ 1 oz. product / 1,000 ft. ² b. Drive@ (quinclorac) 75DF @ 0.37 oz. product / 1,000 ft. ² (spot treat as needed)	0.07 0.07	\$12.50 \$12.50	\$0.91 \$0.91	23.70 23.70	\$1.73 \$1.73	\$2.66 oz. \$5.31 oz.	1.00 0.37	\$318.64 \$235.35	\$0.01 \$0.01	\$0.01 \$0.01	\$2.66 \$1.96
Mid-September a. Core aeration: 1 pass w/ tractor-drawn core aerifier (tines 5/8-inch in dia.) b. Dragging: 1 pass w/ tractor and mat 4 ft. in width c. Rolling: tractor-drawn, water-ballast roller d. 15-5-20 w/ 100% WSN @ 5 lbs. product / 1,000 ft. ²	0.84 0.12 0.12 1.20	\$10.00 \$10.00 \$10.00 \$10.00	\$8.39 \$1.20 \$1.20 \$11.98	3.01 20.00 20.00 21.25	\$2.60 \$2.40 \$2.40 \$25.46			\$113.80	\$0.07 \$0.01 \$0.01 \$0.10	\$0.02 \$0.02 \$0.02 \$0.21	\$0.95
Late October a. Fluid Broadleaf Weed Control w/ 2,4-D + 2,4-DP @ 1 ¾ fl. oz. / 1,000 ft. ² (spot treat as needed)	0.07	\$12.50	\$0.91	23.70	\$1.73	\$0.20 oz.	1.75	\$41.93	\$0.01	\$0.01	\$0.35
Subtotal			\$40.21		\$68.68			\$1,203.85	\$0.34	\$0.57	\$10.05
Mowing (32 weeks total) Mowing: 1x per week, 48" rotary mower, 32 weeks	58.67	\$10.00	\$586.67	5.02	\$294.51				\$0.61	\$0.31	
Grand Total								\$2,193.92			\$11.88

^aLabor hours and equipment costs are obtained from the 2004 RSMeans Site Work & Landscape Cost Data, the PGMS Grounds Maintenance Estimating Guidelines, 8th Edition, and the NLA Landscape Designer & Estimator's Guide, 3rd Edition.

^bLabor rates include labor-burden (e.g. \$8.00 + 25% burden = \$10.00 per hour; \$10.00 + 25% burden = \$12.50)

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