

**CITY OF SHOREWOOD
PARK COMMISSION MEETING
TUESDAY, SEPTEMBER 13, 2022**

**5755 COUNTRY CLUB RD
SHOREWOOD CITY HALL
7:00 PM**

AGENDA

1. CONVENE PARK COMMISSION MEETING

A. Roll Call

Hirner(Sept 26/Back-up for Nov 28)____
Gallivan (Nov 28)____
Schmid ()____
Heinz()____
Council Liaison Johnson(July-Dec)____

B. Review Agenda

2. APPROVAL OF MINUTES

A. Park Commission Minutes from August 23, 2022 – (Att.-#2A)

3. MATTERS FROM THE FLOOR

(This portion of the meeting allows members of the public the opportunity to bring up items that are not on the agenda. Each speaker has a maximum of three minutes to present their topic. Multiple speakers may not bring up the same points. No decisions would be made on the topic at the meeting except that the item may be deferred to staff or the City Council for more information.)

4. NEW BUSINESS

A. Pest Management Report – Public Works Director, Larry Brown

5. OLD BUSINESS

6. STAFF AND LIAISON REPORTS/UPDATES

**A. City Council
B. Staff**

a. Reminder that October Park Commission Meeting Date is October 25

7. ADJOURN

Liaison for City Council Meeting on September 26 is Commissioner Hirner Reporting on Park Commission Meeting of September 13

CITY OF SHOREWOOD
PARK COMMISSION MEETING
TUESDAY, AUGUST 16, 2022

5755 COUNTRY CLUB RD
SHOREWOOD CITY HALL
7:00 P.M.

MINUTES

1. CONVENE PARK COMMISSION MEETING

Chair Hirner convened the meeting at 7:02 p.m.

A. Roll Call

Present: Chair Hirner, Commissioners Schmid, Gallivan, and Heinz; Parks and Recreation Director Grout; and Planning Director Darling

Absent: None

B. Review Agenda

Gallivan moved to approve the agenda as written. Heinz seconded the motion. Motion carried 4-0.

2. APPROVAL OF MINUTES

A. Park Commission Meeting Minutes of July 12, 2022

Heinz moved to approve the minutes of the July 12, 2022 meeting as written. Schmid seconded the motion. Motion carried 4-0.

3. MATTERS FROM THE FLOOR

There were none.

4. NEW BUSINESS

A. Maple Shores Development – 20430 Radisson Road

Chair Hirner gave a brief overview of the proposed development of 7 lots at 20430 Radisson Road and noted that staff was recommending approval of park dedication fees in lieu of park land dedication.

Commissioner Heinz stated that the Comprehensive Plan stated that the City should concentrate more on developing and redeveloping existing parks. He stated that he thinks there is still an opportunity within the City to upgrade the current park system and encompass some of the emerging activities, such as pickle ball.

Commissioner Gallivan stated that he agreed with the recommendation by staff for dedication fees in lieu of additional park land.

Chair Hirner stated that he also agreed and noted that this parcel is right on Highway 7 and there have been many discussions about parks, such as Silverwood, that are right on Highway 7 and their actual useability because of the proximity to the highway.

Gallivan moved to recommend approval of park dedication fees in lieu of park land for the Maple Shores Development at 20430 Radisson Road. Heinz seconded the motion. Motion carried 4-0.

B. Transmittal/Introduction of Pesticide Audit and Management Plan

Planning Director Darling explained that this agenda item was intended to be an introduction to the Pesticide Audit and Management Plan. She stated that the consultant will be in attendance at the next Park Commission meeting in order to present information and answer questions about the plan, but staff wanted to give the Commission a chance to review some of the information prior to the meeting.

Chair Hirner noted that he felt the information was comprehensive but he did have a few questions, but would wait and have the consultant address them at the next meeting.

Commissioner Heinz noted the recommended mowing height of 3 inches and stated that his lawn service also mows his lawn at that height and he has gotten a lot of compliments about the greenness and look of his lawn.

Chair Hirner asked about the recommendation of 3 inch mowing height in relation to the baseball or soccer associations during playing season and asked about their preferred heights on the fields. He suggested that be a question that the consultant responds to at the next meeting.

Planning Director Darling stated that City staff can talk with the various associations prior to the next Park Commission meeting to find out if they have a preferred height for the fields.

Commissioner Gallivan asked how the City determined Class A, Class B, and Class C.

Planning Director Darling stated that those classifications came from the consultants and the way they are used. She explained that Class A fields are sporting fields or destination parks, such as Freeman Park with the others being more moderately used such as Manor Park as Class B and Silverwood Park for Class C. She asked if there was any information that the Commission would like to staff to research prior to the next meeting.

Chair Hirner asked if there would be any advantage in not mowing the hill at Silverwood Park.

Planning Director Darling explained that it is mowed up to the point where it is too steep to mow.

Chair Hirner reiterated that he would like to know if there may be any advantage in not mowing the hill, for example, does mowing it contribute to erosion on the hillside.

The Commission discussed staffing shortages in both regular employees and seasonal employees and the visibility of the City's parks to both residents and visitors to the area.

C. Liaisons for City Council Meetings

August – Commissioner Heinz

September – Chair Hirner

November – Commissioner Gallivan (with Chair Hirner as back-up if there is a scheduling issue)

5. OLD BUSINESS

Chair Hirner stated that he had stopped by Silverwood Park recently and thinks the park is really looking great, but the snow fence still needs to be taken down. He asked about the section where there is not a hand rail for the slides near the first set of stairs. He expressed concern that kids may get up there and jump off the little wall area. He suggested that it may be a good idea to get a short section of railing to fill in that section. He noted that he had taken a picture and can send it to staff so they know just what he is referring to. He asked if there were still plans to put fence posts behind the water pump station.

Planning Director Darling stated that they have repaired a few of the posts.

Chair Hirner noted that there are two levels and the upper level has no posts, so he was assuming that they were still working on it ,but wanted to draw staff's attention to it, just in case.

Planning Director Darling noted that she would speak with the contractors and explained some of the other items that are on the punch list for them to complete.

Chair Hirner noted that he has seen more cars, bikes and people walking with strollers at Silverwood Park lately than he has seen there for years. He asked that staff add a future agenda item in order to plan a Grand Re-Opening.

Commissioner Heinz noted the usage of the walking trails through the country club area. He asked if there was any idea on how the entry points from the street have been received by the residents in the area.

Planning Director Darling stated that the issues that the residents have had not been related to the trail users. She stated she thinks they all bought their properties with the knowledge that there were public trails in the neighborhood.

6. STAFF AND LIAISON REPORTS / UPDATES

- A. City Council**
- B. Staff**

Planning Director Darling reported that Commissioner Cohen had to resign from the Commission because she took a new job and now has conflicts of interest with local government work. She noted that the City has begun posting the opening for applications for that position. She gave an overview of discussion and actions taken at recent City Council meetings.

Chair Hirner noted that the Park Commission will have a bit more time to work with Park and Recreation Director Grout before she retires, but wanted to let her know that it has been a pleasure to work along side her and that she would be missed when she retires and leaves the City.

7. ADJOURN

Gallivan moved to adjourn the Park Commission Meeting of August 16, 2022 at 7:50 p.m. Schmid seconded the motion. Motion carried 4-0.

DRAFT



CITY OF SHOREWOOD

PARK COMMISSION MEETING ITEM

4A

MEETING
TYPE
Regular Park
Meeting

Title/Subject: Presentation of the Integrated Pest Management Plan Report
Meeting Date: Tuesday, September 13, 2022
Prepared by: Larry Brown, Director of Public Works
Attachments: Draft Integrated Pest Management Plan – Phase 1

Policy Consideration: Should the City adopt an Integrated Pest Management Plan and if so, what guidelines should be implemented?

Background/ Previous Action: As noted in the original transmittal of the draft Integrated Pest Management Plan (IPMP) the City of Shorewood has contracted with the IPM Institute of North America to prepare a guiding document regarding alternatives to the use of chemicals or pesticides for city owned facilities and grounds.

Certainly, the practices set forth in any IPMP will have the most impact on the park lands for the city. It is very important for the Park Commission and City Council to define a clear and concise approach to addressing the issue, but also to recognize the additional labor, costs, and tradeoffs for putting such a policy in place.

It should be noted that there are also several stakeholders involved in the issues surrounding the development of these guiding policies. While not an all-encompassing list, some that have been identified are as follows:

1. The Park Commission and City Council who must approve policies that keep grounds in good useable condition, in an economical way.
2. The residents of the city who utilize the parks and grounds and pay for maintenance of these facilities via taxes.
3. The pollinator friendly groups and organizations that are promoting methods to protect pollinators.
4. Sports Organizations and players that use the ballfields and have the need to inspect fields for safety requirement, as it relates to the conditions of the fields.

As noted above, the primary focus is on park lands. While these are obviously a very key piece of the puzzle, whatever gets adopted will ultimately need to also address the following:

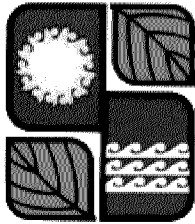
- ✚ Ash borer tree injections
- ✚ Manor Park pond treatments

Mission Statement: *The City of Shorewood is committed to providing residents quality public services, a healthy environment, a variety of attractive amenities, a sustainable tax base, and sound financial management through effective, efficient, and visionary leadership.* Page 1

- ✚ Sidewalk growth and roadside weed management.
- ✚ Invasive species such as buckthorn and garlic mustard.
- ✚ The legal requirement to meet State Statutes regarding noxious weeds.
- ✚ Response to aggressive pests, such as wasps and hornets within our parks and grounds.

Financial or Budget Considerations: As staff began to review the recommendations of the draft IPM report, it became very apparent that costs for implementation of the recommendations were going to exceed the current operating budget for the parks. Based on the proposed levy rate, an additional \$45,000 was added to operations, as a starting point. This will have to be increased to meet the full recommendations provided to date. Under the proposed budget amount, it is likely that all the focus of all of the work in the parks will have to be on the ballfields only. As a result, users of the parks will have to raise their tolerance for weeds in the more passive turf areas. There will also have to be equipment that is to be purchased for routine maintenance, that has yet to be addressed.

Mr. Ryan Anderson from the IPM Institute of North America will be in attendance for Tuesday's Park Commission meeting to present the first phase of the report and address any questions the Park Commission may have.



CITY OF SHOREWOOD

4B

5755 Country Club Road • Shorewood, Minnesota 55331
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To: Park Commission
From: Marie Darling, Planning Director
Reviewed by: Ed Shukle, Interim City Administrator

Meeting Date: August 16, 2021

Re: Introduction and Transmittal of the IPM Pesticide Audit and Plan

Attachments: Resolution 14-066
Plan
Consultant's Email and Product Estimates

The City Council commissioned this study after staff found that the Bee-Safe Policy and Procedure adopted in 2014 (resolution 14-066) was violated and there were several instances where systemic pesticides and herbicides have been used. The use was documented in a report for the January 24, 2022 City Council worksession (available on the City's website).

On March 14, 2022, the City Council authorized an agreement with the 501(c)3 non-profit IPM Institute of North America, Inc. to assist the City in developing an integrated pest management plan to provide direction and options on pollinator friendly products and procedures for maintaining the city's properties.

Attached is the Audit and Plan developed by the IPM Institute.

This plan is designed to recommend changes to the city's pesticide and herbicide practices that would be consistent with the 2014 resolution and provide cost estimates for the products that could be used in the parks and other city properties. It does not include the cost of applying the products (either for new hires in the public works department or contracts with outside firms) or purchasing of equipment included (such as aerating equipment and the like).

The consultants have given the city two options on the types of products proposed, either Pesticide Free products or Full Organic. They have also arranged the costs considering how much of each park we propose to treat, all of the high use areas (Option 1) or just the most prominent fields (Option 2). The city could also choose hybrid options. These options will be determined by the residents' weed tolerance.

The cost of the new products and applications would need to be addressed in the park maintenance budget. Equipment costs would likely be high enough that the Capital Improvement Budget would need to include the items.

Next Steps:

Staff recommends that you review the plan and estimates submitted by the IPM Institute over the next month. At the September 13th Park Commission meeting, IPM Institute staff will be in-person to present their plan and answer any questions that you may have.

CITY OF SHOREWOOD

RESOLUTION NO. 14-066

A RESOLUTION ENDORSING "BEE-SAFE" POLICIES AND PROCEDURES

WHEREAS, the Shorewood City Council and Park Commission have undertaken several work sessions dedicated to the study and understanding of promoting a healthy natural environment through the reduction and elimination of harmful pesticides; and

WHEREAS, bees and other pollinators are integral to a wide diversity of essential foods including fruit, nuts, and vegetables; and

WHEREAS, native bees and honey bees are threatened due to habitat loss, pesticide use, pathogens and parasites; and

WHEREAS, recent research suggests that there is a link between pesticides that contain neonicotinoids and the die-off of plant pollinators, including honey bees, native bees, butterflies, moths, and other insects; and

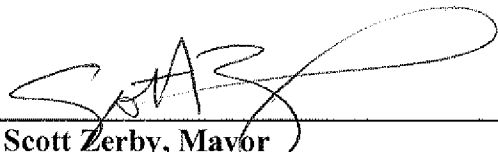
WHEREAS, neonicotinoids are synthetic chemical insecticides that are similar in structure and action to nicotine, a naturally occurring plant compound; and

WHEREAS, the City Council finds it is in the public interest and consistent with adopted City policy for the City to demonstrate its commitment to a safe and healthy community environment through the implementation of pest management practices in the maintenance of the city parks, open spaces and city property.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Shorewood:


1. The City shall undertake its best efforts to become a Bee-Safe City by undertaking best management practices in the use of plantings and pesticides in all public places within the City.
2. The City shall refrain from the use of systemic pesticides on Shorewood City property including pesticides from the neonicotinoid family.
3. The City shall undertake its best efforts to plant flowers favorable to bees and other pollinators in the City's public spaces.
4. The City shall designate Bee-Safe areas in which future City plantings are free from systemic pesticides including neonicotinoids.
5. The City shall undertake best efforts to communicate to Shorewood residents the importance of creating and maintaining a pollinator-friendly habitat.
6. The City shall publish a Bee-Safe City Progress Report on an annual basis.

ADOPTED BY THE CITY COUNCIL OF THE CITY OF SHOREWOOD this 28th
day of July, 2014.



Scott Zerby, Mayor

ATTEST:



Jean Panchyshyn, City Clerk

City of Shorewood Audit

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Executive Summary

The City of Shorewood passed a resolution in 2014 to become the first City in Minnesota to become a Bee Safe City.

In spring of 2022, the City of Shorewood asked the IPM Institute of North America and its Midwest Grows Green (MGG) sustainable landscaping initiative to audit their current landscape maintenance practices, assess if they comply to the 2014 Bee City resolution and make recommendations to help the city comply and exceed the resolution.

In Phase I of this project, MGG audited all pesticide, fertilizer and cultural practices applied on their six parks of Badger, Cathcart, Freeman, Manor, Silverwood, Southshore Community and Gideon Glen. MGG categorized these fields by use, functionality and community expectations: Class A fields, highest priority, included Freeman and Badger parks, Class B fields, moderate priority, included Manor and Cathcart parks and Class C fields, lowest priority, included Silverwood, Southshore Community and Gideon Glen parks.

MGG selected a park in each Class to further track, assess and recommend alterations for management. The three parks were the Class A Freeman Park, Class B Manor Park and Class C Silverwood Park. The Summary and Review section details all cultural practices as well as weed and pest control applied on each of the three parks between 2019 and 2021. The Summary and Review section, also, states the six Shorewood pollinator resolution clauses and details if the city's landscape management practices align with these clauses.

Of most concern, Shorewood informed MGG that it applies Armor Tech's Threesome herbicide on all parks at or near the same time annually. This systemic herbicide violates the city's pollinator resolution. Also, based on MGG product safety criteria detailed in the Pest and Weed Control methodology on page 5 of this report, MGG tiered this herbicide product in the RED class or products that the natural lawn care approach restricts or avoids the most.

To reduce the amount of class RED products used, MGG recommends that Shorewood establishes tolerance thresholds for weeds, increases cultural practices of aeration, mowing and overseeding when able, chooses reduced-risk or organic herbicides and designates more bee-safe zones. This audit's appendices include records and templates to help the City of Shorewood implement MGG's recommendations.

This report includes five sections: (1) Introduction to Shorewood's Pollinator Resolution, (2) Definitions, (3) The Audit Methodology, (4) Summary and Review of the City of Shorewood Practices and (5) Recommendations.

Introduction to Shorewood's Pollinator Resolution

In 2014, Shorewood passed a resolution endorsing "Bee-Safe" policies and procedures throughout the city.

The resolution included the following clauses:

1. The City shall undertake its best efforts to become a Bee-Safe City by undertaking best management practices in the use of plantings and pesticides in all public places within the City.
2. The City shall refrain from the use of systemic pesticides on Shorewood City property including pesticides from the neonicotinoid family.
3. The City shall undertake its best efforts to plant flowers favorable to bees and other pollinators in the City's public spaces.
4. The City shall designate Bee-Safe areas in which future City planting are free from systemic pesticides including neonicotinoids.
5. The City shall undertake best efforts to communicate to Shorewood residents the importance of creating and maintaining a pollinator-friendly habitat.
6. The City shall publish a Bee-Safe City Progress report on an annual basis.

The "Audit Methodology" and "Summary and Review" sections will evaluate Shorewood's progress towards achieving this resolution based on the practices and product application records Shorewood staff provided MGG.

Definitions

"Pests" means any unwanted insects, plants, fungus (molds) and rodents.

"Pesticide" means any substance or mixture of substances designed or intended for use to prevent, destroy, repel or mitigate pests, or to be used as a plant growth regulator. Pesticides include, but are not limited to, insecticides, herbicides, fungicides and rodenticides, and certain pest-specific compounds of biological origin aimed at disrupting the life-cycle of the pest.

"Systemic" means any pesticide product absorbed by and transported through plants.

"Broadcast" means the application of pesticides to broad expanses of surfaces. An example includes application of pesticides to lawns.

"Biological Controls" means the use of a pest's natural predators or parasites to eliminate or reduce its population.

"Cultural Controls/Practices" means the management of pests and weeds by altering the environment's natural characteristics to favor desirable vegetation development over its competitors; examples include improving soil health, altering soil pH, increasing mowing height and aerating.

“Natural Controls” means the use of any method that does not employ synthetic substances as a way to eliminate or reduce pest populations and which may draw upon elements common to the environment. Examples include companion planting and attracting beneficial insects to reduce pest problems in gardens.

“Mechanical/Physical Controls” means the use of controls that physically inhibit pests’ ability to inhabit an area by modifying their environment. Examples of physical controls include using traps and barriers, influencing temperatures, controlled burning or hand-pulling of weeds.

Audit Methodology

MGG used the following procedures to complete the “Summary and Review” section for Shorewood practices.

Field Prioritization

At the start of the landscaping audit, MGG asked the City of Shorewood to tier their fields into one of three following categories:

Class A Fields- Highly used sporting fields or destination parks.

Class B Fields- Moderately trafficked sporting fields or parks.

Class C Fields- General use, low traffic parks or natural areas.

After the City tiered their parks, MGG requested product and cultural practice records for a park in each class. Shorewood staff shared data for Freeman Park (Class A), Manor Park (Class B Field) and Silverwood Park (Class C) and management of non-turf areas. This audit summarizes these management practices and offers recommendations for each of the four types of landscapes.

All MGG recommendations will be made based on a park’s or area’s prioritization or class. To learn more about MGG’s park prioritization process, please visit bit.ly/MGGprioritization.

Establishing Tolerance Thresholds

MGG defines tolerance thresholds as the maximum pest or weed pressure that a location, community or crop can tolerate before control. The City of Shorewood reported using informal tolerance thresholds that MGG describes in the Summary and Review section.

Cultural Management and Fertilization

Shorewood provided MGG with a list of cultural practices applied on each field from 2019 to 2021 (see the list in Appendix A). This list recorded the location and date of each aeration and irrigation. Staff informed MGG about their mowing frequency and height. None of the parks received fertilizer applications.

Weed and Pest Control

MGG obtained EPA Labels and Material Safety Data Sheets (MSDS) for the herbicides applied on all parks between 2019-2021. MSDS include information regarding active ingredient and recommended application rate. MGG recorded information for three criteria summarized in the “Shorewood Pesticide Product and Safety Summary” spreadsheet in Appendix B:

- The signal word (DANGER, WARNING & CAUTION) that indicates acute toxicity of a product.
 - MGG recommends avoiding products with signal words of DANGER or WARNING that indicate high to moderate toxicity respectively.
- The soil half-life of the product.
 - MGG recommends products with a half-life below 31 days.
- If research from the EPA, IARC or California Proposition 65 has listed a product as a possible, probable, known or likely carcinogen, reproductive toxicant, endocrine disruptor or nervous system toxicant.
 - MGG recommends avoiding any product linked to these effects.

In the spreadsheet, MGG assigned a RED, YELLOW or GREEN highlight to each product based on the following:

- RED-The signal word is DANGER, or the product's characteristics violates two or more of MGG recommendations from above
- YELLOW-The product violates one of MGG recommendations from above
- GREEN-The product does not violate any of MGG's recommendations.

Summary and Review of the City of Shorewood Lawn Care Practices

Tolerance Thresholds at Parks

The City of Shorewood reported informal weed and pest tolerance thresholds for all fields. MGG assumed these informal tolerance thresholds are low due the City's scheduled applications of broadleaf herbicides. This audit made recommendations based on that assumption.

Cultural Management Practices and Fertilization

Cultural and Fertilization Practices on Class A Turfgrass Fields- The list in Appendix A recorded the following practices used at our example Class A fields of Freeman Park from 2019-2021.

Freeman Park did not receive any fertilization treatments.

The City has not aerated, overseeded or irrigated the park in several years.

Finally, the City mows Freeman Park once per week at a height of 3 inches.

Cultural and Fertilization Practices on Class B Turfgrass Fields- Manor Park received the same management practices as the Class A Freeman Park.

Cultural and Fertilization Practices on Class C Turfgrass Fields- Silverwood Park, Shorewood's example Class C field, received the same management practices as the Class A Freeman Park and the Class B Manor Park.

Weed and Pest Control

Weed and Grub Control on all turfgrass fields- The City of Shorewood uses mowing and herbicide to control weeds on Class A, Class B and Class C fields. The herbicide used, Armor Tech's Threesome Herbicide, is a selective synthetic that controls label-listed annual, biennial and perennial weeds. Active ingredients include 30.56% 2,4-D, 2.77% Dicamba and 8.17% MCPP. The label has the signal word DANGER, meaning the product has high acute toxicity. MGG assumed the city applied the product at the recommended rate of 3.0 to 4.0 pints per acre.

This product is a RED class herbicide due to the US EPA and EU listing the product's active ingredients as possible carcinogens, reproductive toxins, endocrine disruptors and nervous system disruptors.

There were not any recorded practices to control grubs on any of the fields.

Weed and Grub Control on Class A Turfgrass Fields- Freeman Park received Threesome herbicide applications on October 2nd, 2019 and October 20th, 2020 and July 27th, 2021.

Weed and Grub Control on Class B Turfgrass Fields- Manor Park received the same management practices as the Class A Freeman Park.

Weed and Grub Control on Class C Turfgrass Fields- Silverwood Park received the same management practices as the Class A Freeman Park and the Class B Manor Park.

Weed and Grub Control on Non-Turf areas- The City of Shorewood applies a copper sulfate product to the pond at Manor Park for algae treatment. In addition, 30 ash trees were injected every year with Arborjet's TREE-age® R10 Insecticide to control for emerald ash borer. Ingredients include 4% of the active ingredient Emamectin Benzoate and 25 – 50% of the inert ingredient Tetrahydrofurfuryl alcohol (THFA). The label has a signal word of WARNING meaning the product has moderate acute toxicity to humans.

This product is a RED class herbicide due to the Warning label, average half-life exceeding 31 days and the MSDS stating that the product is suspected of damaging the unborn child and fertility. The MSDS, also, mentions this product's toxicity to bees and groundwater.

Progress Towards Pollinator Resolution Clauses

Clause #1- Planting and Pesticide Best Management Practices taken by Shorewood in Public Places- The City of Shorewood did not report cultural, mechanical and biological control measures taken on turfgrass fields for weeds and pests outside of mowing. In natural areas, the City of Shorewood rented goats to remove buckthorn at Freeman Park in 2018 and 2019. MGG, also, found that the City purchased a Weed Wrench to manually remove buckthorn. Shorewood maintains the Gideon Glen prairie with prescribed burns every couple of years.

Clause #2- Avoidance of systemic pesticide applications on Shorewood City Property- The pesticide product Shorewood uses for broadleaf weed control (Armor Tech Threesome) is systemic. Arborjet's TREE-age R10 is, also, systemic.

Clause #3- Planting of flowers favorable to bees and other pollinators on Shorewood City Property- The City of Shorewood reported the following bee-safe and native plantings locations:

1. Manor Park: Native plant buffers established around the Manor Park pond.
2. Freeman Park: Rain garden installed and maintained to capture rain water from Eddy Station.
3. Cathcart Park: Planted a clover patch in 2014, but returned to turfgrass now.
4. Badger Park: Rain garden installed and maintained to capture and infiltrate water prior to run-off entering a treatment pond.

5. Smithtown Ponds: Planned transformation to collect, control and treat stormwater to before it runs-off into Lake Minnetonka. Undergoing construction now.
6. Gideon Glen: Shorewood restored the prairie and drainage pond with native plantings and buffers.
7. Minnetonka Country Club: Open space areas from the former country club were redeveloped in 2016 and include walking trails, stormwater ponds and wetlands.

Clause #4- Designation of Bee-Safe areas free from systemic pesticides- The City of Shorewood did not report designating Bee-Safe areas.

Clause #5- Communication of importance of creating and maintaining a pollinator-friendly habitat- MGG staff needed to ask Shorewood staff for the webpage that includes the Bee-City resolution. The webpage is not available on the City's Environment landing page. MGG staff needed to click on the "Yard and Tree Care" webpage link to access the resolution. Both the "Yard and Tree Care" and "Bee safe City" pages have minimal resources and information for native planting, sustainable landscaping, natural lawn care, etc.

Clause #6- The City shall publish a Bee-Safe City Progress Report- Shorewood informed MGG that they have not conducted an annual Bee-Safe City Progress Report, but plans to conduct an annual report each year following this report.

Recommendations

Establishing Tolerance Thresholds for Prioritized Parks

MGG recommends setting and raising formal tolerance thresholds for weeds and pests on the City of Shorewood's fields. Field visibility, traffic and community expectations should most factor into the prioritization and tolerance thresholds at each field. Without knowledge of the three aforementioned factors, MGG makes the following recommendations for classification of all seven Shorewood parks and their weed tolerance thresholds:

Class A Fields (Freeman and Badger Parks)- These fields will have a 15% or less tolerance for weeds.¹

Class B Fields (Manor and Cathcart Parks)- These fields will have a 16-30% tolerance for weeds.²

Class C Fields (Silverwood, Southshore and Gideon Glen Parks)- The City of Shorewood will not control for weeds for the exception of invasive species.

¹ Assuming the average dandelion takes up .43 square feet. 15 percent or less would mean 3 dandelions or less per square yard or 35 dandelions or less for 100 square feet.

² Assuming the average dandelion takes up .43 square feet. 30 percent or less would mean 6 dandelions or less per square yard or 70 dandelions or less per 100 square feet.

Cultural Management Practices and Fertilization

Cultural and Fertilization Recommendations for Class A Turfgrass Fields- Freeman Park did not receive any fertilizations or cultural management of overseeding, aeration and irrigation. A deeply rooted, continuous grass system provides the best defense against weeds and pests (see bit.ly/MGGcultural). As opposed to annual herbicide applications, MGG recommends that Shorewood utilizes cultural management and fertilization to address the root cause of weed and pest pressure of poor soil quality, limited turfgrass root density and sparse turfgrass coverage. The following recommendations will improve Shorewood's soil and plant health.

To improve soil health, MGG highly recommends at least testing the soil on Class A fields. These soil tests should focus further than primary macronutrient content of N-P-K by factoring in pH, secondary macronutrients of calcium and magnesium and organic matter content.

Soil tests will identify malnourished turfgrass, which are more susceptible to pest and disease infestations.

The MGG Lawn & Land Forum Toolkit at LawnandLand.org identifies a couple of case studies that will help the City of Shorewood improve their soil testing programs. The first case study covers MGG's work with the organic-based fertilizer company EarthWorks to help the City of Grand Rapids implement four organic parks (see the study at bit.ly/GRtesting). This project started by conducting soil tests at all fields using the provider Logan Labs.

The second case study interviews Wilmette Park District's Kristi Solberg, formally from the Park Ridge Park District, and briefly looks at Solberg's soil testing practices (see bit.ly/SolAeration).

For Class A fields that cannot or do not receive a soil test, MGG recommends using organic fertilizer applications. Dense and established turfgrass stands should require two applications max per year, especially fescue dominant mixes.

MGG recommends scheduling fertilizer applications in late September or early October to set down deep roots for turfgrass. A slow-release, organic and nitrogen-based fertilizer in early fall should help the grass recover from hot, dry conditions of summer. If possible, a fall compost or biochar application best conditions the soil and can eliminate the need for spring or fall fertilization if incorporated properly.

LawnandLand.org's Soil Health webpage further details the importance of adding organic matter to sports and recreational fields and shares multiple case studies regarding our recommended fertility program (see bit.ly/MGGsoilhealth). The case studies include Carl Gorra's organic fertilization program for Naperville Park District (see bit.ly/GorraFertility), Dan Dinelli's composting program at the North Shore Country Club (see bit.ly/DinelliComposting) and Ron Malchiodi's application of biochar on Village of Riverside's fields (see bit.ly/MalchiodiBiochar).

The MGG recommended fertility program performs best in soft and porous soil that allows air, water and nutrients to travel in and out of the soil profile. The clay loam soil and high foot traffic at Freeman Park likely severely compacts soil at the sports fields. These fields currently receive no aeration. MGG highly recommends that the City of Shorewood aerate Class A parks in early fall between September 1st-30th. Fall aeration may provide the most critical step for natural lawn care implementation on high traffic parks by both reducing compaction and providing access points to the soil for fertilizer and seeding.

MGG recommends that both spring and fall aerations use a Ryan Renovaire tow behind with hollow-tines or similar equipment. Freeman Park likely receives enough traffic to warrant five or more aerations per year. MGG recommends that the City of Shorewood focus their aeration on the most trafficked parts of the sporting field (see bit.ly/BMPtraffic) and consider investing in slicing equipment to save costs and time. Learn about the different aeration equipment and their uses from Kristi Solberg at bit.ly/SolAeration. In her interview, Solberg notes that she prevents her fields from drying out during aeration by accommodating each cultivation with irrigation.

To inhibit weeds and grow a denser turfgrass stand, the City of Shorewood should increase its overseeding program to an application in late August or early September each year. Aerating fields one or two days before overseeding will ensure seed to soil contact. Kentucky bluegrass' growth pattern by rhizomes and ability to handle wear still offers the best option for high-traffic athletic fields. MGG recommends that the City of Shorewood visit the LawnandLand.org's table of high performing Kentucky bluegrass cultivars (see bit.ly/MGGcultivars). These tables pull data from the National Turfgrass Evaluation Program and found a couple of cultivars that could establish quickly and handle the high traffic.

The City of Shorewood's once per week mowing schedule for Class A fields aligns with MGG recommendations. Shorewood may need to increase mowing frequency to twice per week during the spring and fall to adhere to the 1/3 rule. Mowing should never take more than a 1/3 from the shoot per session. Cutting too much of the shoot can stress the grass plant leading to shallow roots, disease and other pressures. The City should evaluate the costs of their current mowing program and see if they would save on costs if they hired a private mowing contractor for just their Class A areas as Park Ridge Park District did in 2016 (see bit.ly/SolMowing).

Cultural and Fertilization Recommendations for Class B Turfgrass Fields- Preferably, the City of Shorewood should manage all Class B fields with similar cultural practices to MGG recommendations for Class A fields. However, MGG recognizes the City of Shorewood may face cost constraints and advises the following adjustments to Class B field management if unable to implement all of MGG's Class A field cultural practices recommendations.

First, if costs prevent the City of Shorewood from soil testing Manor Park, then the fields should follow a similar fertilization schedule to Freeman Park due to the parks likely receiving similar

traffic and community expectations. MGG recommends one or two organic fertilizations per year. Similar to Class A fields, prioritize fertilization in the fall. The second application, if necessary, should happen in late spring.

All Class B fields should perform well with one core aeration in the fall between September 1st to 30th. Overseed non-sporting Class B fields with a tall fescue dominant mix when necessary to fill bare patches in the early fall, preferably a day or two after the aeration. Overseed Manor Park with the same Kentucky bluegrass mix and schedule chosen for Class A parks.

Finally, the City of Shorewood should continue mowing their Class B fields once a week at heights no lower than three inches.

Cultural and Fertilization Recommendations for Class C Turfgrass Fields- MGG recommends limiting all fertilization and cultural practices at Class C turfgrass fields, which appears to be the current practice for Silverwood Park.

Class C fields such as Silverwood Park likely receive limited foot traffic and visibility and can maintain functionality with 0 to 1 fertilizations per year. If the City of Shorewood ever chooses to fertilize Class C areas, MGG recommends an organic fertilization in the fall if the fields have thin, patchy turfgrass stands.

Weed and Pest Control

Weed Recommendations for Class A Turfgrass Fields- MGG encourages the City of Shorewood to eliminate all scheduled pre-emergent broadcast applications of herbicides on Freeman Park and all other Class A areas. MGG's Class A turfgrass field cultural practices recommendations should help the City of Shorewood grow a dense, deeply-rooted turfgrass system to act as a pre-emergent inhibitor of weeds.

For post-emergent weed control, MGG recommends eliminating all RED class herbicides from the City of Shorewood's inventory.

The City of Shorewood should prioritize selecting GREEN class, reduced risk or organic broadleaf control alternatives such as Fiesta, Quicksilver, Tenacity, Lockup or Defendor. Learn more about these products from the Lawn & Land Forum Toolkit at bit.ly/MGGbroadleaf.

Weed Control Recommendations for Class B Turfgrass Fields- MGG suggests following the same protocols for "Weed Control for Class A Turfgrass Fields." MGG also recommends holding a weed tolerance threshold to 30 percent for Class B turfgrass fields.

Weed Control Recommendations for Class C Turfgrass Fields- The City of Shorewood should refrain from weed control on all Class C fields for the exception of managing an invasive weed or pest.

Recommendations to Adhere to the Bee City Pollinator Resolution- MGG developed a four-spoke Flywheel weed management plan to overcome soil, weather and human intervention conditions in many landscapes that favor invasive and undesirable vegetation growth and to grow landscapes that favor pollinators (see bit.ly/FlywheelApproach). The four spokes include (1) Investigation, Planning and Prevention, (2) Plant and Seed Selection, (3) Alternative Weed Control Products and Practices and (4) Evaluation and Improvement.

The site investigation, planning and prevention spoke forms the foundation of controlling weeds in garden beds, tree rings and other non-turf areas. Nick Fuller, the Chief Ecological Officer of Natural Communities, LLC, will conduct inventories of plant communities, soil texture, sunlight and other environmental factors before developing a weed management or land restoration program (see bit.ly/FullerInvestigation). Some critical questions Fuller and MGG recommends for these inventories include (1) Do you have any remnant plant communities on your side? (2) Do you have strictly invasive species? (3) Do you have a combination of native and invasive species? (4) Are you starting off with an agricultural field or a blank slate?

These inventories should help the City of Shorewood select desirable, adaptable and competitive plant seed mixes for the non-turf regions in their parks. Many native, low-growing or low-input plant mixes should excel in these non-turf areas. Find resources on these mixes and planting recommendations at bit.ly/FullerSeedMixes. MGG suggests that the City of Shorewood plants ground cover to replace not only bare soil, but turfgrass grown in unfavorable conditions such as shady tree corridors. One consideration for ground cover includes low-input and pollinator-friendly clover as a monocrop or incorporated in eco-lawns (see bit.ly/MGGclover).

The parks that MGG categorized as Class C of Silverwood, Southshore and Gideon Glen Parks are ideal candidates for fulfilling Clauses #3 and #4 of the pollinator resolution, because they do not host athletic events.

The third Flywheel spoke webpage at bit.ly/FlywheelSpoke3 reviews the alternative cultural, physical, mechanical and chemical weed control the City can use to prepare garden beds and tree rings for planting. To avoid glyphosate use, the City of Shorewood will most likely need to use a combination of control strategies mentioned on that web page.

The City of Shorewood should keep the sand and dirt in baseball diamonds continually groomed, even during the summer offseason, to prevent weed establishment. This requires weekly dragging or raking the infields to pick up young weeds. The City could, also, consider liming their infields to increase the alkalinity that in turn reduces favorable conditions for weeds. Tips for baseball infield management can be found at <http://bit.ly/MSUinfields>.

MGG found the application of the Tree-Age EAB control product poses two primary risks for pollinators: (1) Tree-Age's active ingredient emamectin benzoate affects a broad range of plant-

feeding insects and (2) Shorewood's annual application of the product increases risk of exposure for pollinators.

The www.emeraldashborer.info FAQ factsheet provided by Davey Tree correctly states that ash trees depend on wind-pollination and do not rely on pollination from bees. However, the leaves and bark of ash trees provide forage or habitat for more than 150 species of native moth and butterfly larva.³ The FAQ factsheet states that "emamectin benzoate has been shown to affect a broad range of plant-feeding insects". Thus, the application of Tree-Age conflicts with Shorewood's pollinator resolution's intent to protect all pollinators of butterflies, moths, native bees and more.

The second risk for pollinators revolves around Shorewood's annual applications of Tree-Age on its ash trees. This annual use increases the exposure risk to pollinators. Both Davey Tree and Arborjet brought up studies shared in the North Central IPM Center (NCIPM) white paper "Insecticide Options for Protecting Ash Trees from Emerald Ash Borer" that observed effective EAB control from emamectin benzoate for up to three years. MGG recommends applications of Tree-Age in three-year intervals as opposed to annually if Shorewood continues applications of this product.

If Shorewood chooses to replace Tree-age, MGG recommends either biocontrol or an insecticide that has the reduced risk active ingredient of Azadirachtin.

In April of 2022, IPM Institute's Ryan Anderson contacted the US Department of Agriculture's Animal and Plant Health Inspection Service (APHIS) to see if Shorewood could participate in their biocontrol program of releasing stingless wasps that kill EAB (see bit.ly/EABbiocontrol). Anderson has yet to receive a reply from APHIS. However, these stingless wasps need EAB to persist in the long-term. During Anderson's Shorewood visit on June 23, 2022, Davey Tree's Gail Nozal informed attendees that researchers just detected the first presence of EAB in the Minneapolis area this year. The lack of EAB may reduce the effectiveness of this biocontrol program.

Azadirachtin derives from the seeds of neem trees and has low toxicity to humans (see bit.ly/CSUazadirachtin). Azadirachtin products will impair EAB reproduction and kill young larvae. The NCIPM white paper shared a two-year study in Michigan of the azadirachtin product [TreeAzin](#). The study found that TreeAzin reduced density of live EAB density by 75-80% lower than untreated control trees when applied in the first year, but not the second year. Davey Tree should not need to change their equipment, because Azadirachtin products such as [Azaguard](#) use the same trunk injection equipment as emamectin benzoate products. Some research shows that Azadirachtin may be toxic to bees and other pollinators.

³ Tallamy, Douglas. 2007. Bringing Nature Home: How Native Plants Sustain Wildlife in Our Gardens. *Timber Press*.

Finally, MGG highly encourages the City of Shorewood to seek alternative products to glyphosate in situations where chemical control offers the most economically feasible option for weed control. LawnandLand.org lists class GREEN, non-selective organic and reduced-risk product alternatives at bit.ly/MGGnonselective.

Overall IPM and Natural Lawn Care Policy Recommendations

To ensure the implementation of MGG's recommendations, MGG highly recommends that the City of Shorewood adopt a formal IPM or sustainable landscaping policy. Formal policies help organizations deliver services more efficiently and effectively because they (1) ensure consistency in the actions of staff, (2) avoid any ambiguity for how to handle particular situations/issues and (3) increase transparency between the organization and its clients (i.e. public).

Appendix D includes two critical templates to help with establishing and implementing a formal IPM or sustainable landscaping program of (1) a "Generic Park Policy" and (2) a "Natural Lawn Care Workplan." The "Generic Park Policy" assists with forming and writing IPM into the City Shorewood maintenance policy. This document covers program implementation concepts of monitoring, pesticide selection protocols, recordkeeping and evaluations (see bit.ly/MGGimplementation) and sets safety standards for pesticide application, storage, disposal and notification (see bit.ly/MGGsafety). The "Natural Lawn Care Workplan" will help the City of Shorewood implement the "Generic Park Policy" and the recommendations from this Audit.

Appendix A

Class A: Freeman Park

Mowing Height – 3"

Mowing Frequency – 2x per week for ballfields, 1x per week for other areas

Aeration – None

Irrigation – None

Grass Type – Unknown

Overseeding – None

Fertilization – None

Class B: Manor Park

Mowing Height – 3"

Mowing Frequency – 2x per week for ballfields, 1x per week for other areas

Aeration – None

Irrigation – None

Grass Type – Unknown

Overseeding – None

Fertilization – None

Class C: Silverwood Park

Mowing Height – 3"

Mowing Frequency – 1x per week

Aeration – None

Irrigation – None

Grass Type – Unknown

Overseeding – None

Fertilization – None

Appendix B

Shorewood Pesticide Product and Safety Summary

Color Coding	Products	Number of Products
Red	Armor Tech Threesome Selective Herbicide Arborject Tree-age Insecticide	2
Yellow	N/A	0
Green	N/A	0

We make our recommendations based on three main conditions:

- The signal word (Danger, Warning & Caution) that indicates acute toxicity of a product, we recommend avoiding products with signal words of Danger or Warning that indicate high to moderate toxicity respectively
- The soil half-life of the product, we recommend products with a half-life below 31 days
- If research has linked the product as a carcinogen or reproductive, endocrine, or nervous system toxicant/disruptor, we recommend avoiding any product linked to these effects

In the attached excel you will see products highlighted in one of three colors (GREEN, YELLOW or RED). The color coding goes like this:

- RED-The signal word is Danger, or the product's characteristics violates two or more of our recommendations from above
- YELLOW-The product violates one of our recommendations from above
- GREEN-The product does not violate any of our recommendations

Implication of the Assessment:

1. Armor Tech Threesome Selective Herbicide uses the signal word of **danger** on its label (EPA registration). This product's active ingredients including 2,4-Dichlorophenoxyacetic acid, dicamba and MCPP are listed by the US EPA and/or EU as possible carcinogens, reproductive toxins, endocrine disruptors and/or nervous system disruptors. Our IPM policies stress using the least harmful product at the least amount of concentration. For this case, if the City of Shorewood must resort to chemicals, they should look for products that do not contain these active ingredients. Many other districts follow this procedure. MGG has significant concerns with dicamba (and Threesome's other chemical 2 4-D for that matter), since dicamba is highly mobile and persistent chemical that has been linked to non-hodgkins lymphoma and nervous system inhibition.

Appendix D

PARKS/FOREST/NATURAL AREAS

MODEL INTEGRATED PEST MANAGEMENT POLICY

Introduction:

This Integrated Pest Management Policy ("Policy") shall govern the adoption, implementation, and oversight of an Integrated Pest Management program for all sites under the purview of the _____ Park District ("District") effective _____(date), 1998. Specifically, all pesticide use on grounds or in buildings maintained by the District will be subject to guidelines stated herein.

Findings:

WHEREAS, pesticides are currently applied to property owned or operated and maintained by the District;

WHEREAS, it is difficult or impossible to prevent patrons and employees of the District from coming into contact with those pesticides;

WHEREAS, District is dedicated to protecting the health and welfare of its patrons and employees;

WHEREAS, scientific research indicates that no pesticide is completely safe, and that various pesticides may pose risks to human health, particularly to the health of children, the elderly and other sensitive populations as well as non-target animal and plant populations;

WHEREAS, Integrated Pest Management represents an effective, environmentally sound and economical pest control method, the goal of which is to control pest species while reducing and, where possible, eliminating dependence on chemical pest control strategies;

NOW, THEREFORE, the District shall develop and implement the following Integrated Pest Management program:

Statement of Policy:

It shall be the policy of the District that Integrated Pest Management will be used to prevent and control pest problems in or on property maintained by the District. Non-chemical controls shall be given preference over chemical controls.

Defining Integrated Pest Management:

"Integrated Pest Management" (IPM) is a sustainable process for managing pests that relies on knowledge about the plant or insect pest and its interactions with the environment and utilizes a variety of control measures, including structural, physical, cultural, biological and, only as a last resort, chemical controls, in a way that minimizes environmental, health and economic risks.

District Integrated Pest Management Program:

A. The District shall submit a detailed work plan for implementing Integrated Pest Management which will incorporate the following approach :

1. **Monitor pest populations..** The District shall collect baseline data on an ongoing basis to locate and determine pest population densities and rates of growth, and whether and to what extent natural enemy population(s) are present. Records shall be kept of such monitoring.
2. **Establish Tolerance Levels.** To decide whether treatment is warranted, an acceptable tolerance level shall be established for each pest and site by determining the type, size, and density of pest population that must be present to cause levels of unacceptable environmental, aesthetic and/or economic damage, or create a risk to human health.
3. **Identify a range of preferred treatments.** Non-chemical, non-biological control strategies including structural, physical/mechanical and cultural controls shall be considered first. Chemical approaches should be used only as a last resort. In selecting a treatment approach, the following criteria shall be considered:
 - a. Least-hazardous to human health
 - b. Least disruptive of natural controls
 - c. Least-toxic to non-target organisms
 - d. Least-damaging to the general environment
 - e. Most likely to produce a permanent reduction in habitat conducive to pest populations above the tolerance level
 - f. Cost effectiveness over a reasonable term.
4. **Educate Staff.** Education is a critical component of a successful IPM program. The District shall commit to providing ongoing training for employees and assisting in developing educational programs for the public.
5. **Notify Contractors.** The District shall inform all contractors of their obligation to comply with the IPM program.

Authorization, Review and Evaluation of the IPM Program

- A. An IPM advisory committee ("Committee") shall review all IPM plans and review all pesticides used by the District. The Committee shall be governed by the following rules:
1. The Committee shall be composed of....[District representatives, members of citizen's action groups working on pesticide use reduction, other representatives of the public]

2. All members shall be in agreement with the intent of the Policy and shall seek management techniques that minimize or eliminate the use of pesticides;
 3. _____ shall convene and conduct the meetings of the Committee.
- B. Annual reports evaluating the IPM program shall be submitted to the Committee by the District.
- C. Every two years the Committee shall conduct a review of the program's overall effectiveness in managing pest populations. This assessment shall include an evaluation of all chemical applications, including a figure reflecting the total quantities of pesticide active ingredient applied, as well as any new information on the hazards of chemical controls.
- D. The Committee shall be responsible for keeping the public informed of the District's IPM program. Information requests from the public about the Policy will be directed to an appropriate member of the Committee who will answer it promptly.

Notification Requirements

The public shall be notified of any interior or exterior broadcast applications of pesticides, as well as any bombings or dusting of large exposed areas in or on any property maintained by the District as follows:

- A. Signs shall be posted at the time of application of pesticides.
1. Signs shall be headed "Notice of Pesticide Application." Signs shall contain the following information: the name of the pesticide, the date of application and a telephone number that can be called for more information.
 2. Signs shall be posted at the entrance to all buildings where pesticides have been applied.
 3. Signs shall be posted at all park entrances where pesticides have been applied.
 4. Signs shall be posted at appropriate intervals along property lines abutting residential areas.
- B. Prior notification shall not be required when a situation presents a direct threat to the public health and requires immediate action.

Meeting Federal and State Regulations

No pesticide shall be used unless it is registered for its intended use under the Federal Insecticide Fungicide and Rodenticide Act ("FIFRA"), 7 U.S.C. § 135 et seq. The District shall not violate any state or federal rules and regulations relating to pesticide use, or the safety provisions set forth on pesticide labels.

Severability

If any section, sentence, or clause of this Policy is held invalid or unconstitutional, such holding shall not affect the validity of the remaining portions of the ordinance.

Effective Date

This Policy shall take effect upon passage by _____ and publication as required by law.

Definitions

“Biological Controls” means the use of a pest’s natural predators or parasites to eliminate or reduce its population.

“Bombing” means a treatment that releases liquid aerosols into the air. Examples include spraying, misting or fogging.

“Broadcast” means the application of pesticides to broad expanses of surfaces. An example includes application of pesticides to lawns.

“Cultural Controls” means the use of education to effect changes in persons’ perceptions and behaviors as a method of preventing pest problems, avoiding pesticide use and more broadly promoting the health and sustainability of a given area.

“Mechanical Controls” means the use of mechanical procedures to eliminate or reduce pest populations, such as mowing and aeration of lawns.

“Natural Controls” means the use of any method that does not employ synthetic substances as a way to eliminate or reduce pest populations and which may draw upon elements common to the environment. Examples include companion planting and attracting beneficial insects to reduce pest problems in gardens.

“Pests” means any unwanted insects, plants, fungus (molds), and rodents.

“Pesticide” means any substance or mixture of substances designed or intended for use to prevent, destroy, repel or mitigate pests, or to be used as a plant growth regulator. Pesticides include, but are not limited to, insecticides, herbicides, fungicides, and rodenticides, and certain pest-specific compounds of biological origin aimed at disrupting the life-cycle of the pest.

“Physical Controls” means the use of controls that physically inhibit pests’ ability to inhabit an area by modifying their environment. Examples of physical controls include using traps and barriers, influencing temperatures, controlled burning or hand-pulling of weeds.

“Structural Controls” means the use of a whole systems approach to controlling pest populations, which may include addressing structural issues in both buildings and landscapes. Examples of structural controls include adopting long-term maintenance practices such as caulking and sealing, and repairing the building or landscape to remove places where pests may breed, such as removing indentations in the earth that cause puddles where mosquitoes may breed.

Natural Lawn Care Workplan

Integrated Pest Management

The IPM Institute of North America, Inc. defines Integrated Pest Management (IPM) as an environmentally sensitive and cost-effective approach to weed, insect, disease and other pest management that consolidates all available necessary techniques into an integrated program to keep pest populations at acceptable levels and to avoid adverse effects. An IPM program will utilize physical, cultural, mechanical, structural and biological controls before resorting to chemical controls.

It shall be the policy of [school district/park district/municipality] that Integrated Pest Management will be used to prevent and control pest and weed problems in or on property maintained by the District. Non-chemical controls shall be given preference over chemical controls.

Categorizing the District's Green Spaces

In line with the district's IPM policy, green spaces are broken down into three different categories based on acceptable weed pressures:

Category 1: Category "1" Areas- grounds, recreation facilities, and other school/park properties that will have a 15% or less tolerance for weeds.⁴ These areas include athletic fields where quality turf is critical to player safety or turf areas around facilities that receive high public use or visibility.

Category 2: Category "2" Areas - grounds, recreation facilities and other school/park properties that will have a 16-30% tolerance for weeds.⁵ Included in this category are areas where turf quality and appearance is important, but not critical. This may include areas that are lightly used, but still receive relatively high visibility.

Category 3: Category "3" areas – designated green spaces that will receive no pesticide treatments no matter the level of weed pressure. These are areas that receive minimal traffic and have low visibility.

Category 1 ground management plan

Cultural management:

- Proper cultural practices should be implemented prior to using chemical pest controls. The facility will follow the cultural management instructions below to the best of its ability for Category 1 grounds.

⁴ Assuming the average dandelion takes up .43 square feet. 15 percent or less would mean 3 dandelions or less per square yard or 35 dandelions or less for 100 square feet.

⁵ Assuming the average dandelion takes up .43 square feet. 30 percent or less would mean 6 dandelions or less per square yard or 70 dandelions or less per 100 square feet.

- *Mowing*- Mowing height should be set between between 2 ½ and 3 ½ inches for the entire season. Remove only 1/3 of the leaf blade or less at a time. Mowing frequency will vary based on numerous conditions, but will often be conducted once a week or more during the middle of the summer. Mulch grass clippings in place rather than bag and remove to add nitrogen back into the soil.
- *Aeration*- Aerate areas that have compacted/hard soil, a thatch layer greater than ½ inches or bare soil. Reduce the compaction and thatch by aerating in the fall after the heat of the summer has subsided (September 1 to 30). Severe soil compaction or thatch development may require a second aerification in the late spring (May 1 to June 15). Core aeration should be conducted using a machine-driven, piston-type aerifier. The aerifier should be set to take out cores ¼ - ½ inches in diameter and reach 3 to 4 inches deep. The cores should remain on the lawn and mowed over after one to two days. Deep tine aeration may be required for soils with a high clay or rock content. Deep tine treatments work effectively in the spring and fall using a solid tine 5-10" deep.
- *Overseeding*- Thin or bare areas can benefit from overseeding, especially when paired with a fall or spring aerification. If paired with aerification, overseed 1 to 2 days after aerating. Overseed using the same or a similar mixture of grass species already present on the site. If possible, overseed prior to a forecasted rain event or irrigate to provide moisture for the new seeds to germinate. Use the NTEP database (www.ntep.org) to select high quality grass seed that fits site needs

Fertilization for Category 1 grounds:

- *Soil testing*: All category 1 grounds should receive a soil test to determine fertility needs. The soil test should inform about nutrients, pH, and organic matter content in the soil. From this data, the district can make informed decisions about the amount, frequency and type of fertilizer to apply.
- *Fertilizer applications*: Most soil tests will offer recommendations for the amount, frequency, and type of fertilizer to apply. In the cases that they do not, however, we recommend that Category 1 should receive around 2 to 3 applications of nitrogen fertilizer per year. If turf is very dense, established, and does not receive frequent foot traffic, gravitate towards two or less applications. If the primary turf species present is tall fescue or a mixture of fine fescues, then gravitate towards two or less fertilizer applications. The best time to fertilize is with a slow-release, organic fertilizer in early fall to help the grass recover from hot, dry conditions of summer.

If the manager determines that three fertilizer applications are needed, they should implement the two additional applications once in late May and once in mid fall (i.e. late September or early October). For highly trafficked areas with poor spring density, a synthetic fertilizer can be used for the spring application to encourage rapid nutrient uptake by the plant in cooler conditions.

If using biosolids, the district should only need to do one application per year in the fall. Most school and park districts have reported not needing complementary fertilizations for the biosolids, so the district should avoid additional fertilizations to the biosolids if grass is performing well. All fertilizations will work best if they follow a core aeration.

Weed and Pest Control

- In cases where turf damage occurs and the causal agent is unclear, an accurate diagnosis of the problem should be obtained prior to implementing any pest control measures. Accurate diagnoses can be obtained from your local extension office or at many land-grant universities.
- In cases where weeds exceed the desired threshold, use a certified natural or EPA reduced-risk weed control product. For turfgrass, options include Fiesta, Tenacity, Quicksilver, and Defendor. Applications of these products cannot exceed twice per year. Perennial weeds are most effectively controlled using herbicides in the fall, which is, also, a time when the grounds are being used less often and will result in lower risk for public exposure. Carefully follow all label directions, even for certified natural products.
- Attempt to increase irrigation or reseed the area to encourage recovery if damage from insects, in particular root damage from white grub feeding, exceeds the desired threshold. Insect damage on turfgrass is often sporadic and may not occur every year. However, a facility can consider a preventative insecticide if they have observed severe damage multiple years in a row. Avoid selecting insecticides that the EPA has identified as 'harmful to bees' (i.e. indicated by a 'bee icon' within a red diamond on the product label). Carefully follow all label directions.
- Fungal diseases rarely cause widespread damage on lawn and sports turf and are typically controlled through proper cultural practices. Fungicides are almost never recommended for use in lawn and sports turf.

Category 2 ground management plan

Cultural Management:

- If possible, all Category 2 fields should be managed with similar cultural practices as Category 1. If the district faces cost constraints or other pressures, however, the management for Category 2 fields can be changed to the following:
- *Mowing*: Mow at a height between 2 ½ to 3 ½ inches and frequently enough so that only 1/3 of the plant or less is removed during each mowing. In the middle of the summer, this will typically be once per week.
- *Aeration*: Aerate once in the fall (September 1 to 30). Same depth and procedure as Category 1 fields.
- *Aerating and Overseeding*: Aerate and overseed as often as possible when needed and given budgetary constraints. Follow the same procedures as Category 1 fields.

Fertilization:

- Category 2 grounds should receive a soil test once every three years to identify underlying problems and identify fertilization needs. If unable to get a soil test, Category 2 grounds should receive 1 to 2 applications of nitrogen fertilizer per year. Similar to Category 1 grounds, prioritize the fertilization in the fall. The second application, if necessary, should happen in the late spring.

Weed and Pest Control

- In cases that weed pressure exceeds the desired threshold, the district can use a certified natural or EPA reduced-risk weed control product. For turfgrass, options include Fiesta,

Tenacity, Quicksilver, and Defendor. Carefully follow all label directions, even for certified natural products. Applications of these products cannot exceed twice per year.

- Insecticide and fungicide applications should be avoided unless the damage is extreme.

Category 3 Ground Management Plan

Cultural Management:

- Follow similar cultural management to Category 2 grounds. In most cases, Category 3 areas will be 'mow only' and will not receive aeration or overseeding.

Fertilization:

- Consider Category 3 grounds as "Good Desired Quality" fields labeled in the above table that should receive 1 to 0 applications of nitrogen fertilizer per year. The IPM Institute advises to avoid fertilization completely if grass is established, mature and healthy in appearance.

Weed and Pest Control

- As these areas have been deemed of low importance due to their minimal traffic and low visibility, pesticides should not be applied.

Marie Darling

From: Ryan Anderson <randerson@ipminstitute.org>
Sent: Tuesday, August 2, 2022 12:48 PM
To: Larry Brown; Marie Darling; Twila Grout
Subject: Fw: Shorewood Budget

Here were Alec's cost estimates. Please let me or Alec know if you have any questions.

Thank you,

Ryan

From: Alec McClennan <alec@whygoodnature.com>
Sent: Friday, July 15, 2022 11:51 AM
To: Ryan Anderson <randerson@ipminstitute.org>; Sydney Lezaic <sydneyl@whygoodnature.com>
Cc: Leah McSherry <LMcSherry@ipminstitute.org>; Larry Brown <lbrown@ci.shorewood.mn.us>
Subject: Shorewood Budget

Folks,

Hope you are each having a great Summer! Wanted to reach out and get you some numbers to look at for the parks. In this [FIELD PRICING WORKSHEET](#) you'll find a tool that we can use to help create a program to meet your expectations and budget. It is currently populated with our recommendations but is just a starting point.

We've split the numbers a few ways and can do more splitting as needed to get into a budget that will work for Shorewood. The numbers here include material cost estimates and not the cost of application. If you contract out the applications, there will be a charge to apply. It is possible that Shorewood can purchase the materials and hire someone to apply them. If you have equipment to apply materials or are interested in purchasing equipment to do the applications, we are happy to advise.

The spreadsheet might look a little intimidating at first but I promise it makes sense :). Happy to jump on a call today to go over it if you like Larry.

We've differentiated the program levels at each park as A,B,C.

Area Classifications

Class A

High Profile, high use areas. Get the full treatments.

Class B

Moderate use and doesn't need to be perfect.

Class C

Very Low Priority, minimal treatments each year.

On the spreadsheet, sheet one (Shorewoods Classifications) considers the entire park area as shown in the maps you provided us as class A. If cost is a concern, we suggest treating only the playing field areas themselves as Class A wherever possible (GN Classifications Tab). In the GN Classifications Tab we considered playing areas as Class A and

areas around the playing surfaces as Class B. Many communities we work with consider the playing field portions of the parks as Class A and everything outside the playing fields as Class C. We can adjust however you like. The Spreadsheet is set up so that we can change the classification of each field area and it will calculate how that impacts the overall cost.

Please don't hesitate to reach out with questions. Also, a full report is forthcoming but wanted to get this to you sooner...

Bottom line: Materials costs for the proposed applications range from \$45k - \$84k for all the parks combined. We can adjust as needed to hit a target budget.

Thanks!

Alec

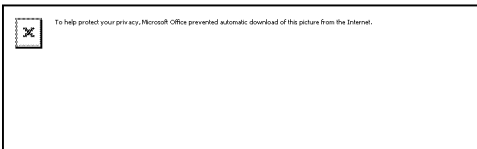
Alec McClennan

Good Nature Founder

Office: 216.641.9800

Cell: 216.570.5346

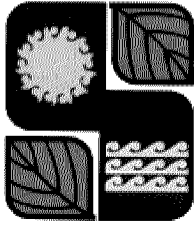
Email: alec@whygoodnature.com



[Refer a Friend](#) | [Why Organic](#) | [How Are We Doing?](#)

Fields	Full Organic Fertility	unw / 1000	Field Class		A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
			Cont / Acre	Acres	FREEMAN	FREEMAN	FREEMAN	BADGER	BADGER	BADGER	CATHART	CATHART	CATHART	MANOR	MANOR	MANOR	SOUTH SHORE	SOUTH SHORE	SOUTH SHORE
A,B,C	Early Spring	10	\$387.59		\$ 2,999.91	\$ 3,112.31	\$ 6,205.24	\$ -	\$ 437.97	\$ 453.47	\$ 290.09	\$ 893.74	\$ 313.94	\$ 949.59	\$ 012.20	\$ -	\$ -	\$ 750.67	\$ -
A	Late Spring	10	\$338.67		\$ 2,622.82	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 254.15	\$ -	\$ -	\$ 830.22	\$ -	\$ -	\$ -	\$ -	\$ -
A,B	Early Fall	10	\$338.67		\$ 2,622.82	\$ 2,721.09	\$ -	\$ -	\$ 382.92	\$ -	\$ -	\$ 204.15	\$ 606.57	\$ 936.41	\$ -	\$ -	\$ -	\$ 691.28	\$ -
A	Late Fall	15	\$319.07		\$ 2,469.82	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 238.30	\$ -	\$ -	\$ 781.73	\$ -	\$ -	\$ -	\$ -	\$ -
Pesticide Free Fertility																			
A	Early Spring	10	\$325.25		\$ 2,525.19	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 244.93	\$ -	\$ -	\$ 799.31	\$ -	\$ -	\$ -	\$ -	\$ -
A,B	Late Spring	10	\$348.25		\$ 2,625.19	\$ 2,616.79	\$ -	\$ -	\$ 589.86	\$ -	\$ 244.89	\$ 553.99	\$ -	\$ 799.31	\$ 516.48	\$ -	\$ -	\$ 685.55	\$ -
A,B,C	Early Fall	10	\$348.25		\$ 2,625.19	\$ 2,616.79	\$ -	\$ -	\$ 589.86	\$ -	\$ 244.89	\$ 553.99	\$ -	\$ 799.31	\$ 516.48	\$ -	\$ -	\$ 685.55	\$ -
A,B,C	Late Fall	6	\$261.08		\$ 2,625.14	\$ 2,606.83	\$ 4,171.631	\$ -	\$ 294.53	\$ 305.37	\$ 195.75	\$ 467.19	\$ 211.41	\$ 636.49	\$ 412.38	\$ -	\$ -	\$ 532.44	\$ -
Micro nutrient Treatments																			
A,B	Early Spring	20	\$174.00		\$ 1,348.76	\$ 1,397.22	\$ -	\$ -	\$ 166.82	\$ -	\$ 130.30	\$ 311.46	\$ -	\$ 426.30	\$ 274.92	\$ -	\$ -	\$ 354.96	\$ -
A,B	Mid Spring	15	\$130.50		\$ 1,010.07	\$ -	\$ -	\$ -	\$ 152.89	\$ -	\$ 97.88	\$ 105.71	\$ -	\$ 310.73	\$ -	\$ -	\$ -	\$ -	\$ -
A	Late Spring	10	\$97.00		\$ 672.39	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 65.25	\$ -	\$ -	\$ 213.15	\$ -	\$ -	\$ -	\$ -	\$ -
Cultural Practices																			
A	In Season				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
A,B,C	Late Season				\$ 5,650.35	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 489.38	\$ -	\$ -	\$ 1,598.63	\$ -	\$ -	\$ -	\$ -	\$ -
A	Overseeding (B)	5	\$652.50		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Pesticide Free = Micro nutrient Treatments + Cultural Practices per Class																			
Pesticide Free Total																			
Full Organic Total																			
GRAND TOTAL Pesticide Free Total																			
GRAND TOTAL Full Organic Total																			
																	\$ 42,742.23		
																	\$ 48,943.17		

Option 2



CITY OF SHOREWOOD

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952-960-7900 • www.ci.shorewood.mn.us • cityhall@ci.shorewood.mn.us

To: Park Commission

From: Twila Grout, Park & Rec Director

Memo Date: August 16, 2022

Re: Determine Liaison to City Council Meetings

Listed below is a schedule for the Park Commissioners to determine who will be the liaison to the City Council meetings.

Park Commission Meeting	Report at City Council Meeting	Liaison
August 16, 2022	August 22, 2022	
September 13, 2022	September 26, 2022	Hirner
October 25and November 22, 2022	November 28, 2022	