



**Conservation Committee
Agenda
Thursday, June 7, 2018
7:00 P.M.
Village Hall**

1. Call to order
2. Approve May 3, 2018 Meeting Minutes
3. Staff Liaison Update
 - a. Introduce new members
 - b. Citizen committee orientation
 - c. Clean Wisconsin inquiries
4. Guest Speaker: Gordie Bennett, Milwaukee County Sustainability Director
5. Discuss Citizen Concerns
6. Report on SHS Student Representative Recruitment
7. Discuss and Consider Recommendation on Environmental Impacts related to proposed Snow Dumping Options
8. 2018 Film Festival Postmortem
9. Report on Garlic Mustard Weed Out
10. Report from DPW Committee Liaison
11. Recruit Volunteers for June 16 DPW/Shorewood Waters "Shorewood Splash" Event
12. Discuss Planning Efforts for Fish and Feather Festival / Conservation Fair for over the Summer Months
13. Upcoming Events, Member Topics & Suggestions
14. Adjournment

DATED at Shorewood, Wisconsin this 31st day of May, 2018.

VILLAGE OF SHOREWOOD
Sara Bruckman
Village Clerk

Should you have any questions or comments regarding any items on this agenda, please contact the Manager's Office at 847-2705.

It is possible that members of and possibly a quorum of members of other governmental bodies of the municipality may be in attendance at the above stated meeting to gather information; no action will be taken by any governmental body at the above stated meeting other than the governmental body specifically referred to above in this notice.

Upon reasonable notice, efforts will be made to accommodate the needs of disabled individuals.



Conservation Committee

Minutes

May 3, 2018 7:00 P.M.

Village Hall Committee Room

3930 N. Murray Avenue, Shorewood, WI 53211

1. Call to order

The meeting was called to order at 7:01 p.m.

Members present: Chair Joshua Liberatore, Donna Pollock, Chase Kelm, Carolyn Morse, Elisabeth Witt, Roland Schroeder, Linda Frank, Henry Tomasiewicz (arrived 7:05 p.m.), and Caroline Kuebler

Others Present: Trustee Davida Amenta, Assistant Village Manager Tyler Burkart

Not present: Meenal Atre, Sue Murphy Yerkes

2. Approve April 5, 2018 Meeting Minutes

Mr. Kelm moved to approve the April 5, 2018 minutes. The motion was seconded by Ms. Pollock. Vote 8-0 to approve the minutes.

3. Guest Speaker Clean Wisconsin: Water Quality and Green Infrastructure Opportunities in Shorewood

Ezra Meyer and Pam Ritger from Clean Wisconsin presented to the Conservation Committee to discuss water quality and green infrastructure opportunities for the Shorewood community. Recommendations presented include code revisions that promote green infrastructure, permeable surfaces in alleys and walkways, native plants and trees in landscaping, reduction in parking lot space and reduce pollutant sources. Clean Wisconsin shared some of their educational opportunities and workshops. Clean Wisconsin reviewed Shorewood's Village Code with specific recommendations, which has been provided to Village staff. Mr. Burkart will reach out to DPW Director Leeann Butschlick to look into permeable surfaces and financing assistance for future alley reconstructions. Mr. Burkart will report back to the Committee about staff reactions to code revisions and permeable surfaces for alleys.

4. Discuss Citizen Concerns

No citizen concerns addressed to the Committee.

5. Discuss and Consider Conservation Committee Annual Report to Village Board

Mr. Liberatore led a discussion with the Conservation Committee for a final review of the annual report. The Committee reviewed the initiatives they completed in 2017 and proposed initiatives for the upcoming year. There was discussion about having public, alley or block locations for the organics collection program. While the initiative with We Energies and solar is something the Committee wants to continue working on, it is still in the early exploration phase and isn't ready yet to add to the list. However, the Committee mentioned it could be a potential initiative for next year. The Committee discussed the scope of the project for just incorporating Village buildings for energy efficiency and renewable energy options, extending the invite the school district to be part of that initiative. There was added discussion and clarification about the metrics and how the

Committee will use the data. It was determined to add village-wide water usage as a metric to report back to the Committee. A subcommittee will work on being more specific on the particular units for the metrics. After the Committee spends some time assessing the results, they would like staff to take the first attempt at making goals, which may require some outside help from experts or consultants to make targets that are aggressive but feasible. Mr. Burkart will make the final edits discussed and submit the report to the Village Manager on behalf of the Committee.

6. Discuss Environmental Impacts related to proposed Snow Dumping Options

The Committee reviewed staff's proposed options on where to dump snow that previously had been put on Wilson Drive. Mr. Liberatore informed the Committee to focus on the environmental impacts related to each option. The Committee discussed the benefits of placing snow on a permeable surface rather than on a paved surface or a parking lot. There were questions about combined versus separated systems and where melted snow would go once it entered the system. There was added discussion about the road improvements and bioinfiltration swales being constructed on Wilson Drive will not allow for as much snow to be dumped there. The Committee determined to take more time at the June meeting to discuss and between meetings to reach out to more experts to gather more information.

7. Discuss Garlic Mustard Weed Out on May 12

Mr. Schroeder announced the Garlic Mustard Weed Out will be taking place the morning of Saturday, May 12. Anyone who is able to help is encouraged to attend.

8. 2018 Film Festival Postmortem

This discussion was tabled to the June meeting.

9. Report from DPW Liaison / Green Infrastructure Grant Program

This report was tabled to the June meeting.

10. Upcoming Events, Member Topics & Suggestions

No updates given.

11. Adjournment

Mr. Tomasiewicz moved to adjourn, seconded by Ms. Kuebler. Vote 9-0 to adjourn. The meeting was adjourned at 8:46 p.m.

Respectfully submitted by,

Tyler Burkart
Assistant Village Manager

To: Village Trustees and Relevant Staff
From: Conservation Committee
Re: Toxicity of Snowmelt and the Current Dumping Practice

Currently, there are three main environmental issues associated with snow removal as it is practiced, with snow removed from the Business District being placed along the west side of Wilson Drive:

1. The snow has high levels of salt making it toxic;
2. The impact of the snowmelt on the Milwaukee River and incoming green infrastructure along Wilson Drive; and
3. The impact of emissions/fuel consumption associated with hauling or melting snow.

We have evaluated the three most realistic options that have been presented by the Village Staff and Engineer.

Option #1 to Stop Removing Snow from the Business District

1. **High Salt Levels:** No change.
2. **Impact on Waterways:** Removes the impact on Wilson Drive.
3. **Emissions:** Lots of different vendors potentially coming in, emissions still a concern.

Advantages: Staff time needed for snow removal could be diverted to other high-priority projects. No longer impacts Wilson Drive.

Disadvantages: Possible reduced walkability/safety issues if businesses do not comply. Does not minimize the salt toxicity. Removes any opportunity for the Village to address the application of excessive salt.

This approach puts the responsibility on business/property owners to remove excess snow from their sidewalks and public right-of-ways. Eliminates the burden currently shouldered by Wilson Drive. The saved money and staff time could be profitably put to use on other stormwater improvements, such as a long-term bioswale or snow retention area with properly designed filtration media. However, it also removes any leverage that the Village has to reduce the impact of salt toxicity.

Comparable communities of Whitefish Bay, Wauwatosa, and Glendale all evidently require their respective business districts and property owners to remove their own snow. So reverting to this historical (and area) precedent would convey fairness to residential property owners, who are also required to manage their own snow.

Option #2 to Continue Dumping Snow on Wilson Drive

1. **High Salt Levels:** No change.
2. **Impact on Waterways:** No change.
3. **Emissions:** No change.

Advantages: Associated runoff is in separated sewer area, and most melt will infiltrate through very hardy buckthorn and scrub trees. Bermed area between bike path will aid retention.

Disadvantages: May harm enhanced landscaping without proper planning (dedicated snow area). Resident perception of dirty snow on prominent arterial.

Wilson Drive is perceived as being a “no-man’s land” not immediately adjacent to any residential or commercial properties. Although the aesthetic and environmental problems associated with current snow dumping practice are not new, the redesign and beautification of Wilson Drive and significant expenditures associated with suggested improvements (landscaping features, bioswales, public art fixtures, and park design elements) have elevated concerns about the status quo. The fact remains, however, that Wilson Drive still presents a large and uninterrupted pervious surface for snow removal and infiltration of snowmelt.

Some of the current landscape on Wilson Drive is most likely going to be removed and replaced with new plantings. Dumping snow on these new plantings, especially on more designed landscape elements, will not be favorable for creating healthy and established habitats long term. It is highly recommended that any snow dumping that continues be done away from improved areas and, ideally, in a specially designed area with a planned filtration medium.

Option #3 to Share the Snow Dumping in Two Locations (Wilson Dr./Menlo Blvd.)

1. **High Salt Levels:** No change.
2. **Impact on Waterways:** Some change since snowmelt from Menlo would be treated in the sewer treatment process.
3. **Emissions:** No change.

Advantages: Reduce the load of salt, heavy metals, other contaminants in one place.

Disadvantages: Menlo is in combined sewer area, so potential for MMSD not to support this plan as it increases the burden on treatment infrastructure and may also increase risk of backups. Close to residential properties and could cause unsightly contaminants

on turfed median. Possible visibility concerns across median since residential properties on both sides.

Sharing the burden of snow removed from public areas in the Village among multiple locations would help minimize the concentration of potential harm and unsightliness in any one area.

Considerations

Any mounded snow and resulting melt should go through some sort of infiltration basin (as in bioswales), but it can't directly go into the infiltration area because of all the grit and solids in removed snow; sand and solids would clog most natural infiltration systems.

A common method is to place snow removal on a permeable, but cleanable, surface (gravel parking lot or grassy area) where the melt will run down toward a infiltration system. The immediate area would see a lot of salt and chemical pollution, but depending on the soil type and the drainage/infiltration basin, that damage could be limited and could be contained to not affect groundwater or local river systems. A lot depends on the soil underneath where the snow is placed. Soils in any areas under consideration should be analyzed by experts.

Berms are also suggested as good practice, which fits in well with the Wilson Drive location (where the entire bike path acts as a berm), as well as seasonal ponds as a method of treatment. That's effectively what Shorewood is already doing (blocking the melt with the bike path berm and creating a flooded area in the wooded ditch), but it's more accidental than an engineered solution. It would be a shame for Shorewood to be stuck with a huge environmental cleanup bill due to lead and salt pollution.

What seems more attractive long term, given our space constraints, is to dump the snow on areas where we can direct the flow of melt and make sure the melt goes into a treated water system or through a natural infiltration system. Artificial sub-grade infiltration systems are also recommended for areas with space constraints. One crucial factor is to keep snowmelt and snow storage away from areas where children will play, due to lead contamination and sharp debris such as metal and glass.

Other Issues

One unresolved issue is that the snow that is dumped on Wilson Drive is primarily from the central business district, but also comes from some of the public parking lots (library/village hall) intersections and crosswalks, depending on the amount of the

snowfall. Even if the Village stops removing business district snow (which seems like the most expedient immediate solution at present), the Village will still have to evaluate best practices for dealing with snow removed from other areas. The Committee recommends suggestions incorporated into options #2 and #3 for this excess snow. Please note that snow from parking lots and streets in this category, in addition to high levels of salt, will also have heavy metals, street trash, and other contaminants.

Opportunity

If the Village did decide to continue to remove the snow from the business district, it could leverage this courtesy service as an opportunity to require businesses and property owners to develop salt management plans with the goal of reducing the toxicity of snowmelt. A pilot project could be implemented to educate business on the impact of their salt application and help them to develop salt management plans that would maintain the safety of our community for pedestrians while also ensure the protection of our waterways. This type of innovative project would continue to show the Village of Shorewood's commitment to sustainability and being good stewards of our community's natural resources.

1. **High Salt Levels:** Reduction in salt.
2. **Impact on Waterways:** Reduction in impact on waterways.
3. **Emissions:** No change

The Conservation Committee is committed to working with Village Trustees and staff to investigate these options. With the time and money spent on redesigning and improving Wilson Drive and the opportunity it presents the Village in terms of green infrastructure and stormwater management enhancements, the time is ripe to tackle the issue of the toxicity of the snowmelt and make sure Shorewood is handling it appropriately, consistent with the prevailing scientific and engineering consensus.

Respectfully,
Josh Liberatore, Chairman
Shorewood Conservation Committee



VILLAGE OF SHOREWOOD

REPORTS AND PRESENTATIONS TO CONSERVATION COMMITTEE

Agenda Item: Discuss Environmental Impact of Snow Dumping Options

Date: May 3, 2018

Presenter: Tyler Burkart, Assistant Village Manager **Department:** Village Manager's Office

Overview – Please provide a summary of the agenda item along with bullet points highlighting the main items and key issues.

Currently the Village has been removing snow from the business district to assure individuals can easily access the businesses from sidewalks and parked vehicles. The Village determines if snow needs to be removed from the business district based on factors such as the depth of snow, time of year, daily temperatures, and weather forecasts. Snow removal from the business district is an extensive operation and typically takes approximately 40 hours during normal working hours. Activities may also be scheduled during the night hours between 10 p.m. and 6:30 a.m. The last several years the Village averaged approximately 2 to 3 snow removal events per year despite snow amounts being slightly less than average annual amounts. The snow is dumped on the western side of Wilson Drive.

The Village is beginning reconstruction on Wilson Drive. There will be less available space for snow dumping activities along the western side of Wilson Drive due to new lane configurations and design elements. In addition, a number of residents have questioned the environmental impacts of dumping snow along Wilson Drive.

Therefore, Village staff has put together the attached analysis to begin assessing options for future snow dumping activities. The analysis uses the following assumptions:

- One snow removal operation is completed in 40 hours.
- An estimation of 1,500 tons of snow is hauled during one snow removal operation.
- Annual costs computed based on a total of 4 snow removal operations per year.
- Labor costs are figured using \$30 per hour labor rate.

Based on the assumptions used, an average cost for snow removal and dumping operations is \$26,000. Village staff outlines additional options and costs in an attached spreadsheet. The spreadsheet identifies other operational impacts for each option. A memorandum from Village Engineer Mustafa Emir is also attached outlining the stormwater management impacts of each proposed option.

The Conservation Committee is being asked to review the options and assess only the environmental impacts for each option. In the upcoming months, the Village Board will review the information provided by staff, the Village Engineer, and the Conservation Committee to make a policy decision on how to proceed with snow removal and dumping activities.

Vision 2025 Plan – If this item is addressed in the [Vision 2025 Plan](#), please include in what ways. If not applicable, N/A should be entered in this space.

While there isn't anything in Vision 2025 specifically addressing this issue, there are several initiatives promoting sustainable and environmentally beneficial practices in regards to stormwater.

Sustainability – If this item is addressed in the [Sustainability Action Plan](#) or has long-term sustainability impacts, please include and describe how it will impact the natural environment. If not applicable, N/A should be entered in this space.

As stated above, there are several statements in the Sustainability Action Plan encouraging for sustainable and environmentally beneficial practices in regards to stormwater.

Action Required / Recommended – Please include the recommended motion or required action for this agenda item.

The Conservation Committee should agree on a statement for each option that identifies the environmental impact if that option were to be implemented.

Fiscal Note / Budget Impact – Please include the budget impact for this agenda item.

There is not a budget impact the Conservation Committee should consider when assessing the environmental impacts.

Attachments – Please list the following attachments and supporting documents for this agenda item.

1. Snow Dumping Analysis of Options by Village Staff
2. Snow Dumping Analysis Memo from Village Engineer Mustafa Emir

VILLAGE OF SHOREWOOD EVALUATION OF SNOW DUMPING OPTIONS

#	OPTION FOR CONSIDERATION	CAPITAL COST	ANNUAL COST	STAFF COMMENTS
1	Leave snow in business district	None	\$0.00	Several of the businesses in the Village already contract with private vendors (i.e. Metro Market). Change would need further discussion with BID.
2	Continue dumping snow on Wilson Drive (Current Process)	None	\$26,000	New street configuration will limit available spaces to dump snow. Village received comments from residents not wanting snow located here.
3	Dump snow in River Park parking lot	None	No Significant Change in Current Operating Cost	Loss of Parking, Potential Safety Risk
4	Transport snow to offsite location (potential sites listed below):			
	<i>City of Milwaukee Empty Lot @ 3300 blk N. 27th St. (while available until sold)</i>	None	W/VILLAGE OWNED TRUCKS \$43,000	Larger expenditure of fuel consumed Site is tempoary in nature as its for sale DPW manhours will increase (shown in cost estimate) Cost of Dumping Fees
	<i>City of Milwaukee Empty Lot @ 3300 blk N. 27th St. (while available until sold)</i>	None	W/CONTRACTED HAUL TRUCKS \$75,000	Availabilty to obtain rental trucks when needed
	<i>Milwaukee County Parks Estabrook Park</i>	None		Milwaukee County Parks not interested in allowing Shorewood to store snow anywhere in Estabrook Park
	<i>Village of Whitefish Bay</i>	None		Village of Whitefish Bay not interested in storing snow for the Village of Shorewood.
5	Purchase and Utilize Snow Melting Equipment (Assuming Unit @ Point of Melting - No Trucking)	18 Tns per Hour Unit - \$175,000	\$90,000	Off-Season Equipment Storage Concerns Potential minimal annual use for cost Does not reduce DPW hauling cost Needs to be set up in a space to allow for proper loading (i.e. River Park parking lot)
		30 Tns per Hour Unit- \$230,000	\$105,000	
6	Rent Snow Melting Equipment	Trecan Equipment 60-PD Total Purchase Price is \$350,000	\$35,000 per month with a 4 month minimum plus shipping costs. \$140,000 minimum rental option.	

7	Contract Snow Melting Services	None	\$98,000	Poblocki Paving Corp. contracts Snow Melting Service @ a rate of \$680.00 per hour. A snow dump area will still be required to set up snowmelting machine and have enough room to load. DPW would clear and haul snow to a staging area to be loaded into snow melter.
8	Dump snow in 2+ locations throughout the Village (River Park, Menlo Blvd., Wilson Drive)	None	\$26,000	Multiple locations will require additional spring restorations activities such as litter collection, repairing lawnscape, etc. DPW will need to create an internal procedure of how snow will be divided up or an order of which locations receive snow first.
<p>ASSUMPTIONS FOR COMPARISON PURPOSES</p> <ul style="list-style-type: none"> * CURRENT (TYPICAL) SNOW REMOVAL OPERATION IS COMPLETED IN 40 HOURS * ESTIMATED THAT 1500 TONS OF SNOW HAULED IN ONE REMOVAL OPERATION * ANNUAL COST ARE FIGURED USING 4 SNOW REMOVAL OPERATIONS PER YEAR * LABOR COST ARE FIGURED USING \$30.00 PER HOUR LABOR RATE 				



April 24, 2018

Mr. Tyler Burkart
Assistant Village Manager
Village of Shorewood
3930 North Murray Avenue
Shorewood WI 53211

Re: Shorewood Snow Management

Dear Tyler,

I have been informed of your request to provide my opinion regarding the stormwater management impacts of various snow management options. Furthermore, I was instructed not to provide a recommendation on the subject.

The snow management options I considered are as follows:

- 1- **Leave Snow in Business District:** The stormwater impacts of this option is no different than anywhere else in the Village as snow that falls on the ground is generally shoveled nearby and melts throughout the season. Leaving it in place is a stormwater neutral. Snow melt-off drains through our infrastructure and accumulated pollution stays in place to be cleaned up in spring.
- 2- **Continue Dumping Snow on Wilson Drive:** Dumping snow in the current location on the west side of Wilson Drive allows melt-off to be absorbed in the ground and no observable runoff occurs. This is a good thing. Debris stays on the grass and can be easily managed by landscaping. The ground also absorbs chemicals that may be present in the snow.
- 3- **Dumping on Menlo Boulevard:** Dumping snow in the boulevard at Menlo has the same advantages as Wilson Drive, except of course this is in the middle of the roadway. The melt-off would be absorbed into the ground and the excess would be collected in the streets, where combined sewer inlets are present. The debris at the end of winter would be collected and the boulevard would most likely be landscaped every year. In years like 2018, snow would probably be there until sometime in May or later, depending on total snow precipitation.
- 4- **Dumping Snow on River Park Parking Lot:** Dumping snow on an impervious surface means melt-off needs to be managed and conveyed to a nearby drainage system. The flow at this location would go to the River and create an added pollution source to the River. This would not be good.
- 5- **Hauling Snow outside of Shorewood:** Hauling snow out of the Village does not affect stormwater management.
- 6- **Snow Melting:** As long as the melted snow is managed into the conveyance system, there shouldn't be a negative impact. Introduction of any new sediment or chemicals to the Milwaukee River is not a good thing. This can be avoided by choosing the right spot for melting. Melting within the combined area means the melt off is treated at the MMSD plant, so any chemicals in the snow are presumably removed before discharge into Lake Michigan. I would assume that melting would occur during the winter, so heavy rain events that overload the combined or storm sewers would not be a factor. In any case it would be a bad idea to melt snow if heavy rainfall is expected.



Mr. Tyler Burkart
April 24, 2018
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Please feel free to contact me for additional discussion or any clarification that may be required. This letter represent our engineering opinion and engineering judgment regarding snow handling in the Village.

Sincerely,

Clark Dietz, Inc.

Mustafa Emir, PhD, PE
Village Engineer