Public Works Committee

Alderman Bob Kordus Chairman

Alderman Chris Gelting
Alderman Rich Hedlund
Alderman Al Kupsik
Alderman Sarah Hill

Director of Public Works Daniel S. Winkler, P.E.
Assistant Director of Public Works Tom Earle

City of Lake Geneva 626 Geneva Street Lake Geneva, WI 53147-1914
www.cityoflakegeneva.com **Phone: (262) 248-3673**

Agenda

June 5, 2015

The regular meeting of the Public Facilities Committee will be held on Thursday, June 11, 2015 at City Hall, 626 Geneva Street, Lake Geneva, WI in the second floor meeting room at **5:00 P.M.**

(Please Note the Time of Meeting Change)

Meeting called to order by Chairman Bob Kordus.

Roll Call.

Minutes of the Prior Meeting.

Public Comments.
Comments from the public as allowed by Wis. Stats. §19.84(2), limited to "Agenda Items" below. Comments will to be limited to 3 minutes.

Communications.

1. Projects & Activities Update-DPW Winkler.

Agenda Items:

1. South Lakeshore Drive Shore Erosion Discussion Continued.
2. City Public Works Pick-ups on Private Streets-Discussion.
3. Winter Operations, Salt Versus Sand/Salt Application-Discussion.

Adjourn.

Approved by Bob Kordus
Chairman 06/05/15

Reviewed by Blaine Oborn
City Administrator
Date 06/05/15 dsw

Requests from persons with disabilities who need assistance to participate in this meeting or hearing should be made to the City of Lake Geneva at 262-248-3673 with as much advance notice as possible.

No official Council action will be taken, however a quorum of the Council may be present.

Posted June 5, 2015 4:00 PM

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June 11, 2015 Meeting Explanation

DATE: May 12, 2015

MEMORANDUM

TO: Chairman Bob Kordus & Members of the Public Works Committee

FROM: Daniel S. Winkler, P.E. _____
Director of Public Works & Utilities

SUBJECT: June 11, 2015 Public Works Committee Meeting Agenda

The Public Works Committee is scheduled to meet at **5:00 PM** at City Hall.

Members in attendance:
Chairman Bob Kordus _____
Alderman Ellyn Kehoe _____
Alderman Sarah Hill _____
Alderman Al Kupsik _____
Alderman Rich Hedlund_____

Staff Present:
City Administrator Dennis Jordan _____
Director Daniel Winkler (DPW) _____
Mayor Jim Connors: _____

Other: _____

Public in attendance:_____

Approval of the Minutes of the Prior (May) Meeting:
Motion to approve May's meeting by Ald. _____ and seconded by Ald. _____. The motion passed ____-0.

Public Comments:
None.

Communications.
1. Projects & Activities Update-DPW Winkler.

Agenda Items:
1. South Lakeshore Drive Shore Erosion Discussion Continued.
2. City Public Works Pick-ups on Private Streets-Discussion.
3. Winter Operations, Salt Versus Sand/Salt Application-Discussion.

Public Works Projects Update

Below please find an update on Public Works projects:

- ✓ 2014 Street Maintenance Program- Stark Asphalt wrapping up this week (Sage Street, Museum Parking Lot, Edwards Boulevard).
- ✓ Flat Iron Park Pavilion-Complete. Final Painting remains. Dedication Ceremony 6/20.
- ✓ Cobb Park Restroom Remodel- Complete.
- ✓ Fuel System Controls Replacement-Bid Awarded to AEC on 4/13. Work scheduled for this week.
- ✓ Dog Park Fencing-Complete.
- ✓ Veterans Park Infield Rehabilitation- Beilfuss complete.
- ✓ Street Department Exterior Doors Replacement-Doors complete this week.
- ✓ 2015 Spring Tree Planting-Planting complete.
- ✓ Cook Street Light-Complete.

1. South Lakeshore Drive Shore Erosion Discussion.

To review the direction given staff, PFC asked for an idea of cost for contractor versus City forces broken out by labor and material. The DPW has met with two contractors regarding repairs to the shoreline.

We thought the best way to approach the matter was to obtain a price from contractors broken down into labor and material. Staff also thought we could pursue field stone boulders direct delivered to the lakefront. The larger field stones would be in the 24" diameter size +/- at the waterline, and 18" +/- in the slope up to the road. The scope of work has been revisited numerous times and for the purposes of this discussion is to fill in where voids exist (supplement what is there) and to lay a line of larger stones at the waterline and add 2 to 3 rows of smaller boulders in the slope up to the road where there no erosion protection. Pricing will be provided at the meeting as we are still awaiting information from our contractors. The work is extensive and would require a crew working for about two weeks or about 240 man-hours plus equipment. Our problem is that a 3 or 4 man crew won't be available until after Labor Day to do this work.

Procedurally, the State park owns the underlying land and the City within our limits, and the Town within their limits has transportation authority or easement over these lands fronting the State Park. As such, the City/Town and DNR State Park must jointly apply for a rip-rap permit from the water section of the DNR to perform shoreline work. The DPW would work with the Town and DNR on the permit.

Funding and the timing of it is an issue of concern. As we discussed last meeting, time is of the essence. An undesirable result of waiting to perform repairs may be temporary closure of the road if the problem worsens. Large and medium sized boulders are very expensive, but are preferred by the DNR. And we don't know if limestone rip-rap would be approved by the DNR water permit section.

The DNR is in the process of evaluating its master plan for the park which may or may not include replacement of the road along the shoreline. So we are all clear, any monies we spend may eventually be lost depending upon what their final plan looks like. My original projection of $100,000 to $150,000 or even higher isn't beyond possibility depending upon the scope of work, as discussed last meeting.

To summarize, the process would be:

1. Approval of project scope including stone type and project limits.
2. Develop the DNR permit for approval including who the parties to the permit would be.
3. Secure funding.
4. Obtain formal repair bids.
5. Oversee the repairs.
6. All parties recognize that if the road is relocated in the future, that a good part of this investment would be lost.

Direction is requested.

Motion to _____
by _____, Second by _____. Passed _____.

2. City Public Works Pick-ups on Private Streets-Discussion.

A request was made recently by the owners of Somerset to have the City provide leaf and brush collection on their private drives. This memorandum discusses the substandard nature of these private streets, the Assistant DPW pointing out the turnaround areas on most of the private drives are inadequate for the collection equipment, and prior action taken by the Public Works Committee requiring street upgrades and dedication prior to the City performing the various maintenance services.

Attached herein is a map of the private drives around the City as well as a list of what upgrade improvements and dedications the private homeowner associations need to perform in order to receive curbside services typically provided along our other public streets. The matter was debated in 2011 and 2012 and acted upon by the PWC and I believe Council. ***It is essential to recognize that if the City makes an exception to this position for one private association, it would have to perform routine maintenance on all private drives.***

The DPW doesn't often provide a strong recommendation, but in this case the recommendation is that we follow our current policy on private drives, that being they upgrade their roadway to a minimum standard per the attached information, dedicate the right of way, and we will provide curbside services. Turnarounds would also need to be installed or upgraded to allow fire apparatus, plow trucks and leaf and brush collection equipment to be able to negotiate dead-ends.

Direction is requested.

Motion to _____
by _____, Second by _____. Passed _____.

3. Winter Operations, Salt Versus Sand/Salt Application-Discussion

As a continuation of the salt versus sand/salt application discussion, PWC gave staff approval to continue to experiment with the effectiveness of varying amounts of sand, salt and sand/salt mixtures. Assistant DPW Earle and Foreman Waswo provided a report earlier in the year which described the advantages, disadvantages, and costs involved with continuing sand/salt at an 80/20 blend. The drivers in this discussion are the ability to apply material to the road which is most effective for conditions, and the salt application rate is the same whether or not sand is placed down in a blend resulting in no net environmental impact change. In fact if anything, the impact of not placing sand on the road is less harmful to the lake, lawns, and overall environment than placing salt/sand mixture down only because the City Ordinance says we shall do it.

Last winter staff continued to experiment with application of straight salt not only on the City's hills and intersections, but on several plow runs. There was less wear and tear on plowing equipment as sand is abrasive, less time spent actually applying the material to the road as a truckload only goes so far before returning for another load, the roadways are cleaner, storm catch basins don't fill with sand to be removed later in the spring/summer, less street sweeping/loading of sand into trucks/disposal cost at the landfill, and less maintenance cost such as fuel, oil changes, etc. Some of the cost savings appear in the material attached.

Direction is requested.

Motion to _____
by _____, Second by _____. Passed _____.

Motion to Adjourn:
Motion to adjourn by_____, seconded by _____. Passed _____.

Cc: Mayor Jim Connors/Dennis Jordan/Sabrina Waswo/Common Council Members not on Committee/File

MINUTES OF THE PRIOR MEETING

Public Works Committee

Alderman Bob Kordus Chairman
Alderman Chris Gelting Alderman Al Kupsik
Alderman Ken Howell Alderman Sarah Hill

Director of Public Works Daniel S. Winkler, P.E.
Assistant Director of Public Works Tom Earle

City of Lake Geneva 626 Geneva Street Lake Geneva, WI 53147-1914
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May 14, 2015 Meeting Minutes

DATE: May 15, 2015

MEMORANDUM

TO: Chairman Bob Kordus & Members of the Public Works Committee

FROM: Daniel S. Winkler, P.E. _____
Director of Public Works & Utilities

SUBJECT: May 14, 2015 Public Works Committee Meeting Minutes

The Public Works Committee is scheduled to meet at **5:04 PM** at City Hall.

Members in attendance:		**Staff Present:**	
Chairman Bob Kordus	___X___	City Administrator Dennis Jordan	_____
Alderman Chris Gelting	___X___	Director Daniel Winkler (DPW)	___X___
Alderman Sarah Hill	___X___	Mayor Jim Connors:	_____
Alderman Al Kupsik	___X___		
Alderman Ken Howell	___X___		

Other: _____Alderman Rich Hedlund_____

Public in attendance: Erin Thornburgh of the BID, Ms. Mary Jo Fesenmaier and Mr. Dick Malmin of W1991 South Lakeshore Drive.

Approval of the Minutes of the Prior (April) Meeting:
Motion to approve April's meeting by Ald. Hill and a second by Ald. Kupsik. The motion passed 5-0.

Public Comments:
Ms. Fesenmaier was opposed to consideration of an ice skating rink in Flat Iron Park and spoke in favor of routing South Lakeshore Drive to Wells Street. Mr. Malmin said he was a member of CARE and that they could potentially provide financial assistance to beach creation and breakwaters on the lakefront.

Communications:
DPW Winkler discussed the various projects in the report and answered questions.

Agenda Items:

1. South Lakeshore Drive Shore Erosion Discussion.
2. Possible Ice Rink in Flat Iron Park.

1. **South Lakeshore Drive Shore Erosion Discussion.**

Chair Kordus discussed the report and noted that an additional option was for the City to relinquish it right of way along Big Foot State Park. There was considerable discussion regarding costs and options. DPW Winkler provided some rough cost information and said that based upon the $90/ton cost for boulders he received, that it would cost roughly $20/lineal foot for 2 layers of large boulders and $20/lineal foot for 3 or 4 layers of smaller boulders delivered to the site. He stated that the Street Department could provide the labor. The PWC wished to see two scenarios: emergency repair areas only and lining the entire length of shoreline to the south boundary of the lagoon extended west per the plan in the packet. They also wished at the next PFC meeting to see an estimate of Street Department labor versus having a contractor perform the work. It was also discussed that the City and DNR State Park would need to make application jointly for a shoreline project.

It was moved by Ald. Kupsik and seconded by Ald. Hill to have staff re-price the cost of full and partial solutions including operations staff versus contractor installed, and to proceed with pursuing a permit to do the work. During discussion, it was noted that funding isn't allocated for the repairs and that any allocation would need to come from the City's contingency fund. The motion passed 5-0.

2. **Possible Ice Rink in Flat Iron Park.**

There was discussion of the proposed location per the map and that the first year the area graded in the fall would need to be fine graded, seeded and mulched in the spring of 2016. Ald. Hill was opposed to the location. Ms. Thornburgh said the BID will fund the rink surround and membrane and the grading and seeding work in Flat Iron Park, but probably not anyplace else. The PWC asked her if her board would consider any other locations as there is so much going on in that park already. She said she would ask them.

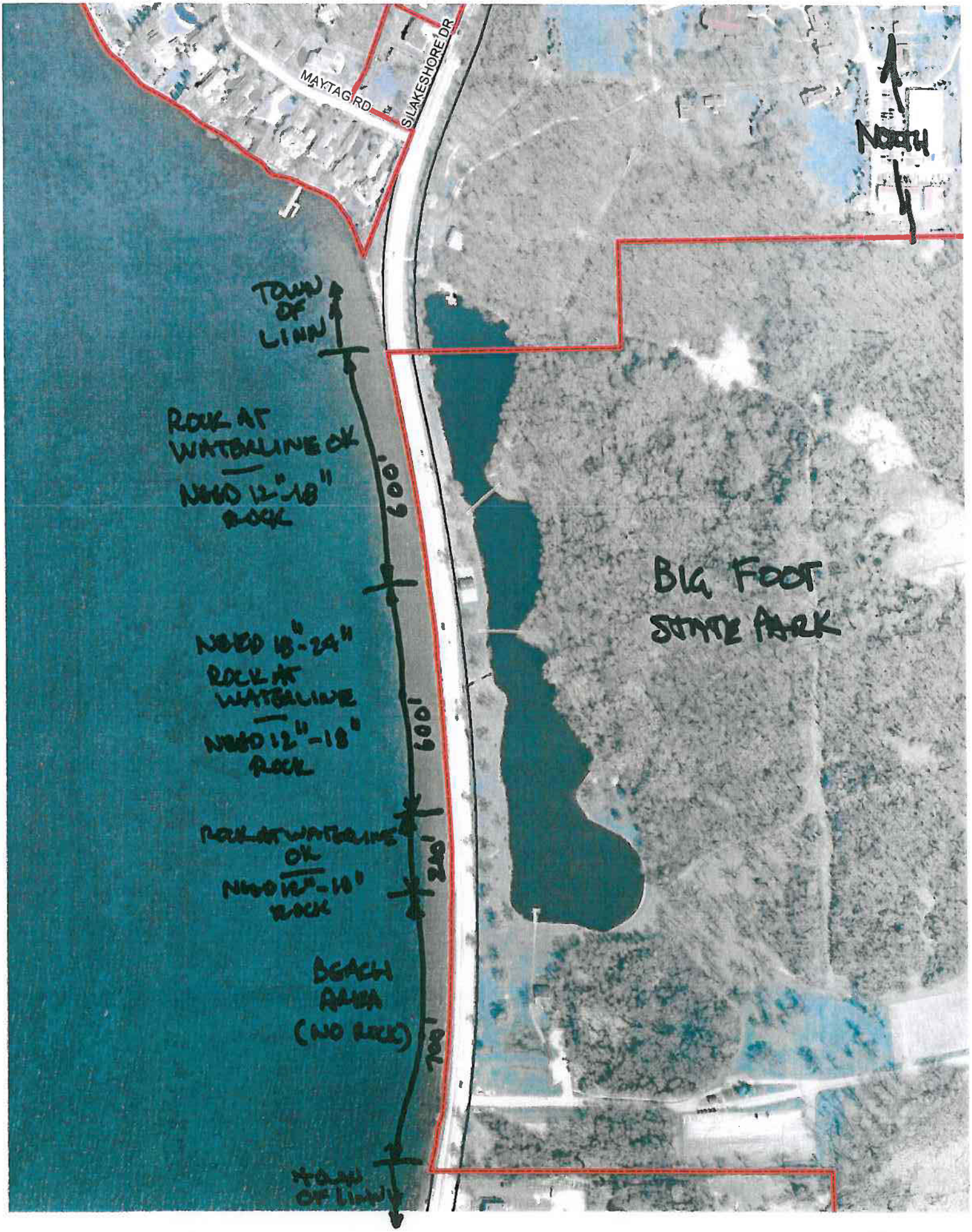
It was moved by Ald. Hill and seconded by Ald. Kupsik to send this matter back to Park Commission for consideration of a different site for the ice rink that may be acceptable or not with the BID. The motion passed 5-0.

Motion to Adjourn:

Motion to adjourn by Ald. Hill and seconded by Ald. Gelting. It was discussed that going forward the PWC could meet at 5 PM. The motion to adjourn passed 5-0 and the meeting was adjourned at 5:56 PM.

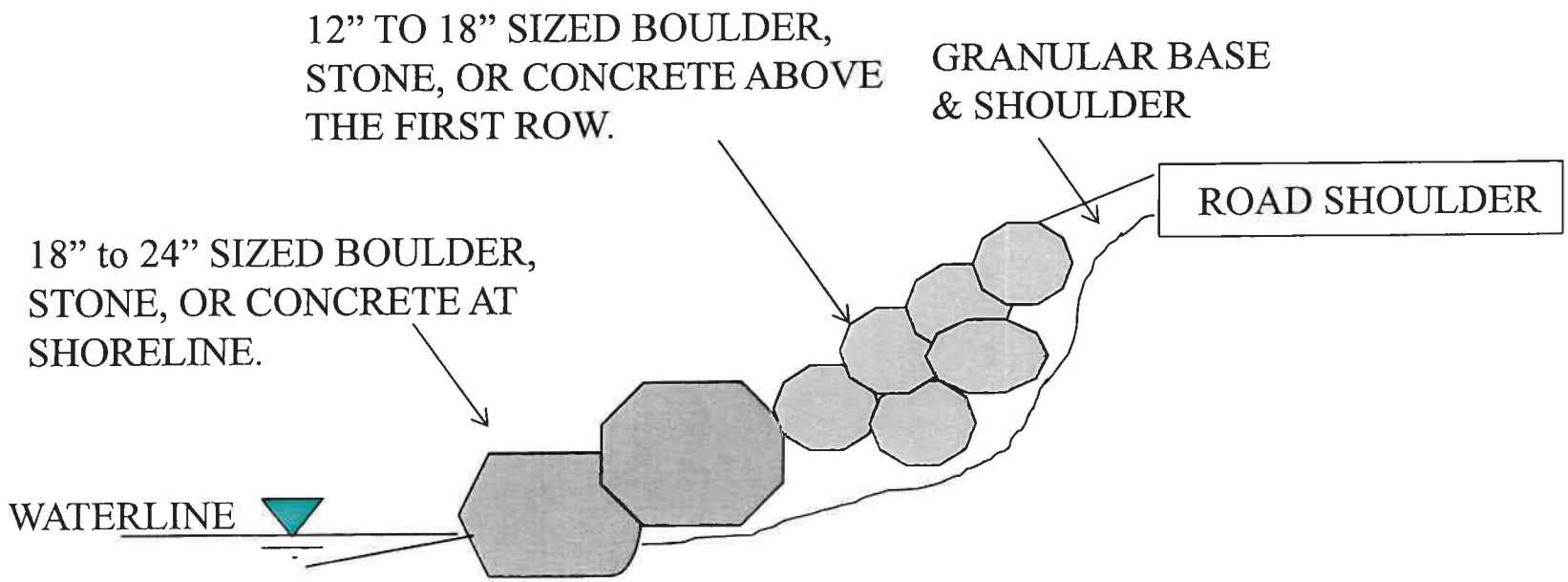
Cc: Mayor Jim Connors/Dennis Jordan/Sabrina Waswo/Common Council Members not on Committee/File

AGENDA ITEM NO. 1



SOUTH LAKESHORE DRIVE - SHORELINE

DJW
08/12/15



LAKESHORE DRIVE
PROPOSED CROSS SECTION
BIG FOOT STATE PARK

SCALE: NONE	CITY OF LAKE GENEVA DEPT. OF PUBLIC WORKS LAKE GENEVA, WI	DATE: 05/12/15

CITY OF LAKE GENEVA

SOUTH LAKESHORE DRIVE SHORELINE EROSION

LARGE BOULDERS ARE ABSORBING MOST THE THE ENERGY OF THE WAVES

CITY OF LAKE GENEVA
SOUTH LAKESHORE DRIVE SHORELINE EROSION

GUARDRAIL ON NORTH END

GUARDRAIL HAS SUNKEN

CITY OF LAKE GENEVA

SOUTH LAKESHORE DRIVE SHORELINE EROSION

EROSION UNDERMINING SHOULDER

CITY OF LAKE GENEVA

SOUTH LAKESHORE DRIVE SHORELINE EROSION

BROKEN CONCRETE, UNDERSIZED BOULDERS, AND LARGE BOULDERS

CITY OF LAKE GENEVA
SOUTH LAKESHORE DRIVE SHORELINE EROSION

SMALLER ROCK DOES NOTHING
TO STOP EROSION

EROSION IS RIGHT UP
TO ROADWAY SHOULDER

CITY OF LAKE GENEVA

SOUTH LAKESHORE DRIVE SHORELINE EROSION

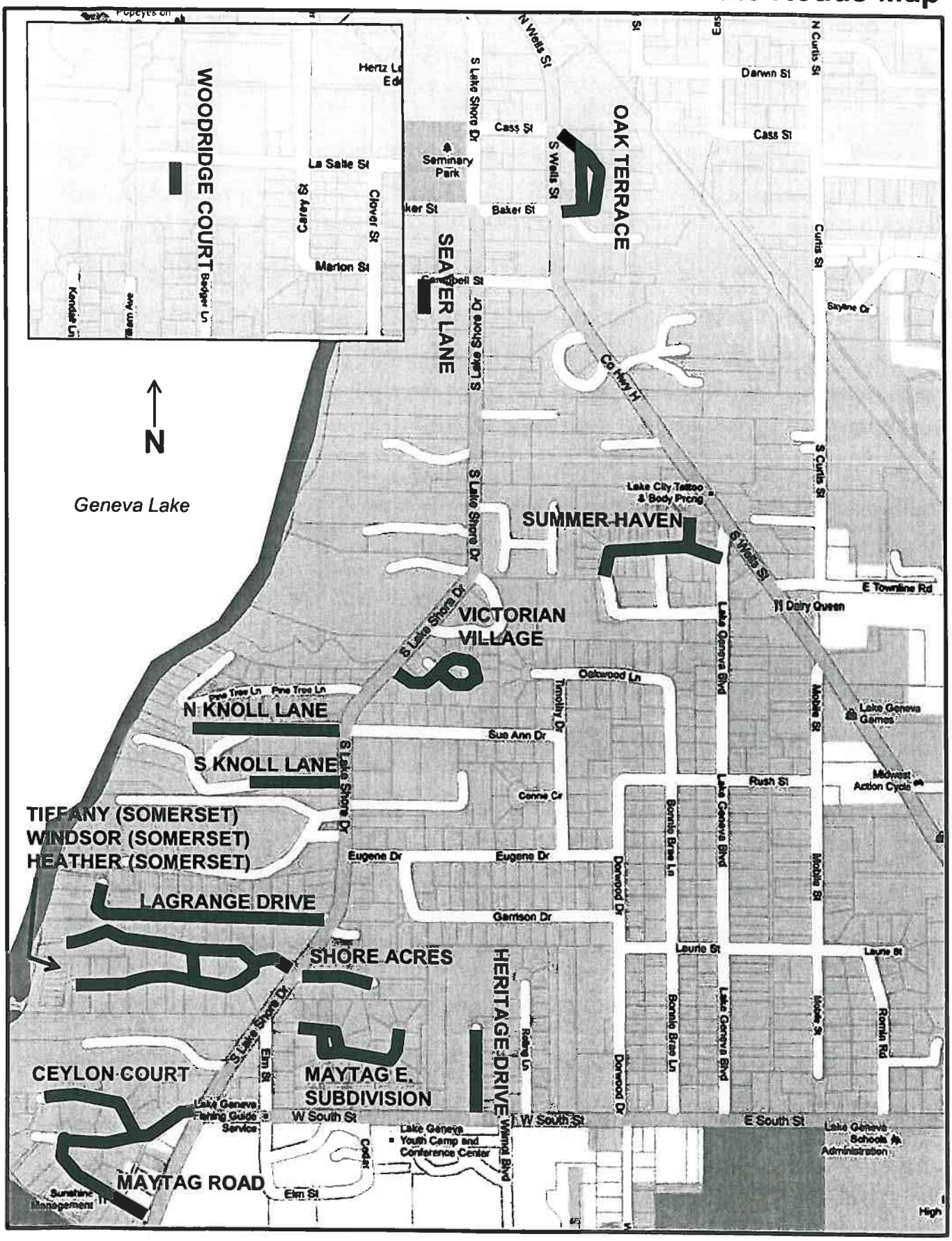
BEACH CROSSWALK

BEACH IS MAYBE 5' TO 6' WIDE

AGENDA ITEM NO. 2

EXHIBIT A

Private Roads Map



NOTE: ESTIMATE IS IN 2012 DOLLARS

Estimated Costs for Improving Private Roads

Name	Street length in Feet	Existing street width in feet	Roadway treatment needed	Estimated cost based on propsed treatment and street length
Ceylon Court	730	17	Mill 2", resurface 2", add curb & gutter	$57,000
Heritage Drive	520	16	Mill 2", resurface 2", add curb & gutter, widen where necessary	$44,000
Knoll Lane N.	942	11	Replace existing base with 4" asphalt over 8" base, widen from 11 to 16', add curb & gutter	$121,000
Knoll Lane S.	540	19	Pulverize and relay existing asphalt, add 3" asphalt surface, add curb & gutter	$51,000
LaGrange Drive	1530	19	Base repair, mill 1.5", resurface 1.5", add curb & gutter	$126,000
Maytag Dr	1360	18	Mill 2", resurface 2", add curb & gutter, widen where necessary	$113,000
Oak Terrace	1340	10	Replace existing base with 4" asphalt over 8" base, widen from 10 to 16', add curb & gutter, tree removal	$172,000
Shore Acres, 1121 S. Lake Shore Dr	440	12	Realign 250' around trees, widen remainder from 12 to 16', no milling, add curb & gutter	$43,000
Tiffany (Somerset)	1270	24	Mill 2", resurface 2", add curb & gutter	$117,000
Windsor (Somerset)	150	23	Mill 2", resurface 2", add curb & gutter	$14,000
Heather (Somerset)	545	24	Mill 2", resurface 2", add curb & gutter	$51,000
Woodridge Court	170	34	Base repair, mill 1.5", resurface 1.5"	$12,000
Maytag E. Subdivision	1395	20	Base repair, add curb & gutter	$79,000
Seaver Lane	200	30	Base repair, mill 1.5", resurface 1.5"	$13,000
Summer Haven	1018	26	Base repair, add surface lift of asphalt, remove gate	$44,000
Victorian Village	1000	24	Mill 1.5", resurface 1.5", add curb & gutter	$84,000

Crispell-Snyder, Inc.
March 2, 2012

DECEMBER 2011 (PWC)

Agenda Item No. 2– Update on Traffic Study for the Downtown Area.
Crispell-Snyder presented an update on the downtown study to include a projection presentation. There was much discussion regarding capacity, parking and the fact that Lake Geneva is a destination. The interactive software showed in simulated fashion, all the turning movements and conflicts. Mr. Knudson explained they had taken counts on an August Wednesday, looked at the equipment and wiring with Mr. John Nish, checked the crash data, and noted that ½ of all accidents are parking related. The 3 main deficiencies were the pre-timed turns, lack of interconnectivity, and the cycle lengths were fixed. Crispell was asked to come back for the January 2012 meeting with a more complete report and recommendations.

Agenda Item No. 3 – Private Drives – Discussion (Continued).
DPW Winkler introduced the two decision points, hold harmless and public street minimum standards. City Attorney Draper provided a draft of the hold harmless agreement for signing by the property owners on private drives. With an executed hold harmless, the residents could anticipate leaf & brush collection and garbage collection. The City will not plow snow, repair the drive surface or sweep it. The PWC wished to exclude leaf and brush pickup from the hold harmless and send the list of private drives along with the document so everyone knew what locations were under consideration. The minimum standards by which the owners on private drives can upgrade the facility and donate right-of-way as prerequisites for dedication to the City as a public street were also determined. The recommendation was a minimum of 16' wide asphalt road with 30" mountable curb and gutter on both sides, 8" compacted stone base, 4" asphalt surface applied in two lifts, and a 40' minimum right of way dedication. This minimum standard applies only to the roads on the identified private street list and streets built before 2012.

It was moved by Kehoe and seconded by Mott to forward the hold harmless to Council for consideration striking the pick up of leaf and brush and setting an effective date of January 1, 2012. The discussion clarified that the only activity performed on a private drive after signing off by all residents was garbage collection. The intent was to not plow snow, sweep, pick up leaf and brush, or repair any private drive after January 1, 2012. If the hold harmless as adjusted was not signed, then garbage collection would only be made off the nearest public way. The motion passed 4-0.

It was moved by Hartz and seconded by Kehoe to recommend the minimum of 16' wide asphalt road with 30" mountable curb and gutter on both sides, 8" compacted stone base, 4" asphalt surface applied in two lifts, and a 40' minimum right of way dedication. This minimum standard applies only to the roads on the identified private street list and streets built before 2012. The motion passed 4-0.
(This item needs to be sent to Council for action. The City Attorney needs to provide the revised Hold Harmless Agreement.)

Agenda Item No. 4- North Broad Street Lighting Replacements – Discussion. (Continued).
Administrator Jordan reported that he compiled the list of property owners but held off sending out the letter of inquiry because the equal assessment share per owner would be $11,000. He felt that the PWC should discuss the high cost before he sent it out. Hartz and others questioned the possibility of forming a B.I.D. along Broad Street that could raise funds for lighting and other amenities. It was moved by Hartz and seconded by Krohn not to send out the letter of inquiry. Motion passed 3-1 (Kehoe-Nay). It was moved by Kehoe and seconded by Hartz to refer further discussion of North Broad Street lighting replacement to the next Committee of the Whole meeting. The motion passed 3-1 (Mott-Nay). It was also moved by Kehoe and seconded by Krohn to not install new ornamental street lights on Broad Street up to the alley at the Regional News. There was discussion whether or not the City wished to get the lights replaced now under TIF. The motion tied 2-2 (Hartz & Mott-Nay).
(This item needs to be sent to the next Committee of the Whole Meeting for discussion/recommendation.)

Dan Winkler

From: "Dan Winkler" <lgwater@genevaonline.com>
To: "Dennis Jordan" <djordan@cityoflakegeneva.com>; "Ron Carstensen" <lgsd1065@sbcglobal.net>
Cc: "Susan Barker" <BarkerS@Crispell-Snyder.com>, "Dan Draper" <DDraper@bodlaw.net> "Jim Connors-Mayor" <jconnors@cityoflakegeneva.com>
Sent: Thursday, October 20, 2011 3:37 PM
Attach: PrivateDrivesList102011.pdf
Subject: Private Drives, Additional Data

Dennis & Ron;
Dear Group;

To get the ball rolling, I took a ride out to our private drives, took an entryway photo of each, and measured the existing average drive width of the entire list. The list and approximate length and meaured average width of each drive is attached.

Thinking through what a minimum width should be for access by City leaf/brush equipment and emergency response vehicles, I would suggest consideration of a 16' wide pavement. As far as overall clearance goes, I think we need another 2' either side of the pavement for 20' total width clear and a height no less than 14' from obstructions such as tree limbs.

The reason I say 16' be the improved minimum width is because, with the exception of Shore Acres which is really no more than a driveway, all improved pavements are no less than 16'. North Knoll is dirt and gravel but there is room for 16' of pavement. The bonus here is that if a road with a minimum width of 16' were to be adjusted for dedication to the City as a public street, we could require them to add a mountable curb & gutter 30" wide on each side of the road which would give us a paved surface of 21' minimum. Ron needs to weigh in here on both the minimum width and minimum width to be a public street, but I think we could plow something about 20' wide with little difficulty. The reason I also suggest mountable as an option for curb & gutter is that almost all of the private drives are constructed at lawn grade without curb and gutter, and to install barrier curb would require the entire thing to be torn up and sub-grade lowered. A mountable curb & gutter also gives City trucks and fire trucks extra maneuvering room as needed.

My recommendation for a pavement design for the City to accept a private drive as public is to require no less than 6" of compacted stone topped with 4" of asphalt applied and compacted in two 2" lifts. My preference is for 8" thick stone base, but I can live with the 6". Minimum right of way width should be 40' with the 21' narrower street and 50' with the wider more like our standard streets. Crispell may wish to also weigh in on the design.

So let's review:

- Minimum width and pavement type/condition to pick up garbage-None or whatever John's Disposal will venture down, but must have signed hold harmless.
- Minimum width and pavement type/conditon required for the City to pick up leaves and brush-16' with a paved hard surface. No gravel, no ruts, and condition is irrelevant with hold harmless.
- Minimum width, pavement condition, and right-of-way dedication to dedicate the drive to the City as a public street and receive all municipal services (plowing, sweeping, road repairs, leaf & brush, and garbage)-21' which includes 16' of pavement and mountable curb & gutter 30" wide on either side. Pavement thickness shall be 4" of asphalt over 6" compacted stone base. Dedicated right-of-way minimum is 40'. Wider roadway, wider right-of-way, and slightly thicker stone base is preferred. Road condition must be brought to new and at the minimum standards to accept. As an alternative to the owners paying upfront, the City could consider an assessment project, but it must receive unanimous support because I believe everyone must sign off on a typical dedication of right-of-way for the road to happen.

This is my first cut at the private drive issue. Regardless of the eventual outcome, I think the residents on all private drives should be notified that they need to arrange for snow plowing as the City Attorney has advised it is a violation of law to perform street maintenance on private property.

MINUTES OF THE OCTOBER 13, 2011 MEETING:

DATE: October 14, 2011

MEMORANDUM

TO: Chairman Bill Mott & Members of the Public Works Committee

FROM: Daniel S. Winkler, P.E. _____
Director of Public Works & Utilities

SUBJECT: October 13, 2011 Public Works Committee Meeting Minutes

The Public Works Committee met at **6:00 PM** at City Hall.

Members in attendance:	**Staff Present:**
Chairman Bill Mott ___X___	City Administrator Dennis Jordan___X___
Alderman Ellyn Kehoe___X___	Director Daniel Winkler (DPW)___X___
Alderman Arleen Krohn___X___	Ron Carstensen (Street Supt.)___X___
Alderman Tom Hartz __Exc.__	Mayor Jim Connors: ___Late___
Alderman Frank Marsala ___X___	Other: ____City Attorney Dan Draper_____

Public in attendance: Lisa Seisler, Ms. Penny Roehrer, Don Stoneberg, Ray Ring (All Victorian Village)

Approval of the Minutes of the Prior (September 2011) Meeting:
Alderman Marsala moved to approve the minutes, seconded by Alderman Krohn. Passed 4-0.

Public Comments:
Mr. Stoneberg, Mr. Ring, and Ms. Roehrer spoke regarding their concerns over private drives and in particular, garbage collection. Ms. Roehrer was concerned over uniform treatment throughout the City.

Communications:
None.

Agenda Items:

1. Private Drives – Discussion (Continued).
2. Museum Parking Area on North Side of Building –Discussion & Recommendation.
3. North Broad Street Lighting Replacements – Discussion. (Continued).
4. Shoveling of Sidewalks – Discussion.
5. Townline Road Centerline Shift-Discussion & Recommendation.
6. Sidewalk on STH 50 from Curtis Street to East Drive or Edwards Boulevard-Discusion.
7. Sidewalk Along Edwards Boulevard from Walgreens to Geneva Square-Discussion.
8. Tennis Courts Replacements Bids-Recommendation.

Agenda Item No. 1 – Private Drives – Discussion (Continued).
There was about an hour of discussion by City Attorney Draper, Administrator Jordan, DPW Winkler, Street Superintendent Carstensen, and the entire PWC regarding how to approach private drives. Administrator Jordan said the Victorian Village meets whatever standards we would adopt in order for them to receive garbage service. Attorney Draper summarized the challenge to include different drives have different conditions, everyone needs to sign on to the hold harmless agreement, some wish to remain private while some may wish to dedicate, the City needs to establish minimum road standards to do anything, and the

public law on private drives does not allow for the City to expend public funds performing maintenance on private drives. Mayor Connors felt that the City needs to establish two criteria, one to accept a private drive as public, and other minimum standards to get City equipment safely in and out similar to an alley condition City Administrator Jordan did follow up and send out a pair of letters to all the property owners abutting private drives that the City will require a hold harmless agreement or no longer be providing snow plowing, street sweeping, pavement maintenance, leaf & brush collection, or garbage pick up on private drives unless they are brought up to City standards and dedicated to the City. A complex multi-step motion followed. **It was moved by Alderman Kehoe and seconded by Alderman Krohn to: 1. Have DPW staff establish minimum criteria for those living on private drives to dedicate their drive as a public street (criteria to include pavement thickness, width, curb & gutter or not), storm drainage, and right-of-way width; 2. DPW staff to establish minimum pavement width, driving surface condition, and vertical clearances necessary for City vehicles and equipment to access the private drive for the purpose of possible leaf and brush collection and emergency access; 3. For DPW staff to evaluate all private drives for compliance with these minimum criteria; and 4. For the City Attorney to develop a hold harmless agreement for all owners on private drives to sign that would allow the City and its agents (which primarily means John's Disposal) to access the private drive and not be held responsible for damages related to gaining access to the properties; and 5. For City staff is to bring the information back to the Public Works Committee at its next scheduled meeting for further consideration.** It was understood at the advice of the City Attorney that snow plowing, street sweeping and private drive maintenance should not be taking place now and would no longer be performed on any private drives all or in part without a separate compensated agreement that may take place in the future between parties. The motion passed 4-0.

Agenda Item No. 2– Museum Parking Area on North Side of Building – Discussion & Recommendation.

Chair Mott made a motion to continue this item to the next month's meeting as the Museum Director was unable to attend and explain the importance of parking. The motion was seconded by Alderman Marsala and passed 4-0.

Agenda Item No. 3- North Broad Street Lighting Replacements – Discussion. (Continued).

City Administrator read a draft of a letter to the affected businesses inquiring as to ascertain their interest in supporting a special assessment project to replace the lights with ornamental historical looking replacements. He urged the PWC not to include the dollars involved until the level of interest is determined. He indicated the businesses could pay for an assessment project for example with the formation of a BID district. It was moved by Chair Mott and seconded by Alderman Kehoe to send the letter out with any revisions. The motion passed 4-0.

Agenda Item No. 4 – Shoveling of Sidewalks – Discussion.

DPW Winkler introduced the discussion and Superintendent Carstensen repeated that too often last year the contractor wasn't there in a timely manner and that the snow got packed down to ice and was nearly impossible to remove. He said he has some funding left from seasonal help to fund contractors to come in on an hourly basis upon his call to clear delinquent sidewalks around the City. They would take before and after photos to document the work and give the completed list and photos to Jennifer in building inspection for handling. He said it was never the intent for Street Workers to do any of the work. The discussion also included some clarifications. Based upon input from the Committee members, the Street Superintendent would develop a short list of people that would perform work for the City at an agreed upon hourly rate, they would only begin as directed by him or another authorized City representative, shoveling would take place by the contractor driving around searching out violations and assisted by call in complaints, he would have to carry liability insurance and could use the DPW contractor bidding insurance form to identify his insurance, he would submit his hours and the locations completed with photographs after each storm to Building Inspection for handling (the hours times rate divided by number of locations cleared would provide the basis

AGENDA ITEM NO. 3

Sand- Salt Usage
City of Lake Geneva

Current;

- The City uses 18% sand/salt mix purchased from Walworth County for $24.79/ton.
- Of 1-Ton (2000lbs), 1640lbs is sand, 360lbs is salt.
- During a typical (3”-6”) snow event, an average of 75 ton is used.
- Average of $1875.00 per event.
- Of the 75 ton, 61.5 ton is sand, and 13.5 ton is salt.

Projected;

- Remove the 61.5 ton of sand
- Use only the average 13.5 ton of salt except for special circumstances to include ice, freezing rain, temperatures below 15'f.

Mix;

- Using the typical 75 ton per event the City uses apx 3333lbs of mix per mile which costs an average of $1875.
- 3333lbs per mile = $41.66/mile for material.
- Sand does NOT melt snow or ice.
- Sand helps with traction for a very limited time. It quickly gets thrown from tires to the road edge.
- Sand will migrate into the snow pack bonding it to the road surface making it harder to remove.
- Sand must be removed from the roadways, storm drains and catch basins in spring.
- This material must be sent to a landfill at a significant cost to the City.
- Tipping fee's are currently $39.90/ton. That is $15.11/ton more than we pay for the mix!!
- According to the WisDNR, sand clogs bottoms of rivers, streams and lakes making it harder for vegetation to grow. It also fills voids in rock piles where small animals and fish find refuge.

Salt;

- Salt would be applied at the same rate as when mixed with sand.
- 13.5 ton of salt/45 miles = 600lbs/mile.
- Walworth County currently sells road salt to the City for $59.61/ton.
- 13.5 ton x's $60 = $810.00
- Potential for more savings if we decide to purchase directly from State Salt Bid.
- Salt dissipates, does not need to be swept or removed from drains.

Savings;

- As stated, the City averages a cost for material of $1875.00 per typical snow event.
- Simply eliminating the sand would allow an estimated average cost for material of $810.00 per event.
- This would be an average savings of $1065.00 per event.
- Currently this 2014-15 season has had 12 events.
- On average the city could have experienced a savings of $12,780.00 for the season so far.
- Landfill costs, sweeping, catch basin cleaning are not in this estimate. These would be an additional savings as well as reduced maintenance to machines.

Update;

- As of 01 Jan., 2015 tipping fee's at landfill are up from $39.90/ton to $41.90/ton.
- Currently we have apx 60-70 tons of material to be shipped to landfill with 20-50 ton more expected as we progress cleaning catch basins.
- 60 ton x's $41.90 = $2514.00
- We will continue to have debris on the roadways to sweep and haul to landfills, although the vast majority of material from the roads is sand.

Using Salt and Sand for Winter Road Maintenance

To make winter roads passable, maintenance personnel usually must either apply chemical deicers to melt ice and snow or spread sand to provide traction. Since chemicals and sand are costly and may have negative environmental impacts, you need to know how they work. This publication gives you basic information and practical tips on how to use deicing chemicals and sand.

Deicing with salt

Plowing is the best way to remove snow and slush from pavements. However, clearing winter roads to bare pavement usually requires deicing chemicals. In Wisconsin the most common chemical is salt (sodium chloride), usually mined rock salt that has been crushed, screened, and treated with an anti-caking agent. Rock salt is relatively light—about one ton per cubic yard—and comes as a mixture ranging from 3/8" granules to fine crystals.

Deicing chemicals work by lowering the freezing point of water. A 23.3% concentration of salt water will remain liquid to -6°F. Before a dry deicing chemical can act it must dissolve into a brine solution. It uses moisture from water, snow or slush on the road surface.

Changing ice or snow into water also requires heat from the air, the sun, or the pavement. Chemicals only lower the melting temperature; it takes heat to change ice to water. Even when pavement is below freezing, it holds some heat which can help melt snow and ice.

Factors affecting deicing action

Many factors affect the process of melting snow and ice. Decisions on how and when to apply materials are best left to field supervisors and operators who can assess conditions and adjust to changes.

Concentration If too much chemical is used, not all of it will dissolve into solution, and some will be wasted. Too little chemical may not sufficiently lower the solution's freezing point. When salt is dissolved into brine on the road it is near 23% concentration and freezes at -6°F.

As snow and ice melt, the extra water dilutes the solution, raising its freezing point. For example, a 10% salt brine solution will stop melting ice and can refreeze at about 20°F, which may require more salt. The ice will not melt or melted snow may refreeze, wasting the chemical. See page 2 for more on spreading rates.

Temperature
Salt's effectiveness is directly related to the surface temperature of a snow- or ice-covered road. As temperatures go down, the amount of deicer needed to melt a given quantity of ice increases significantly. Figure 1 shows that salt can melt five times as much ice at 30°F as at 20°F. Small differences in pavement temperatures have a noticeable effect. Truck mounted temperature sensors give operators information to make better application decisions.

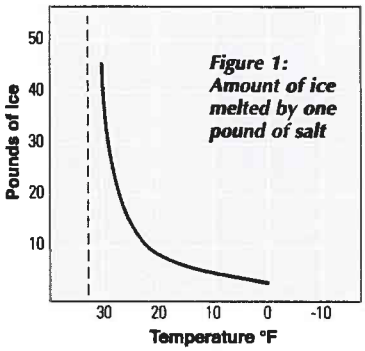


Figure 1: Amount of ice melted by one pound of salt

Time The longer a deicing chemical has to react, the greater the amount of melting. At temperatures above 20°F both salt and calcium chloride can melt ice in a reasonable time. However, at 10°F it takes an hour for salt to melt 1/8" of ice.

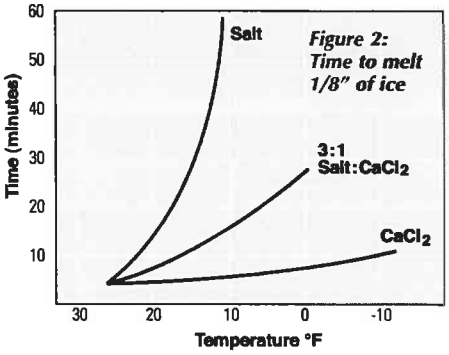


Figure 2: Time to melt 1/8" of ice

Weather When sun warms the pavement, the heat speeds up melting. Radiant heat may raise pavement temperature 10°F or more above the air temperature. On clear nights, pavements will be colder than the air. Use less chemical when temperatures are rising and more when they are falling.

Applying chemicals during blowing snow and cold temperatures will cause drifting snow to stick to the pavement. If chemicals are not used, the dry snow is more likely to blow off the cold road surface.

Road surface type Snow and ice may melt more rapidly on a concrete surface because it gives up heat more rapidly. Because asphalt absorbs more solar radiation it may have more heat available for melting snow. This is why snow melts rapidly next to bare asphalt pavement areas. Bridges cool down and warm up faster than road surfaces because air reaches both sides of the deck. This can create varying conditions, such as icing on the bridge deck when the adjacent road is clear.

Topography Ice tends to form where topographic conditions, like high banks or dense vegetation, screen the road surface from the sun. The longer the area is shaded, the more likely that ice will form. Since pavement temperatures are lower in shaded areas, you may need more chemicals there. Road cuts may cause snow to drift and blow across the road; the snow will lower pavement temperatures.

Traffic effects Traffic aids deicing by spreading and mixing chemicals into the snow and ice. Tire action also breaks up ice layers weakened by salt and can throw slush off the road. Roads with light traffic can be more difficult to maintain because they lack this mixing and breaking action. However, traffic can also trap blowing snow or can melt snow and cause it to refreeze in the wheel tracks, if not treated again.

Application width Studies show that snow melts faster when salt is applied in narrow strips. The total amount of snow melted over several hours is the same, however, regardless of application width. If you concentrate spreading (windrowing), you can expose a portion of road surface to the sun quickly. It can then absorb heat and speed up the melting rate.

After a road is first plowed, deicing chemicals are usually applied in a windrow 2'-4' wide down the middle of a two-lane road. To remove glare ice or keep snow in a plowable condition, you may want to apply chemicals across a broader portion of the roadway.

Timing of application Timing is the most important factor in successfully clearing snow by chemical treatment. Early application is critical. Spreading a small amount of chemical deicer when snow is loose and unpacked melts a little snow and turns the rest to slush. Traffic cannot pack down slushy snow which is 15% to 30% water. This lets plows remove it, and plowing is the best way to clear roads. If snow continues to fall, more salt may be needed.

Environmental impact

A major concern in using chemicals for winter road maintenance is environmental impact. Studies show that soils, vegetation, water, highway facilities, and vehicles are all affected, so it is very important to use these chemicals wisely. Most soil and vegetation impacts occur within 60' of the road and are greatest close to the pavement.

Deicing chemicals are highly soluble and will tend to follow any water flow. Salt concentrations in Wisconsin's surface and ground water have increased since the early 1960s, the Department of Natural Resources reports, but aquatic life has not yet been affected that we know of. In drinking water sources, which the WDNR also monitors, salt concentrations are within recognized safe limits. In some reported cases, groundwater carrying deicing chemicals has contaminated wells and carried heavy salt concentrations into nearby streams.

Deicing chemicals can accelerate deterioration in concrete and steel structures. New construction methods are reducing this impact, but highways and bridges do suffer from chemical damage. Vehicle corrosion is also accelerated. Corrosion on vehicles and structures is estimated to be the largest cost impact of chloride-based chemicals. Even relatively small amounts of chloride will significantly accelerate existing corrosion.

Salt storage requirements

Localized environmental damage from salt has come largely from stockpile runoff due to the effect high concentrations of salt have on exposed environmental elements. For that reason, it is necessary to prevent stockpile runoff from contaminating ground or surface water by covering the salt and storing it on an impermeable base so rain or melt runoff can't seep in.

Wisconsin regulations require highway agencies to store salt inside a covered, waterproof structure. If this is not possible, facilities with stockpiles over 1,000 pounds must be covered with waterproof material, stored on an impermeable pad, and reported to the Wisconsin DOT.

Spreading

Spreading rates No two storms are alike, so no single set of standards will give the proper spreading rate for all storm conditions. Generally, however, only apply enough chemical deicer to permit plows to remove the snow or to melt glare ice. Experience shows it is most

effective to spread 100 to 300 pounds per single lane mile.

Do not use any deicer when temperatures are below its effective range. Normally, the lower limit for salt is 15° to 20°F. If deicing is necessary at lower temperatures, it will take more salt and melting will take much longer (see Figure 2). Alternative chemicals, such as calcium chloride or magnesium chloride, may be a better choice for low pavement temperatures.

Other conditions that affect salt application rates:

- ***Precipitation type*** Additional salt is helpful if the snowfall is heavy and the snow is wet, or if freezing rain is expected.
- ***Snow accumulation*** Roads already covered with snow or ice require more salt.
- ***Time before next application*** If it will be 2 hours or more until the next plowing and salting, the section will probably need extra salt.
- ***Service level*** More salt may be justified on a road with heavy traffic requiring a higher service level than on lower volume roads with slower speeds.

Melting action spreads across the pavement to lower areas, so concentrate deicers on the center (crown) of two lane roads and on the high side of curves.

Chute vs. spreader A spreader with a spinner is the most common way of applying deicers. A spinning circular plate throws the deicer out in a semicircle. Alternatively, a chute applicator can distribute the deicer in a windrow on the road, usually along or near its centerline.

Higher truck speeds will cause the salt to roll and spread further across the road. Tests have shown that a chute will do a better job of keeping salt on the road if spreading speed is 25 MPH or greater.

Spreaders can be equipped with automatic or ground-oriented controls. These adjust application rates to changing truck speeds, so the driver need not alter the spreader settings. They effectively cut waste and are recommended for spreading straight salt.

Spreader calibration It is important to apply the correct amount of salt for the current storm conditions. In order to control application rates, each spreader must be calibrated for each material you intend to use. Different materials will spread at different rates at the same spreader control setting, and individual spreaders, even identical models, can vary widely in how much they spread at the same control setting. Furthermore, spreaders operate in a very hostile environment—low temperature, lots of moisture, corrosive chemicals—so, they need to be cleaned and checked every year.

Alternative chemicals

Salt is the most efficient deicing chemical if road temperatures remain above 20°F. Calcium chloride ($CaCl_2$) and magnesium chloride ($MgCl_2$) are common alternatives for use in colder temperatures. Figure 2 shows how effectively $CaCl_2$ melts ice at low temperatures. Since these alternative chemicals cost up to 10 times more than salt, mixing some dry $CaCl_2$ or $MgCl_2$ with dry salt can be an efficient approach.

Figure 2 shows the benefits of a mixture of 3 parts salt to one part $CaCl_2$. These alternative chemicals are effective at road temperatures below 0°F.

Dry calcium chloride and magnesium chloride require special handling. They actually give off heat when they dissolve into brine—a very beneficial characteristic. They also draw moisture from the air, providing water for the initial brine formation. These unique properties make them a valuable tool during severe conditions.

They are usually stored in moisture proof bags until needed. Otherwise their ability to draw moisture can cause the material to cake and form into large chunks.

Pre-wetting

Pre-wetting salt is becoming common. Wetting provides moisture to make brine. Faster melting action may be expected. In addition, the wet salt will be less likely to bounce or be blown off the road by traffic. Savings in lost or wasted salt of 20%-30% are possible.

Common pre-wetting liquids include salt brine, calcium chloride, and magnesium chloride. Some liquid pre-wetting chemicals may contain additives to inhibit corrosion. Applications of 8-10 gallons of liquid per cubic yard of salt are recommended.

Some agencies spray the salt as it is loaded into the truck or pre-treat the salt. However, it is most common to use truck-mounted equipment to spray the salt as it leaves the spreader.

Savings from losing less salt can more than pay for pre-wetting. However, these benefits only result if the operator actually reduces the application rates.

Anti-icing

Anti-icing is a pro-active road maintenance strategy that tries to keep the bond between ice and the pavement surface from forming. It involves applying ice control chemicals before or at the very beginning of a storm.

Using this strategy often reduces the total chemical used and allows a higher level of service to travelers.

The strategy most commonly used now is *deicing*—breaking the bond between the ice and pavement. Obviously, this technique is required once the snow or ice covers the pavement. More chemicals are needed to cut through the ice and break the bond than presumably would be needed to prevent the initial formation of the ice to pavement bond.

Various ice control chemicals are being used for anti-icing including liquid salt, liquid magnesium chloride, liquid calcium chloride, CMA, and potassium acetate. See Wisconsin Transportation Bulletin No. 22, *Pre-wetting and Anti-icing—Techniques for Winter Road Maintenance.*

Abrasives

Sand and other abrasives improve vehicle traction on snow- and ice-covered roads. They can be used at all temperatures and are especially valuable when it is too cold for chemical deicers to work. Abrasives are normally used on gravel roads because chemicals will soften the surface and cause plows to scrape off the gravel. Low volume roads commonly receive only abrasives. Sand is the most common abrasive, but slag, cinders, and bottom ash from power plants are also used.

Abrasive quality Some sand and abrasives perform better than others. For better traction, use material with crushed or angular particles. Rounded particles are less effective. Very small particles and dirt are actually harmful to traction. Material larger than the #50 sieve is most effective. To minimize windshield damage, use materials in which all particles are less than 3/8" diameter.

Abrasive application Abrasives are usually applied only at hazardous locations such as curves, intersections, railroad crossings, and hills at rates of 500 pounds (0.18 cubic yard) to 2 cubic yards per mile. It is important to calibrate spreaders to control application rates.

Since abrasives must stay on the surface to be effective, they should not be used when they will be covered with snow or blown off quickly by traffic. Heavy traffic reduces their effectiveness, requiring repeat application.

Combining chemicals with sand Treating sand with 50-100 pounds of salt per cubic yard is necessary to prevent freezing and keep it workable. If slag, cinders or other abrasives are wet they also require salt, in the same amount, to be usable. Pre-wetting sand with a liquid deicing chemical just before spreading has proven effective in embedding the abrasive on icy pavements.

Some agencies mix more salt with their abrasive than is needed for freeze-proofing. This practice is often wasteful and ineffective. Blending does not produce a new material. It is still just salt that melts and sand that can aid traction if it stays between the tire and the ice.

In a blend, sand and salt often work against each other. *IF* the goal is for sand to stay on the surface for traction, the salt in the mix either blows off and gets wasted or does its job and melts the snow. However, tires can then push the sand down into the slush, making it ineffective for improving traction. *IF* the goal is for salt in the blend to melt snow and ice so plows can clear the pavement, then the sand gets removed too, wasting it. In addition, salt melts less ice when mixed with sand.

Avoid waste. Use straight salt when it will work best and apply freeze-proofed abrasive when salt is not effective or not needed.

Environmental impacts Abrasives used for winter road maintenance have some negative environmental impact. They can clog storm water inlets and sewers. Cleanup may be necessary in urban areas, on bridge decks, and in ditches. The materials may wash downstream and end up in streams and lakes which can have a negative impact on fish habitat.

Salt mixed with abrasives to keep them unfrozen and usable has the same potential impacts as described earlier. In particular, salt-treated abrasives can accelerate vehicle corrosion.

Documented pollution from particles less than 10 microns (pm 10) has led to concern about the impact of winter abrasive use on air quality. As a result, cleaner abrasives and quicker cleanup after storms are being required in areas with severe air pollution.

Abrasive storage requirements

Wisconsin regulations require that abrasives treated with salt meet certain storage requirements. All salt-treated abrasives must be covered from April 1 to October 1 each year. If the abrasive has more salt than 5% by weight (approximately 140 pounds per cubic yard), it is considered the same as salt and must be covered at all times and stored on an impermeable base.

Salt and abrasive storage facilities holding more than 1,000 pounds must be reported to the Wisconsin DOT which conducts an annual inspection.

*Revised August 2005 © Wisconsin Transportation Information Center. **Wisconsin Transportation Bulletin** is a series of fact sheets providing information to local town, municipal and county officials on street and highway design, construction, maintenance, and management. These fact sheets are produced and distributed by the Wisconsin Transportation Information Center LTAP, a project of the University of Wisconsin-Madison, Department of Engineering Professional Development, funded by the Federal Highway Administration and the Wisconsin Department of Transportation. UW-Madison provides equal opportunities in employment and programming, including Title IX requirements.*

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EXCERPT FROM CITY OF LAKE GENEVA CITY ORDINANCE:

Sec. 62-222Chemical deicers.
[Code 1992, § 8.14]

(a)
Prohibited generally. Except as provided in Section **62-223**, no person shall place, or cause to be placed, any chemical deicer, including NaCL and CaCL2 upon any public street, roadway, driveway or alleyway, or upon any public parking lot or other facility for outdoor parking of vehicles within the City limits except as provided in Subsection **(b)** of this section.

(b)
Exceptions. The City Street Department shall use not more than 500 pounds of NaCL or CaCL2 per yard of sand in its sanding operations; provided, however, that the Mayor may grant temporary suspension of such restriction upon showing that an emergency condition exists which requires a greater amount of salt to be used and may issue written or oral instructions to the Street Department to use more salt to eliminate such emergency conditions. Under extreme weather conditions when ice is forming or is forecast to form on roads, in the interest of public safety, the acting Street Department Superintendant may opt to apply up to 100% salt on arterial streets and hills.
[Amended 3-11-2013 by Ord. No. 13-07]

Suggested Language Change for Discussion:

Exceptions. The City Street Department may apply 100% sand, 500 pounds of NaCl or CaCl2 per yard of sand in its sanding/salting operations, or 100% salt on all City streets and hills depending upon weather conditions and temperatures as appropriate. The normal rate of 100% salt roadway application shall be the same as the normal rate of salt application when applying the 500 pound of salt to the cubic yard of sand mixture.