

Item 7b.**Sunfish Lake Engineer's Report for March 1, 2022**

By: Jeff Sandberg, PE
City Engineer

Date: February 24, 2022

1. Engineering Activities Undertaken in the Month of February

The following Engineer's Report reflects the Engineering activities undertaken this past month.

A. Meetings Attended

- Staff attended a meeting for the Dakota County Regional Roadway System Visioning Study.
- Staff attended the Technical Advisory Committee meeting of the Lower Mississippi River WMO as part of their Water Plan update effort.

B. 2022 Street Maintenance Projects – Staff is presenting the feasibility study that outlines streets for maintenance improvements, estimated costs, and funding (SEE ATTACHMENT 1B).**C. Met Council 2022 CAMP Program Participation – Staff is requesting the City Council's continued support and funding to participate in the water quality testing program for Hornbeam, Sunfish, and Horseshoe Lakes. Volunteers that take the samples for each lake have indicated a desire to continue their efforts in 2022. The cost for participating in the program is \$380 for each lake. We have included the costs of the program in the 2022 budget, and a motion is requested to continue participation in this water quality monitoring program.****2. Building and Site Reviews in the Month of February****A. Staff conducted reviews for the following properties in February:**

- 2 Sunfish Lane – Staff reviewed two separate submittals of a revised plan for sport court, play structure, and dog kennel on the property.
- 2 Acorn – Staff participated in a conference call with the property owners and their builder to discuss their application for a new home.
- 205 Salem Church Road – Staff participated in a conference call with the representative for the owners of the Maken's addition. We discussed the potential development of up to four (4) lots.

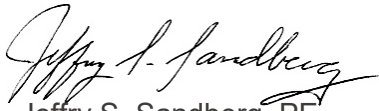
3. Public Works Activities Undertaken in the Month of February**A. Staff coordinated work with the city's snowplow contractor for several snow clearing events in February.**

4. Anticipated Engineering/Public Works Activities for the Month of March

- A. Staff will work with the city snowplow contractor to keep roads clear and safe. If residents find slippery areas on the city streets that need attention, please email your concerns to sunfishlakesnow@gmail.com and copy me at jsandberg@wsbeng.com.

The above constitutes the Engineering Report for the City of Sunfish Lake for March 1, 2022.

Respectfully submitted,



Jeffrey S. Sandberg, PE
City Engineer



FEASIBILITY REPORT

2022 STREET MAINTENANCE PROJECTS

CITY OF SUNFISH LAKE | DAKOTA COUNTY, MINNESOTA

MARCH 1, 2022

PREPARED FOR:
City of Sunfish Lake

CITY PROJECT NO. 2022-01
WSB PROJECT NO. 019872-000

FEASIBILITY REPORT

2022 STREET MAINTENANCE PROJECTS

CITY PROJECT NO. 2022-01

**FOR THE
CITY OF SUNFISH LAKE, MINNESOTA**

MARCH 1, 2022

Prepared By:





March 1, 2022

Honorable Mayor and City Council
City of Sunfish Lake, MN
c/o Cathy Iago, City Clerk
7378 Jordan Avenue South
Cottage Grove, MN 55016

Re: Feasibility Report
2022 Street Maintenance Projects
City of Sunfish Lake Project No. 2022-01
WSB Project No. 019872-000

Dear Honorable Mayor and City Council Members:

Attached for your review is a feasibility report which addresses improvements associated with the 2022 Street Maintenance Projects on Salem Church Road, Acorn Drive, Roanoke Road, and Angell Road.

We would be happy to discuss this report with you at your convenience. Please contact me at 651.286.8474 if you have any questions or concerns.

Sincerely,

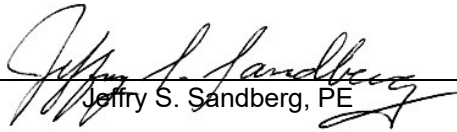
WSB


Jeffrey S. Sandberg, PE
City Engineer

Attachment

CERTIFICATION

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly licensed professional engineer under the laws of the State of Minnesota.


Jeffrey S. Sandberg, PE

Date: March 1, 2022

Lic. No. 25393

Quality Control Review Completed By:


Lydia M. Ener, PE

Date: March 1, 2022

Lic. No. 57221

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LETTER OF TRANSMITTAL

CERTIFICATION SHEET

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Figure 1 – Project Location Map

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2021 Pavement Condition Report

1. EXECUTIVE SUMMARY

The 2022 Street Maintenance Projects consist of fog seal coats on Salem Church Road (West), Acorn Drive, Roanoke Road, and Angell Road (West). A map illustrating the project locations is shown on **Figure 1** in **Appendix A**.

The cost of the projects, based on the recommended scope of work, is estimated at **\$142,000**. This includes a 10% contingency and 35% indirect costs. Funding for the projects will be through the City's General Fund. The project cost was identified in the City's Capital Improvement Project funding for 2022.

The proposed project schedule includes construction beginning early summer 2022, with final completion by late summer of 2022.

The project is feasible, necessary, and cost-effective from an engineering standpoint and should be constructed as proposed herein.

2. INTRODUCTION

2.1 Authorization

On February 8, 2022, the Sunfish Lake City Council authorized a feasibility report for the 2022 Street Maintenance Projects.

2.2 Scope

This feasibility report includes fog seal coats on Salem Church Road, Acorn Drive, Roanoke Road, and Angell Road. In June of 2021, WSB completed a Pavement Condition Report for the City, summarizing the results of pavement inspections on all City streets. Based on the recommendations of this report, and the 2021 PCI ratings, the included roadways were recommended for maintenance improvements to prolong the life of the roadways.

2.3 Data Available

Information and materials used in the preparation of this report include the following:

- City of Sunfish Lake Capital Improvement Plan
- City of Sunfish Lake Pavement Condition Report (2021)
- Field Observations of the Area

2.4 Project History

The roadways included in the 2022 Street Maintenance Projects are identified in the City's Capital Improvement Plan as candidates for maintenance fog seal coating.

In June of 2021, WSB completed a Pavement Condition Report for the City, summarizing the results of pavement inspections on all City streets. Based on the recommendations of this report, and the 2021 PCI ratings, the included roadways were recommended for maintenance improvements.

3. EXISTING CONDITIONS

3.1 Surface

The proposed roadways for the 2022 Street Maintenance Projects were constructed between 1989 and 2009, with previous overlays in 2014 and 2017 on the oldest roadways.

In June of 2021, WSB completed a Pavement Condition Report for the City, summarizing the results of pavement inspections on all City streets. The results are shown as a calculated Pavement Condition Index (PCI) for each street. The PCI is based on a 0 to 100 scale, with 100 being a new roadway with no distresses present.

The 2021 PCI values, and the year the roadways were built, are shown below in **Table 1**.

Table 1 – Projected PCI Values		
Street	Year Constructed	PCI Value (2021)
Salem Church Road (west)	2009	82
Acorn Drive	2006	92
Roanoke Road	1989, overlay in 2017	81
Angell Road (west)	1989, overlay in 2014	92

3.2 Drainage

Existing drainage infrastructure consists of roadway ditches and culverts throughout the project area. Stormwater is conveyed through the ditches and culverts to neighboring lakes and wetlands. No impacts to existing drainage will occur as a result of the maintenance improvements.

3.3 Private Utilities

There are no anticipated private utility impacts as part of this maintenance project.

3.4 Criteria for Investigation

In June of 2021, WSB completed a Pavement Condition Report for the City, summarizing the results of pavement inspections on all City streets. Based on the recommendations of this report, and the 2021 PCI ratings, the included roadways were recommended for maintenance improvements.

3.4.1 Surface

Bituminous seal coating is a street maintenance method that is recommended on streets with a PCI ranging from 60 to 100.

Milling and overlaying is a street rehabilitation method that is recommended on streets with a PCI ranging from 30 to 70.

Reclamations and reconstructions are street improvement methods that are recommended on streets with a PCI ranging from 0 to 40.

3.4.2 Drainage

No impacts to existing drainage will occur as a result of the maintenance improvements.

4. PROPOSED IMPROVEMENTS

4.1 Surface

The proposed fog seal coating improvements on Salem Church Road, Acorn Drive, Roanoke Road, and Angell Road are part of the City of Sunfish Lake Maintenance Schedule. These maintenance improvements are designed to extend the life of the roadways by sealing cracks in the bituminous surface to slow pavement aging and deterioration.

4.1.1 Roadway Alignment

The proposed improvements will maintain the existing vertical and horizontal alignments of the roadways.

4.1.2 Right-of-Way

All proposed improvements are located within the platted right-of-way, no permanent easements will be required.

4.2 Drainage

There are no proposed drainage improvements with this maintenance project.

4.3 Construction Access/Staging

The contractor will be responsible for providing access to properties throughout the project. Signed construction zones will be posted to notify users of truck and construction activity as needed.

5. FINANCING

5.1 Opinion of Probable Cost and Funding

A detailed opinion of probable cost is included in **Appendix B** of this report. The opinion of probable cost is based on projected construction costs for 2022 and includes a 10% contingency and 35% indirect costs. The indirect costs include engineering, legal, and administrative costs associated with the project.

The total project cost is estimated at **\$142,000**. Funding for the 2022 Street Maintenance Projects will be through the City's General Fund. The project cost was identified in the City's Capital Improvement Project funding for 2022.

6. NECESSITY AND EFFECTIVENESS

The improvements proposed in this report are necessary for several reasons.

The proposed roadway improvements provide the City with a high quality, aesthetically pleasing roadway and extend the life expectancy of the roadway.

Combining the four roadway improvements into one project will provide a project large enough to ensure a competitive bidding environment and economy of scale, and therefore, are deemed to be cost-effective. Based on the information contained in this report, the proposed improvements as described can be considered necessary, cost-effective, and feasible from an engineering standpoint.

7. FEASIBILITY AND RECOMMENDATION

The 2022 Street Maintenance Projects consist of fog seal coating of pavement on four roadways. The cost of the project is estimated at **\$142,000**.

Based on the information contained within this report, the proposed improvements as described are necessary, cost-effective, and feasible from an engineering standpoint. WSB recommends construction of the proposed improvements as detailed in this report.

8. PROJECT SCHEDULE

The proposed schedule for the 2022 Street Maintenance Projects is as follows:

City Council Authorizes Feasibility Report	February 8, 2022
City Council Gives Final Consideration to Feasibility Report	March 1, 2022
City Council Authorizes Preparation of Plans and Specifications	March 1, 2022
Plans/Specifications Preparation	March – April 2022
City Council Approves Plans/Specifications & Authorizes Bidding	May 2022
Project Bidding	May 2022
Award Contract	June 2022
Construction	June – August 2022

APPENDIX A

Figure 1 – Project Location Map



WSB PROJECT NO.:
019872-000

2022 STREET MAINTENANCE PROJECTS
FIGURE 1 - PROJECT LOCATION MAP
CITY OF SUNFISH LAKE, MN



APPENDIX B

Opinion of Probable Cost

OPINION OF PROBABLE COST

WSB Project: 2022 Street Maintenance Projects
 Project Location: City of Sunfish Lake
 City Project No.:
 WSB Project No: 019872-00

Design By: LME
 Checked By: JSS
 Date: 3/1/2022

Item No.	MN/DOT Specification No.	Description	Unit	Estimated Total Quantity	Estimated Unit Price	Estimated Total Cost
1	2021.501	MOBILIZATION	LS	1	\$ 6,500.00	\$ 6,500.00
2	2356.504	BITUMINOUS SEAL COAT	S Y	14,100	\$ 5.75	\$ 81,075.00
3	2563.601	TRAFFIC CONTROL	L S	1	\$ 7,300.00	\$ 7,300.00
CONSTRUCTION TOTAL						\$ 94,875.00
CONTINGENCY TOTAL (10%)						\$ 9,488.00
SUBTOTAL						\$ 104,363.00
INDIRECT COST TOTAL (35%)						\$ 36,530.00
TOTAL						\$ 140,893.00
GRAND TOTAL						\$ 140,893.00

APPENDIX C

2021 Pavement Condition Report

Memorandum

To: Jeff Sandberg, PE, City Engineer

From: Matthew Indihar, PE

Date: July 22, 2021

Re: Pavement Condition Report
WSB Project No. 018467

WSB is pleased to submit this pavement condition report summarizing the results of the pavement inspection on the City streets in Sunfish Lake performed June 28 through July 13, 2021. The distresses observed on the surface of evaluated roadways were analyzed using our pavement management software, PAVER, to calculate the Pavement Condition Index (PCI) of each street. The PCI is based on a 0 to 100 scale, with 100 being a new roadway with no distresses present.

Bituminous roadways were evaluated, but gravel and private roads were not rated. There were several roads that were exempt as well, due to construction planned for this year. A map showing the condition rating can be found in **Appendix A** of this report. The condition rating for each street is included in a table in **Appendix B**. Any type of road maintenance (i.e. patching or crack sealing) done prior to inspections is accounted for in each PCI value. The weighted average was computed by averaging the PCI values based on the area of each segment, which was calculated to be 87. The average PCI has increased from 78 in 2018 to 87 currently due to programmed roadway improvements and proper maintenance since the last report (2018).

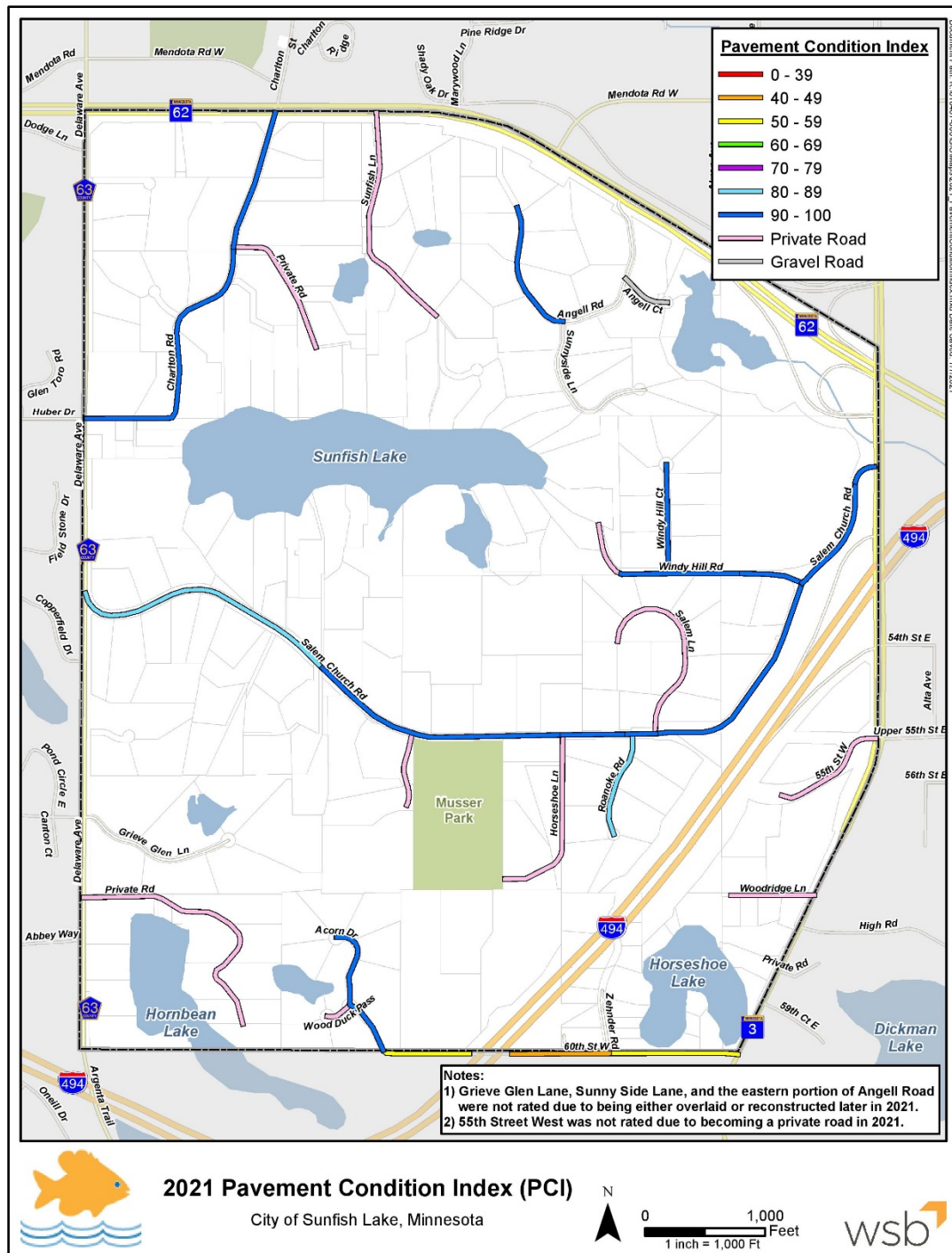
On roads in good condition with high PCI values, which are in the range from 80 to 100, we recommend performing preventative maintenance such as a chip sealing or a fog seal over a chip seal to protect the road surface from infiltration of water and incompressible materials as well as oxidation. Good candidates for preventative maintenance upon field inspection are Acorn Drive, Angell Road, Charlton Road, Roanoke Road, Salem Church Road, Windy Hill Road and Windy Hill Court. It would be our recommendation to apply a fog sealed chip seal to these road segments in 2022 or 2023. The priority would be to get Roanoke Road, Angell Road (west), Acorn Drive and Salem Church Road (west) done in 2022. The rest of the roads between 80 and 100 should have a fog sealed chip seal performed in 2022 or 2023 depending on the budget, other than new construction. This preventative maintenance is shown to extend the life of the road and save cost long term by extending the life of the pavement before major repairs are needed. The fog seal over a chip seal provides a long lasting, more aesthetically pleasing product with better chip retention when compared to a traditional chip seal. A fog sealed chip seal should be planned for on a 5- to 7-year cycle to achieve the most value and maintain PCI numbers in roads currently above 80, as well as the pavements constructed in 2021.

The PCI values of the pavement on 60th Street West dropped significantly since the last inspection in 2018. We were informed that it is a shared maintenance responsibility with Inver Grove Heights (IGH). IGH has stated that they are not planning to put money aside for maintenance because there are potential future road improvements/alignments by MnDOT/County. A study is underway to review growth and projected traffic counts in the area and make recommendations for roadway improvements/connections. We would recommend that maintenance not be programmed for this roadway until the future of the roadway is analyzed further in the referenced study.

Please contact Matthew Indihar at 218.341.3614 with any questions or to request further analysis. Thank you.

Appendix A

Sunfish Lake 2021 PCI Map



Appendix B

Sunfish Lake
2021 Street PCI

Name	Section ID	True Area (Sq Ft)	2021 PCI
60TH ST W	2	16,196.58	48
60TH ST W	3	14,522.64	57
60TH ST W	4	21,408.53	55
ACORN DR *	27	28,382.19	92
ANGELL RD *	5	22,713.12	92
CHARLTON RD	25A	23,394.01	99
CHARLTON RD	25B	47,527.36	96
ROANOKE RD *	9	20,254.49	81
SALEM CHURCH	10	46,776.85	92
SALEM CHURCH	11	24,025.33	94
SALEM CHURCH *	13	55,513.03	82
SALEM CHURCH	14	52,514.32	93
SALEM CHURCH	15	12,889.53	92
SALEM CHURCH	29	5,692.29	91
WINDY HILL CT	21	18,119.06	90
WINDY HILL RD	22	26,171.05	94
WINDY HILL RD	23	9,199.03	93

*Priority for fog sealed chip seal maintenance in 2022