

Avon Township

Road Management Report & Plan



July 7, 2021

Avon Township Officials

Board of Supervisors

Supervisors

LeRoy Gondringer

Will Huston, *Chair*

Rich Sanoski

Treasurer

Kelly Martini

Clerk

Stephen Saupe

Planning Commission

Craig Blonigen

LeRoy Gondringer

Rich Sanoski

Stephen Saupe

Lori Yurczyk, *Chair*

Township Maintenance

Joseph Koopmeiners

I. Introduction

One of the major responsibilities of the Avon Township Board of Supervisors is to maintain the safety and integrity of township roads. The goal of this report is to summarize the current status of Township roads and then provide specific recommendations for the future.

Section II will provide a summary and overview of Township roads, while the subsequent sections (III – V) will examine specific responsibilities of the Board to:

- Maintain a healthy road surface (Section III)
- Maintain the road right-of-way (Section IV)
- Remove snow and ice from the road surface (Section V)

In each of these latter three sections of the report, an overview of the current status/situation is provided and this is followed by an analysis and recommendations for future actions.

II. Township Road Overview

A map of Avon Township roads is provided in **Appendix 1**. An inventory of Township roads is provided in **Appendix 2**.

Road Number

Avon Township maintains 63 roads in the Township (**Appendix 2**).

Road Mileage

There are 42.7 miles of roads in the Township (**Appendix 2**). There is a slight discrepancy in road length certified by the County (44.5 miles; **Appendix 3**) compared to the total listed in the Township inventory. The reason for the difference is not known but likely due to slight errors in measurement. The mileages listed in Appendix 2 were measured using the Stearns County Map Viewer website (<https://gis.co.stearns.mn.us/landuse-Restriction/default.aspx#>) so they may be slightly inaccurate. Nevertheless they are a reasonable estimate and provide the basis for all mileages reported in this document.

Road Types

Avon Township has both paved and unpaved (gravel) roads. These are summarized in **Table 1**. The majority (56 of 63, or 88.9%) of roads in the Township are paved (**Table 2**). Paved roads account for 39.8 miles, or 93.2% of the total length of all roads in the Township. Conversely, there are only 7 unpaved roads (11.1%) for a total of 2.9 miles. In other words, 6.8% of our total road mileage is not paved.

Gravel roads are maintained by periodically grading them.

There are 6 minimum maintenance roads in the Township and these are summarized in **Table 1**. Minimum maintenance roads total 2.2 miles of road surface, or 5.2% of all Avon Township roads by length (**Table 2**). One minimum maintenance road essentially serves as the driveway for a single resident.

Peach Drive is the only unpaved road in the Township that is not a minimum maintenance road.

Table 1. Listing of Unpaved and Minimum Maintenance Roads in Avon Township	
Minimum Maintenance Roads (all others are regular)	Unpaved Roads (all other roads in the Township are paved)
360th St. (E of Co Rd 155)	360th St. (E of Co Rd 155)
360th St. (W of Co Rd 155)	360th St. (W of Co Rd 155)
365th (W of Co Rd 155)	365th (W of Co Rd 155)
370th St. (W of 155)	370th St. (W of 155)
Meadowview Road	Meadowview Road
Schirmer's Driveway	Peach Drive
	Schirmer's Driveway

Table 2. Summary of Road Types in Avon Township. There are 63 roads, 42.7 miles, in the Township.				
	Number		Length	
	Number	% Total	Length (miles)	% Total
Paved	56	88.9	39.8	93.2
Gravel – Maintained	1	1.6	0.7	1.6
Gravel – Minimum Maintenance	6	9.5	2.2	5.2

Road Usage

At their October 2020 meeting, members of the Planning Commission discussed and estimated how much traffic is carried by each Township road (**Appendix 2**). Each road was assigned a number from 1 (*high usage*) to 5 (*low usage*). These assignments were based on anecdotal evidence.

The mean usage rating of all Town roads was 4.2 out of 5. A graph showing the percentage of the total number of roads in each usage category is provided in **Figure 1**. This graph shows that most Township roads (62.7%) are considered to have low usage. Less than 4% of Township roads are estimated to have high usage (**Figure 1**). One reason for the low usage rating is that nearly half (47.6%, 30) of Township roads are dead ends.

When road usage is examined on a mileage basis (**Figure 2**), the percentage of miles in each usage category ranges from 10 – 30%, though is more-or-less evenly distributed among the usage categories (**Figure 2**). Based on miles, approximately half of Township roads are ‘heavily’ used (categories 1, 2 & 3), while half are lightly-used (categories 4 & 5).

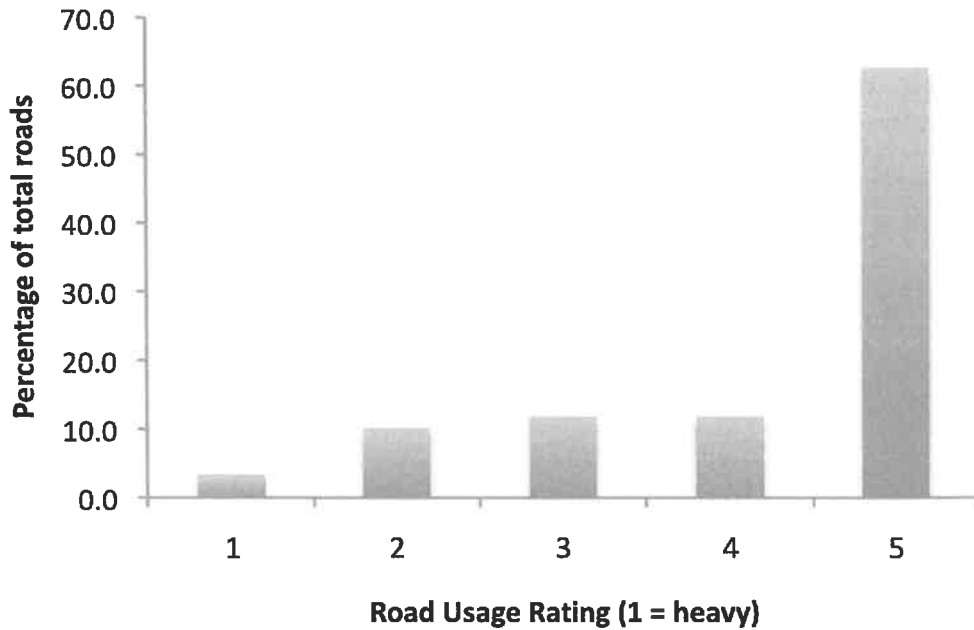


Figure 1 . Graph showing estimated usage of Avon Township roads based on the percent of total roads. There are 63 total roads in the Township.

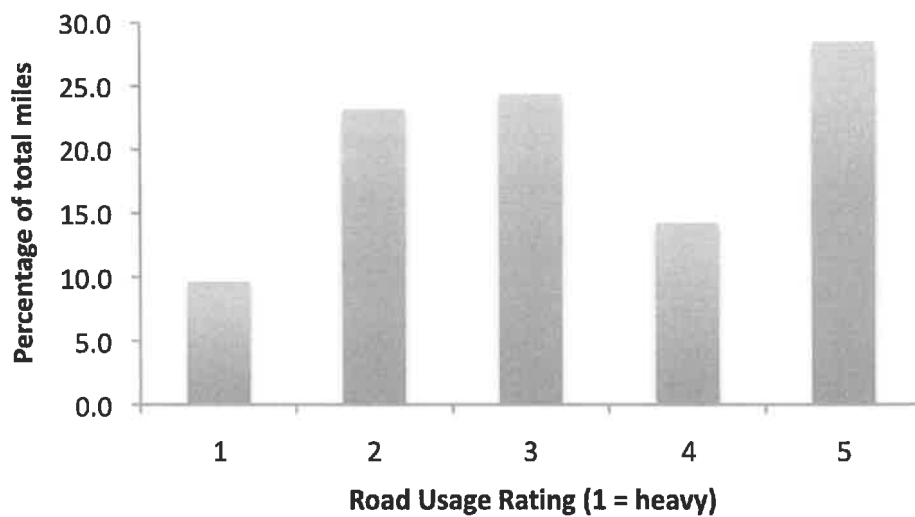


Figure 2. Graph showing estimated usage of Avon Township roads based on mileage. There are 42.7 miles of roads in the Township.

Signs

The Township has a sign policy (see Resolution 01-04-12; **Appendix 4**) and a complete inventory of signs. A booklet is maintained with all roads in the Township. Connor Stark-Haws, a student at Saint John's University, also entered these data into a GIS database.

Any 911 sign that is needed is the responsibility of the resident.

Driveways

The Township maintains control over driveways to insure that residents do not damage Township roads. The driveway policies are provided in **Appendix 5**. Any resident who plans to move, change the physical dimensions, or slopes of an existing driveway, or add a new driveway to his/her property is required to obtain an Avon Township driveway permit. Changing the surface material does not require a driveway permit. Driveway permits are required to ensure that Township roads are not damaged and that there is no public safety hazard created by the driveway. The permit costs \$50.00. There is a \$500.00 damage deposit that is collected when the permit is issued; it is refunded if no damage is done to the Town road during construction. *See Resolution 01-06-21: Resolution Updating & Modifying Resolution 08-06-14 Regarding Driveway Standards in Avon Township.*

III. Road Surface Maintenance

The Township is responsible for maintaining the surface of Town roads in passable and safe condition. Avon Township has a Road Standards policy (**Appendix 6**).

To maintain roads, the Supervisors annually inspect Town roads. Every road is driven and notes about the condition of the road are recorded. The annual road inspection serves as the primary document that informs the decision of the Supervisors for road maintenance. Copies of the road inspection results are available on the Town website. In addition, our maintenance person is constantly on the look out for any potential roadwork and reports his observations to the Supervisors.

In 2018 and 2020, the Township evaluated our roads. Each road was rated from 1 to 5 (*best quality*) (**Appendix 2**). These results were confirmed by the Supervisors and Planning Commission and are summarized based on number of roads and mileage in **Tables 3 & 4** and graphed in **Figures 3 & 4**.

The average quality of all roads in the Township was 3.2 and 3.3 in 2018 and 2020, respectively (a rating of 5 = best).

Table 3. Avon Township Road Rating from 2018 & 2020 based on total roads. In 2018, 58 of 63 roads were rated; in 2020, 60 of 63 were rated.

Road Quality	2018		2020	
	# Roads	% Roads	# Roads	% Roads
5 (best)	7	12.1	15	25.0
4	16	27.6	11	18.3
3	22	37.9	18	30.0
2	10	17.2	11	18.3
1	3	5.2	5	8.3

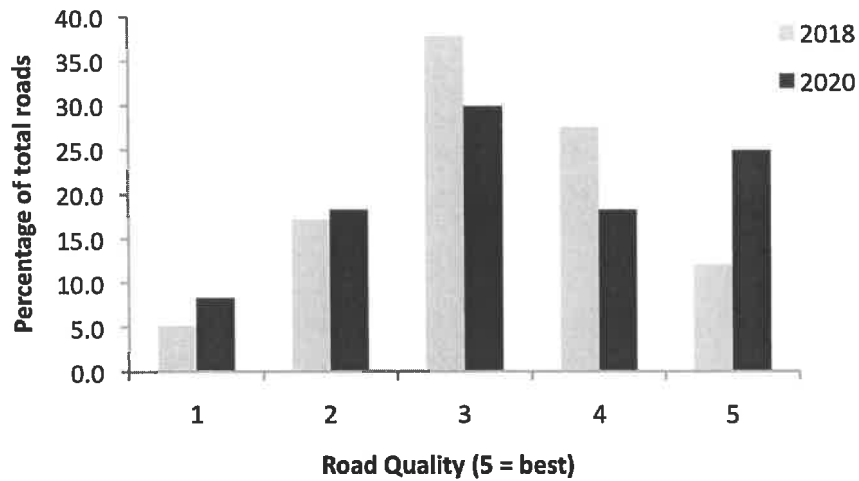


Figure 3. Graph showing rating of Township road quality based on number of road

Table 4. Avon Township Road Rating from 2018 & 2020 based on road mileage. In 2018, 58 of 63 roads (41.2 miles) were rated; in 2020, 60 of 63 (39.4 miles) were rated.

Road Quality	2018		2020	
	Miles	% Miles	Miles	% Miles
5 (best)	5.8	14.2	10.2	25.9
4	12.3	29.9	7.0	17.8
3	16.1	39.1	15.3	38.9
2	3.3	8.0	5.0	12.6
1	3.6	8.8	1.9	4.8

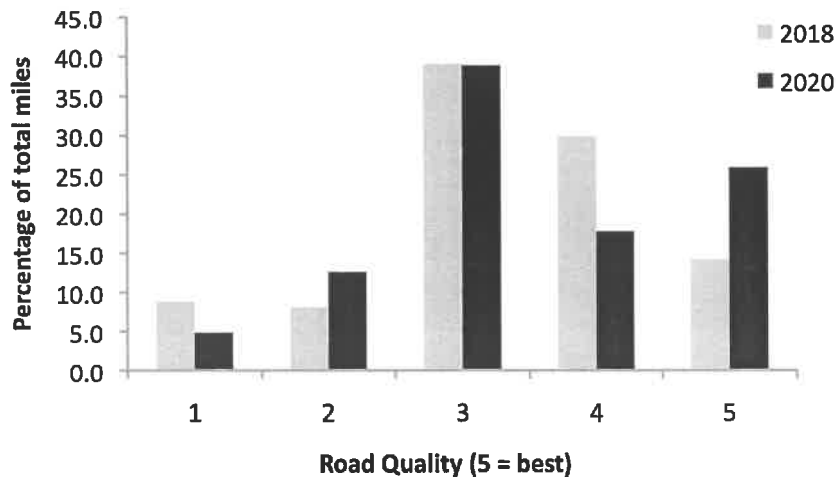


Figure 4. Graph showing rating of Township road quality based on number of miles

Road Replacement. A road that is judged to be in poor shape becomes a candidate for resurfacing. If required, the Supervisors typically hire an engineering firm (*i.e.*, Stantec, Westwood, WSB) to prepare the bid documents and oversee the project. Though this costs the Town additional money, it is worth the cost.

Thirteen of 63 Township roads (21.0%) have been resurfaced since 2010. These roads are listed in **Tables 5 & 6**. Collectively, these roads account for 18 miles or 42.2% of the total road miles in the Township.

Table 5. Roads (listed alphabetically) most recently resurfaced in Avon Township

Year Resurfaced	Road
2013	135 th Ave.
2016	165 th Ave.
2016	325 th St.
2011	355 th St.
2020	Highland Terrace
2019	Norway Road
2020	Orchid Court
2020	Shorewood Drive
2012	St. Anna Drive
2012	Sunnyfield Circle
2020	Tower Road
2012	Two Rivers Road
2014	Upper Spunk Lake Road

Table 6. Roads (listed by year) most recently resurfaced in Avon Township

Year Resurfaced	Road
2011	355 th St.
2012	St. Anna Drive Sunnyfield Circle Two Rivers Road
2013	135 th Ave.
2014	Upper Spunk Lake Road
2016	165 th Ave 325 th St.
2019	Norway Road
2020	Highland Terrace Orchid Court Shorewood Drive Tower Road

Paved Road Maintenance. The Township takes care of routine road maintenance. Among the maintenance includes: (a) repairing potholes, (b) sealing minor cracks, (c) trapping pocket gophers undermining the road surface, and (d) pulling in the shoulders with a shouldering disk.

Roads with cracks are crack-sealed with a rubberized material. Not all roads are crack-sealed, just those the Supervisors deem whose life span will benefit from the process. Crack sealing is hired out to a local contractor.

Unpaved Road Maintenance. Maintenance of unpaved roads involves periodically grading the roads (using a belly blade on one of the snow plows) and adding class 5 gravel as necessary.

Analysis & Recommendations. Our data show that Avon Township roads are in good shape. Based on the data, for each paved road a recommended strategy was identified. These strategies, based on a WSB report to Wakefield Township, are:

- Preventative Maintenance – including crack sealing, fog sealing, chip sealing, micro surfacing. In this case the road is in good shape and it is cost effective to maintain its life to do preventative maintenance.
- Overlay/Mill & Overlay – the road condition has deteriorated to the point at which a new surface is overlaid or the existing surface is milled and then overlaid. The base of the road is acceptable.
- Reclaim/Reconstruct – the road has deteriorated to the point at which the base requires action before a surface treatment can be added.

To determine an action plan for road maintenance, Town roads were categorized by quality and then by usage (**Table 7**). The plan would be to replace the worst quality roads that receive the highest usage. In addition, the plan would be to try to replace roads within one area of the Township (i.e., SW corner).

Table 7. Avon Township Roads Categorized by Quality & Usage. Low use roads are in category 4 & 5). High use roads are in categories 1, 2 & 3.

Worst Road Quality (1 & 2)	Medium Road Quality (3)	Best Road Quality (4 & 5)
<p>Low Usage</p> <ul style="list-style-type: none"> • 140th Ave. • 185th Ave. (N of Upper Spunk Lake) • 360th St. (E of 160th Ave) • 363rd St. • 370th St. (E of Co Rd 9) • Kopyy Lane • Lower Spunk Lane • Narnia Lane • Nob Hill Drive (North section) • Red Maple Drive • Red Oak Circle <p>High Usage</p> <ul style="list-style-type: none"> • 190th Ave. • Parkwood Circle • Two Rivers Road (part) 	<p>Low Usage</p> <ul style="list-style-type: none"> • 185th Ave. (S of St. Anna Dr.) • 188th Ave. • 360th St. (E of Co Rd 155) • 365th St. (E of Co Rd 155) • 370th St. (E of 155) • Nob Hill Drive (South section) • Nordica Road • Plum Hill Road • Princewood Road • Sara Lane <p>High Usage</p> <ul style="list-style-type: none"> • 1st St. SE • 135th Ave. • 355th St. • 360th St. (W of Co Rd 9) • Pelican Lake Road • Queens Road • St. Anna Drive • Tower Road 	<p>Low Usage</p> <ul style="list-style-type: none"> • 154th Ave. • 165th Ave. • 175th Ave. • 182nd Ave. • 186th Ave • 325th St. • 331st St. • 360th St. (W of Co Rd 155) • 365th (W of Co Rd 155) • 370th St. (W of 155) • 377th St. • Cardinal Nest • Highland Terrace • Peach Drive • Meadowview Road • Norman Road • Orchid Court • Riley Court • Shorewood Drive • Springwood Lane • Sunnyfield Circle • Two Rivers Road (part) <p>High Usage</p> <ul style="list-style-type: none"> • 160th Ave. • Quaker Road • Norway Road • Upper Spunk Lake Road

Based on the data available, a plan of action was determined. It is summarized in **Table 8**.

Year	Road(s)	Action
2021	Narnia Lane Nob Hill Drive Noble Oak Circle Nordica Road,	resurface
2022	Queens Road	resurface
2023	Two Rivers Road (<i>joint project with Holding Township</i>)	resurface

IV. Road ROW Maintenance

The Township is responsible for maintaining the road right-of-way. For most Town roads this extends 93 feet from the center-of-the-road to the edge of the tar. Maintenance includes: (a) periodically mowing weeds; (b) periodically spraying weeds, and (c) removing brush. The Township works closely with the County Weed Inspector. Brush is either cut by hand or using a mower that is rented. The Township owns a mower but rents a tractor to pull it.

V. Snow & Ice Removal

Winter is one of the biggest challenges for maintaining roads in Minnesota. The continual barrage of snow and ice makes traveling difficult and provides unsafe conditions for motorists and pedestrians. The roads must be kept as clean as possible.

To help maintain roads in the winter, the Township:

1. Has a full-time maintenance person who is responsible for maintaining and operating Township equipment, including serving as the main snowplow driver. Joseph Koopmeiners is currently serving in this position, which he has held since about 2000.
2. Owns two plow trucks – for plowing major roads.
 - Blue – 2001 Ford Sterling
 - Red – 1996 Ford L8000
3. Owns one pickup with a blade – to plow cul-de-sacs (2006 Chevrolet, including crane)
4. Owns a Bobcat for loading salt/sand and clearing the parking lot at the Town Hall, etc.

5. Hires two additional drivers during the snow season.
6. Has a salt storage shed. (*details – size, etc*)
7. Appoints one of the Supervisors to serve as the ‘Road Supervisor.’ It is his/her responsibility to oversee the maintenance person and to be ultimately in charge of road maintenance and quality.

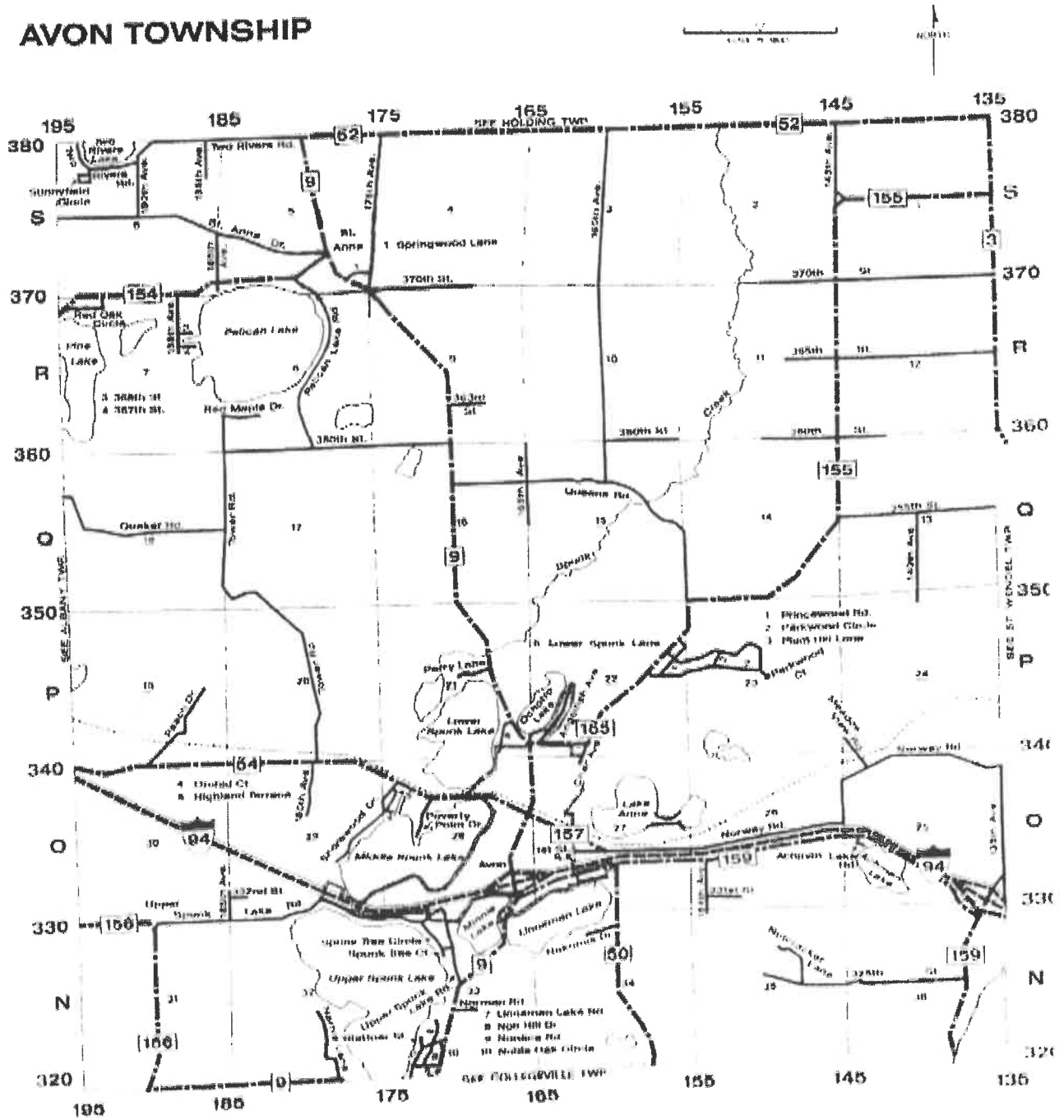
Analysis & Recommendations: Overall, snow and ice removal are going well. The most common complaints from residents include the timely removal of snow, and damaging mailboxes and sod. We recommend the following:

1. It is important to have an individual to be responsible for the day-to-day maintenance of township equipment and for plowing and overseeing roads. As long as the Township is doing our own plowing, it is essential to our snow and ice removal efforts and the Town must continue to maintain someone in this position as long as we do our own winter snow removal.
2. Snowplows – our existing plows are aging and will need to be replaced in the near future. The Township should create a separate capital budget line for snowplow replacement so that funds will be available when it comes time for replacement. Regular maintenance costs should be able to be covered in the regular budget. It is likely that within the next five years the Township will need as much as \$100,000 to cover the replacement costs of the two main plows and pickup.
3. Plow Timing – the Township makes every effort to insure that Town roads are cleared by the morning/evening rush hours, and when school buses are coming by.
4. Accidental Damage – the Township makes every effort to avoid damage to any property but even under the best circumstances it is impossible to avoid completely. The township should insure that drivers are properly trained on the use of equipment, that the road ROW is kept clear, and that residents know that they are required to use a USPS approved mailbox and breakaway post.
5. The current plan for salt seems to work well. Considering that salt is an environmental hazard, the Township should make an effort to minimize salt use, while still maintaining road safety. Township staff should attend workshop(s) on best practices for salt/sanding.
6. Additional Drivers – the Township seeks a commitment from drivers in late summer and should continue this practice. The Town should insure that all drivers have proper training.

Appendices

Appendix 1. Avon Township Road Map

AVON TOWNSHIP



Appendix 2. Inventory of Township Roads

Avon Township Road Inventory											
Last update: 2021 - Feb 25											
Road Name	Road #	Section Numbers	Approx Length (measured using County Property Viewer)		Surface	Maintenance Type	Usage	Dead end?	Year Last Resur- faced	Status - Fall 2018	Status - Fall 2020
			Feet	Miles							
Avenues											
135th Ave.			4966	0.94	1	1	3	0	2013	3	3
140th Ave.	354	13-24	3223	0.61	0.5	1	5	0	2020	2	1
145th Ave.	151	1-2	2893	0.55	1	1	4	0		2	2
154th Ave.	1012	26-35	3074	0.58	1	1	5	1			4
160th Ave.	352	3-10-15	11,742	2.22	1	1	2	0		4	4
165th Ave.	351	15,16	2656	0.50	1	1	5	1	2016	5	5
175th Ave.	350	4-5	5095	0.96	1	1	4	0		3	4
182nd Ave.		31	2881	0.55	1	1	5	1		4	4
185th Ave. (S of St. Anna Dr.)	582	5-6	2736	0.52	1	1	4	0		3	3
185th Ave. (N of Upper Spunk Lake)		29-30	1622	0.31	1	1	5	1		2	2
186th Ave			1692	0.32	1	1	5	1		4	4
188th Ave.	349	7	2657	0.50	1	1	5	1		3	3
190th Ave.			1854	0.35	1	1	3	0		3	2
Streets											
1st St. SE	121	27	1176	0.22	1	1	3	0		2	3
325th St.	127	35-36	5666	1.07	1	1	4	1	2016	5	5
331st St.	1023	26	1897	0.36	1	1	5	1		3	4
355th St.	107	13	5318	1.01	1	1	1	0	2011	4	3
360th St. (E of 160th Ave)	96	15	2640	0.50	1	1	5	1		2	1
360th St. (E of Co Rd 155)	82, 94	11-14	1624	0.31	0	0	5	1		3	3
360th St. (W of Co Rd 155)			2749	0.52	0	0	5	1		4	5
360th St. (W of Co Rd 9)		16,17	7,920	1.50	1	1	2	0		4	3
363rd St.	97	9	1363	0.26	1	1	5	1		3	2
365th (W of Co Rd 155)			1357	0.26	0	0	5	0		4	5
365th St. (E of Co Rd 155)	93, 99		5272	1.00	1	1	4	0		4	3
370th St. (E of 155)	81	12	5280	1.00	1	1	4	0		3	3
370th St. (W of 155)	95	2-11	2640	0.50	0	0	5	1		4	5
370th St. (E of Co Rd 9)	80	9	3432	0.65	1	1	5	1			2
377th St.			1010	0.19	1	1	5	1		3	4
Named											
Cardinal Nest	1025	6	619	0.12	1	1	5	1		5	5
Highland Terrace	584	28-29	958	0.18	1	1	5	0	2020	2	5
Koppy Lane			1353	0.26	1	1	5	1		1	1
Lower Spunk Lane	132	21-28	1388	0.26	1	1	5	1		1	1
Meadowview Road	115	24-25	1848	0.35	0	0	5	1		4	4
Narnia Lane	64	32	1452	0.28	1	1	5	1		2	1
Nob Hill Drive (South section)			911	0.17	1	1	5	0		3	3
Nob Hill Drive (North section)	1134	33	1145	0.22	1	1	5	1		3	2
Noble Oak Circle	129	33	1575	0.30	1	1	4	0		3	2
Nordica Road			412	0.08	1	1	5	0		3	3
Norman Road	131	33	423	0.08	1	1	5	1		4	5
Norway Road	54, 122	25-26-27	16,456	3.12	1	1	1	0	2019	1	5
Old Collegeville Road	133	25	183	0.03	1	1	3	0		5	5
Orchid Court			381	0.07	1	1	5	1	2020	2	5
Parkwood Circle	83	22,23	7,696	1.46	1	1	3	0		3.5	2.50
Peach Drive	1069	19	3679	0.70	0	1	5	1		4	5
Pelican Lake Road	1024	5-8	6600	1.25	1	1	2	0		4	3
Plum Hill Road			646	0.12	1	1	5	1		3	3
Princewood Road			1574	0.30	1	1	5	0		3	3
Quaker Road	105	18	6204	1.18	1	1	2	0		3	4
Queens Road	106	14-16	9,086	1.72	1	1	2	0		5	3
Red Maple Drive	585	7-8	1502	0.28	1	1	5	1		3	2
Red Oak Circle	1133	7	1483	0.28	1	1	5	0		2	2
Riley Court			634	0.12	1	1	5	1		4	4
Sara Lane	528	5-8	1253	0.24	1	1	5	1		3	3
Schirmer's Driveway	108	18	1320	0.25	0	0	5	0			??
Shorewood Drive		28,29	3585	0.68	1	1	4	1	2020	3	5
Springwood Lane	529	5	988	0.19	1	1	5	0		4	4
Spunk Tree Circle	63	33	1634	0.31	1	1	5	0		2	2
Spunk Tree Court	63	33	351	0.07	1	1	5	1			
St. Anna Drive	79	5,6	9228	1.75	1	1	3	0	2012	4	3.5
Sunnyfield Circle	1070	6	1802	0.34	1	1	5	0	2012	5	5
Tower Road	98	8,9,16-18,20	14,216	2.69	1	1	3	0	2020	3	3.5
Two Rivers Road	75, 1026	5,6	15,720	2.98	1	1	3	0	2012	3	1.5
Upper Spunk Lake Road	128, 1132	29, 31-33	10,798	2.05	1	1	2	0	2014	5	5

Appendix 3. Avon Township Annual Road Certification Form

TO: All Township Board Chairpersons
 FROM: Jodi Teich, Highway Engineer
 DATE: October 8, 2020
 RE: Township Road Mileage Certification

The following is a list of road mileage for each township in Stearns County certified and submitted to us by the respective townships as being maintained and open to travel by the public for at least eight (8) months of 2020.

TOWNSHIP	MILEAGE	TOWNSHIP	MILEAGE
Albany	47.0	Lynden	40.1
Ashley	33.4	Maine Prairie	77.7
Avon	44.5	Melrose	32.5
Brockway	61	Millwood	44.2
Collegetown	44.5	Munson	45
Crow Lake	25.3	North Fork	41.2
Crow River	35.6	Oak	33
Eden Lake	56.0	Paynesville	56.7
Fair Haven	45	Raymond	32
Farming	44.7	St Joseph	18.5
Getty	35.9	St Martin	36.2
Grove	34.0	St Wendel	63
Holding	45.6	Sauk Centre	36.3
Krain	56.0	Spring Hill	37.9
Lake George	31.8	Wakefield	57.1
Lake Henry	33.0	Zion	37.5
Le Sauk	25.0		
Luxemburg	47.0		
Subtotal	745.3		688.9
TOTAL	1,434.2		

Please review the mileage shown for your Township and add new mileage if applicable. Please sign and return this form by **November 10th**.

_____ Date

_____ Township Chairperson

_____ Township

Appendix 4. Avon Township Road Sign Inventory, Retro-Reflectivity Compliance Evaluation, and Replacement Policy

It is the stated objective of Avon Township, Stearns County, MN to maintain its town roads in a safe and cost-effective manner. As part of its maintenance efforts, Avon Township recognizes that regulatory, warning, and directional road signs (collectively referred to as safety signs), including but not limited to stop signs, yield signs and other similar traffic control devices, need to be properly inventoried, assessed for compliance with applicable retro-reflectivity standards, maintained, and replaced from time to time.

Avon Township further recognizes that when signs are installed within town road rights-of-way they must comply with state and federal regulations as primarily outlined in the *Manual on Uniform Traffic Control Devices*. As part of its efforts to comply with applicable regulations, the Board of Supervisors of Avon Township shall be guided by the following plan adopted in accordance with Section 2A.08 of the *Manual on Uniform Traffic Control Devices*:

1. **Inventory.** In recognition of the importance of knowing the number, type, and location of road signs situated in township road rights-of-way, Avon Township will complete an inventory of all town road signs by December 31, 2012. The completed inventory will be maintained and updated each time a sign is installed, replaced, or removed but not less than on an annual basis. The inventory shall indicate the type of sign, the number of each type of sign, the location of each sign including the direction the sign faces, the date of installation (when known for pre-existing signs), type of material used on sign face (when known), a general statement on the condition of the sign, a record of any maintenance performed on the sign, and the date of sign removal if applicable.
2. **Removal of Excess Signs.** In recognition of the fact that excess road signs have been shown to reduce the effectiveness of signage, as well as impose an unnecessary financial burden on the road authority, it shall be the policy of Avon Township to remove signs determined to be unnecessary for safety purposes and which are not otherwise required to comply with an applicable state or federal statute or regulation. The removal of signs shall be based on an engineering study and the *Manual on Uniform Traffic Control Devices*. Particular attention shall be paid to recommendations on signage for roads considered to be “low-volume” under the *Manual on Uniform Traffic Control Devices* as adopted by the State.
3. **Retro-reflectivity Evaluation.** In recognition of the new retro-reflectivity standards adopted into the *Manual on Uniform Traffic Control Devices* by the Federal Highway Administration, Avon Township will arrange to have all town road signs not removed under section 2 above evaluated for compliance with the applicable retro-reflectivity standards. It shall be the intent of the Town to conduct this evaluation using the following method as authorized by the *Manual on Uniform Traffic Control Devices* rules: (Choose one)
 - a) Visual Nighttime Inspection Method (Utilizing Calibration Sign Procedure or ii. Utilizing Comparison Panel Procedure
 - b) Measured Sign Retro-Reflectivity Method

The Town will complete this evaluation by December 31, 2013. The board reserves the right to change which evaluation method will be utilized as expressly found necessary by the board due to budgetary constraints or other practical difficulties in completing this process.

4. **Sign Replacement.** After completion of the inventory, removal of unnecessary signs, and proper retro-reflectivity evaluation, the town board hereby establishes the following priority order in which road signs will be replaced:
 - a) First priority shall be given to replacing all signs determined not to meet applicable retro-reflectivity standards. Top priority shall also be given to replacing missing or damaged signs determined to be of a priority for safety purposes.
 - b) Second priority shall be given to signs determined to be marginal in their retro-reflectivity evaluation.
 - c) Third priority shall be given to all remaining signs as they come to the end of their anticipated service life, become damaged, etc.

In addition, within each category above, further priority shall be given to warning and regulatory signs on roads with higher vehicle usage.

5. **On-going Maintenance.** The town shall include a general inspection of road signs in township rights-of way as part of its annual road inspections. The town shall update its sign inventory as provided in section 1. After the initial replacement of signs as provided for in Section 4, the town shall, for the purpose of complying with the requirements of the *Manual on Uniform Traffic Control Devices* to maintain minimum retro-reflectivity standards, shall, as budgetary factors allow, replace signs as they reach the end of the latter of their (a) warranty period; (b) expected life expectancy for the facing material used on the sign; or (c) expected life as determined by an authorized engineering study. Damaged, stolen, or missing signs may be replaced as needed.

Appendix 5. Avon Township Driveway Standards (see Resolution 01-06-21)

General: Any resident who plans to move, change the physical dimensions, or slopes of an existing driveway, or add a new driveway to his/her property in the Township road right-of-way requires an Avon Township driveway permit. Changing the surface material does not require a driveway permit. Driveway permits are required to ensure that Township roads are not damaged and that there is no public safety hazard created by the driveway. The permit costs \$50.00. There is a \$500.00 damage deposit that is collected when the permit is issued; it is refunded if no damage is done to the Town road during construction.

Driveway Standards – Driveways in Avon Township should meet the following standards (Resolution 01-06-21):

1. All accesses shall be aligned to be straight and perpendicular to the centerline of the road within the limits of the Township right-of-way.
2. All access will be aligned with street or entrances on the opposing side of the roadway if possible.
3. Avon Township will determine if culverts and aprons are required, and the size/length that is required.
4. Culverts will be a minimum of 15 inches in diameter and made of steel or DOT-approved double walled plastic.
5. Aprons will accompany culverts and also be made of steel or DOT-approved plastic.
6. It is not permitted to remove the short heel that extends from the Township road into the driveway without approval by the Town Board.
7. Separation distance from other accesses is at the discretion of Avon Township. Generally, only one access per 40 acres or smaller parcel is granted unless the resident can show a specific need for the additional driveway. All new accesses should be a minimum of 125 feet from any other driveway access or intersection.
8. Driveways will conform to the standards of Stearns County (Highway Department Access and Right of Way Width Guidelines) including:
 - a. Residential access surfacing width shall be a minimum of 16 feet and/or a maximum of 24 feet;
 - b. Commercial and industrial access surfacing shall be 30 feet in width;
 - c. Field accesses shall be a minimum of 16 feet in width;
 - d. Entrance/access widths of up to a maximum of 40 feet will be considered under special circumstances (such as high volumes of semi-tractor trailers, narrow adjacent roadways, etc.); and
 - e. Street accesses shall be a minimum of 30 feet in width and shall be paved within the limits of the Township right-of-way or graded to drain away from the Township roadway.

Non-Conforming Requests – Avon Township Board of Supervisors make the final decision about any driveway permit that is issued in the Township. If a requested driveway is more than 40 feet wide, it requires a variance hearing for approval. A request for a driveway between 24 – 40 feet will be reviewed by the Planning Commission, which will forward a recommendation to the Supervisors for consideration for approval. Any deviation from these policies must first be approved by the Avon Township Road Supervisor, or a designee,

prior to construction. Failure to comply with the Avon Township Driveway Policies will result in a forfeiture of the damage deposit.

Driveway Inspector – The Avon Township Road Supervisor or designee is responsible for documenting the road condition before and after the work, determining if a culvert and aprons are required, and whether or not the completed work meets Township specifications.

Appendix 6. Avon Township Road Standards

Adopted 5/5/04

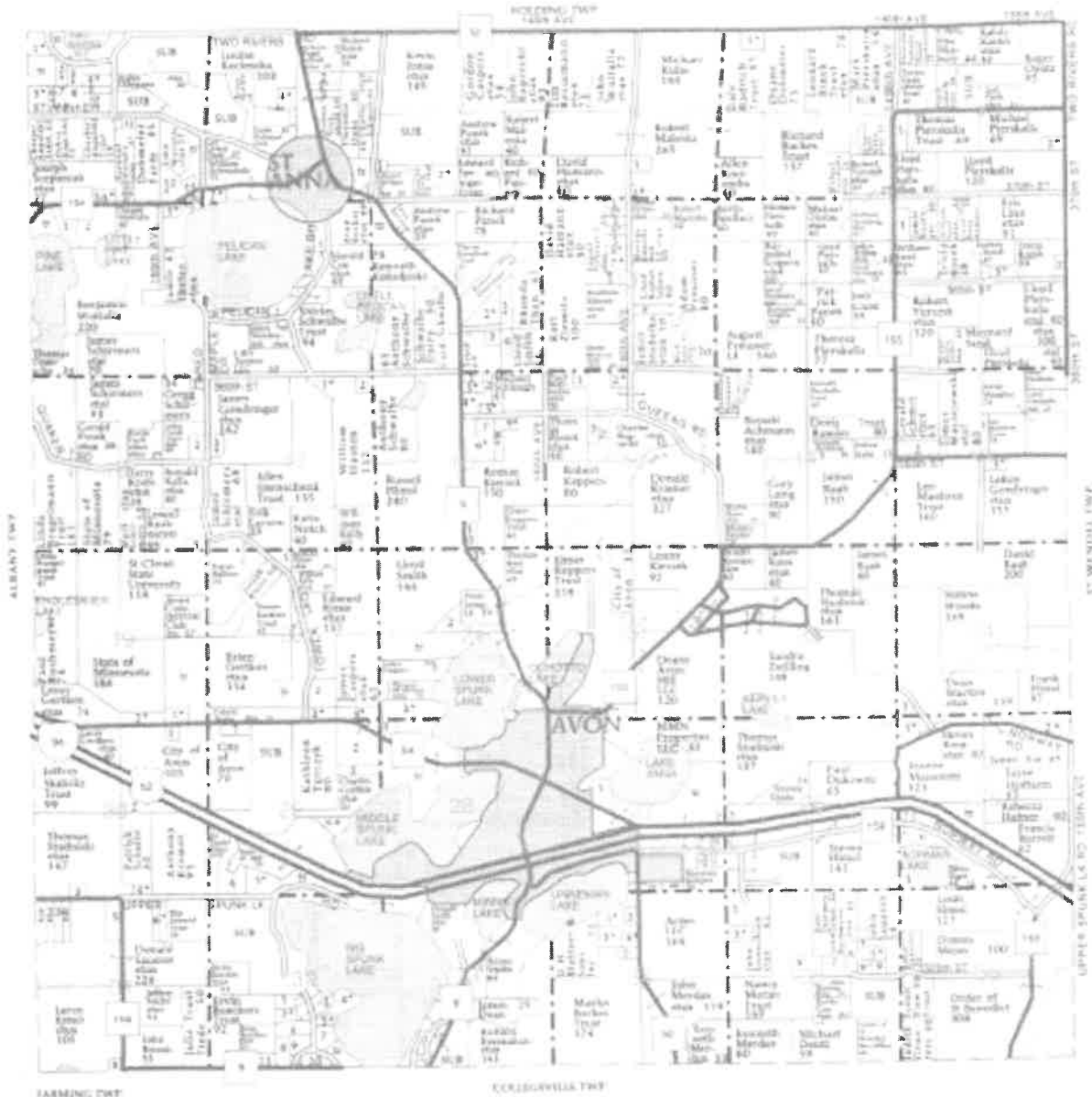
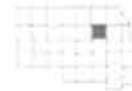
TOWNSHIP OF AVON
Roadway Specifications

- 1) Minimum roadbed width shall be 28 feet in residential areas with 66 feet deeded right of way. Industrial areas shall have a minimum roadbed of 36 feet, with 80 feet deeded right of way.
- 2) The roadbed shall be graded and built up to a minimum of 2 feet above adjacent land on both sides with a minimum ditch depth of 3 feet on both sides of the roadway. Approach level shall be no more than 12 inches below center of public road. Any deviations shall be at the Town Boards discretion.
- 3) The subgrade material shall be covered with a minimum of 6 inches compacted depth, of M.H.D. Class 5 crushed aggregate over the full roadbed width and two 1 ½ inch layers, compacted depth, of bituminous pavement over the center 22 feet. For industrial areas the requirement shall be a minimum of 10 inches, compacted depth, of class 5 crushed aggregate over the full roadbed width and two 1 ½ inch layers, compacted depth, of bituminous pavement over the center 24 feet. Bituminous mixtures shall be in accordance with the M.H.D. Spec. 2331 or alternate M.H.D. Spec. 2321 road mix.
- 4) After placement of the bituminous pavement the shoulders shall be built up with Class 5 aggregate to the same thickness as the pavement.
- 5) The above designs are based on areas which have a good granular subgrade material. Any other subgrade material will constitute a change in the roadway design thickness as recommended by the Township Engineer. The township may require soil tests prior to the final approval authorizing the construction of any road. Such soil tests are to consist of test holes to a depth necessary to determine the various types of soil to be encountered before reaching a stable base. Such test holes, when ordered by a governing body, shall be drilled at the expense of the owner or developer and the information disclosed shall be furnished to the governing body together with a copy of the proposed location of each test hole in relation to the applicable right of way. Further, the information required shall include a report as to the various types of soil encountered and the depths, the level of ground water. The number of test holes to be drilled and their location on the property which is proposed to be platted will be as directed by the governing body or its authorized representative. Further, the owner may be required to furnish a report from a recognized engineering laboratory as to the use of the area for the road purported to be constructed, however, final approval of such road construction shall be subject to the township engineer's approval.
- 6) On all newly graded roadways the developer must submit a drainage map and erosion control plan, showing the drainage areas and all proposed ponding areas or outlets. This shall be approved by the Town Board before any construction begins. Inspection of the construction shall be performed by the township engineer at the developers cost in all phases of construction.
- 7) It will be the obligation of the developer to maintain existing drainage courses in substantially the same manner that they existed prior to construction of the road. Further, that the developers must comply with all county, state, and other local regulations prior to the construction of said purported roads.

T-125-N

AVON PLAT

R-30-W



AVON TOWNSHIP

- SECTION 1**
 1. Maciejewski, Ruth 10
 2. Morgei, Terrence etux 10
- SECTION 2**
 1. Lashinski, Leroy etux 10
 2. Thvraaen, Michael etux 5
- SECTION 3**
 1. Kocicmba, Allen 10
 2. Kizpaha, Russell etux 5
- SECTION 4**
 1. Gieien Jr, Leroy etux 5
 2. Stref, Keith etux 13

- SECTION 5**
 1. Pogatschik, Richard 8
 2. Aizee Trust 5
 3. Kioya, Robert etux 5
 4. Opala, Robert etux 11
 5. Zbur, Kenneth 5
 6. Abritton, Joseph etux 5
 7. Brynawnda, Ronald etux 10
- SECTION 8**
 1. Springler, Bradford etux 12
 2. Hedeen, Willard etux 5
 3. Toughill, Steven etux 10
 4. Koppin, Thomas etux 5
 5. Lang, Robert etux 13

6. Baggenstok, Joseph etux 7
 7. Dufner, Glen 7
 8. Weber, Thomas 13
 9. Bendaet, Jonathan 5
 10. Honkamp, LeRoy 5
 11. Pirk Jr, Gary 5
 12. Braun, Joseph etux 14
 13. Forster, Chad 5
 14. Blanka, Roger etux 5
 15. Plunski, Jamie 5
 16. Kremers, Keith etux 3
- SECTION 11**
 1. Dolan, Vincent 11
 2. Schwabe Trust, Shirley 27
 3. Ehrlichman, James etux 5

- SECTION 13**
 1. Then, Timothy etux 10
 2. Jonas, Leroy etux 20
 3. Schwabe, Steven 5
 4. Smith, Casey 5
- SECTION 16**
 1. Largo, Julie 6
 2. Erickson, Christopher etux 6
 3. Mosiman, Edward 5
 4. Fischer, Marvin etux 5
 5. Farrington, Patricia 5
 6. Spencer, Wayne etux 5
 7. Stodolka, James etux 9
 8. Dett, Donald etux 5
 9. Stodolka Jr, James 10
 10. Prussner, Sylvester 11

- SECTION 12**
 1. Morgei, Jason 10
 2. Renkon, Kelly 5
 3. Brix, Glen etux 10
- SECTION 13**
 1. Mজেসি Trust, Richard 5
 2. Jensen-Walk, Norma etux 13
 3. Mugg, Donald etux 5
- SECTION 15**
 1. Prussner, Timothy 10
 2. Diekhelm, James etux 6
 3. Backus, Daniel 7

- SECTION 16**
 1. Worm, Richard 5
 2. Schneider, Sheryl 11
 3. Rademacher, Leonard etux 5
 4. Hartung, Alphonse etux 7
 5. Pflasko Trust, Martin etux 6
 6. Anderson Trust, Rosemary etux 24
 7. Town of Avon 5
 8. Achman, Rock etux 10
 9. Kierzek, Gary etux 9
 10. Kierzek, Ronald 6

SEE PAGES 189-190 FOR NAMES NOT LISTED ON MAPS.