

ALMENA TOWNSHIP ROADS

**AN ASSET MANAGEMENT PLAN FOR
2018 - 2022**

Township Board of Trustees

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1. INTRODUCTION AND OVERVIEW

Why does Almena Township need a plan for roads?

Many county, primary, county, and local road segments and subdivision streets within the Township are in poor condition. Monies to repair and improve these roads are limited. Currently, property owners in the Township pay 1 mil for maintaining and improving Township local roads. Revenue received from this millage levy was \$163,920 for the fiscal year ending March 31, 2017. In addition, the Board of Trustees allocates funds from the Township's General Fund to help address road maintenance and improvement cost. For fiscal year 2017 (April 1, 2017 through March 31, 2018) the Board authorized a \$200,000 transfer from the General Fund to the Road Fund.

Property owners throughout Van Buren County pay a 1 mil "road tax." In fiscal year 2016 (January 1 through December 31, 2016), the VBCRC received \$2,433,149.67 from this millage levy. Of that amount, \$882,000 is allocated to the "local road fund." Monies received by the local road fund are allocated to each Township in the county based on the following formula:

- a. A fixed allocation of \$10,000 to each Township.
- b. A credit of \$1,738 per local road mile in each Township. Almena has 65.48 miles of local roads.
- c. A credit of \$12.36 per resident for the population factor in each Township. Almena's population from the 2010 Census of Population was 4,992 persons.

For fiscal years 2016 and 2017, Almena's share of the allocated millage was \$41,950.00 and \$56,246.94. If criteria is strictly applied, the formula should yield \$113,804.24, however, the amount is adjusted based on actual dollars available. These funds are in the VBCRC's account and are spent based on requests made each year by the Township. These monies can be accumulated for up to 3 years without penalty.

The Road Committee

Townships in Michigan are authorized to appoint an advisory "road committee" to collect information, and make recommendations about road maintenance and improvement priorities. In Almena, the Road Committee was appointed by the Board of Trustees to develop and present an initial 5-Year Roadway Asset Management Plan. This report represents the Committee's initial effort and is subject to review and comments from the Board of Trustees and from citizens of Almena Township prior to adoption. Moreover, this plan, once approved will be subject to annual updates and revisions.

2. MICHIGAN ROAD LAWS

Since the repeal of the McNitt Act of 1931 and enactment of the State Truck Line Highway System Act, PA 51 of 1951, Michigan Townships have no legal authority over public road repairs and improvements. Act 51 required the County Road Commission to take over and exercise jurisdiction on all township public streets and alleys outside the incorporated limits of cities and villages. County Roads are designated as "Primary" or "Local." Act 51 imposes a duty on the VBCRC to maintain primary and local roads in a condition as "reasonably safe and convenient for travel."

It is clear under Act 51, Almena Township has no legal obligation to maintain, repair, or repave a county road. Moreover, there is no legal obligation on the part of the Township provides funds or to "match" funds expended by the VBCRC.

In Van Buren County, Almena and all other townships are called upon by the VBCRC to contribute funds for local road heavy maintenance because it has insufficient money for construction on local roadways unless the funds are from other sources, i.e., the Township.

3. RESPONSIBILITY FOR KEEPING ROADS IN ALMENA TOWNSHIP

Due to alleged funding limitations, the VBCRC, requires Townships to supply 100% of the funding for local township roads. Almena Townships’ portion of the county millage may be used on township local roads based on the VBCRC’s policy which is as follows:

Townships may use their portion of county millage funds on the following special maintenance and heavy maintenance projects:

Contract Gravel Resurfacing: Townships may elect and use millage funds to cover up to 33% of the total cost of the contract gravel resurfacing program.

Seal Coat and Fog Seal: Townships may elect to use the millage funds to cover up to 50% of the total cost of sealcoat projects.

Construction/Capacity Improvements and Structural improvements: These road projects include placing a hard surface on a gravel road, restructuring an existing road or bridge, resurfacing a road with hot mix asphalt (HMA) overlay, or installing new culverts in catch basins. Almena Township may use all of its county millage allocation for these projects.

4. ROADWAY FUNDING IN 2017-2018

The two largest sources of funds for roads are the increase of 20% in the vehicle registration fee and the \$0.263 (as of January 1, 2017) per gallon gas tax, both collected by the State of Michigan.

How are the vehicle gas sale taxes distributed?

The Michigan legislature addressed this question by enacting Public Act 51 of 1951. The Act created the Michigan Transportation Fund (MTF). Act 51 allocates MTF monies as follows:

Michigan Department of Transportation (MDOT)	39.1%
County Road Commissions	39.1%
Cities and Villages	21.8%
Townships	0%

ALMENA AND ALL OTHER TOWNSHIPS DO NOT RECEIVE MONIES FROM THE MTF

Federal funds from the 26.3 cents per gallon federal gas tax are allocated to Michigan. 75% of the funds go to MDOT and 25% to the county, city, and village road agencies. Again, Townships receive none of these funds. Most are unaware that Michigan is a so called “donor State.” In other words, when citizens and businesses in our state send Washington a dollar, in return we receive \$0.92.

In 2015 and 2016, the county wide millage generated \$2,336,111.67 and \$2,433,149.67 and allocated as follows:

	<u>2015</u>	<u>2016</u>
Local Road Fund:	\$ 801,999	\$ 882,000
County Road Construction Fund:	1, 534,112	1,571,149

In addition to the county wide millage, the VBCRC received \$12,864,427 from MTF (Act 51), federal funds and about 3.3 million in township contributions for local road improvements and heavy maintenance.

Almena Township has jurisdiction over several specific elements in county roads, both primary and local roads. Examples include:

- a. No entity can operate a public utility on a public road right of usage without obtaining prior consent of the Township Board (*Michigan Constitution*).
- b. Townships can enact “Uniform Traffic Control” ordinance, enforced by its police department which includes designated truck routes within the Township.
- c. Sign regulations along all streets within the Township.
- d. The Township can control or eliminate private roads by ordinance.
- e. Township Board may establish the location of school crossings. If done, the Township becomes responsible for the cost of the crossing guards.
- f. Noxious weed control along public highways. By ordinance, the Township can regulate noxious weed eradication along public highways. It may act to eradicate weeds and place the cost in the tax roll against the offending property.

Proper maintenance of the Township’s 65.48 miles of local roads requires a lot of money. The term, “proper maintenance,” is somewhat vague but it means keeping our streets and roads “reasonably safe and convenient for travel.”

It is hoped this Road Asset Management Plan will achieve a safe and convenient local road system utilizing available county and local dollars matched with objectively derived road repair priorities.

5. AN OVERVIEW OF ALMENA TOWNSHIP ROADS

a. COUNTY PRIMARY ROADS

The VBCRC in 2017 has the responsibility to maintain and improve some 15.4 miles of County Primary roads within Almena Township. County Primary roads are designated as “CR” or County Route. Each route is assigned a number. Within Almena Township, three such routes exist, these are:

CR 375 at 3.2 miles in length running from the east Township line at VanKal southwesterly to its terminus at CR 653 in the Almena Settlement.

CR 652 at 4.06 miles in two separate segments. The north segment runs from State Highway M-43 southwesterly to CR 375 and is 2.35 miles in length. The south segment runs from CR 375 due south 1.71 miles to the south Township line.

CR 653 has 8.2 miles in separate segments. The north segment of 2.61 miles runs from the north township line due south to State Highway M-43. The southerly segment of 2.83 miles runs south of State Highway M-43 to the Almena Settlement at CR 375.

The southernmost segment of CR 653 begins at the Almena Settlement and runs southwesterly 2.75 miles to the south town line at 48th street.

Almena Township local roads contain three categories of streets, those with paved surfaces, gravel surface, and streets within residential developments.

b. COUNTY LOCAL ROAD MILES

PAVED SURFACE LOCAL ROADS

Name	Segment	Distance in Miles
22 nd Street	M-43 north to Kalamazoo Line	1.5
22 nd Street	M-43 south to CR 375	1.3
22 nd Street	CR 375 to Southern Twp. Line	2.2
23 nd Street	M-43 south to CR 375	1.5
24 nd Street	38 th Ave. to CR 375	.65
24 th Street	44 th Ave. to south Twp. Line	1.02
27 th Street	CR 375 south to Twp. Line	1.8
27 ½ Street	North Twp. Line to 28 th Ave.	1.05
29 th Street	North Twp. Line to M-43	2.05
30 th Street	South from 28 th Ave. to South Twp. Line	5.09
31 st Street	North Twp. Line to M-43	2.04
32 nd Street	45 th Ave. due south to CR 653	.27
33 rd Street	45 th Ave. south to Twp. Line	.75
Wise Rd.	North Twp. Line southeast to 29 th Street	.78
26 th Ave.	M-40 east to 31 st Street	1.33
28 th Ave.	M-40 east to 31 st Street	1.46
28 th Ave.	29 th Street east to CR 675	1.54
34 th Ave.	(Old M-43) M-43 loop to M-43	1.00 (Est.)
Fish Hatchery Rd.	M-43 northeast of VanKal	1.50
36 th Ave.	M-40 east to 32 nd Street	.83
Whiskey Run Rd.	CR 653 southeast to CR 652	2.09
38 th Ave.	CR 652 east to VanKal	1.53
42 nd Ave.	M-40 east to 32 nd Street	.85
42 nd Ave.	32 nd Street east to CR 653	1.98
44 th Ave.	27 th Street east to VanKal	2.52
46 th Ave.	M-40 east to 33 rd Street	.31
45 th Ave.	33 rd Street east to 32 nd Street	.50
48 th Ave.	33 rd Street east to CR 653	.52
48 th Ave.	30 th Street east to curve	.35
48 th Ave.	27 th Street east to CR 652	.75
Total Miles of Paved		41.06

Total miles of paved streets (north/south), avenues (east/west) within Almena Township in 2017 is 41.06.

GRAVEL SURFACE LOCAL ROADS

Name	Segment	Distance in Miles
25 th Street	M-43 north to dead-end	.55
28 th Ave.	Between 31 st and 29 streets	1.00
28 th Street	Between CR 653 and VanKal	2.03
32 nd Street	M-43 south to 45 th Ave.	3.38
36 th Street	32 nd Street east to grid	.38
38 th Ave.	From .62 miles west of 30 th	0
39 th Ave.	Between paved 39 th and CR 653	.38
48 th Ave.	CR 653 to 30 th	1.00
Total Gravel Surface County Local Roads		8.72

The VBCRC grades the 8.72 miles of gravel roads as needed to eliminate “wash board” conditions. Almena Township pays the VBCRC for dust control and more gravel as needed for within each road segment.

c. RESIDENTIAL DEVELOPMENT STREET MILES

The third category in the Local Road system in Almena Township is those with subdivision and residential developments. The length of internal streets written each development is shown below.

RESIDENTIAL DEVELOPMENT STREET MILES

Development	Linear Feet	Miles Fraction
Hidden Pines	Data Not Available	
Walnut Creek Estates		
Walden Woods	Requires Physical	
Green Acres	Inventory	
Hidden Pond		
Hidden Pond East		
Fieldstone Meadows		
Woodland Preserves		
Trestle Creek Farms		
Woodfield Subdivision		
Higgley’s Orchard Downs		
Thousand Oak # 2 and 3		
Woodview Estates		
Rustic Acres #2		
Total Residential Dev. Street Miles		15.7

Of all local road categories, the streets with residential developments are the most difficult to address as to heavy maintenance (crack seal, chip and seal or seal/fog seal) or as regards to new overlay, removal, or reconstruction.

Many of the existing residential streets were built at a time when oversight regulation and construction standards were minimal. As these streets age, the surface conditions have deteriorated, drainage is poor or non-existent, and side ditches have been filled in, adversely impacting drainage. Other than winter snow removal and occasional warm weather patching, these streets have been given little attention by the VBCRC.

Given very limited Township funds suitable to properly maintain county local paved and gravel roads consisting of 49.78 miles, heavy maintenance or replacement of residential development streets will require abutting property owners to bear a majority of the cost when fixing, repairing, or replacing existing streets. As a policy, the Township Board should consider a 50% cost participation formula to assist with the residential project costs. The formula should be uniform for all such projects petitioned by the property owners. For example, the Township could underwrite engineering costs to gain a cost estimate for the project. If the project proceeds, the Township would contribute a uniform 50% of the proposed cost.

6. ROAD PHYSICAL CONDITION - PASER

As noted earlier, the primary goal of the Township Board, as regards to local roads, is to provide comfortable and safe road surfaces throughout Almena Township. This is no small task considering existing conditions and number of road miles. This plan objectively evaluates existing roadway pavement conditions in partnership with the VBCRC.

In recent years, many public road agencies have utilized a system to evaluate road conditions known as “Pavement Surface Evaluation and Rating” or simply “PASER.” The VBCRC has implemented “PASER” on all paved segments of county primary and county local roads. Initial data presented in this section is derived from 2017 calendar year data developed by the VBCRC staff and provided to the Township.

Appendix A of this report gives the reader a synopsis of PASER protocols and terminology. In general, PASER studies pavement surface conditions and includes a numeral grade of 1 to 10 each road segment. The number given to a road segment causes the condition and work needed to stabilize or improve the segment. When reviewing the data presented in Table 6-1 hereafter, the reader should understand the numeric schedule. Ratings are related to needed maintenance or repair.

PASER RATINGS

Number	Description
Rating 9 and 10	No surface maintenance required
Rating 8	Little or no maintenance required
Rating 7	Routine maintenance, crack seal, minor patching
Rating 5 and 6	Preservative Treatment (seal-coat)
Rating 3 and 4	Structural Improvement Needed
Rating 1 and 2	Reconstruction Needed

Motorists don't care about details or processes; they mainly want a smooth travel surface and safe roads. Surface condition is therefore important to the motorist and is the single most important element in pavement or roadway management. A PASAR rating for each roadway and roadway segment can be combined with other road segment data (e.g. – width, shoulder, traffic volume) to conclude a roadway asset management plan and priorities.

In the following Table 6.1, the right hand column contains "RSL." "RSL" means "remaining service life." Negative numbers in this column mean the roadways should have been repaired or replaced in prior years.

TABLE 6.1 PRESENTS 2016/2017 ROAD SURFACE CONDITIONS FOR ALL TOWNSHIP LOCAL PAVED ROAD

Road Name	Segment Name	From Description	To Description	Length	Current Rating	RSL
S 23rd St	S 23rd St	County Road 375	Undescribed Inv. Segment Split	0.500	1	-15
S 23rd St	S 23rd St	Undescribed Inv.Segment Split	M 43	0.997	1	-12
24th St	24th St	County Road 375	38th	0.623	6	5
26th St	26th St	M 43	Bridge	0.997	1	-13
26th St	26th St	Bridge	28th	0.487	6	3
26th St	26th St	28th	Fish Lake BAS	0.598	6	3
26th St	26th St	Fish Lake BAS	24th	0.455	2	-4
26th Ave	26th Ave	M 40	31st	1.309	3	-3
27 1/2 St	27 1/2 St	28th	Almena Ct	1.017	2	-7
27 1/2 St	Almena Ct	Almena Ct	City/Twp Line	0.019	4	0
27 1/2 St	Almena Ct	City/Twp Line		0.014	4	-1
27th St	27th St	48th	44th	1.004	2	-7
	27th St	44th	County Road 375	0.555	2	-6
28th Ave	28th Ave	M 40	31st	1.388	4	-1
28th Ave	28th Ave	29th	27 1/2	0.746	7	7
28th Ave	28th Ave	27 1/2	26th	0.759	7	7
29th St	County Road 653	38th		0.511	3	-4
29th St	County Road 653		Whiskey Run	0.511	3	-4
29th St	County Road 653	34th	Old M 43	0.402	2	-4
29th St	29th St	Old M 43	M 43	0.154	2	-6
29th St	29th St	M 43	Almena Rdg	0.369	3	-4
29th St	29th St	Almena Rdg	28th	0.648	3	-6
29th St	29th St	28th	Wise	0.586	3	-6
29th St	29th St	Wise	Lakeside	0.227	2	-7
29th St	29th St	Lakeside	City/Twp Line	0.209	2	-8

Almena Township Road Asset Management Plan 2018 -2022

Road Name	Segment Name	From Description	To Description	Length	Current Rating	RSL
30th St	30th St	48th	Heritage Ln	0.536	2	-10
30th St	30th St	Heritage Ln	County Road 653	0.628	2	-9
30th St	30th St	County Road 653	42nd	0.342	2	-11
30th St	30th St	42nd	40th	0.500	2	-11
30th St	30th St	40th	38th	0.501	1	-12
30th St	30th St	38th	M 43	1.501	2	-12
30th St	30th St	M 43	28th	1.002	1	-12
31st St	31st St	M 43	28th	1.009	3	-3
31st St	31st St	28th	26th	0.503	3	-3
31st St	31st St	26th	City/Twp Line	0.508	3	-3
32nd St	County Road 653	48th	Olga	0.240	4	-2
32nd St	County Road 653	Olga	County Road 653	0.234	4	-2
32nd St	32nd St	County Road 653	Undescribed Inv. Segment Split	0.320	6	7
32nd St	32nd St	42nd Ave	42nd	0.062	6	4
32nd St	32nd St	42nd	36th	1.507	7	7
32nd St	32nd St	36th	Rose Ln	0.321	7	6
32nd St	32nd St	Rose Ln	M 43	0.677	7	7
33rd St	33rd St	48th	46th	0.505	2	-5
33rd St	33rd St	46th	45th	0.246	3	-4
34th Ave	34th Ave	County Road 653	Old M 43	0.366	8	14
34th Ave	34th Ave	Old M 43	M 43	0.680	5	1
36th Ave	36th Ave	M 40	32nd	0.805	7	7
38th Ave	38th Ave	County Road 653	County Road 653	0.992	6	15
38th Ave	38th Ave	County Road 652	Undescribed Inv. Segment Split	0.167	4	0
38th Ave	38th Ave	Undescribed Inv. Segment Split	Undescribed Inv. Segment Split	0.357	4	0
38th Ave	38th Ave	Undescribed Inv. Segment Split	23rd	0.500	3	-4

Almena Township Road Asset Management Plan 2018 -2022

Road Name	Segment Name	From Description	To Description	Length	Current Rating	RSL
38th Ave	38th Ave	Undescribed Inv. Segment Split	Van Kal	0.498	3	-4
42nd Ave	42nd Ave	M 40	32nd	0.803	6	4
42nd Ave	42nd Ave	32nd	30th	0.996	7	7
42nd Ave	42nd Ave	30th	Undescribed Inv. Segment Split	0.699	7	7
42nd Ave	42nd Ave	Undescribed Inv. Segment Split	County Road 653	0.194	7	7
44th Ave	44th Ave	27th	County Road 652	0.751	2	-5
44th Ave	44th Ave	County Road 652	Woodland Blvd	0.590	2	-4
44th Ave	44th Ave	Woodland Blvd	24th	0.159	2	-5
44th Ave	44th Ave	24th	Woodview	0.311	2	-5
44th Ave	44th Ave	Woodview	Van Kal	0.684	2	-6
45th Ave	45th Ave	33rd	32nd	0.492	2	-6
45th Ave	45th Ave	32nd	County Road 653	0.429	2	-6
46th Ave	46th Ave	M 40	33rd	0.307	8	14
48th Ave	48th Ave	33rd	County Road 653	0.508	7	7
48th Ave	48th Ave	30th	30th	0.011	2	-8
48th Ave	48th Ave	30th	29 1/2 Ave	0.258	2	-9
48th Ave	48th Ave	29 1/2 Ave	29 1/2	0.091	2	-10
48th St	48th St	27th	Woodfield	0.260	2	-5
48th St	48th St	Attribute Change	Meadow Oak Trl & Woodfield Dr	0.062	2	-5
48th St	48th St	Woodfield	Undescribed Inv. Segment Split	0.208	2	-6
48th St	48th St	Undescribed Inv. Segment Split	Apple	0.091	2	-6
48th St	48th St	Apple	County Road 652	0.121	2	-6
Almena Ct	Almena Ct	Almena	South Shore	0.011	4	0
Almena Ct	Almena Ct	South Shore	Attribute Change	0.019	4	-1

Almena Township Road Asset Management Plan 2018 -2022

Road Name	Segment Name	From Description	To Description	Length	Current Rating	RSL
Anthony St	Anthony St	48th	Olga St	0.240	1	-14
Anthony St	Anthony St	Olga St	County Road 653	0.245	1	-14
Beacon Hill Ter	Beacon Hill Ter	Beacon Hill	Beacon Hill	0.157	2	-5
Blackbird St	Blackbird St	Robin	Chickadee	0.187	1	-18
Blue Jay St	Blue Jay St	Cardinal	Chickadee Ave	0.093	1	-18
Blue Jay St	Blue Jay St	Chickadee Ave	Robin St	0.188	1	-18
Blue Jay St	Blue Jay St	Robin St	Dead End or Start	0.043	1	-18
Bluebird Ave	Bluebird Ave	Oriole	Sparrow Ave	0.061	1	-18
Bluebird Ave	Bluebird Ave	Sparrow Ave	Dead End or Start	0.144	1	-18
Bluebird Ave	Bluebird Ave	Oriole St	S Van Kal St	0.249	2	-16
Bobolink Ave	Bobolink Ave	Robin	Chickadee Ave	0.214	1	-18
Bobolink Ave	Bobolink Ave	Chickadee Ave	Cardinal St	0.089	1	-18
Bobolink Ave	Bobolink Ave	Cardinal St	Oriole	0.046	1	-18
Bradeen Ave	Bradeen Ave	Mackaprang	Walden	0.151	2	-7
Canary Ave	Canary Ave	Robin	Chickadee	0.187	1	-18
Cardinal St	Cardinal St	Blue Jay	Bobolink	0.200	1	-18
Chickadee Ave	Chickadee Ave	Blue Jay	Blackbird St	0.088	1	-18
Chickadee Ave	Chickadee Ave	Blackbird St	Canary Ave	0.089	1	-18
Chickadee Ave	Chickadee Ave	Canary Ave	Bobolink	0.038	1	-18
Clancy St	Clancy St	Rowlings St	Mitchell St	0.136	5	4
Clancy St	Clancy St	Mitchell St	Fitzgerald St	0.125	5	4
Clancy St	Clancy St	Fitzgerald St	Dead End or Start	0.052	6	9

Almena Township Road Asset Management Plan 2018 -2022

Road Name	Segment Name	From Description	To Description	Length	Current Rating	RSL
Conroy St	Conroy St	Fitzgerald St	Mitchell St	0.114	5	4
Conroy St	Conroy St	Mitchell St	Rowlings St	0.146	5	4
County Road 375	County Road 653	32nd	Anthony	0.049	4	-2
County Road 375	County Road 653	Anthony	45th	0.430	3	-3
County Road 375	County Road 653	45th	30th	0.732	4	-2
County Road 375	County Road 653	30th	42nd	0.786	4	-1
County Road 375	County Road 653	42nd	County Road 653	0.181	4	-2
County Road 375	County Road 375	County Road 653	27th	0.570	3	-2
County Road 375	County Road 375	27th	County Road 652	0.500	3	-2
County Road 375	County Road 375	County Road 652	County Road 652	0.261	4	0
County Road 375	County Road 375	County Road 652	24th	0.777	4	0
County Road 375	County Road 375	Quail St	Robin St	0.475	4	-1
County Road 375	County Road 375	Robin	23rd	0.027	4	0
County Road 375	County Road 375	Sparrow	Sandy Ridge	0.186	4	0
County Road 375	County Road 375	Sandy Ridge	Van Kal	0.327	4	0
County Road 652	24th St	City/Twp Line		0.253	2	-5
County Road 652	24th St			0.234	2	-5
County Road 652	24th St		Thousand Oaks	0.184	2	-5
County Road 652	24th St	Thousand Oaks	Oak Leaves	0.203	3	-4
County Road 652	24th St	Oak Leaves	44th	0.135	3	-3
County Road 652	County Road 652	48th	Prairie View	0.156	5	2
County Road 652	County Road 652	Prairie View	Trestle Creek Ave	0.242	4	-4
County Road 652	County Road 652	Trestle Creek Ave	44th Ave	0.608	4	-2
County Road 652	County Road 652	44th	County Road 375	0.687	4	-2
County Road 652	County Road 652	County Road 375	Whiskey Run	0.477	2	-6
County Road 652	County Road 652	Whiskey Run	38th	0.700	4	-2
County Road 652	County Road 652	38th	M 43	1.160	3	-4
County Road 652	Fish Hatchery Rd	M 43	Sunset	0.353	2	-5
County Road 652	Fish Hatchery Rd	Sunset	Van Kal	1.116	2	-5

Almena Township Road Asset Management Plan 2018 -2022

Road Name	Segment Name	From Description	To Description	Length	Current Rating	RSL
County Road 653	County Road 653	County Road 375	40th	0.640	3	-4
County Road 653	County Road 653	40th Ave	38th Ave	0.516	3	-4
Emerald Cir	Emerald Cir	Hayden St	Dead End or Start	0.151	5	1
Finch St	Finch St	Prairie View	Woodfield	0.126	1	-11
Finch Ave	Finch Ave	Pheasant St	Undescribed Inv. Segment Split	0.312	1	-11
Finch Ave	Quail St	Pheasant St	Humming Bird Ave	0.095	1	-11
Finch Ave	Quail St	Humming Bird Ave	County Road 375	0.237	1	-11
Finch St	Finch St	Trestle Creek Ave	Stone Bridge Ave	0.186	4	0
Finch St	Finch St	Stone Bridge Ave	Hayden St	0.068	4	0
Fitzgerald St	Fitzgerald St	Hemingway St	Conroy St	0.170	4	0
Fitzgerald St	Fitzgerald St	Conroy St	Clancy St	0.119	5	2
Hayden St	Hayden St	Hayden St	Finch St	0.112	5	1
Hayden St	Hayden St	Finch St	Stone Bridge Ave	0.323	5	1
Hayden St	Hayden St	Stone Bridge Ave	Emerald Cir	0.114	5	1
Hayden St	Hayden St	Emerald Cir	Trestle Creek Ave	0.113	5	1
Hemingway St	Hemingway St	Rowlings St	Woodland Blvd	0.098	4	0
Hemingway St	Hemingway St	Woodland Blvd	Mitchell St	0.082	4	0
Hemingway St	Hemingway St	Mitchell St	Fitzgerald St	0.111	5	2
Hemingway St	Hemingway St	Fitzgerald St	Dead End or Start	0.056	6	9
Hidden Pines Dr	Hidden Pines Dr	M 43	Dead End or Start	0.466	1	-9
Humming Bird Ave	Humming Bird Ave	Quail St	Finch Ave	0.310	1	-11
Humming Bird Ave	Pheasant St	Undescribed Inv. Segment Split	Finch Ave	0.091	1	-12
Landsdown Cir	Beacon Hill Ter	Beacon Hill	Thousand Oaks Dr	0.086	2	-5

Almena Township Road Asset Management Plan 2018 -2022

Road Name	Segment Name	From Description	To Description	Length	Current Rating	RSL
Landsdown Cir	Landsdown Cir	Thousand Oaks Dr	Dead End or Start	0.158	2	-4
Mackaprang St	Mackaprang St	Bradeen	Winther Ave	0.086	2	-7
Mackaprang St	Mackaprang St	Winther Ave	Dead End or Start	0.102	1	-9
Mitchell St	Mitchell St	Hemingway St	Conroy St	0.165	5	2
Mitchell St	Mitchell St	Conroy St	Clancy St	0.129	5	4
Oak Leaves Ln	Beacon Hill Ter	Beacon Hill	Oak Leaves Ln	0.079	3	-4
Oak Leaves Ln	Oak Leaves Ln	Oak Leaves Ln	24th	0.297	2	-4
Old M 43	Old M 43	M 43	County Road 653	0.235	4	0
Old M 43	Old M 43	County Road 653	34th	0.544	4	0
Olga St	Olga St	County Road 653	Anthony	0.086	2	-13
Oriole St	Oriole St	Bobolink	Bluebird	0.209	1	-18
Prairie View Ave	Prairie View Ave	Woodfield	Finch St	0.173	1	-10
Prairie View Ave	Prairie View Ave	Finch St	Woodfield Cir & Woodfield Dr	0.159	1	-10
Prairie View Ave	Prairie View Ave	Woodfield Cir & Woodfield Dr	County Road 652	0.102	1	-10
Prairieview	Prairieview	Prairieview	Dead End or Start	0.068	1	-15
Prairieview	Prairieview	Prairieview	Dead End or Start	0.108	1	-15
Robin St	Robin St	Blue Jay	Blackbird St	0.088	1	-18
Robin St	Robin St	Blackbird St	Canary Ave	0.088	1	-18
Robin St	Robin St	Canary Ave	Bobolink Ave	0.092	1	-18
Robin St	Robin St	Bobolink Ave	County Road 375	0.218	1	-18
Rowlings St	Rowlings St	Hemingway St	Thompson St	0.087	5	2
Rowlings St	Rowlings St	Thompson St	Conroy St	0.112	5	3

Almena Township Road Asset Management Plan 2018 -2022

Road Name	Segment Name	From Description	To Description	Length	Current Rating	RSL
Rowlings St	Rowlings St	Conroy St	Clancy St	0.139	5	4
Rowlings St	Rowlings St	Clancy St	Dead End or Start	0.048	6	9
Salisbury Dr	Salisbury Dr	Winchester	Van Kal	0.134	2	-14
Sandy Ridge Cir	Sandy Ridge Cir	County Road 375	Sandy Ridge	0.100	1	-12
Sandy Ridge Cir	Sandy Ridge Cir	Sandy Ridge		0.068	1	-15
Sandy Ridge Cir	Sandy Ridge Cir	Sandy Ridge Cir	Sandy Ridge Cir	0.233	1	-15
South Shore Dr	South Shore Dr	Almena	City/Twp Line	0.003	3	-3
Sparrow Ave	Sparrow Ave	Bluebird	County Road 375	0.100	1	-18
Stone Bridge Ave	Stone Bridge Ave	Finch St	Hayden St	0.238	4	0
Sunset Dr	Sunset Dr	Fish Hatchery	Attribute Change	0.349	2	-5
Thousand Oaks Dr	Thousand Oaks Dr	Landsdown	Beacon Hill Ter & Oak Leaves Ln	0.161	2	-4
Thousand Oaks Dr	Thousand Oaks Dr	Beacon Hill Ter & Oak Leaves Ln	24th	0.113	2	-4
Trestle Creek Ave	Trestle Creek Ave	County Road 652	Hayden St	0.074	4	0
Trestle Creek Ave	Trestle Creek Ave	Hayden St	Finch St	0.218	4	0
Trestle Creek Ave	Trestle Creek Ave	Finch St	Hayden St	0.384	5	1
N Van Kal St	S Van Kal St	City/Twp Line	Salisbury	0.705	7	14
N Van Kal St	S Van Kal St	Salisbury	44th	0.295	7	14
N Van Kal St	S Van Kal St	44th	County Road 375	0.954	7	14
N Van Kal St	S Van Kal St	Bluebird Ave	W L Ave	0.039	7	14
N Van Kal St	S Van Kal St	W L Ave	County Road 375	0.124	7	14
N Van Kal St	S Van Kal St	County Road 375	38th	0.376	6	3
N Van Kal St	S Van Kal St	38th		0.500	6	3
N Van Kal St	N Van Kal St		M 43	0.502	6	3

Almena Township Road Asset Management Plan 2018 -2022

Road Name	Segment Name	From Description	To Description	Length	Current Rating	RSL
N Van Kal St	N Van Kal St	M 43	Fish Hatchery	0.491	1	-11
N Van Kal St	N Van Kal St	W J Ave	Fish Hatchery Rd	0.719	1	-11
N Van Kal St	N Van Kal St	Fish Hatchery	28th	0.287	2	-9
N Van Kal St	N Van Kal St	28th	Wolf Dr	0.213	1	-10
Walden Way	Walden Way	Attribute Change	Winther Ave	0.042	1	-9
Walden Way	Walden Way	Winther Ave	Bradeen Ave	0.088	2	-8
Walden Way	Walden Way	Bradeen Ave	M 43	0.137	2	-8
Whiskey Run Rd	Whiskey Run Rd	County Road 652	38th	0.456	3	-5
Whiskey Run Rd	Whiskey Run Rd	38th	County Road 653	1.604	2	-7
Winchester Dr	Winchester Dr	Winchester	Dead End or Start	0.099	2	-13
Winther Ave	Winther Ave	Mackaprang	Walden	0.154	2	-7
Wise Rd	Wise Rd	29th	West Lake Dr	0.177	2	-6
Wise Rd	Wise Rd	West Lake Dr	Lakeview Dr	0.419	2	-6
Wise Rd	Wise Rd	Lakeview Dr	City/Twp Line	0.197	2	-6
Woodfield Dr	Woodfield Dr	48th	Prairie View Ave	0.151	1	-10
Woodfield Dr	Woodfield Dr	Prairie View Ave	Finch St	0.260	1	-10
Woodfield Dr	Woodfield Dr	Finch St	Finch St	0.029	1	-10
Woodfield Dr	Woodfield Dr	Finch St	Woodfield	0.276	1	-10
Woodfield Cir	Woodfield Cir	Prairie View	Attribute Change	0.102	1	-10
Woodland Blvd	Woodland Blvd	44th Ave	Hemingway St	0.105	4	-1
Woodview Dr	Woodview Dr	Prairieview	44th	0.213	1	-14
		Total Centerline Mileage for Asphalt Standard		73.781	3.09	

Almena Township Road Asset Management Plan 2018 -2022

Road Name	Segment Name	From Description	To Description	Length	Current Rating	RSL
Gravel Standard						
24th Ave	24th Ave	26th	Dead End or Start	0.310	2	-22
25th St	25th St	M 43	Dead End or Start	0.529	2	-19
28th Ave	28th Ave	31st	30th	0.498	2	-5
28th Ave	28th Ave	30th	29th	0.496	2	-5
28th Ave	28th Ave	26th	Van Kal	1.994	2	-21
32nd St	32nd St	Undescribed Inv. Segment Split	42nd Ave	0.690	2	-23
38th Ave	38th Ave	Dead End or Start	30th St	0.601	2	-18
38th Ave	38th Ave	30th St	County Road 653	0.778	2	-4
40th Ave	40th Ave	30th	County Road 653	0.818	2	-15
48th Ave	48th Ave	County Road 653	Anthony	0.087	2	-8
48th Ave	48th Ave	Anthony	30th	0.885	2	-7
		Total Mileage for Gravel Standard		7.686		
Unimproved Earth						
36th Ave	36th Ave	32nd	Dead End or Start	0.380	2	-15
Thompson St	Thompson St	Rowlings St	Dead End or Start	0.056	2	-10
		Total Mileage for Unimproved Earth		0.436		
		Total Mileage		81.903		

7. ROAD TREATMENT OPTIONS TO EXTEND USEFUL LIFE

The Van Buren County Road Commission published a promotional brochure in the 1st Quarter of 2018 for the 3 mil County-wide millage. If approved, the proceeds will only be used on the county primary (“CR” Designated roads). None of the proceeds will be available for use on county local roads.

The promotional brochure included approximate cost per mile for the various roadway treatment options. As set forth in the brochure, those are:

Treatment	Approximate Cost per Mile
Sealcoat	25,000
Overlay	90,000
Crush and Shape	220,000
Mill and Fill	275,000
Trench and Widen	430,000
Reconstruction	600,000

8. ROAD REVENUE FORECAST FOR THE PERIOD 2017-2022

As noted earlier in this report, Almena Township can utilize tax revenues from three sources to fund heavy maintenance and improvements to the 49.78 miles of paved and gravel local roads. There are:

1. Almena Township General Fund
2. Almena Township Road Tax (1 mil)
3. VBCRC Local Road Allocation

At the conclusion of the calendar year ending December 31, 2017, the Township Road Fund had \$1,108,458.02. From this fund balance will be taken the costs of several 2017 local road projects approved by the Township Board in the amount of \$210,652.19, leaving a balance of \$897,805.83.

Revenue Forecasts by Category

	2017 Actual	2018 Est.	2019 Est.	2020 Est.	2021 Est.	2022 Est.
Township General Fund (1)	200,000	220,000	275,000	275,000	275,000	275,000
Almena Road Tax	158,671	158,000	158,000	158,000	158,000	158,000
VBCRC Allocation (2)	65,777	65,804	68,000	68,000	70,000	70,000
Total Forecast	424,448	443,804	501,000	501,000	503,000	503,000

(1) Transfer from General Fund to Road Fund

(2) Forecast amounts to be verified before final report

The 2018-2022 revenue forecast totals \$2,451,804 assuming the Township Board maintains the annual contribution from the General Fund of \$275,000 during the 2019 - 2022 period. It should be noted the annual contribution from the general fund to the road fund is very aggressive.

The roadwork plan is Part 8 of this report utilizing these revenue forecasts as the basis for funding all planned roadwork.

9. ROADWORK PLAN 2018-2022

a. 2016 ALMENA TOWNSHIP ROAD WORK APPROVED AND COMPLETED

Date	Description	Area	Cost	Road Commission	County Millage	Township
	Reconstruct	CR 653	173,767.03	173,767.03		0.00
2016	Boom Mowing	Miscellaneous	2,557.64	1,000.00		1,557.64
2016	Paser Ratings	All	212.82			212.82
2016	Dust Control	Miscellaneous	6,378.00			6,378.00
2016	Crackseal	Miscellaneous	7,924.48		3,950.00	3,974.48
2016	Sealcoat	Miscellaneous	71,145.00		38,000.00	33,145.00
2016	Preliminary Heavy Maintenance	30 TH to 48th	3,434.49			3,434.49
2016		30th to 48th	1,367.50			1,367.50
2016	Ditching	Miscellaneous	2,000.00			2,000.00
2016	Boom Mowing	Miscellaneous	2,000.00			2,000.00
		Total	270,786.96	174,767.03	41,950.00	54,069.93

b. 2017 ALMENA TOWNSHIP ROAD WORK APPROVED AND COMPLETED

Year	Description	Area/Amount	Cost	Road Commission	County Millage	Township
2017	Dust Control	3 Applications during Season	8,398.52			8,398.52
2017	Gravel Spreading	1,500 Tons Applied	12,029.31			12,029.31
2017	Boom Mowing	Various Segments	2,000.00			2,000.00
2017	Ditching	40 th Ave - CR 653 to 30 th 3/4 Mile	317.58			317.58
2017	Driveway Culverts		408.00			408.00
2017	Crackseal	42 nd Ave - 32 nd Ave to CR 653 1.6 Miles	15,756.64			15,756.64
2017	Sealcoat Fog Program	28 th Ave - 29 th St to CR 653 1/2 mile	27,335.00	6,160.00		33,495.00
2017	Sealcoat	48 th Ave - 33 rd St to 32 nd St	9,360.00	2,080.00		11,440.00
2017	Fog Seal	28 th Ave - 29 th St to CR 653 1.6 Miles 48 th Ave - 33 rd to 32 nd St 1/2 Mile	8,240.00			8,240.00
2017	Sealcoat Surface	Various 2.26 Miles	126,807.44		126,807.44	
Total			227,132.49	8,240.00	126,807.44	92,085.05

c. 2018 ALMENA TOWNSHIP APPROVED ROADWAY PROJECTS

Year	Description	Area/Amount	Cost	Road Commission	County Millage	Township
2018	Re-Construction	Intersection 30 th Street at 48 th	162,984.03			162,984.03
Total			162,984.03			162,984.03

d. 2018 ALMENA TOWNSHIP PROPOSED ROADWAY PROJECTS (PASER 2/3 RATINGS)

Year	Description	Area/Amount	Estimated Cost	Road Commission	County Millage	Township
2018	Repair	24 th St - South Twp Line to 44 th (5,125')	132,276			132,276
2018	Repair	27 th St - South Twp Line to CR 375 (8,290')	213,965			213,965
2018	Repair	30 th St - CR 653 to 38 th St (7,920')	204,415			204,415
Total			550,656			550,656

e. 2019 ALMENA TOWNSHIP PROPOSED ROADWAY PROJECTS (PASER 2/3 RATINGS)

Year	Description	Area/Amount	Estimated Cost	Road Commission	County Millage	Township
2019	Repair	30 th St - 48 th Ave to CR 653 (6,285')	171,894			171,894
2019	Repair	29 th St - Almena Rdge to Wise Rd (7,180')	196,373			196,373
2019	Repair	VanKal - M-43 to 28 th Ave (7,920')	216,612			216,612
Total			584,879			584,879

f. 2020 ALMENA TOWNSHIP PROPOSED ROADWAY PROJECTS (PASER 2/3 RATINGS)

Year	Description	Area/Amount	Estimated Cost	Road Commission	Millage	
2020	Repair	27 ½ - 28 th to North Twp Line (5,438')	157,702			157,702
2020	Repair	29 th St - Wise Rd to North Twp Line (2,270')	65,830			65,830
2020	Repair	44 th Ave - VanKal to 29 th Street (5,280')	153,120			153,120
Total			376,652			376,652

g. 2021 ALMENA TOWNSHIP PROPOSED ROADWAY PROJECTS (PASER 2/3 RATINGS)

Year	Description	Area/Amount	Estimated Cost	Road Commission	Millage
2021	Repair	44 th Ave - 24 th St to CR 652 (3,960')	118,800		118,800
2021	Repair	Fish Hatchery Rd - M-43 to VanKal (7,920')	237,600		237,600
2021	Repair	26 th Ave - M-40 to 31 st (7,025')	210,750		210,750
Total			567,150		567,150

h. 2022 ALMENA TOWNSHIP PROPOSED ROADWAY PROJECTS

Year	Description	Area/Amount	Estimated Cost	Road Commission	Millage
2022	Repair	44 th Ave - CR 652 to 27 th St (4,000')	124,000		124,000
2022	Repair	45 th Ave - CR 653 to 46 th Ave (4,965')	153,915		153,915
Total			277,915		277,915

Total Proposed Roadway Projects for 2018 – 2022 \$2,520,236.03

- Footnote:** Given the Experience during 2017 construction season for sealcoat/fog seal projects by the VBCRC on 28th Street and 48th Avenue, future chip and seal is not recommended. New pavement should be crack sealed in the third year following application to prolong useful life.

Each project listed as proposed during the 2018 – 2022 period involves cold milling as needed, surface patching and 1.5” new pavement overlay. Each project will include:

1. Engineering and contingencies
2. Mobilization expense
3. Pavement removal
4. Gravel
5. Shoulder wedge
6. Pavement cleaning
7. Cold milling HMA surface, as needed
8. Overlay of 1.5” minimum
9. Driveway work
10. Pavement marking
11. Traffic devices as needed
12. Slope restoration

New drainage structures are not included with any estimate. Estimates are based on per foot cost of new pavement in 2017 of \$25.81 adjusted annually by +6% for inflation. For budget estimates only, an allowance of \$20,000 per mile (5,280') should be added to each mile of proposed roadwork for ditching and tree clearing. 16 miles of roadwork in county local roads is planned.

BEYOND 2022

The 5-year capital outlay for Almena local roads does not address all road improvement needs. The Township Board will annually evaluate their current conditions and make adjustments as may be needed. The current road fund balance will more or less be maintained. Annual work on gravel roads, roadside trimming, traffic safety signs, dust control, and other small cost items will be addressed by the Board each year. Also, as special assessment requests for residential streets occur, the Board may use fund balance and adjust priorities to address those costs.

The 5-year capital outlay for local roads in Almena Township of \$2,520,236.03 is \$88,432.03 more than the estimated 5-year revenue of \$2,431,804. The 12/31/2017 fund balance of \$897,805.83 will be reduced by \$88,432.03, still leaving ample funds for township participation in residential street special assessment projects petitioned by property owners.

APPENDIX A: SUMMARY REVIEW OF PASER METHOD OF ASPHALT AND ROAD SURFACE EVALUATION

Pavement surface evaluation and rating system involves collecting data and assessing several pavement surface characteristics: Roughness (ride), surface distress (condition), surface skid characteristics, and structure (pavement strength, and deflector). PASER uses vision inspection to evaluate surface conditions. There are four major types of asphalt pavement surface distress. These include:

Surface Defects

Raveling is progressive loss of pavement material from the surface downward caused by stripping of bituminous film from the aggregate, asphalt hardening due to aging, poor compaction in cold weather construction or insufficient asphalt content. Obvious slight or moderate raveling requires sealcoat or their overly.

Flushing is excess asphalt on the surface caused by poor initial asphalt mix or by paving or sealcoating over a flushed surface. Flushing can be addressed by blotting with sand or by overlaying with proper design asphalt mix.

Polishing is a smooth and slippery surface caused by traffic wearing off sharp edges of aggregates. Repair is by sealcoat or their bituminous overlay using skid resistant aggregate.

Surface Deformation

Rutting is displacement of material creating channels in the wheel paths and caused by traffic compaction or displacement of unstable material. Severe rutting of 2” or more is likely caused by base or subbase compaction.

Distortion or also called rippling is surface material displaced crossways to the direction of traffic. Distortion can occur when the asphalt mix is unstable because of poor quality aggregate. Milling smooth and applying overlay is required. Distortion can also be caused by settling frost heave with patching as temporary repair. Removal of unstable base and reconstruction is the permanent solution to the problem.

Cracks

Transverse Cracks occur at right angles to the center line. After they appear regularly spaced, the cause is movement due to temperature changes and hardening of asphalt with aging. As cracks appear, crack or chip seal is used to prevent water intrusion into the road base.

Reflection Cracks reflect the crack pattern in the pavement underneath. This type of crack is difficult to prevent and requires thick overlay or reconstruction to correct.

Slippage Cracks or “rounded cracks” in the direction of traffic is caused by slippage between layers of pavements and often occur at intersection approaches where traffic is stopping. Milling top coat and resurfacing using a tact coat is typical remedy.

Longitudinal Cracks run in the direction of traffic. Centerline or lane cracks are caused by inadequate bonding during constructions or reflect cracks in underlying pavement. Longitudinal cracks in the wheel path indicate fatigue failure from heavy vehicle loads. Cracks fewer than 1 foot of pavement edge indicate lack of shoulder support, poor drainage, and frost action.

Filling and sealing cracks will reduce moisture penetration and prevent further sub grade weakening. Multiple longitudinal cracks in wheel path or pavement edge require strengthening with overlay or reconstruction.

Block Cracks are interconnected cracks forming large blocks in pavement. Blocks may be a small as 1 foot or up to 10 feet in width. Close spacing indicates advanced aging requiring overlay or reconstruction.

Alligator Cracks form small pieces of pavement ranging from 1” to 6”. The cause is failure of the surface due to traffic fatigue and often inadequate base. For localized areas, excavate and replace base or surface. More extensive areas of alligator cracking require reconstruction. Often improvements in drainage are also required.

PATCHES AND POTHOLES

Patches are original surface repair with new asphalt material and indicate pavement defection in utility excavation which has been repaired. Patches with cracking, settlement, or distortion indicate subsurface causes remain.

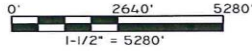
Potholes are loss of pavement material caused by traffic loading, pavement fatigue, and inadequate strength. The common cure is to patch potholes. Extensive potholes and patching require reconstruction.

THE PASER ROAD SURFACE RATING SYSTEM

Rating	Visible Distress	General Condition	Treatment Measures
10 – Excellent	No Visible Distress	New construction	No action needed
9 – Excellent	No Visible Distress	Recent overlay	Like new
8 – Very Good	No Longitudinal cracks. Transverse crack 40' or greater spacing. All cracks ¼" or less.	Recent sealcoat	Little maintenance required
7 - Good	Slight raveling, some traffic wear, few patches. Transverse cracks are 10' or more apart	First signs of aging	Crack fill required
6 – Good	Slight raveling (Loss of lines), visible traffic wear, ¼ - ½ longitudinal cracks spaced less than 10', some block cracking. Slight to moderate flushing in polishing occasional patches	Sign of aging. Sound structure.	Sealcoat needed to extend life
5- Fair	Moderate to severe raveling (loss of lines and coarse aggregate). Longitudinal and transverse crack ½" or more. Block cracks up to 50% surface	Surface aging. Sound structure.	Needs sealcoat, nonstructural overlay less than 2"
4–Fair	Severe surface raveling. Numerous longitudinal and transverse cracks. Block cracking 50% of surface. Longitudinal cracking in wheel path and slight rutting (1/2" deep or less)	Signs of structure weakening.	Benefit from 2" structural overlay
3–Poor	Closely spaced longitudinal and transverse crack and severe block cracking. Some alligator cracking rutting 1-2" deep. Numerous pothole patches	Deteriorated segments.	Milling of deteriorated segments and structural overlay.
2–Very Poor	Alligator cracks (25% of surface) 2" deeper rutting. Extension patched and potholes	Deteriorated segments	Milling of deteriorated segments, base repair using pulverized old pavement in place. Structural overlay in 2 lifts
1-Failed	Extensive loss of surface integrity	Deteriorated	Needs total reconstruction or pavement removal and return to gravel

*Pavement Surface Evaluation and Rating for Asphalt Roads” Transportation Information Center, University of Wisconsin, Madison, 2002 edition.


ALMENA TOWNSHIP




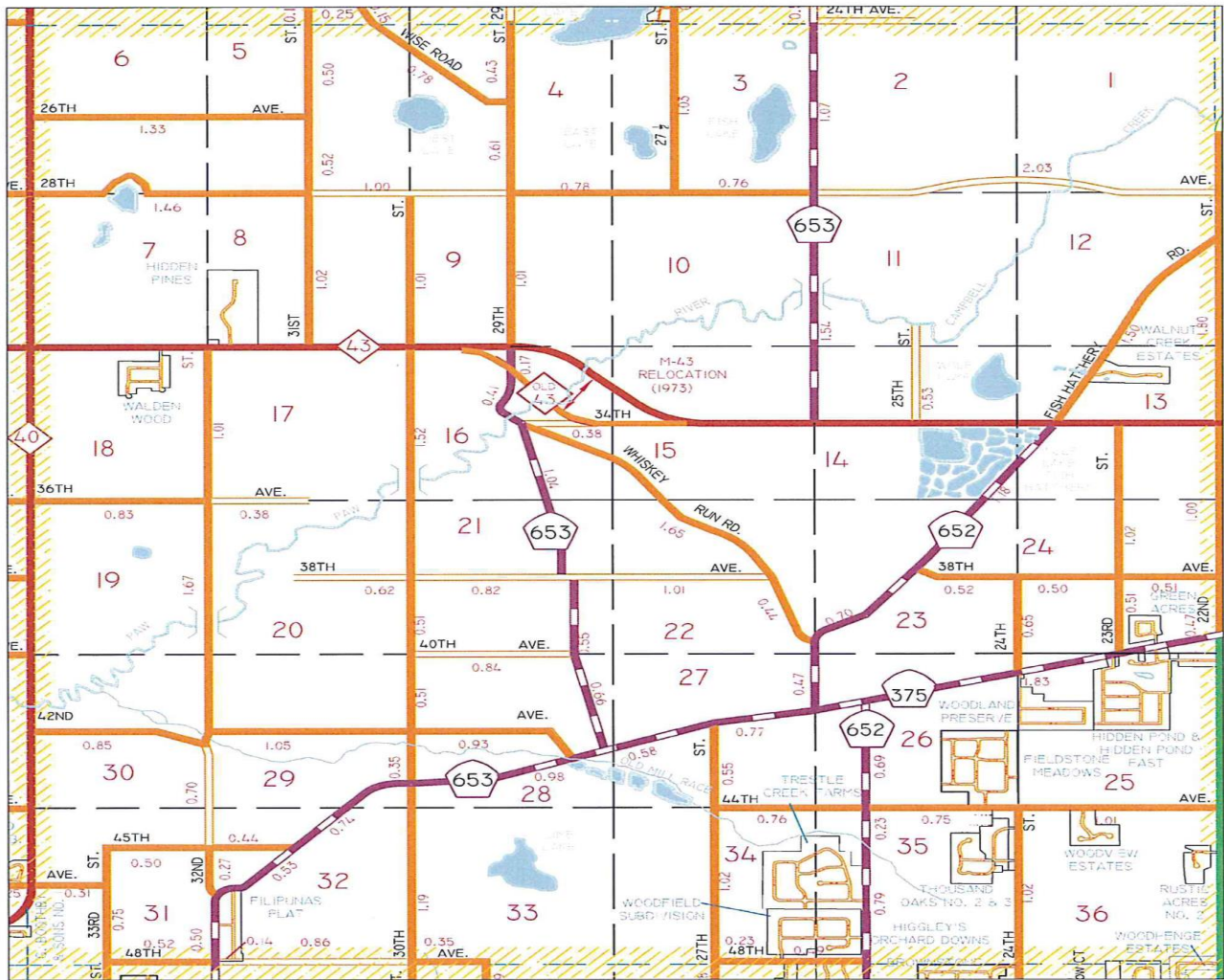
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COUNTY: VAN BUREN

PRIMARY: 15.43 MILES
LOCAL: 52.01 MILES

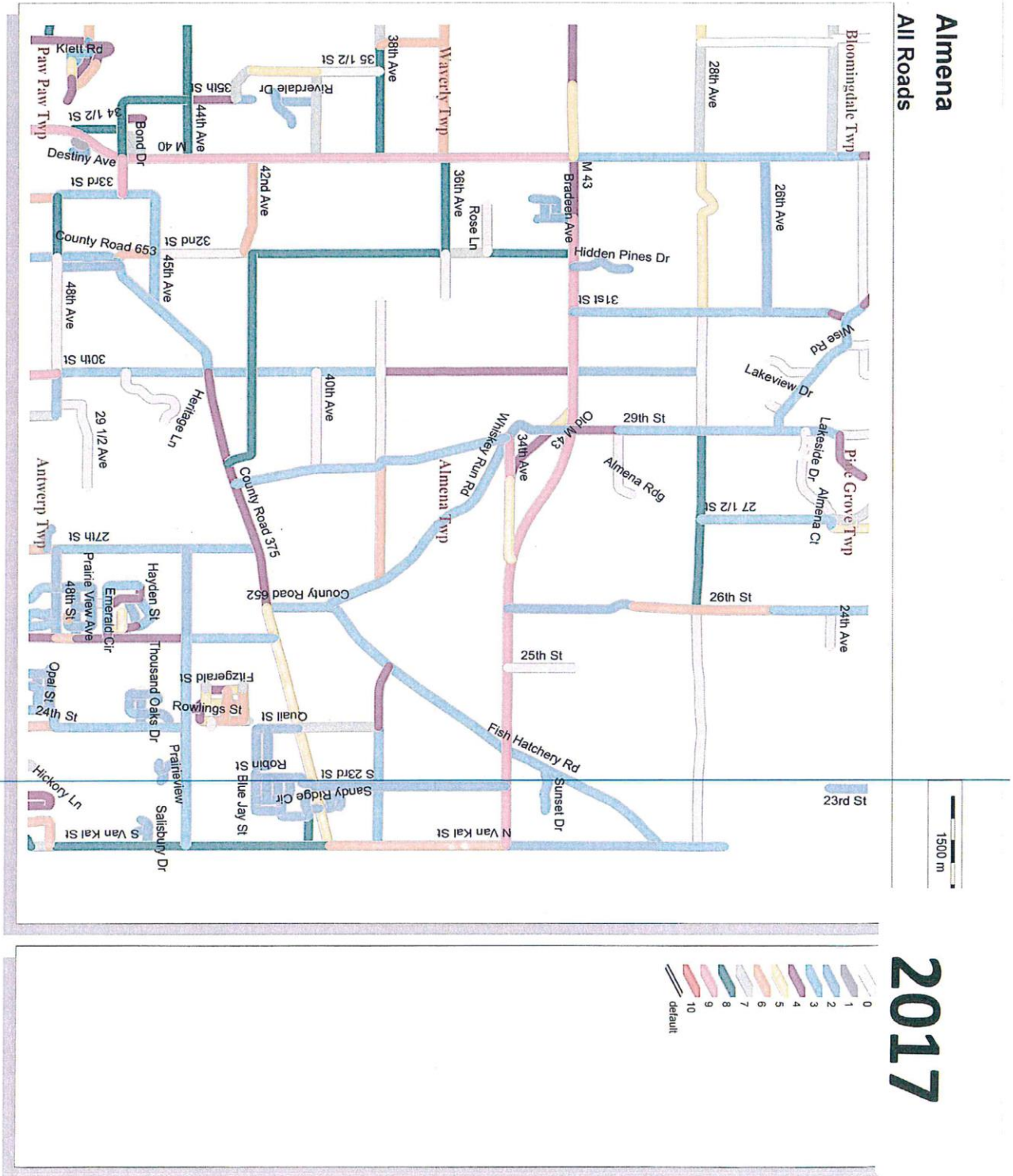
LEGEND

- INTERSTATE 
- STATE TRUNKLINE 
- CITY OR VILLAGE STREET 
- CORPORATE LIMITS 

- COUNTY PRIMARY 
- COUNTY LOCAL (PAVED) 
- COUNTY LOCAL (GRAVEL) 
- ADJACENT COUNTY 
- RAILROAD 
- TRAIL 

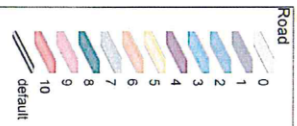


ALMENA TOWNSHIP	
DATE CERTIFIED:	DRAFTSMAN: D. STICKELS
NOTES:	DRAFTSMAN: E. M. JONES
REVISED: 10/2006	DRAWING NUMBER 906



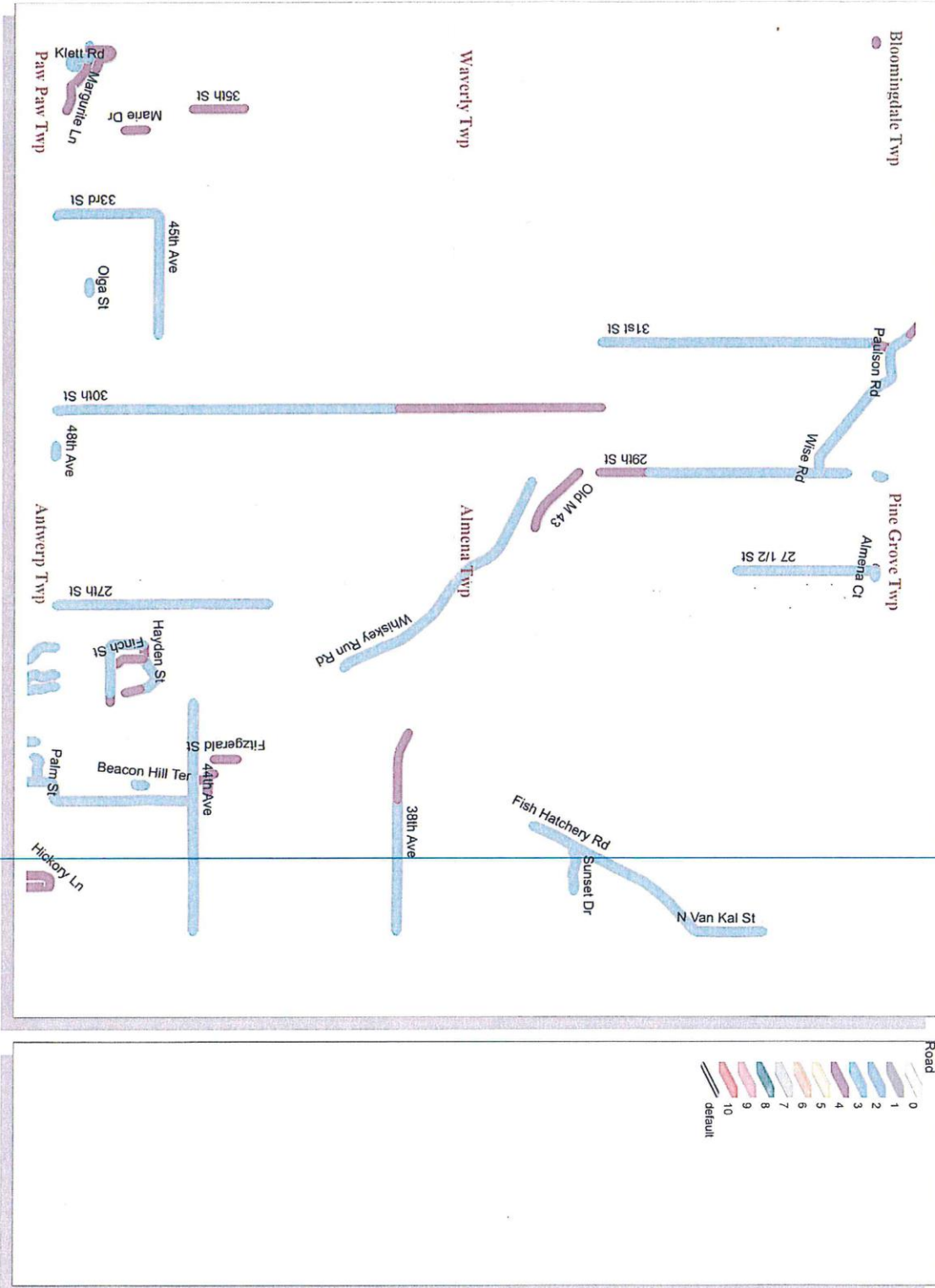
Almena

Local Asphalt Rated 5&6



Almena

Local Asphalt Rated 3&4



Almena

Latest IBR Rating (Gravel Roads)

