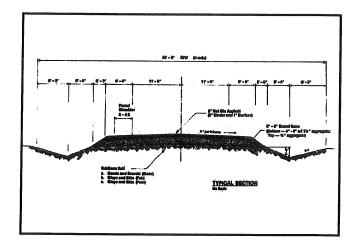
## TOWN OF TOMAHAWK ROADWAY SURFACE MANAGEMENT PLAN

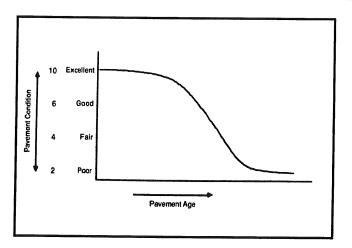


**UPDATE** 

**PASER** 

**Pavement Surface Evaluation and Rating** 

**UPDATE** 



Prepared April 2008 with Update October 2009 by:
NORTH CENTRAL WISCONSIN REGIONAL PLANNING COMMISSION
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## TOWN OF TOMAHAWK, LINCOLN COUNTY, WISCONSIN ROADWAY SURFACE MANAGEMENT PLAN

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## CHAPTER 1 ROADWAY SURFACE MANAGEMENT PLAN OVERVIEW

### **INTRODUCTION**

A roadway management plan for a local street system provides a community with the ability to plan for future roadway improvements. With a roadway management plan in place, the limited resources allocated to local roads can be better spent. The overall goal of the Roadway Management Plan is to assist municipalities make better decisions on the improvements to the local road system. This document contains information vital to the review and rating of the Town of Tomahawk's roadway system. Thus, the Roadway Management Plan will assist in preserving and rehabilitating the existing Town street system in a timely and cost-effective manner.

A review of each Town road was performed by a representative from the North Central Wisconsin Regional Planning Commission (NCWRPC). Information necessary to complete the roadway management plan was collected during the summer of 2007 using the Pavement Surface Evaluation and Rating (PASER) system. The on-site roadway review was performed following the Wisconsin DOT Plat Record Map.

## PURPOSE OF ROADWAY SURFACE MANAGEMENT PLAN

A Roadway Management Plan helps local government officials respond to growing pressures from constituents to repair roads and upgrade the quality of roads by providing documented information on suggested priorities for improvement and reliable estimates of current and future costs of maintaining and improving the quality of the local road system.

Roadway Management Plans help local officials allocate scarce resources, which are caused by some of the following:

- 1. Negative public attitudes towards higher property taxes;
- 2. The historic limits on state and federal revenues to local governments to keep pace with increasing costs of providing local services;
- 3. An increase in street maintenance and construction costs which have outstripped the available public resources;
- 4. Historic local budget difficulties have resulted in deferred maintenance on local street systems, thus compounding needs for additional local resources; and/or
- 5. Some local units of government have not used their scarce dollars in a wise manner. Local politics and poor decision making have, in some cases, resulted in funds being spent in the wrong places or in an inefficient manner.

The objectives for using a pavement management system include:

- 1. A better understanding of pavement conditions by completing an overall field inventory;
- 2. An evaluation of causes of pavement conditions by the roadway segments' corresponding rating and analysis of distress;
- 3. Through improved decision making by taking advantage of preventative maintenance and selection of the most effective repair or rehabilitation;
- 4. Better communication of needs and strategies to decision makers as a tool to explain needs and convince elected officials and the public that adequate budgets are needed;
- 5. Long-term planning helps local governments coordinate pavement needs and scheduling with other budget and policy decisions.

## INTENDED ROADWAY SURFACE MANAGEMENT PLAN RESULTS

The results of the Roadway Management Plan are intended to assist the Town of Tomahawk in developing a road surface improvement program where by the limited transportation dollars allocated yearly can be spent more wisely. Through this effort, a better transportation system will be realized over time. A roadway management plan can also assist in vying for additional county, state or federal funding.

In addition, municipalities must report to the Wisconsin Department of Transportation an assessment of the physical condition of the roadways under their jurisdiction. The assessment must be completed biennially and must be completed using a WisDOT approved pavement rating system. This surface condition assessment was completed and submitted to WisDOT as part of the roadway management plan process.

## CHAPTER II TOMAHAWK'S EXISTING ROADWAY SYSTEM

### **EXISTING SYSTEM**

Prior to the development of a Roadway Management Plan, an inventory of the existing system must be completed. This inventory will assist in cataloging the roadway characteristics by roadway segment and surface type. The field data collected will be used as a benchmark to establish the prioritization of the existing roadway system and will assist in the development of recommended improvements to the local road system.

The Wisconsin Department of Transportation (WisDOT) maintains a roadway characteristic inventory on all local roads eligible to receive state funding through the state road/transportation aid program, see Appendix A. This data file is used as the basis for beginning the Roadway Management Plan. From the base data already collected by the state, a review of the road system may note changes in the roadway characteristics. Thus, this information is updated and represented as such in the data sheets found in the back of this document. The state's inventory of the roadway system includes such features as:

- 1. Segment length;
- 2. Surface type (earth, gravel, asphalt, or concrete);
- 3. Functional classification; and
- 4. Surface and shoulder width.

The review of the Town road system was completed following the Wisconsin DOT Town Plat Record Map and corresponding data provided by WisDOT for each roadway segment.

### FUNCTIONAL CLASSIFICATION SYSTEM

Tomahawk's roads perform varied functions from moving goods and people within the community or through the community. These roads differ from one-another and are characterized by a functional classification system. In the development of this Roadway Management Plan, the functional classification of the roads is described as follows:

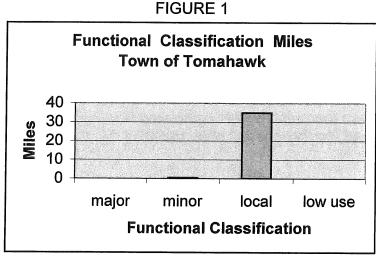
<u>Major Collectors</u>: Major collectors provide service to moderate sized communities and other intra-area traffic generators (schools, churches, employment or service centers) and link those generators to nearby larger population concentrations or major state or county trunk highways.

Minor Collectors: Minor collectors provide service to remaining population concentrations not served by higher classified routes, link the locally important traffic generators (schools, churches, and employment and service centers) with the rural hinterland, and are spaced consistent with population density so as to collect traffic from local roads and bring developed areas within a reasonable distance of a higher classified road. One or two very densely developed roads could meet this classification, provided that the level of development is such that relatively high average daily traffic (ADT) counts are realized (a lake loop road is a good example of this type of situation).

<u>Local Roads</u>: Local roads provide access to adjacent land and provide for travel over relatively short distances on an interTownship or intraTownship basis. All Town roads not classified as arterials or collectors will be local functional roads.

Low Use Roads: Low use roads are roads that receive very limited traffic volume due to any of the following reasons: low level of development on property served by road, seasonality of use (hunting, fishing, cross country skiing, etc.), physical barrier to through traffic (road quality, dead end road, or other local factors that contribute to low or intermittent use).

The functional classification mileage of the roads is depicted in Figure 1 and by segment in Appendix A.



Most Town roads are in the local or low use category, and most county trunk highways are either major or minor collectors. The classification of roads indicates a number of factors regarding the nature of the road for roadway management such as:

1. Role the road plays in providing mobility (through traffic) as opposed to providing access to adjoining property.

- 2. Amount of development adjacent to a roadway. The more adjoining development, the higher the classification. The nature of the development must also be considered here. In the case of development that would serve a high number of trips, such as commercial, industrial, or institutional a road could be considered for a higher classification.
- 3. The average daily traffic on the road. Generally, the higher the traffic the higher the classification.

## **CHAPTER III ROADWAY SURFACE MANAGEMENT PLAN RESULTS**

### PAVEMENT SURFACE EVALUATION AND RATING

The data reported in this Roadway Management Plan was produced using the Pavement Analysis Tool within the state's Wisconsin Information System for Local Roads (WISLR). Critical to the development of the surface condition rating of each roadway segment, was a uniform and consistent set of criteria used throughout the Town in evaluating and assigning a value to each roadway segment. To achieve this uniform and consistent evaluation, the Pavement Surface Evaluation and Rating (PASER) system developed by the University of Wisconsin-Madison, Transportation Information Center was utilized, see Appendix B. The consistency in evaluating each roadway segment is critical since this information will lead to the development of future improvements needed to the local roadway system.

Based upon the WISLR data collected, there are 35.41 miles of road in the Town of Tomahawk's roadway system. On this system, 27.12 miles or 76.6 percent are unpaved and 8.29 miles or 23.4 percent are paved. FIGURES 2 and 3 depict the surface condition ratings of the paved and unpaved roadway system.

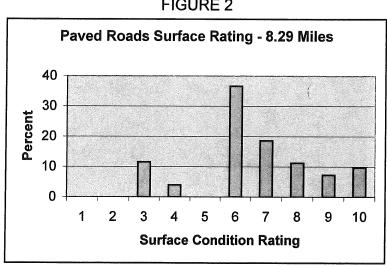
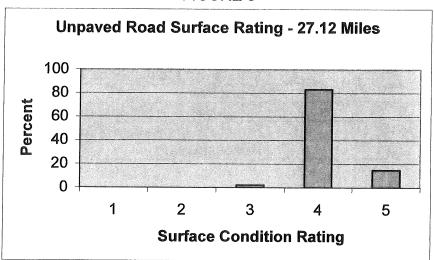


FIGURE 2

FIGURE 3



Focusing on paved roads, 28.3 percent is currently in need of no maintenance. About 18.6 percent is in need of only minor maintenance or crack filling, and 37.6 percent could benefit from a surface treatment such as sealcoating. About 15.5 percent is in need of structural improvement. Unpaved roads are currently in good condition with 98 percent needing only routine maintenance, and the remaining 2 percent in need of only minor ditching and/or additional gravel.

## PAVEMENT SURFACE NEEDS ANALYSIS

Pavement management is a systematic process that uses roadway data to facilitate development of cost-effective maintenance and improvement programs. The WISLR Pavement Analysis Tool takes a "value-based" approach to pavement management. The objective of this approach is to get more value (cost-effectiveness) from improvement expenditures by getting more pavement life at a lower cost and improving ride quality.

Accomplishing this objective requires selecting the right projects and applying the right fix at the right time.

The surface condition rating value and corresponding suggested improvements for asphalt (paved) and gravel (unpaved) roads are represented in TABLES 1 and 2.

ASPHALT SURFACE RATING	TABLE 1 CONDITION & SUGGESTED IMPROVEMENT
RATING	ACTION REQUIRED
10 – 9	No Maintenance Required
8	Little or No Maintenance Required
7	Crack Filling
6 - 5	Preservative Treatment (sealcoat)
4 – 3	Structural Improvement (overlay or recycling)
2 - 1	Reconstruction

GRAVEL SURFACE RATING	TABLE 2 CONDITION & SUGGESTED IMPROVEMENT
RATING	ACTION REQUIRED
5 – 4	Routine Maintenance
3	Minor Ditching/Add Gravel
2	Add Gravel/Drainage Improvement
1	Reconstruction

Based on these suggested treatment actions, a rudimentary needs analysis can be generated. A rudimentary needs analysis provides an estimate of all pavement needs as indicated by existing pavement ratings (unconstrained). Appendix C contains the rudimentary needs analysis for the Town of Tomahawk.

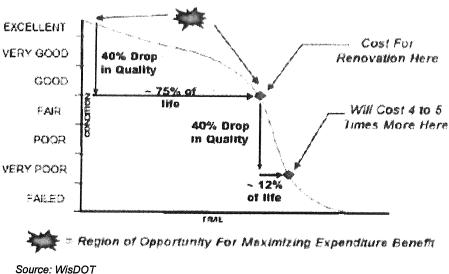
The rudimentary needs analysis categorizes need into two categories: capital and maintenance. Capital improvements are those that significantly extend service life. Examples of capital improvements are resurfacing, mill and overlay, and reconstruction. Maintenance improvements help preserve roads, but a typical application does not significantly extend service life. Examples of maintenance improvement are joint and crack sealing, patching and sealcoating.

The first page of the analysis shows a capital improvement need of \$91,074 associated with 1.32 miles of roadway and maintenance need of \$ 34,161 associated with 4.69 miles of roadway. A breakdown by street is also included.

## **PROJECT PRIORITIZATION**

WISLR prioritization emphasizes treating pavements in the "region of opportunity" (see Figure 4) because pavements in this condition range can typically be maintained at a much lower cost per year of service life extension. However, the WISLR model also places priority on roadway classification, recognizing that the most important roads in poor to failed condition can't be ignored. The combined effect of this dual-priority approach is intended to select projects based on both cost-effectiveness and importance to overall system function.

FIGURE 4 Typical Pavement Condition Life Cycle



This approach provides a reasonable starting point for programming within a constrained budget. Ultimately project selection will need to incorporate other important factors not included in the WISLR data such as safety, utilities, roughness, etc.

The intent of the WISLR pavement analysis tool is to provide abundant pavement condition and budget impact information in order to aid in project selection and in order to help substantiate budget levels.

## CHAPTER IV ROADWAY PRACTICES AND RECOMMENDED IMPROVEMENTS

### GENERAL MAINTENANCE AND IMPROVEMENT PRACTICES

The maintenance and improvement of local roads is critical to having a sustainable roadway system. Building good roads result in longer lasting roads.

Building good roads is basic to having a local roadway system that will carry vehicles safely and efficiently, and that save money by lowering future improvement costs. What are some of the basic concepts of building good roads that will last? Below is a list of ten basic concepts to follow when building roads.

- 1. Get water away from the road. Good drainage is critical to making a good road. It has been estimated that nearly 90% of a road's problems can be attributed to excess water or to poor water drainage. Effective drainage systems divert, drain, and dispose of water along a roadway. These drainage systems use interceptor ditches and slopes, roadway crowns, and ditch and culvert systems. Interceptor ditches, located between the road and higher ground, divert the water by sloping away from the road so that the water does not reach the roadway. Crowning a roadway assists in moving water off the roadway to the interceptor ditch. Typically, a gravel roadway crown should be ½" higher than the shoulder for each foot of width from the centerline to the edge. A paved road crown should be 1/4" higher than the shoulder for each foot of width from the centerline to the edge. Too much water remaining on a roadway surface, or in the subbase and subgrade combine with the action of traffic to create potholes, cracks, and pavement failure. Ditches and culverts dispose of water by carrying it away form the road structure. Ditches should be one foot lower than the base of the road. Improper drainage can allow water to seep under the roadway creating the potential for future roadway failures. A rule of thumb is that one-dollar spent on proper roadway drainage will save two dollars on maintenance.
- 2. <u>Building a firm foundation</u>. A roads foundation is important to the life of your road. A road wears out from the top down but falls apart from the bottom. The subgrade and subbase layer of a road support the entire roadway and traffic using it.
- 3. <u>Use the best material</u>. When it comes to using materials in the construction or improvement of a road, you will either "pay for it now or later." The selection of materials for the project will determine how long a road may last. Inferior materials may cause premature improvements or life long maintenance to the road. Crushed aggregate is the best material for a base course as the sharp edges interlock when compacted. Rounded aggregate is a poor base course as they will move under the weight of traffic.

- 4. <u>Compact all layers</u>. Generally, the more densely a material is compacted, the stronger it is. The compaction also helps prevent water moving in and throughout the subbase layer of the roadway. This helps prevent frost heaving and premature deterioration of the roadway. Using gravel with a mix of sizes (well-graded aggregate) allows smaller particles to fill-in the voids created by larger particles.
- 5. <u>Design for traffic loads and volumes</u>. A road should be designed to carry the highest anticipated load. If this load is unknown, the road should be designed to carry the largest maintenance equipment that will be used on the road. A well-constructed and maintained asphalt road should last 20 years without major repairs or reconstruction. One truck with 9 tons on a single rear axle does as much damage to a road as nearly 10,000 cars!
- 6. <u>Design for maintenance</u>. Design you road so that it may be easily maintained by having adequate ditches that can be cleaned regularly, culverts that are marked for future maintenance activities, an area where snow can be plowed onto, proper slopes of the roadway and ditches, ditches that are planted to prevent erosion, and ditches that can be mowed safely.
- 7. Pave only when ready. Every road does not have to be an asphalt road. Laying asphalt on an existing roadway will not fix a gravel road that is failing. Adequate crushed aggregate, drainage, and proper compaction must be in place to support the longevity of an asphalt road. Depending on the subgrade soils of any road, a recommended minimum subbase depth of crushed stone is 10".
- 8. <u>Build form the bottom up.</u> Do not waste material on a top dress or resurface if the problem is actually a subbase or subgrade problem. This method does not correct the problem and will result in unwisely spent funds. Choosing an improvement technique that gets to the root of the problem will be the only thing that makes the roadway better.
- 9. <u>Protect your investment</u>. The local road system often is the Town's largest investment. These maintenance activities are critical to the longevity of a local road:

<u>Surface</u> Grade, shape, patch, seal crack, control dust, remove ice and snow; <u>Drainage</u> Clean and repair ditches and culverts, remove excess debris; <u>Roadside</u> Cut brush, trim trees and roadside plantings, control erosion; and <u>Traffic Service</u> Clean and repair or replace signs.

10. <u>Keep good records</u>. Knowing each road's construction, life, and repair history makes it easier to plan and budget for future improvements.

The ten basic concepts discussed above will assist in providing a good roadway system that will be more popular with the local citizens and will likely assist in making the transportation improvement budget cover more miles of road in a given year.

## RECOMMENDED FIVE-YEAR IMPROVEMENT SCHEDULE

The 5-year work program is based upon Town reported budget constraints of \$125,000 for maintenance and \$20,000 for construction. The maintenance budget provides for regular routine maintenance including fresh gravel and grading on unpaved roads and crack filling on paved surfaces.

In addition to the upcoming bridge project for which Town has budgeted its local share, 7 resurfacing projects are identified. This Plan recommends the Town budget an average of \$22,752 annually from 2009 to 2012 for these projects.

While the majority of the Town's roads are gravel surface, it has been the Town's policy to periodically convert selected gravel roads to asphalt. These projects are typically more substantial, and the Town may need to pursue outside assistance such as the TRIP or TRIP-D grant programs. These are 50% grants, so the Town will need to budget funds, possibly over a number of years, to provide the 50% match amount.

## Town of Tomahawk Roadway Management Program 2008-2012

Maintenance	(gravel, grading, crackfilling, etc.)	\$125,000	Annually
Local Match -	· Bridge Project	\$20,000	2008

## Recommended Construction Projects 2009 - 2012

			Pvmt			
	Length	Width	Rtg	Pvmt Rtg	1	<b>Estimated</b>
On Route*	Feet	Feet	(Year 1)	(Year 5)	Action	Cost
Millie Rd	1,320	20	4	9	Resurfacing	\$14,405.00
W Bilby Ln	475	20	4	9	Resurfacing	\$5,182.00
Tomahawk Rd	2,006	20	3	9	Mill and Overlay	\$28,519.00
E Bilby Rd	2,006	20	3	9	Mill and Overlay	\$26,767.00
Valley Rd	740	20	3	9	Mill and Overlay	\$10,519.00
TN RD 35	211	20	3	9	Mill and Overlay	\$2,808.00
W Bilby Ln	211	20	3	9	Mill and Overlay	\$2,808.00
						\$91,008,00

<sup>\*</sup>Refer to Appendix D for more detail on these road segments.

## Recommended Gravel to Asphalt Conversion Projects 2010 - 2012

	Length	Width		Estimated
On Route*	Feet	Feet	Action	Cost
Wauwatosa Ave.	2,260	20	Fine Grade & Pave	\$29,000.00
Bridge Ave.	8,970	20	Fine Grade & Pave	\$143,250.00
				\$172 250 00

<sup>\*</sup>Refer to Appendix D for more detail on these road segments.

The estimated costs for each project listed may differ from final project costs. An engineering report is required for projects to be eligible for State LRIP funding. That report will identify the final project cost for any project.

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## COUNTY OF LINCOLN (35)

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Mitchell Rd	Eagle Waters Rd	0.29 (1531)	z	7	   R	22 20	98	0	0	202	2 202	7 2 5 4		8 Ш	000075	Ш	99	8	4	9 8	000	NON	8	2	2008	9 2007	70
Eagle Waters Rd	Faust Rd	0.71 (3749)	z	7	2	22 2	90	0	<u>  °</u>	202	2 202			8	000075	Ш	99	6	4	3 000		NON	8	2	2008	9 2007	-20
Faust Rd	Evergreen Rd	0.57 (3010)	z	7	2	22 2006		0	0	202	2 202			8 <u></u> <u></u> 8	000375	Ш	99	6	4	3 0	000	NON	8	2	2008	9 2007	16
Evergreen Rd	Jaecks Rd	0.43 (2270)	z	2	2	22 2006		4	-	202	2 202			8	000375	Ш	99	64	4	3	000	NON	8	7		9 2007	10
Jaecks Rd	W Bilby Rd	1.52 (8026)	z	2	6	22 2	2006	0	0	202	2 202			8	000375	Ш	99	64	+ 4	3	000	NON	8	2		9 2007	1
W Bilby Rd	E Bilby Rd	0.25 (1320)	z	2	92	22 2006	-	0	-	202	202			8   <u> </u>	000375	Ш	99	6	+ 4	3	000	NON	8	2		1	. 20
E Bilby Rd	Stegman Rd	1.28 (6758)	z	2 /	70 2	22 2006	-	0	0	202	202			8	000375	Ш	99	8	4	<u>δ</u>	000	NON	8	7		9 2007	20
Stegman Rd	СТН О (0.25)	0.25 (1320)	z	2 7	92	22 20	2006	0	0	202	202			E 000225	0225	Ш	98	<b>6</b>	4	3 000		NON	8	7 2	2008	2007	120
			1	1	1	+	1	4	4				1	$\dashv$	-	7		_	$\dashv$		$\dashv$	-					

PCINT		0,85		39-17											-					-				
AT RDST OFFSET MILES	TO ROAD NAME OFFSET MILES	LENGTH MILES OW L	W	Ē	O	E P	CURB SHOUT	B SH	RT	MEDIAN Type WD		ADT CNT YR	R I	ROW I W F	rc RC	) SC	ROW I W FC RC SC 0 U/A	H. SHN	- SC	H AIN	ALN INV PYT AC H V XR R YR SW	R PY	T KY	l make
Wery (3.28)	STH 86	0.85 (4488)	7	N 2 70 22		4	0	8	1966 4 0 0 000 000		ш	000015	Ш	8	E 66 45 4	1	8	3 000 NON	8		2008			

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СТН О	O.H	⇒Eagle Waters Rd	Blackhawk Rd	Bambi Ln	New Wood Rd	OF	=>Deer Tri	STH 86	Ball Park Rd	Strucker Dr (0.52)	Q.F.	=>CTH YY
	AT RD/ST OFFSET MILES	aters Rd	Rd	ľ	Rd	AT RD/ST OFFSET MILES			&	Ŧ	AT RD/ST OFFSET MILES	
-												
Termini	TO ROAD NAME OFFSET MILES		Termini	Blackhawk Rd	Bambi Ln	TO ROAD NAME OFFSET MILES		Lost Ave (0.46)	STH 86 (0.76)	Ball Park Rd	TO ROAD NAME OFFSET MILES	
0.48 (2534)	LENGTH MILES (FEET)	0.48	0.17 (898)	0.08 (422)	0.13 (686)	LENGTH MILES (FEET)	0.38	0.46 (2429)	0.76 (4013)	0.41 (2164)	LENGTH MILES (FEET)	1.63
z	WO		z	z	z	O#	8	z	z	z	OW	ü
2	F =		2	N	N	H		N	Ν	2	H .	
70	SURFA Type WD		70	70 ;	70	SUF Type V		8	셠	55	SURFA	
20 19	$\alpha$		20 10	20 10	20 1:	SURFACE WD Y		24 2	22 2	22 2		
1999 4	72		1996	1996	1996	æ		2001	2001	2001	7	
0	P LT		0	0	4 0	D CI		0	4 0	4 0	F.T. A	
0	CURB LT RT		0	-	0	CURB		0	0	0	CURB	
202	TT 10HS		203	203	203			203	203	203		
202	SHOULDER LT RT		203	203	203	SHOULDER LT RT		203	203	203	SHOULDER LT RT	
			<b>-</b>					_ ω	3	3		
	MEDIAN Type WD					MEDIAN Type WD					MEDIAN Type WD	
m	4		ш	Ш	m	I		т	П	ш	H	
000015	ADT CNT		000015	000015	000015	ADT CNT		000035	000075	000075	ADT	
1995	ΥR					YR					Ĭ,	
Α 6	ROW J W	÷ .	П	ш	Ш	ROW I W		т	т	т	T ROW	1
66 45	W FC		66 45	66 45	66 45	W FC		66 40	66 40	66 40	OW W FC	
<u>σ</u>	RC		51	51	<u>о</u>	C RC		4	4	4	RC	
4	SC O					SC					SC	
000	) IIIA		4 000	4 000	4 000	O U/A		3 000	3 000	3 000	y/n o	
NON	SHK		NON 000	NON 000	NON	SHN		NON	NON	NON	SHN	
8	Э Н	7	8	8	8	н үс		8	8	0	H A	
	ALN H V		<u> </u>	J	٥	C H V			0	8	ALN AC H V	
2008	N N		2008	2008	2008	Y IN		2008	2008	2008	VR	
o	TV		თ	6	ര	R PVT		œ	9	9	R P	
2007	7		2007	2007	2007	TY R		2007	2007	2007	PVT	
	W.S					SW					SW	

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⇒Evergreen Rd		0	0.49		1 6				- 1																		
AT RDST OFFSET MILES	TO ROAD NAME OPFSET MILES	LENGTH MILES (FEET)	н О О О	, ⊢ ×	SURFA Type WD	BL	R P	55	S 08500 112000	SHOULDER LT RT		MEDIAN Type WD	170	ADT	W.	, RO	W FC	RC	0 20 30	מ/א	H SHN	AC	ALN H V	INV.	R J	Æ	WS
СТНО	Silver Birch Rd	0.49 (2587)	Z	2	35	20 19	1974 4	0	0	000	00		ш	000015		Ш	66 45	2	4	8	NON	8		2008	4 2	2002	
⇒Faust Rd		•	1.8		2 - 1											11									11	11	7 6
AT RD/ST OFFSET MILES	TO ROAD NAME OFFSET MILES	LENGTH MILES (FEET)	H OW	17.4	SURFA Type WD		R.	CURB ET ET	9447 E	SHOULDER LT RT		MEDIAN Type WD		ADT	YR	I RC	¥ ≱	RC	0 28	U.A.	H SHN	V	ALN H V	INV.	R 1	<b>2</b>	NS.
Termini	стно	1.00 (5280)	Z	2	35 2	20 19	99	0	0	8	8		ш	000015		П	50 45	വ	4	<u>z</u>   00	NON	8		2008	4	2007	n/ 1
⇒Four Mile Dr		3	3.94													41											7 6
AT RD/ST OFFSET MILES	TO ROAD NAME OFFSET MILES	LENGTH MILES (FEET)	H OW	10 1 H	SURFA Type WD	CE	<u>~</u>	CURB	10 x 10 10 10 10 10 10 10 10 10 10 10 10 10	SHOULDER LT RT		MEDIAN Type WD		ADT	<b>I</b> ₩	ROW	FC.	RC	SC 0 1	הוא	NHS H	Y <sub>C</sub>	ALN H V	INV	Py-T	r YR S	ASS
New Wood Rd	County Forest 701	2.03 (10718)	Z	2	35 2	20 190	66 4	0	0	8	8		Ш	000035		/ Ш	50 45	ro	4	2 000	NON	8		2008	5	2007	264
County Forest 701	Bridge Rd	1.91 (10085)	z	2	35 2	20 196	166 4	0	0	8	000		Ш	000035		П 5	50 45	2	4	000	NON	8		2008	5 2	2007	1
→Fox Farm Rd		Ť	1.90																							11	7 6
AT RD/ST OFFSET MILES	TO ROAD NAME OFFSET MILES	LENGTH MILES (FEET)	r ow	· A	SURFA Type WD	87	R P	CURB LT RT		SHOULDER LT RT		MEDIAN Type WD		ADT	K K	ROW	W FC	RC	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	U/A N	NHS H	AC_1	ALN A	YR	R PVT		±s.
STH 86	Termini	1.90 (10032)	z	2	35 1	18 196	66 4	0	0 0	000	8		Ш	000015		П 5	50 45	22	4	000	NON	8		2008	4 2	2007	: I
										1	1	1	1			1	$\frac{1}{2}$		1	_			_		president.	talian	

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AT RD/ST TO ROAD NAME LENGTH SURFACE OFFSET MILES		-Jaecks Rd	Island View Dr         Termini         0.38 (2006)         N         2         70         20         2	AT RD/ST TO ROAD NAME LENGTH SURFACE OFFSET MILES OFFSET MILES (FEET) OW L Type WD Y	⇒E Island View Dr 0.38	E Island View Dr Termini 0.18 N 2 70 20	STH 86 E Island View Dr 0.06 N 2 70 20	AT RD/ST TO ROAD NAME LENGTH OFFSET MILES OFFSET MILES OFFSET MILES (FEET)  LENGTH Type WD Y	=>Island View Dr 0.24	STH 86 Termini 0.27 N 2 35 20	AT RD/ST TO ROAD NAME LENGTH OFFSET MILES	⇒Hoffman Rd
	TO ROAD NAA OFFSET MILE		Termini	TO ROAD NAN OFFSET MILE		Termini	E Island View Dr	TO ROAD NAA OFFSET MILI		Termini	TO ROAD NAA OFFSET MILI	
		0.6	0.38 (2006)		0.3	0.18 (950)			0.3	0.27 (1426)		9.
		ü	z	Caracter of the	8	z	z	1 977 7 1935	24	z	A. S. A. A. B. 1920	77
							<del> </del>	r C	1	<b></b>	i H	
	SURF			SURI Pe WI			ļ	SURI pe W	,		SURJ	
ı	ACE		2006	ACE VR	3.3	2006	2006	ACE D YR		1966	ACE D YR	
	ъ		6 3	'ব	- En	6 3	6 3	P		66 4	P	
1	CURB LT RT		0 0	CURB LT RT		0 0	0 0	CURB		0	CURB UT RT	
ŀ	100000		202	1 10.25 (1.46)		) 202	) 202			0 000		
	SHOULDER LT RT		2 202	SHOULDER LT RT		2 202	2 202	SHOULDER LT RT		0 000	SHOULDER LT RT	1
			0			0	0			6	T R Ty	
	MEDIAN Type WD		0	MEDIAN Type WD		0	0	MEDIAN Type WD			MEDIAN Type WD	4,
			Е			m	m	-		т		
	ADT		000015 1995	CNT		0001	0001	ADT		000005	ADT	
C	Υ <sub>R</sub>		5 199	YR		00015 1995	00015 1995	T YM		51	T VR	
	1 70		Α	ggsdy tab		Α	>			m	- 2	
The second second	W FC		66	ROW F		66	66	ROW I		50	ROW	
	RC		45 5	FC RC		45 5	45 5	FC RC		45 5	FC RC	
	0 05		4	SC O		<u>.</u>	4	SC O		4	sc o	
	U/A		8	UJA		000	8	N.U		8	U/A	
	SHN		NON	SHN		NON	NON	SHN		NON	SHN	
	H AC		8	<u> </u>				Ħ			Ŧ	
	C ALN		0	AC H V		8	8	AC H		8	AC H	
-			2	< 2		2	2	< 2		2	₹2	
	YR YR	11	2008	Y# TNT		2008	2008	YR V		2008	YR INV	
1	PVT	1	9 2007	R XX		9 2007	9 2007	PVT R YR	11	4 2007	PVT R 77R	
77	ĭ#				G/97			100	DECATE TO SERVICE THE PROPERTY OF THE PROPERTY	O 1		

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Town Of Tomahawk (030)

COUNTY OF LINCOLN (35)

ATRD/ST OFFSET MILES	Control of the Contro		ABLESTED	SANSTON STATE	WEST CONTROL OF THE	Special Colleges	TO SECURE OF STREET	The state of the s		SECTION STATES.			Character September	CONTRACTOR.	RESTRICTED BY	STATE OF THE PARTY		, M. C.	Characteristics of the same		William and the same	September 2012 Control of	"ABLUING CONTROL		Commence of the commence of th	SOUTHWAT THE PARTY AND ADDRESS OF THE PARTY AN	SECTION SECTION	
	TO ROAD NAME OFFSET MILES	LENGTH MILES (FEET)	OW L	É	SURFACI Type WD	H.K.	5 5	CURB		SHOULDER LT RT	100	MEDIAN Type WD		ADT	, a	ROW 1 W	W FC	RC	o Ds	av	NHS	H	AC H	3 2	Y.N.Y.	R PVT	<sub> </sub>	ts.
Termini		0.24 (1267)	Z	35	20	1966	0	0	8	8			<u>Ш</u>	000015		Ш	50 45		4	000	NON	ut.	8	1 8	2008	4	2007	
⇒Little Beaver Rd		0.15														d	11	] [	<b>J</b> [	] [	7	<b>d</b> I :	4			-		
ATRD/ST OFFSET MILES OF	TO ROAD NAME OFFSET MILES	LENGTH O	OW L	جَ ا	SURFACI Type WD	'E VR	5 <u>5</u>	CURB	SHOUI	ULDER RT		MEDIAN Type WD		ADT	¥	¥ =	W FC	RC	SC O	מא	SHN	E	<sup>2</sup>   =   	AIN I	YR	R N	×	MS.
Termini Blackh	Blackhawk Rd	0.11 (581)	N 2	20	20 ,	1996	0	0	203	203			В Ш	000015		Ш	66 45	2	4	8	NON	Ž.	8	0	2008	9	2007	173 - 147.
Blackhawk Rd Termini		0.04	ν 2	70	8	1996	0	0	203	203	<u> </u>		8	000015		Ш	66 45	5 5	4	8	NON		8	Ñ	2008	6 20	2007	1
⇒Loop Rd		0.48									-					<b>4</b>	+	] [	]	] [			-			$- \parallel \parallel$		7
AT RD/ST TO OFFSET MILES OF	TO ROAD NAME OFFSET MILES	LENGTH MILES O (FEET)	OW L	Å.	SURFACE pe WD N	E	- Ε Ι - Α .	CURB LT RT		SHOULDER LT RT		MEDIAN Type WD		ADT	Y. A.	ROW 1 W	W FC	RC.	sc o	avy	NHS	H A(	AC H	Z 2	Y.R.	PI-T	K	AS.
Loop Rd (2) Loop Rd (2) (0.48)		0.48 (2534)	α Ζ	2	22	2002	9	0	202	202			8 Ш	000035		П	33 40	2	4	8	NON	) ŏ	8	N N	2008	8	2007	<u> </u>
⇒Max Tilly Rd		0.50								, , , , ,							-	]	$+ \  \cdot \ $			<b>d</b> [ ]	-			$- \  \ $	$\exists  \mathbf{k}$	j.
ATRDST TO OFFSET MILES OF	TO ROAD NAME OFFSET MILES	LENGTH MILES (FEET)	ow L			2 2	5 5 a	CURB	-	SHOULDER LT RT		MEDIAN Type WD		ADT	×κ	ROW I W	W FC	RC	SC 0	U/A	NHS	H AC	AC H	N N N N N N N N N N N N N N N N N N N	NI N	PVT R V	R	ALS
STH 86 Termini		0.50 (2640)	Z 2	35	22 1	1992	0	0	000	8			<u>8</u>	000015		Ш	66 45	22	4	8	NON	6	8	N	2008	3 20	2007	Q P

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⇒Millie Rd		0.25	5	100												3 2 2														
AT RD/ST OFFSET MILES	TO ROAD NAME OFFSET MILES	LENGTH MILES (FEET)	wo	71 <b>H</b>	SU	SURFACE WD 1	A.C.	ъ	CURB		SHOULDER LT RT	RT	ال المستسمل المستسم	MEDIAN Type WD		ADT	á	ROW		FC RC	SC	0	U/A	н ѕни	AC.	ALN H V	¥ 77	R. p.	PVT	SW
Termini	E Bilby Rd	0.03 (158)	z	2	57	20	1991	4	0	0	202	202			m	000015		П	20 7	45 5		4 0	000	NO NO	8	145 127 1-121 1-121	2008	4	2007	
E Bilby Rd	TN RD 35	0.12 (634)	z	2	57	20	1991	4	•	<u> </u>	202	202			ш	000015	l	т	50	45 5		4 0	000	NON	8		2008	4	2007	
TN RD 35	E Bilby Rd	0.10 (528)	z	2	57	20	1991	4.	-	0	202	202			т	000015		m	8	45 5		4	8	NON	8		2008	4	2007	
=>Mitchell Rd		0.11	T.																	1		::  F	11 F			11			1	
AT RD/ST OFFSET MILES	TO ROAD NAME OFFSET MILES	LENGTH MILES (FEET)	WO		SU	SURFACE be WD Y	YR.	79	CURB LT RJ		SHOULDER LT RT	RT		MEDIAN Type WD	. =	ADT	ΥR	ROW I W	1 (40)	FC RC	SC	0	W.A	H SHN	AC.	ALN ALN	JNV.	R PI	PVT	SIF
СТНО	Termini	0.11 (581)	Z	2	35	20	1966	4	0	0	000	000			ш	000005		m	50 4	45		4 0	000	NON	8		2008	4	2007	
=>New Wood Rd		5.19	-	- 1									,		7															
AT RD/ST OFFSET MILES	TO ROAD NAME OFFSET MILES	LENGTH MILES (FEET)	077	C.	SU Type	SURFACE	CE VR	<b>'</b> ʊ	CURB LT RT		SHOULDER LT RT	BT	MED Type	MEDIAN Type WD		CNT	Ħ	ROW W		CRC	FC RC SC O		UA.	H SHN	AC.	HALV	7.72 7.72	R P	PVT	SI I
W Averill Creek Rd (1.95)	County Forest 702	0.52 (2746)	z	2	35	20	1966	4	0	_	000	000			m	000035		m .	50 4	45 5		4 0	8	NON	8		2008	4	2007	
County Forest 702	Four Mile Dr	2.70 (14256)	z	2	35	20	1966	4	0	0	000	000			m	000035	Ī	m	50 4	45 5		4 0	000	NON NON	8		2008	4	2007	
Four Mile Dr	Deer Trl	1.56 (8237)	z	2	35	20	1966	4	0	0	000	000			ш	000035		m	50 45	ζη ζη		4 0	8	NON NO	8		2008	4	2007	
Deer Tri	стн о	0.41 (2165)	z	Ν	70	20	1966	4	0	0	000	000			т	000035		m	50 45	ζi		4 0	NON 000	Ö Z	8		2008	6	2007	

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⇒Phalzgraff Rd		1.03	60												ļ							İ				
AT RD/ST OPFSET MILES	TO ROAD NAME OFFSET MILES	LENGTH MILES (FEET)	į	- 2	SURFACE Type WD 1	ACE 0 VR	Α.	CURB LT RT		SHOULDER LT RT		MEDIAN Type WD		ADT	¥ -	ROW	FC RC	S,C	O U/A	NHS	H AC	ALN	YNI	TVT R	æ	.MS
Bridge Rd	Termini (0.75)	0.75 (3960)	z	2 7	70 20	2001	4	0	202	2 202			8	000015	Ш	20	45 5		4 000	NON	8	tie e e	2008	9	2007	· 1
Bridge Rd (0.75)	Termini (0.95)	0.20 (1056)	z	2 3	35 20	1966	4	0	00	8			00   E	000015	Ш	20	45 5	4	8	NON	8		2008	4	2007	
Bridge Rd (1.02)	Termini	0.08 (422)	z	3	35 20	1991	4	0	8	8			000 E	000015	Ш	20	45 5	4	8	NON	8		2008	4	2007	
⇒Pine Grove Ln		0.92	2				1			4	41		41		11				]							
AT RD/ST OFFSET MILES	TO ROAD NAME OFFSET MILES	LENGTH MILES (FEET)	OW	. St	SURFACE pe WD Y	ACE VR	2.	CURB		SHOULDER LT RT	-	MEDIAN Type WD			R I	ANO)	FC RC	0 28	O UVA	SHN	H AC	ALN H V	NI N	R Pyrt	l e	ALS.
STH 86	S River Rd	0.92 (4858)	z	2 70	0 22	2002	က	0	202	2 202			000 E	000015	Ш	20	45 5	4	8	NON	8		2008	7	2007	T
⇒S River Rd		0.37											4					11			]		_			7 [
ATRD/ST OFFSET MILES	TO ROAD NAME OFFSET MILES	LENGTH MILES (FEET)	WO.	E 1	SURFACE Type WD Y	ACE VR		CURB LT RT		SHOULDER LT RT	MEDIAN Type WD	WD			YR I	MOM/	TC RC	SC 0	UA	NHS	н АС	ALN H V	INV	PVT R	T e	.HS
Wagner Rd (1.48)	Pine Grove Ln	0.25 (1320)	z	2 35	20	1995	4	0	203	3 203			E 000005	305	ш	33	45 5	4	8	NON	8	1/2 1/2 1/3	2008	4	2007	Neg
Pine Grove Ln	Loop Rd (2) (0.12)	0.12 (634)	z	2 70	20	1995	4	0	203	3 203			E 000015	)15	ш.	33	45 5	4	8	NON	8		2008		2007	1
=>Ross Rd		0.50										11	-				$\left\  \cdot \right\ $									7 [
AT RD/ST OFFSET MILES	TO ROAD NAME OFFSET MILES	LENGTH MILES (FEET)	MΟ	L Type	SURFACE oe WD V	YR YR	1012	CURB LT RT		SHOULDER LT RT	MEDIAN Type WD	MAD MWD	I CNT		YR I	ROW I	FC RC	O DS	T/A	NHLS	Н АС	ALEN A	INV.	PVT R V	æ	ins.
STH 86	Termini	0.50 (2640)	z	1 35	20	1966	4	0 0	80	000			E 000005	305	Ш	25	45 5	4	8	NON	8	) 	2008	4	2007	I
																				****	_		_	_		

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⇒Saindon Rd		0.75				100 100 200																						
AT RD/ST OFFSET MILES	TO ROAD NAME OFFSET MILES	LENGTH MILES (FEET)	wo	3	SURFACE Type WD Y	ACE YR	-	CURB LT RI	. 1 - 12 July 1 6	SHOULDER LT RT	-	MEDIAN Type WD		- 11	ADT	ΥR	ROW	r <sub>C</sub>	RC	sc o	U/A	SHN	H AC	ALN H V	YR R	R J	PVT YR	SW
Coffee Creek Rd	County Forest 703	0.75 (3960)	z	2 35	18	1966	6 4	0	0	000	8			8	000005		П	50 45	<u>σ</u>	4		000 NON	8		2008	4	2007	. Y
⇒Sanctuary Rd		0.41																11		11							11	
AT RD/ST OFFSET MILES	TO ROAD NAME OFFSET MILES	LENGTH MILES (FEET)	0,00		SURFACE	ACE	ъ	CURB		SHOULDER LT RT		MEDIAN Type WD			CNT	YR	ROW I W	* \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	R C	SC O	V.	SHN	н ас	ALN H V	YR YR	R P	TYT TYTE	SW
STH 86	Termini	0.39 (2059)	Z	2 70	22	2002	2 3		N	202	202			8	000000		A 66	6 45	Ο1 Ο1	4	8	NON	8		2008	<b>∞</b>	2007	
->Silver Birch Rd		0.25	į.									,		-1						11								7.00 15.0 15.0
AT RD/ST OFFSET MILES	TO ROAD NAME OFFSET MILES	LENGTU MILES (FEET)	ow	T Ty	SURFACE Type WD YI	YR YR	<b></b>	CURB		SHOULDER LT RT		GM 3d.L NVIGHN		1	ADT	¥R.	ROW 1 W	FC T	RC	SC O	A.	SHN	ИC	ALN H V	YR.	R	YR XR	SW
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Inventory Listing - ( R-20 ) 1-1-2008 Certification

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Inventory Listing - ( R-20 ) 1-1-2008 Certification

STH 86	AT ROST OFFSET MILES	⇒Zenith Tower Rd	STH 86	AT RD/ST OFFSET MILES	⇒Wilderness Dr	STH 86	AT RD/ST OFFSET MILES	=>Wauwatosa Ave	(0.38)	AT RD/ST OFFSET MILES	=>Valley Rd	Bridge Rd	AT RD/ST OFFSET MILES	⇒Tower Rd
Wilson School Rd (0.87)	TO ROAD NAME- OFFSET MILES		Termini	TO ROAD NAME OFFSET MILES		Termini	TO ROAD NAME OFFSET MILES		Termini	TO ROAD NAME OFESET MILES		Bergman Rd (2.09)	TO ROAD NAME OFFSET MILES	
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APPENDIX B – PASER Rating System	

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PASER Asphalt Surface Rating System				
Surface Rating	Visible Distress*	General condition/ Treatment measures		
10 Excellent	None.	New construction.		
9 Excellent	None.	Recent overlay, like new		
8 Very Good	No longitudinal cracks except reflection of paving joints.	Recent sealcoat or new road mix. Little or no		
	Occasional transverse cracks, widely spaced (40" or greater).	maintenance required.		
	All cracks sealed or tight (open 1/4" or less).			
7 Good	Very slight or no ravelling, surface shows some traffic wear.	First signs of aging. Maintain with routine crack filling.		
	Longitudinal cracks (open ½") due to reflection or paving joints.			
	Transverse cracks (open ¼") spaced 10 feet or more apart, little or slight crack ravelling.			
	No patching or very few patches in excellent condition.			
6 Good	Slight raveling (loss of fines) and traffic wear.	Show signs of aging, sound structural condition. Could		
	Longitudinal cracks (open ½" – ½") due to reflection and paving joints.	extend life with sealcoat.		
	Transverse cracking (open ½" to ½") some paced less than 10 feet.			
	First sign of block cracking.			
	Slight to moderate flushing or polishing.			
	Occasional patching in good condition.	·		

PASER Asphalt Surface Rating System (continued)				
Surface Rating	Visible Distress*	General condition/ Treatment measures		
5 Fair	Moderate to severe raveling (loss of fine and coarse aggregate).	Surface aging, sound structural condition. Needs		
	Longitudinal and transverse cracks (open ½") show first signs of slight raveling and secondary cracks. First signs of longitudinal cracks near pavement edge.	sealcoat or nonstructural overlay.		
	Block cracking up to 50% of surface.			
	Extensive to severe flushing or polishing.			
	Some patching or edge wedging in good condition.			
4 Fair	Severe surface raveling.	Significant aging and first		
	Multiple longitudinal and transverse cracking with slight raveling.	signs of need for strengthening. Would benefit from recycling or overlay.		
	Longitudinal cracking in wheel path.	nom recycling of overlay.		
	Block cracking (over 50%) of surface).			
	Patching in fair condition.			
	Slight rutting or distortions (1/2" deep or less).			
3 Poor	Closely spaced longitudinal and transverse cracks often showing raveling and crack erosion.	Needs patching and major overlay or complete recycling.		
	Severe block cracking.			
	Some alligator cracking (less than 25% of surface).			
	Patches in fair to poor condition.			
	Moderate rutting or distortion (1" or 2" deep).			
	Occasional potholes.			
2 Very Poor	Alligator cracking (over 25% of surface).	Severe deterioration. Needs		
	Severe distortions (over 2" deep).	reconstruction with extensive base repair.		
	Extensive patching in poor condition.			
	Potholes.			
1 Failed *Note: Individua	Severe distress with extensive loss of surface integrity.	Failed. Needs total reconstruction.		

PASER Gravel Surface Rating System					
Surface Rating		Visible Distress*	General condition/ Treatment measures		
5 (10)	Excellent	No distress.  Dust controlled.  Excellent surface condition and ride.	New construction – or total reconstruction.  Excellent drainage.  Little or no maintenance required.		
4 (8)	Good	Dust under dry conditions.  Moderate loose aggregate.  Slight washboarding.	Recently regraded.  Good crown and drainage throughout. Adequate gravel for traffic.  Routine maintenance may be needed.		
3 (6)	Fair	Good crown (3"-6")  Ditches present on more than 50% of roadway.  Gravel layer is mostly adequate but additional aggregate may be needed at a few locations to help correct washboarding or isolated potholes and ruts.  Some culvert cleaning needed.  Moderate washboarding (1"-2" deep), over 10%-20% of the area.  Moderate dust, partial obstruction of vision.  None or slight rutting (less than 1" deep).  An occasional small pothole (less than 2" deep).  Some loose aggregate (2" deep).	Shows traffic effects.  Regrading (reworking) necessary to maintain.  Needs some ditch improvement and culvert maintenance.  Some areas may need additional gravel.		

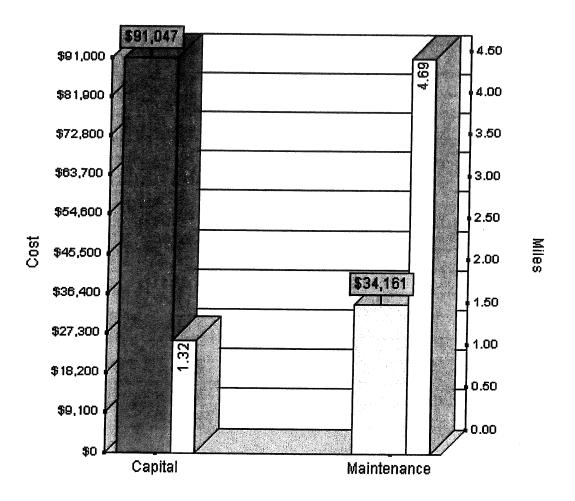
PASER Gravel Surface Rating System (continued)				
Surface Rating	Visible Distress*	General condition/ Treatment measures		
2 (4) Poor	Little or no roadway crown (less than 3").			
	Adequate ditches on less than 50% of roadway. Portions of the ditches may be filled, overgrown and/or show erosion.			
	Some areas (25%) with little or no			
	aggregate.	Travel at slow speeds (less than 25 mph) is required.		
	Culverts partially full of debris.			
	Moderate to severe washboarding (over 3" deep) over 25% of area.	Needs additional new aggregrate.		
	Moderate rutting (1"- 3"), over 10% - 25% of area.	Major ditch construction and culvert maintenance also required.		
	Moderate potholes (2" – 4"), over 10% - 25% of area.	roquirou		
	Severe loose aggregrate (over 4").			
1 (2) Failed	No roadway crown or road is bowl shaped with extensive ponding.			
	Little if any ditching.	Travel is difficult and road may be closed at times.		
	Filled or damaged culverts.			
	Severe rutting (over 3" deep), over 25% of the area.	Needs complete rebuilding and/or new culverts.		
	Severe potholes (over 4" deep), over 25% of area.			
	Many areas (over 25%) with little or no aggregrate.			

Source: Wisconsin Transportation Information Center.

APPENDIX C – Rudimentary Needs Analysis					

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## Rudimentary Needs Analysis Town of Tomahawk



- 0.00% of needs attributed to this year's data
- 100.00% of needs attributed to one year old data
- 0.00% of needs attributed to two year old data
- 0.00% of needs are potentially unreliable Rating Data > 2 years old
- 0.00% of needs are estimated No Data
- 0.00% of needs are estimated Data Too Old (> 5 years old)

## Rudimentary Needs Analysis Town of Tomahawk

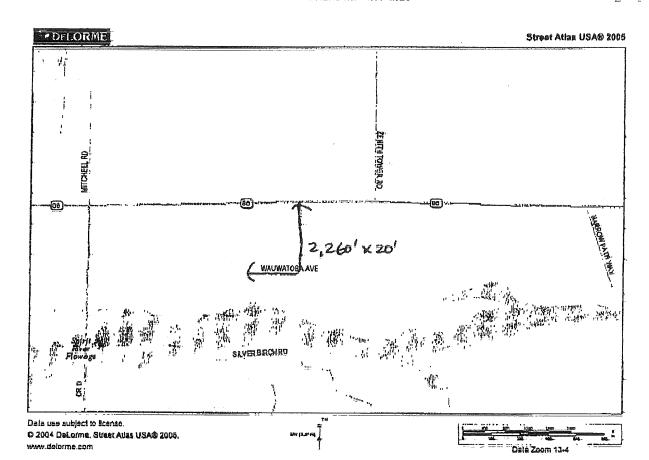
Roadway Name	Maint. Cost	Capital Cost
W Bilby Ln	0.00	8001.04
E Bilby Rd	0.00	26773.41
Blackhawk Rd	1400.82	0.00
Deer Trl	3325.50	0.00
Eagle Waters Rd	4133.24	0.00
Little Beaver Rd	1312.96	0.00
Millie Rd	0.00	14408.53
New Wood Rd	3415.89	0.00
Phalzgraff Rd	6459.20	0.00
Pine Grove Ln	4156.29	0.00
S River Rd	493.11	0.00
TN RD 35	0.00	2816.15
Tomahawk Rd	0.00	28525.32
Valley Rd	0.00	10522.80
Wilderness Dr	1848.00	0.00
Zenith Tower Rd	7615.83	0.00
Total	34160.84	91047.25

APPENDIX D – Recommended Resurfacing Project Segment Details						
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Town of Tomahawk Recommended Resurfacing Projects 2009 - 2012

Cost 14405 5182 28519 26767 10519 2808 2808 2808
Year 5) Action 9 Resurfacing 9 Resurfacing 9 Mill and Overlay
Pvmt Rtg (Year 1) 4 4 3 3 3 3 3
Width Surface 20 57 20 55 20 70 20 55 20 70 20 70 20 70 20 70
Length 1320 475 2006 2006 740 211
To Offset Lo 1320 475 2006 2746 211 211
At Offset Toward Route 0 E Bilby Rd 0 E Bilby Rd 0 Valley Rd, Termini 0 Millie Rd 2006 Termini 0 Millie Rd 0 Termini
At Route Termini Termini STH 86 CTH 0 Tomahawk Rd Termini E Bilby Rd
On Route Millie Rd W Bilby Ln Tomahawk Rd E Bilby Rd Valley Rd TN RD 35 W Bilby Ln

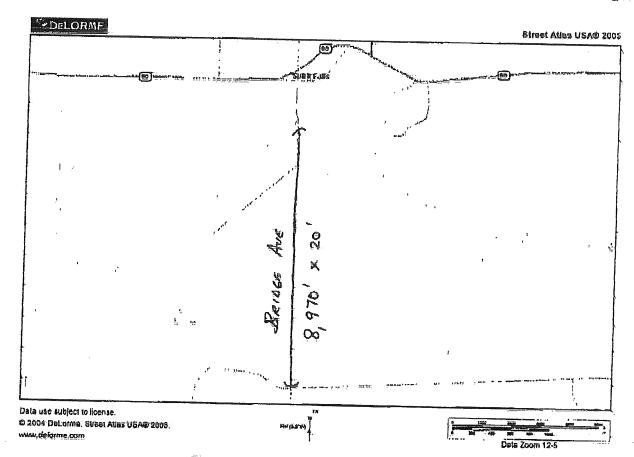


TOWN OF TOMAHAWK

- WAUWATOSA ANE 2,260' × 20' × 2" = 580 TOA

BUDGET PRICE 580 TOW x \$50.00/TOW = \$29,000,000
FINE GRADE & PAUE

10/13/2009



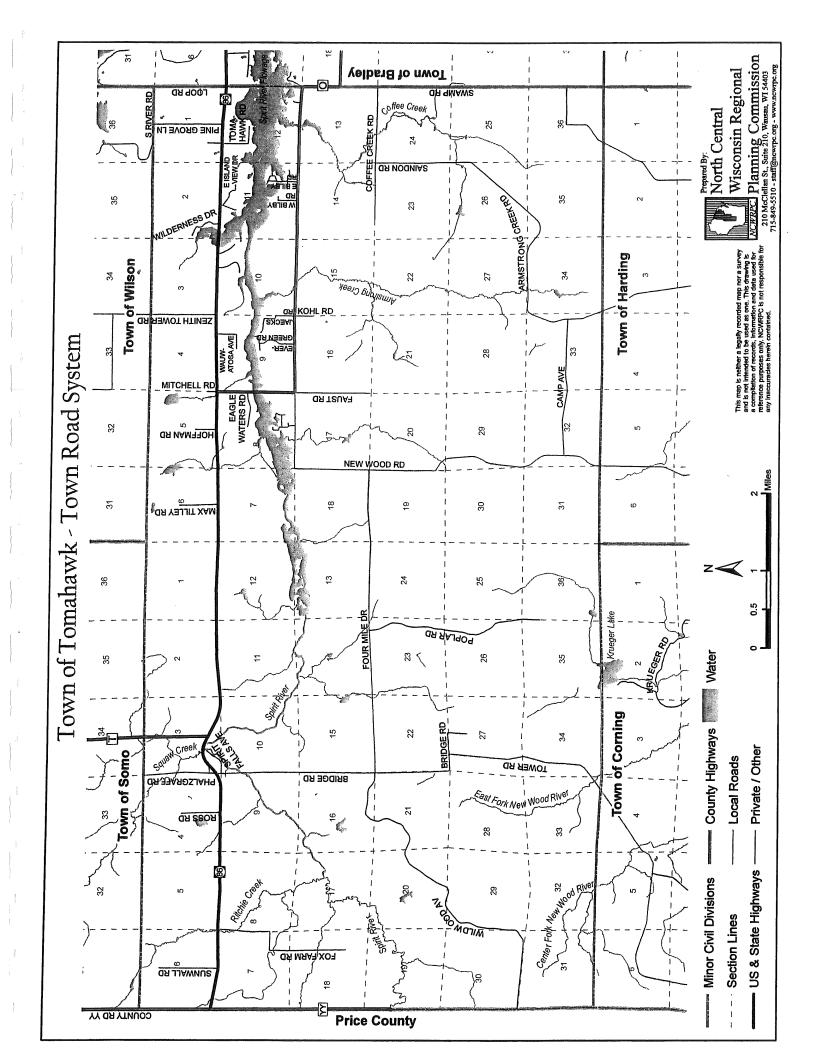
TOWN OF TOMBHANK

- BRIDGE AVE 8,970' x 20' x 212" = 2,865 TOWN
BUGGET PRICE 2,865 TOWN x 550,00 How = 4/43,250
FOR FINE GRADE = Page

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