NONPOINT SOURCE POLLUTION CONTROL PROGRAM

OCONTO COUNTY

1995 PROJECT REPORT

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1995

AUGUST 16, 1995

AARON HOLDT

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PREFACE

Oconto County is experiencing a population explosion. As a result there is a potential for surface and groundwater contamination due to failing systems.

In 1990, Oconto County started a Nonpoint Source Pollution program to identify failing septic systems and to investigate septage disposal sites. This program is targeting the Little River Priority Watershed. Since the inception of this program, over 1600 sites have been inspected and over 700 systems have been deemed failing. Besides identifying failing systems it was also designed to propose solutions for these failing septic systems.

This report outlines Oconto County's continued efforts to implement the Nonpoint Source Pollution Program.

ACKNOWLEDGEMENT

FUNDED IN PART BY THE WISCONSIN COASTAL MANAGEMENT PROGRAM.

Financial assistance for the **Oconto County Nonpoint Source Pollution Program** was provided by the Coastal Zone Management Act of 1972, as amended, administered by the Office of Ocean and Coastal Resource Management, National Oceanic and Atmospheric Administration pursuant to Grant #NA470Z0312 and the **WISCONSIN COASTAL MANAGEMENT PROGRAM.**

THE WISCONSIN COASTAL MANAGEMENT PROGRAM, part of the Wisconsin Department of Administration and overseen by the **WISCONSIN COASTAL MANAGEMENT COUNCIL**, was established in 1978 to preserve, protect and manage the resources of the Lake Michigan and Lake Superior coastline for this and future generations.

INTRODUCTION

In 1990 Oconto County initialized a Nonpoint Source Pollution Program to help control the problem of nonpoint source pollution. The program has dealt with private sewage systems in the Little River Priority Watershed program. In 1991 the program was extended to include the Bayshore area of Oconto County. In 1993 the program continued with more on-site inspections.

The purpose of the 1994-1995 Wisconsin Coastal Management Grant was to develop an Oconto County Public Sewerage program and create educational information on sewer districts for the public. This program also included additional on-site evaluations conducted around the Machickanee Flowage area. There were 100 sites evaluated and 7 sites were determined to be failing.

PROGRAM DEVELOPMENT

The program years from 1990 through 1993 gave priority to conducting on-site investigations of private sewage systems and septage spreading sites in Oconto County. The 1994-1995 project was to work on a Public Sewerage Program and educating the public about this program. The project would also include more on-site evaluations and additional education about septic systems.

It was the intent that the 1994-1995 program would work on a Public Sewerage Program and new ordinances to go with this program. We looked into the public sewerage program and found that there was little that could be done. After reviewing the Wisconsin Statutes it became apparent that the creation, powers and duties of sanitary districts have already been defined and there is little that the county can do to become involved. The Department of Natural Resources (DNR) has the ultimate authority over sanitary districts and the county would have no jurisdiction over the authority of the DNR.

A survey was also conducted to determine the type of role the county plays in the area of sanitary districts (See Appendix 1). The survey included all the counties of Wisconsin except for Milwaukee County which is served entirely by a class 1 municipal sewerage system. The survey concluded that none of the counties in Wisconsin played a significant role in the duties of sanitary districts. Consequently there were no new ordinances developed. In March 1995 we began working with the City of Oconto in developing a sanitary ordinance for the city. To this date the ordinance is still in the process of being developed. This process will continue beyond the scope of this project.

While conducting on-site evaluations during the 1995 portion of the program it was determined that there was a need to educate the public on the basic function of septic systems and the impacts of failing systems. A informational sheet was produced to meet this need (See Appendix 2).

PROGRAM IMPLEMENTATION

It was decided to continue on-site evaluations around the Machickanee Flowage area. One-hundred landowners were chosen from

the county's database to devise a list. The landowners names that were chosen came from section 32,33 and 34 of the Town of Stiles and section 3 and 4 of the Town of Abrams (See Appendix 3). A letter was drafted to inform the landowners of the intent and were sent to the landowners (See Appendix 4). These letters were sent out at a rate of 30 per week. Typically we waited 1 week for landowners to respond to the letter before the test was conducted. Most responses that were received were requests to be present while we were on the property, only two landowners didn't want to participate. An on-site evaluation report was filled out for each site that was visited. Sites that indicated failing conditions were noted and turned over to the county sanitarian.

There was a need indicated for general information on the function and impacts of failing septic systems so an informational sheet was developed. The sheet contained a definition of a septic system, the basic parts, what and how to identify a failing system and impacts and how to remediate a failing system. This sheet should help property owners gain a basic knowledge of septic systems.

CONCLUSIONS

Of the 100 sites that were inspected, only seven sites indicated failing conditions. All seven of these sites were deemed failing due to zones of seasonal saturation. As I was conducting on-site evaluations I became aware of a popular misconception by landowners. Many landowners seem to believe that if they don't see a problem with their system, then there is no problem. This was a major reason why a informational sheet was constructed. This letter will be handed out for informational purposes in the zoning office.

The period from 1991 to present has seen this program bring an awareness to many areas of the necessity to address non-point source pollution. To date, Sewer Service Districts have been formed in the City of Oconto, Town of Little River, Town of Oconto, Town of Pensaukee, Town of Abrams, and the Town of Little Suamico to address this problem. The Sewer Service Area plan is currently undergoing state and local review.

RECOMMENDATIONS

The Oconto County Nonpoint Source Pollution Program is helping to control the problem of failing systems. This program has identified areas with large numbers of failing systems as well as areas with very few failing systems. Since the inception of the program over 700 failing system have been identified. Although there may still be a large number of failing systems, we are moving in the right direction in correcting the problem.

It is crucial that the county receive greater control to help enforce laws and regulations pertaining to nonpoint source pollution to take a bigger bite out of this problem. However, public education is also an important factor. When you enforce a law on someone you as the enforcer know that you are only trying to protect the individual and others around them. But when the

enforcement recipient doesn't fully understand why they may become defensive and resentful. We need to continue to educate people about septic systems and the impacts of failing systems. An educated public will have a better understanding of laws and ordinances and be more receptive to corrective measures. The public may be more inclined to help solve the problem of failing systems by identifying their own or others failing septic systems.

The population of Oconto County continues to grow and so does the threat of nonpoint pollution. But with greater county control and a better public awareness, we can ensure a cleaner and healthier environment for the future.

APPENDIX 1

COUNTY	COUNTY SEWERAGE SERVICES	COUNTY ORDINANCE	COMMENTS
ADAMS	NO	NO	No Comment.
ASHLAND	NO	NO	No Comment.
BARRON	NO	NO	No Comment.
BAYFIELD	NO	NO	Sorry we have no information which would be beneficial to your concern. Our county has many conventional sanitary districts, we have no countywide sewerage program.
BROWN			No Response.
BUFFALO	NO	NO	No services other than being a resource agency to provide information/assistance.
BURNETT	NO	NO	No Comment.
CALUMET	NO	NO	No Comment.
CHIPPEWA	NO	NO	We have private sewage (sanitary) & private well programs.
CLARK	NO	NO	No Comment.
COLUMBIA	NO	NO	No Comment.
CRAWFORD	NO	NO	During the determination of need portion of the funding game, we get involved with existing systems, and the current definition of a failed system, the cost of new systems based on more recent soil tests in the area, the fitness of an undersized lot to support an absorption field, and the permit history, specifically, what systems have been installed in the area over the last few years. We have done this for three sewer extensions and four previously unsewered villages. This the only time that being so extremely negative results in something totally positive.
DANE	NO	NO	No Comment.
DODGE	NO	NO	We have 8 or 9 independent sanitary districts providing public collection and treatment systems, although the treatment facilities are sometimes in cites or villages. We have assisted in the planning, investigation of need and assisting engineering firms in planning sanitary districts. We also have a 1971 plan for sewer & water systems which we have effectively implemented. In essence our role at the county level has been to educate, plan and support sanitary districts where they are needed and appropriate. We coordinate our on-site sanitary waste ordinance enforcement with sanitary districts.
DOOR	NO	NO	No Comment.
DOUGLAS	NO	NO	No Comment.
DUNN	NO	NO	A sanitary district created was for a 250 lot mobile home court having private sewage system problems the court remains in the township but is served by public sewer. The county was not involved in this process. Comprehensive zoning ordinance allows for smaller lot sizes if served by municipal sewer.
EAU CLAIRE	NO	NO	No Comment.
FLORENCE	NO	NO	No Comment.
FOND DU LAC	NO	NO	No Comment.
FOREST	NO	NO	Each municipality that has public service handles its own.
GRANT	NO	NO	No Comment.
GREEN			No Response.
GREEN LAKE	NO	NO	Only the Green Lake Sanitary District. Green Lake County does have a sanitary district that takes care of most of Big Green Lake. This sanitary district has nothing to do with the county. This sanitary district has sewered approximately half of the Big Green Lake area. Balance of area is done by the county.

COUNTY	COUNTY SEWERAGE SERVICES	COUNTY ORDINANCE	COMMENTS
IOWA	NO	NO	Sanitary districts are regulated by Wisconsin Statutes and it seems appropriate to use a sanitary district so the costs are directly placed to the area receiving the benefit. We have (at the town level) three sanitary districts that were created in the last 25 years. 1.One district uses septic systems to serve several residences. District was created due to unsatisfactory terrain of individual lots. 2. One district has a treatment plant. District was created to allow residential & business development. 3. One district pumps waste to a nearby city treatment plant on a contract agreement. District was created to solve a problem with failing septic systems, and the contract with the city limits the gallons city will accept. The town in each case has retained jurisdiction for the governing responsibility for the district operation.
IRON	NO	NO	No Comment.
JACKSON	NO	NO	No Comment.
JEFFERSON			No Response.
JUNEAU	NO	NO	No Comment.
KENOSHA	NO	NO	No Comment.
KEWAUNEE	NO	NO	Sorry, I can't be helpful to you. Good luck.
LA CROSSE	NO	NO	No Comment.
LAFAYETTE	NO	NO	Our county population is 16,000 and we are very rural and ag oriented. Our County Board would just love to get as much development as possible. I've been fighting against development. Looks like it's too late for Oconto.
LANGLADE	NO	NO	I have worked with the lake districts who have assumed sanitary district powers to inspect existing private sewage systems. Elcho is conducting a study of its sewerage service area and there is discussion that their district will be expanded or new districts will be formed around adjacent lakes in a cooperative effort to 1)build a treatment facility for all parties 2)address the problem of failing private sewage systems around the lakes. i.e.:pipe wastewater to Elcho's facility or dispose of holding tank waste at Elcho's facility. This is still in the discussion/study phase but if you want more information, let me know.
LINCOLN			No Response.
MANITOWOC	NO	NO	If the developer has sewers available he can request variances from the lot area requirements.
MARATHON	NO	NO	Sorry I don't have information for you.
MARINETTE	NO	NO	No Comment.
MARQUETTE	NO	NO	We have 5 municipal treatment plants, 1 large in ground municipal system, private in-ground systems of commercial size. Our sanitary ordinance specifies discontinued use of private sewer and connection to public sewer within one year after available. Grants and more aggressive, pro-active use of s60.72 Wis. Stats would serve the public interest in this matter.
MENOMINEE	NO	NO	All public sewerage and on-site permits are under the direction of the Menominee Tribe.
MONROE	NO	NO	No Comment.
OCONTO	NO	NO	No Comment.
ONEIDA			No Response.
OUTAGAMIE	NO	NO	All our sanitary districts are local. They have no connection with the county.
OZAUKEE			No Response.
PEPIN			No Response.

COUNTY	COUNTY SEWERAGE SERVICES	COUNTY ORDINANCE	COMMENTS
PIERCE	NO	NO	No Comment.
POLK	NO	NO	No Comment.
PORTAGE			No Response.
PRICE	NO	NO	We were involved in helping to plan and form a sanitary district in an unsewered developed are adjacent to Park Falls. Documents enclosed.
RACINE			No Response.
RICHLAND	NO	NO	Sounds like an interesting idea! Wish we could have been more help.
ROCK			No Response.
RUSK			No Response.
SAUK	NO	NO	No Comment.
SAWYER	NO	NO	Because our county is also experiencing much growth, we amy be faced with the same problem in the near future. If you should come up with some information, we would appreciate you sharing it with us.
SHAWANO			No Response.
SHEBOYGAN	NO	NO	Sanitary districts are handled at the town level. This department only becomes involved when requested to do sanitary surveys or give testimony at public hearings; testimony regarding soils in proposed area of sanitary district, types of systems permitted, etc.
ST CROIX			No Response.
TAYLOR	NO	NO	We would be interested in the outcome of your program, but have nothing in force now.
TREMPEAULEAU	NO	NO	We are experiencing the same problems that you are.
VERNON	NO	NO	We are in the process of drafting a county wide comprehensive zoning ordinance. It will not address the above items.
VILAS	NO	NO	Several townships have their own water & sewer.
WALWORTH			No Response.
WASHBURN	NO	NO	We are fortunate in that most of the areas under developmental pressure are in areas of suitable soils (sandy outwash) so that private on-site wastewater treatment systems may be used. Maintenance of systems has not been a serious problem to date.
WASHINGTON			No Response.
WAUKESHA			No Response.
WAUPACA	NO	NO	No Comment.
WAUSHARA	NO	NO	No Comment.
WINNEBAGO	NO	NO	No Comment.
WOOD			No Response.

APPENDIX 2

What is a Septic System?

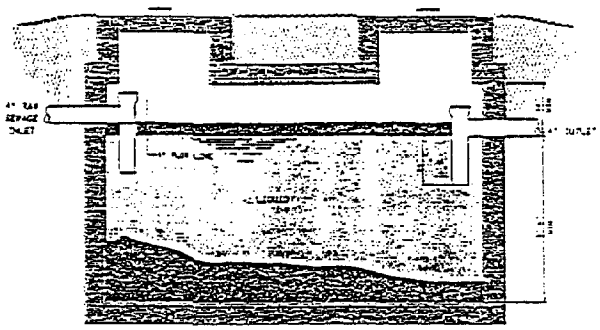
A private septic system is a structure that is used to safely treat domestic wastewater. Domestic waste water can contain potentially harmful substances such as infectious viruses, pathogenic bacteria and other unwanted substances.

How does a Septic System work?

There are two basic parts to all septic systems, a septic tank and drainfield

A. Septic Tank- The septic tank is a large reservoir where raw wastewater from the home enters and is temporarily stored. After the wastewater enters the septic tank the contents will separate into 3 components.

1. Solid waste that settles to the bottom
2. Grease, fat and floating materials that form a scum layer on the top
3. Liquid waste



After the solids settle to the bottom they are digested by anaerobic bacteria which reduce the volume of the sludge. These bacteria will not eliminate the solids completely so the tank must be pumped every 1 to 3 years or when the solids take-up 1/3 of the tank volume.

B. Drainfield- This is the final and most inportant step of effluent treatment and disposal. It is a soil filter that removes viruses, bacteria, suspended solids, organic material and ammonia nitrogen. These substances are found in the clear liquid (effluent) that flows from the septic tank to the drainfield. There are several different types of drainfields.

1. Conventional- this system typically uses gravity to incorporate the effluent into the drainfield .

2. In-Ground Pressure- this system is set up like a conventional system except the pipes are smaller and the effluent is forced into the drainfield under pressure.

3. Mound- this system is used when soil don't meet the criteria for conventional systems. A mound is an above ground drainfield on sand fill containing a pressurized distribution of effluent.

4. At-Grade- this system is similar to a mound system except an at-grade doesn't use the sand fill

What is a failing Septic System?

A failing septic system is a system that doesn't properly treat and dispose of wastewater correctly. Septic systems can fail for several reasons including age, improper installation, installation in improper site conditions and poor maintainence. "Out of sight, out of mind" is a common attitude that people take regarding their septic system. Your system may be failing even though you can't see it. A failing septic system can be determined by five indicators.

1. Systems installed in wet soils
   -this can be determined by a Certified Soil Tester

2. Systems built where bedrock lies too close within the surface
   -this can be determined by a Certified Soil Tester

3. Sewage piped directly into streams, lakes, roadside ditches or drain tiles

4. Discharging or ponding on the surface

5. Plumbing backups not related to frozen pipes or plugged pipes

Impacts of a failing Septic System

When septic systems fail, wastewater can enter the groundwater and surface waters. Wastewater can contain pathogenic bacteria and infectious viruses. These substances can easily be infect humans and animals through ingesting water and hand to hand contact. Diseases and health problems associated with these bacteria and viruses in wastewater include:

1. Hepatitis
2. Typhoid
3. Gastrointestional disorders
4. Methemoglobinemia (Blue Baby Syndrome)

Failing septic systems can also pollute surface waters. This problem is evident in Oconto County on the Oconto River and on Crooked Lake. Water pollution can destroy fish and wildlife habitat and can render water bodies undesireable for recreational use.

Remediation

The best remedy for controlling water pollution and health concerns is to replace or remediate failing septic systems. There are two programs that can help solve the problem of failing systems.

One program is called the Wisconsin Fund. This is a state program that offers financial assistance to qualified homeowners, farmers and small businesses. This program offers up to $8000 to replace or rehabilitate failing systems. Please call the Oconto County Zoning Office for more details and eligibility at (414)834-6827.

On a larger scale, if a large area of homes have failing systems, sanitary districts can be formed. Sanitary districts are community sewage treatment facilities that treat a large number of residences. These districts are run by commisioners that are appointed by citizens.

APPENDIX 3

MACHICKANEE FLOWAGE - SOIL INSPECTIONS

100 Sites inspected as of August 31, 1995

7 Systems fail due to Zones of Seasonally Saturated Soils

93 Systems pass due to:

88 existing systems

1 Holding Tanks

3 New Conventional Systems

1 New At-Grade System

7% of the systems are failing

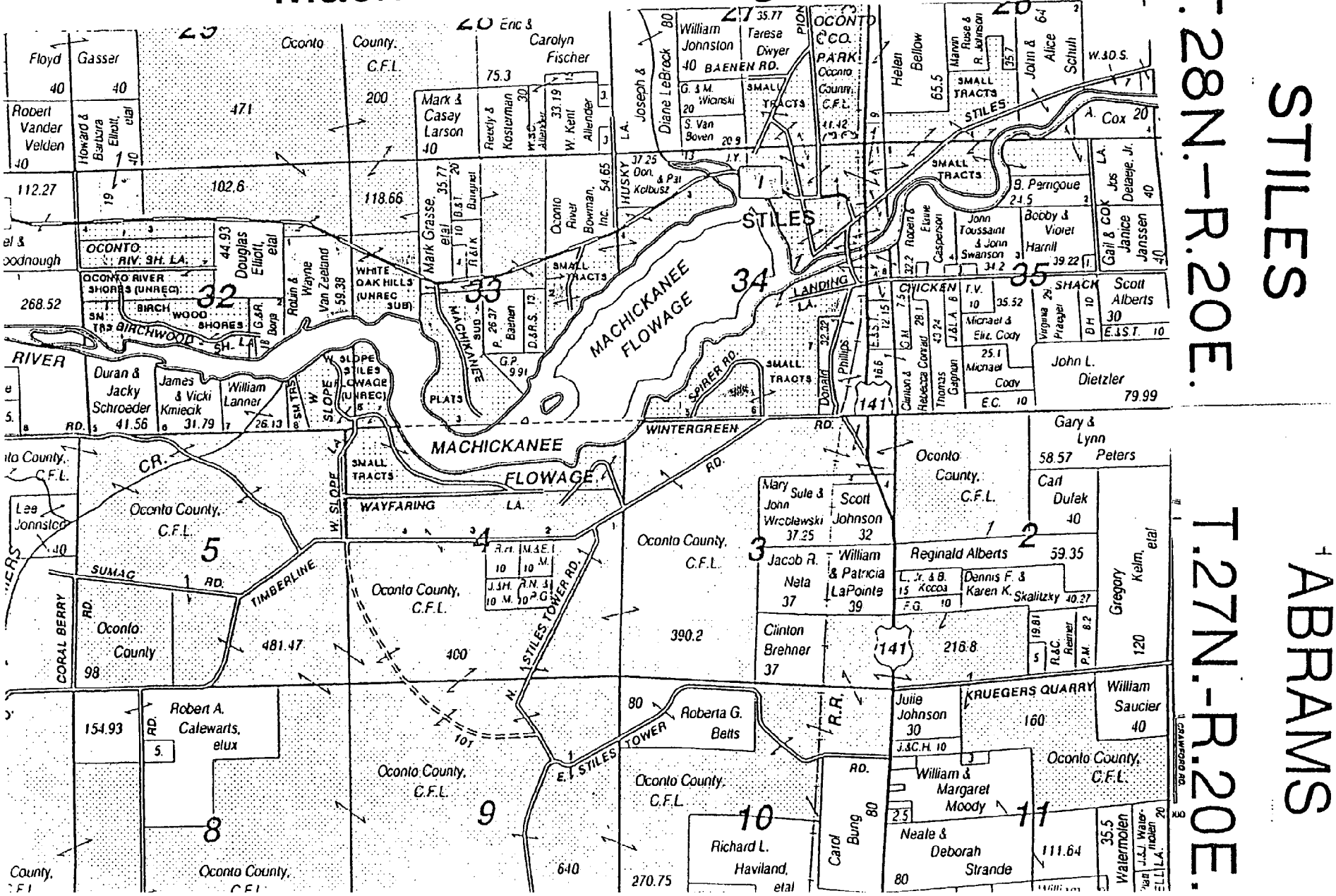
93% of the systems are passing, including systems which have been brought up to code

Note: By removing the new systems and the holding tanks the percent failing only increases to 7.4% and percent passing decreases to 92.6%

NAME	PHYSICAL ADDRESS	PASS	FAIL	REASON
Orzech, Kathleen	5018 Zimmerman Lane	X		
Thompson, James	5032 Zimmerman Lane	X		
Forslund, Arnold	5060 Zimmerman Lane	NEW SYSTEM		
Wocheske, Mark	5098 Zimmerman Lane	X		
Tomansky, Kenneth	4925 Machickanee Lane	X		
Kralevic, Gerald	4954 Machickanee lane	X		
Garrity, Christopher	4961 Machickanee Lane	X		
Jevaltas, Margaret	5027 Machickanee Lane	X		
Knaus, Loren	5039 Machickanee Lane	X		
Gubbels, Melvin	5048 Machickanee Lane	X		
Seidel, Victor	5054 Machickanee Lane	X		
Lecomte, Dennis	5055 Machickanee Lane	X		
Brown, Beverly	5057 Machickanee Lane	X		
Madsen, Robert	5011 Machickanee Lane	X		
Mleczko, Ronald	5059 Machickanee Lane	X		
Woodworth, Darryl	5060 Machickanee Lane	X		
Byrd, Stuart	5064 Machickanee Lane	X		
Bublitz, William	5069 Machickanee Lane	X		
Whiting, Lyle	5077 Machickanee Lane	X		
Angelich, Peter	5085 Machickanee Lane	X		
Wiedenhaft, Lloyd	5129 Machickanee Lane	X		
Richert, Alfert	5130 Machickanee lane	NEW SYSTEM		
Smith, Marion	5135 Machickanee Lane	X		
Nelson, Elmer	5143 machickanee Lane	X		
Johnson, William	6119 Cty I	NEW SYSTEM		
Koeback, Richard	6316 Cty I	X		
Harris Dudley	6319 Cty I	X		
Walker, John	6320 Cty I		X	<3ft sep ZSSS
Stiles, Curtis	6410 Cty I	X		
Lundmark, Bradley	6417 Cty I	X		
Herr, Douglas	6439 Cty I	HOLDING TANK		
Lafave, Timothy	6485 Cty I	X		
Wolford, James	6486 Cty I	X		
Lotter, Curtis	6496 Cty I	X		
Stinski, Richard	6513 Cty I	X		
Steiner, Scott	6520 Cty I	X		
Van Kylen, Raymond	6055 Cty I	X		
Brown, David	4901 Spirea Rd.	X		
Goltz, Richard	4925 Spirea Rd.	X		
Holman, Thomas	4939 Spirea Rd.	X		
Kolodziejczak George	4943 Spirea Rd.	X		
Berndt, Bradley	4973 Spirea rd.	X		
Jakubiec, Martin	4983 Spirea Rd.	X		
De Baker, Esdel	4987 Spirea Rd.	X		
Eisch, William	5004 Spirea Rd.	X		
Stoner, Loren	5029 Spirea Rd.	X		
Russel, Edward	5712 Cty I	X		
Blazer, Patrick	5757 Cty I		X	<3ft sep. ZSSS
Nickolai, Nancy	5799 Cty I	X		
Spaulding, Clyde	5838 Cty I		X	<3ft sep. ZSSS

Kólbusz, John	5982 Cty I	X	
Senft, David	5995 Cty I	X	
Wessley, Leroy	6033 Cty I	X	
Paulowski, Sylvester	6065 Cty I	X	
Sprout, David	6081 Cty I	X	
Bettray, P. Schefki	6095 Cty I		X <3ft sep. ZSSS
Heim, Richard	5272 Pioneer Park Rd	X	
Woods, Terrence	5290 Pioneer Park Rd		X <3ft sep. ZSSS
Porter, Gordon	5291 pioneer park Rd		X <3ft sep. ZSSS
Madzelios, James	4788 W Slope Rd	X	
Hauser, Richard	4806 W Slope Rd	X	
Sule, Mary	4874 W Slope Rd	X	
Damrow, James	4887 W Slope Rd	X	
Boykin, Bruce	6162 Dogwood Lane	X	
Schmidt, John	6174 Dogwood Lane	X	
Hofacker, Allen	6188 Dogwood Lane	X	
Wranosky, John	6196 Dogwood Lane	X	
Groher, Robert	6202 Dogwood Lane	X	
Pelishek, Larry	6210 Dogwood Lane	X	
Ruekert, Dale	6218 Dogwood Lane	X	
Groeschel, Kenneth	6222 Dogwood Lane	NEW SYSTEM	
Kugel, Charles	6234 Dogwood Lane	X	
Milbach, Edward	6246 Dogwood Lane	X	
Ullman, Dennis	6278 Dogwood Lane	X	
Borja, Gerry	6572 Birch Shores lane	X	
Reynolds, Dennis	6607 Birchwood Shores		X 3ft sep ZSSS
Christopherson Rich.	6649 Birchwood Shores	X	
Quade, John	6668 Birchwood Shores	X	
Weyers, Terence	6727 Birchwood Shores	X	
Fairchild, Earnest	6759 Birchwood Shores	X	
Elliot, Howard	5318 Oconto Riv Sh	X	
Hubacher, John	6722 Oconto Riv Sh	X	
Kulhanek, Robert	6767 Oconto Riv Sh	X	
Oldham, Robert	6802 Oconto Riv Sh	X	
Sinclair, Jason	6809 Oconto Riv Sh	X	
Tuomala, Marty	6854 Oconto Riv Sh	X	
Konitzer, Gregory	6675 Cty I	X	
Hartin, Thomas	6723 Cty I	X	
lyng, Kent	6769 Cty I	X	
Mullen, Geraldine	6787 Cty I	X	
Taerud, Joseph	6803 Cty I	X	
Jansen, Norman	6805 Cty I	X	
Schall, Walter	6847 Cty I	X	
Guelig, Gary	6871 Cty I	X	
Lefevre, Jack	4893 W Slope Rd	X	
Kossman, Edward	5000 W Slope Rd	X	
Overman, William	5089 W Slope Rd	X	
Bosselman, Dwight	5091 W Slope Rd	X	
Borg, Michael	6626 W Slope Rd	X	

Machickanee Flowage area



APPENDIX 4

COUNTY OF OCONTO

OFFICE OF
LAND USE AND ZONING
A DIVISION OF
LAND & WATER RESOURCES DEPARTMENT

June 21, 1995

To:

Dear: ,

The Oconto County Zoning Office will be conducting soil tests in the Machickanee Flowage area in conjunction with the Wisconsin Coastal Management Grant. Please be informed that these tests are for informational purposes only.

I will be inspecting the soils on your property during the day on the week of June 26-July 1. If this time period is inconvenient or you wish to be present during the test, please call me.

Sincerely,

Aaron L. Holdt
Nonpoint Source Pollution Specialist

COURTHOUSE, 301 WASHINGTON STREET, OCONTO, WI 54153-1621, 414-834-6827

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