INTEGRATING RURAL WASTEWATER MANAGEMENT:
CROW WING COUNTY SANITARY MANAGEMENT DISTRICT

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ABSTRACT
Double-digit population growths and skyrocketing development has resulted in a dramatic increase in unsewered development in Minnesota’s popular lakes county. To help assure protection of human health and the quality of the waters, a county wide decentralized sanitary district with pilot subordinate districts is being established in Crow Wing County. The objective of the district is to develop an effective strategy for implementation of a decentralized wastewater management district on a local level to ensure that onsite/cluster wastewater systems within the district are properly operated, maintained, and that there is future planning for replacement needs.

KEYWORDS
Managed Onsite Wastewater Treatment Systems, Sanitary Management District, Sanitary Subordinate District, Management Standards, Crow Wing County MN.

THE SOLUTION
It’s September 2000, and another meeting. The Crow Wing County Commissioner’s job called for attending local meetings on what seemed like a daily basis. Tonight he was to join the county’s Director of Planning and Zoning for a meeting at a rural lake neighborhood to discuss with the residents a growing concern – sewage. This neighborhood is typical of the many other rural lake neighborhoods of northern Minnesota’s lake country. It had been developed prior to any zoning requirements. The lots are small with individual “septic systems” and individual wells. He knew that these septic systems were not reliable and because of the many failures, they were being blamed for pollution problems in the lake. He had heard these same concerns and complaints from many of the other active lake associations in the county including the Thirty Lakes Watershed District managers. He felt that this was an emerging issue in the county and that he should be on top of it.

Exploding growth and development in the county has increased lakeshore values to unheard of prices. What were once undesirable lakeshore properties are being built upon as fast as developers create the lots. The latest type of lakeshore development, which allow increased housing densities of second tiers lots with common lake access, are popping up throughout the county. Also, more and more of what people are calling “starter castles” are being built out of the conversion of seasonal residences existing small lakeshore cabins. All of this has to impact the lakes.
The Commissioner knew that the spectacular lakes that make up his county are the reason for the escalating growth and development. Protection of the lakes is a widespread concern issue. This would be a good meeting. The commissioner enjoyed these types of meetings, at a resident’s home, before his district constituents, discussing an issue that related to natural resource and public health protection. He had a good reputation and a history of being involved in public health issues on both a local and a state level. He felt the meeting probably wouldn’t last too long. The Director of Planning and Zoning had told the Commissioner that he had experience in this issue when he had been previously employed in another part of the state. The Commissioner also had a good sense of what needed to be done. The immediate task wouldn’t take that long to accomplish – meet with the people tonight, listen to their concerns, share some ideas, and provide leadership. Based on the Director’s experience with a solution that was implemented on another lake in west central Minnesota in the early 1970’s the answer was obvious. Just get rid of those septic systems! Brainerd was only eight miles away, Nisswa was even closer, and with the many lakes in the area and the busy state highway 371 corridor, all it would take was to partner with one of those cities, bring a sewer main out along the highway corridor, wrap it around the lakes, and bring the sewage back to the municipal treatment plant. The Commissioner knew it may take a few years to accomplish but he had good sense of what needed to be done and the path that needed to be taken. “The big pipe will solve all our sewage problems.”

Years later at a Crow Wing County Board of Commissioners meeting the vote was unanimous. The Commissioner felt good about the vote. Even the conservative commissioner that has always believed that most any county program is a burden on the taxpayers voted to proceed together with the commissioner from the agricultural district of the county. Seven months later, February on 14, 2006 the Sanitary Subordinate District is established by the Crow Wing County Board of Commissioners. In addition to the original five townships, another township and a municipally have seen the potential of the District and have requested to join in the pilot district.

All those meetings over the last five years had paid off! The Commissioner and Chairman of the Board had put a lot of effort into this solution. His fellow commissioner, the Chairman, had taken over the Joint Powers Board (JPB), given it new energy, and provided the catalyst to get the job done. He knew there wasn’t much precedence to provide direction for all the work left to be done. The JPB was plowing new ground for the county. Bumps were expected along the way but the organization and a plan were finally set in place. The plan made sense, it was practical, and it promised to be a cost effective solution.

The county’s government and leadership had provided the citizens help needed to accomplish critical and vital goals of resource and public health protection in Crow Wing County. The issue of sewage treatment now had a solution for well into the future. The county would now know what wastewater needs exist and how to prioritize the needs against the available resources today and in the future. All the work of the I-Team over the last five years had paid off. All the representatives of the lake associations, the Thirty Lakes Watershed, the concerned citizens, practitioners in the septic system industry, and the Consultant provided useful input, discussion, debate, information, and support, which was critical in preparing the County Board for that day’s vote. All the cooperative efforts had gained enough support in the State Legislature to promulgate new state law just for the county. The vote at the board meeting confirmed that the county would take the lead role. Everything necessary for the county to establish the framework and guide the work was now in place!
What is the solution? It was not what the commissioner had first assumed when planning was initiated at that first lakeshore neighborhood meeting in 2002. Numerous neighborhood and township meetings had been held that provided a lot of public education that led to conceptual changes. The big pipe no longer was thought to be the solution. Local politics and excessive costs eliminated this solution. The community leaders and residents came to realize that the needed infrastructure was already in place and it is paid for! All it needed was better planning and management. It is their own existing septic systems! When properly managed, they do a very good job of treatment and are cost effective. Why not organize them, manage them, and operate them as an integrated whole to provide a long-term solution for wastewater treatment in the county? It just made sense!

That vote by the County Board had provided the tool, the Crow Wing County Sanitary Management District, a countywide management district where managed onsite wastewater treatment systems would be the wastewater infrastructure of the district. This was quite a turn around from the initial perception that a big pipe and regional treatment was the only option to acceptance of onsite septic systems to be the principal solution! How had this turn around come about?

THE PLAYERS
CROW WING COUNTY

Crow Wing County is located approximately 100 miles northwest of the Twin Cities metropolitan region in the heart of the forest and lake county of north central Minnesota with a population of 60,000. It covers an area of approximately 1000 square miles. Surface water and wetlands cover over 200,000 acres of the county and over 374,000 acres is covered by forest or 28 percent and 50 percent respectively.

Historically, natural resources have played a major role in the development of the county. The fur and logging industry dominated development in the 1800s and early 1900s. As the logging industry peaked, iron ore mining of the Cuyuna Iron Range emerged as the dominating industry. Along with mining, farming and tourism became important industries starting in the 1920s. As Crow Wing County grew and developed, the lakes attracted permanent residences, seasonal residences, and tourists. Commercial development such as resorts, campgrounds, and housing developments began crowding the lakeshore. In response to growing surface water impacts, concerned citizens of Crow Wing County established the Thirty Lakes Watershed District.

THE THIRTY LAKES WATERSHED DISTRICT

The Thirty Lakes Watershed District is a small watershed of the upper reaches of the Gull River in north central Minnesota. Established in May of 1971, it was the 30th watershed district in Minnesota. The district encompasses an approximate area of 70 square miles within the Brainerd lakes area of Crow Wing County. The primary purpose for its establishment was conservation of natural resources. It is charged with the authority to protect the public health and welfare of its residents through natural resource conservation. Its principal goal is surface and groundwater protection. The district’s initial projects started with primarily flood control or related conservation measures. The watershed has since established a history of pro-active,
locally driven projects that help assure protection of the many lakes and wetlands within the jurisdiction of the district.

**JPB AND I-TEAM**

The Thirty Lakes Watershed District had been discussing the rural sewage and septic system issues over the last few years. Wastewater treatment, or lack of it, had grown into one of the top priorities of the district. However, the district felt that the problem extended beyond the boundaries of their watershed. The watershed district felt that if a solution was to be reached, Crow Wing County should become an active player. The watershed district approached the County Board proposing a partnership to work on the issues surrounding septic systems. The County Board agreed to the proposal and established the Thirty Lakes/Crow Wing County Joint Powers Board (JPB) to study the emerging concerns of sewage treatment for the lake and rural areas of the county. The JPB encompassed the entire area of the Thirty Lakes Watershed and the unorganized townships of Crow Wing County. It demonstrated a formal commitment and provided a platform to discuss the current and future needs for wastewater infrastructure and current and future infrastructure options.

The JPB was formed with equal representation of two Crow Wing County Commissioners and two managers of the Thirty Lakes Watershed District. The clerical staff of the Thirty Lakes Watershed District and the Crow Wing County Auditor provided support to the JPB. The JPB instituted monthly meetings to facilitate the discussion. The JPB also established a larger and less formal volunteer group to discuss and debate the wastewater issues. The volunteer group became known as the Implementation Team or I-Team that also included the JPB. Also, the I-Team instituted monthly meetings prior to and at the same location as the JPB meetings. The make-up of the I-Team fluctuated over the next three years but it consistently had representation from Crow Wing County lake associations, concerned citizens, service providers from the onsite industry, Crow Wing County planning and zoning staff, Thirty Lakes Watershed District members, the Minnesota Pollution Control Agency (MPCA) and Consultants. The JPB became the legal mechanism to hire Consultants, initiate projects, collects revenue, pay bills and apply for grant funds. Over time, the I-Team developed into an advisory committee to the JPB. The Thirty Lakes Watershed District and Crow Wing County contributed equal financial support for the activities of the I-Team and JPB.

The JPB recognized that in addition to the I-Team a professional Consultant, with experience in rural wastewater infrastructure, would be needed to provide technical education and guidance. The Consultant was charged with conducting a study that would provide the JPB with an overview of potential wastewater treatment solutions, existing capacity of municipal wastewater plants within the district, potential partnerships with the municipalities, potential “hot spots” or areas needing treatment solutions in the near future, and identifying potential treatment solutions. The findings were documented in a report for the JPB. Over the next year public presentations were given throughout the district at lake association meetings, city council meetings, business associations meetings, and public forums. During the concurring period, the capacity and partnership opportunities with municipalities were researched and explored at the monthly I-Team and JPB meetings. The JPB felt it was imperative to encourage participation of the public in all aspects of the board’s work. During this first year of meetings the representatives of the
onsite industry, MPCA, and the Consultant educated the members of the I-Team and JPB about how individual onsite and cluster treatment systems also could be potential permanent wastewater treatment solutions. The completed report, Thirty Lakes/Crow Wing County Joint Powers Wastewater Management Report (JBP Report, December 2002, Ayres Associates), recognized and documented that a multifaceted approach would be needed to meet the current and future wastewater treatment needs. With the report and education over the previous year, the I-Team and JPB recognized that formation of a decentralized sewer district would be needed to provide the structure to facilitate the rural wastewater infrastructure needs.

THE MEETINGS

LOCAL MEETINGS

First Round of Township Meetings: Neither the managers of Thirty Lakes Watershed or Crow Wing County Commissioners felt that their respective governments could take on the tasks of implementing the wastewater treatment solutions for a decentralized district. The JPB felt that a locally controlled and independent government entity with the single jurisdiction of wastewater infrastructure management would be best suited for the task. The JPB felt that the district should be developed on the most local level possible that still would have governing and taxing authority. Under the assistance of legal council, the JPB began discussing the establishment of the district under township government authority provided in Minnesota Statutes, Chapter 115, Sections 115.18 through 115.37.

The JPB and I-Team, lead by the Consultant and JPB Chairman, who was also one of the Crow Wing County Commissioners, gave presentations to all the townships within the proposed district the following winter to inform, educate, and obtain input. The potential district included portions of four organized townships and the territory of two unorganized townships. In addition to the township meetings, presentations were also given to local city councils to continue to explore potential municipal partnerships. The meetings gained input into the process from the governmental units and established a schedule for return presentations. The future presentations would provide the government entities with more specific information of how a sewer district established under the township government would operate and what it would look like. At the meetings, all of the township and cities, except one township, were open to investigating the potential of establishing a sewer district, although each expressed different levels of skepticism. The township that expressed little interest in the district made such comments such as, “a district would be an additional layer of government”; “unneeded government intrusion”; “its a problem for the lake people”; “my system works great, and it always has.”

I-Team Meetings: After the initial township meetings, the I-Team was asked to discuss and debate the issues and make-up of the new district. All members of the local governments and audiences were encouraged to attend and participate in the I-Team meetings. As the I-Team participants discussed optional solutions, the focus began shifting from municipal wastewater treatment infrastructure to management of the existing onsite treatment systems. As the course of these meetings emphasized municipal treatment less and less, the I-Team felt a philosophical change was needed. The I-Team felt it was important to look at the district as a sanitary management district rather than a sewer district. The team felt that a “sewer district” implied central sewerage with regional treatment for the entire district. A name change to “sanitary management district” was suggested since it implied using an array of treatment solutions over a large area where managed onsite accomplished the bulk of the treatment. Discussions of the
sanitary management district at these I-Team meetings included topics such as the proposed range of services of the district, representation on the sanitary district board, staffing needs, revenues and costs, and the role of private industry. Over the next months the I-Team formulated the draft structure of the proposed district.

1. District Area

State law required that the sanitary district must include the entire area of each township that is a part of the district, not just the areas within the Thirty Lakes Watershed District. Also, the townships that make up the district must be contiguous. Therefore, the district would include all the areas of the townships and unorganized townships that would make-up the district.

2. Representation

Each County Commissioner’s District, Crow Wing County Board, City Council of Cross Lake, Thirty Lakes Watershed District and a citizen from the county at-large will make-up the representation on the sanitary district board.

The representative would be appointed by the Crow Wing County Board of Commissioners.

3. Management Duties of the Board

Establish an operating ordinance and bylaws
Comprehensive planning
Policy Direction
Provide fiduciary responsibilities for budgets and assets
Hire support staff
Develop and maintain an onsite system inventory
Establish minimum management performance standards for onsite systems
Assess each onsite system within the district once every three years
Identify wastewater treatment needs
Select appropriate solutions and prioritize their implementation
Contract for the majority of services with practitioners and private industry
Plan for septage treatment and disposal capacity

4. Permitting

The permitting of onsite systems would remain with the existing government entities currently authorized to perform this function.

5. Enforcement

Enforcement would be done in cooperation with Crow Wing County Planning and Zoning Department with the County as the responsible entity.

6. Services

Private licensed practitioners will do all onsite system field assessment services.
All practitioners must be licensed by the MPCA and attend an annual education class put on by the Sanitary Management District.

The property owners would be responsible to hire and pay the service provider of their choice.

7. Costs

Establish an administrative fee and project assessments.

Administrative fees would be a line item special annual assessment on the property tax statement of all improved properties within the district to go into effect in 2007.

Improved property would include all properties with buildings that have an assessed value over $2,000.

Annual administrative fees would be $25.00 per improved property.

Project fees would be assessed only to properties that benefited from the project, e.g. a cluster system for ten homes would be assessed equally to the ten properties only.

8. Public Funding

The sanitary management district would work with identified areas to obtain public funding of the replacement of the individual onsites or for the construction of cluster systems where individual onsites systems could not be upgraded or replaced.

Second Round of Township Meetings: With the proposed district structure in hand, the Chairman and Consultant scheduled a second round of meetings with the townships and municipalities to present with the plan. In the interim, the townships and municipalities were discussing the issues of a local district at varying levels. The municipalities contacted were no longer interested in participating or partnering with the proposed district and felt that they could provide effective management of both their municipal and onsite treatment systems within their boundaries on their own. At the township meeting, the township boards again responded with varying degrees of interest. Opinions expressed included that establishment of the sanitary district was essential, that establishment of the district was a good idea, but the township was not the best unit of government for its administration, and one township expressing that they would be no part of such a sanitary district.

County Meetings: The I-Team and JPB faced a turning point on how to proceed. State law required that all the township within the district to be contiguous. Without buy-in by all the townships, the size of the proposed district could be reduced only to the unorganized townships, which are under the jurisdiction of the Crow Wing County Board unless the entire delineation of the district was changed. Throughout, the county commissioners had been reluctant to establish the district on a county level because they felt that it would be too large of a project to sustain. However, one comment heard over and over again at the local meetings “why doesn’t the county do it, why impose it on the townships”. The Chairman that presented at the meetings thought the plea was too great to ignore. He asked of the I-Team and JPB; “Why not have the county establish the district?” “What would it take to do it ourselves?” “Could it be done in stages?” Under the leadership of both the county commissioners, the I-Team and JPB made a decision to change the direction of district formation and control due to the uncertainty of the commitment.
of the township boards. They agreed to set forth and establish a sanitary management district on a countywide level.

Legal consultation had previously explained that current state laws Minnesota Statutes Chapter 116A .01-116A.26, allowed for counties to establish a sanitary district. In addition, Minnesota Statutes 375B, gives counties the ability to form subordinate districts within the county. Using both laws in combination, Crow Wing County could build a district that could be phased in over time. The I-Team began proceeding with the establishment of a countywide management district with smaller subordinate districts to implement the draft management aspects that the group had previously developed.

Public Meetings: With the shift in direction, the JPB, with assistance from the I-Team, public meetings were scheduled in each county commissioner’s district to present and solicit input regarding the formation a countywide sanitary management district. During this round of meeting the I-Team felt it was important to keep the lake associations aware of the progress of the JPB and of the new structure of the district. Presentations were also scheduled at the upcoming annual meetings of the various lake associations. Throughout the spring, summer, and fall of 2004, public meetings were held to present the district organization plan. The commissioner that represented the particular district hosted the meeting. The resulting interaction of these audiences provided each county commissioner with very positive responses and the necessary local support for the county wastewater district initiative. In addition, the audiences at the lake association continued their overwhelming support of the initiative.

Legislative meetings: Two existing state laws allow the formation of a countywide sanitary management district with smaller subordinate districts within. However, these laws were not passed with the intent of providing common management of subordinate districts. Using these laws would be expensive, time consuming and awkward each time a new subordinate district would be formed because the formation of each subordinate district would require public hearings, court action, establishment of a separate administrative board, and establishment of a joint powers board between the new subordinate district and the countywide management district to create a working link between the two districts.

The I-Team and JPB believed that these laws were outdated and should be changed. With assistance from legal council, the JPB drafted a new law for the 2005 Minnesota Legislative session. To help assure passage of the new bill, the JPB specified that that the language of the law should limit its scope to a pilot in Crow Wing County only. Local politicians in the house and senate sponsored the bill. During the discussion and debate at committee hearings in each legislative body required that representation of the JPB, the Chairman and Consultant, often was necessary to describe the project and explain the intent of the proposed law to the legislators. The third revised version of the law was passed in the spring of 2005. The new law, which became effective immediately, gave the Crow Wing County Board of Commissioners the necessary power to establish a county wide sanitary management district and form subordinate districts under the management of the larger countywide district by action of the Crow Wing County Board of Commissioner through board resolution. (Attachment A).

**CONCLUSION**

Many rural individual and lakeshore properties populate the Thirty Lakes Watershed District and Crow Wing County. The abundant lakes and natural resources that make-up the region have long made the area a destination place for year round residences, tourists, and weekend cabin
residents. This attraction has played a role in the dramatic increase of the population in the region, which in turn is increasing pressure on the region’s water resources. If the current growth rate continues, it is anticipated that it will take only 20 years for the population to increase as much as it did in the last 100 (Crow Wing County Comprehensive Plan, 2003), by 2030 the Minnesota State demographer estimates the lake country to increase the number of households by 80% (Brainerd Daily Dispatch). The population increase coupled with the recent trends of increasing year-round developments, increasing use of seasonal properties, replacement of small cabins with much larger residences, and development of marginal lakeshore lots have also increased the pressure on the existing rural onsite wastewater infrastructure.

Recognizing these increased pressures on the natural resources and rural wastewater infrastructure the Thirty Lakes Watershed and Crow Wing County formed a Joint Powers Board. The JPB provided the needed leadership and platform to discuss, debate, and offer solutions to the wastewater treatment needs now and into the future. Crow Wing County, under the guidance of the JBP and I-Team, has formed a countywide sanitary management district and helped to pass legislation that will allow for the smooth formation of pilot subordinate sanitary districts to enact and implement management standards for individual and onsite and cluster wastewater treatment systems within countywide district. This sanitary management district will empower the citizens of Crow Wing County to manage a permanent and cost effective rural wastewater infrastructure that will meet their needs for years to come. The feedback loop is in place. The Crow Wing County Sanitary Management District now has the data to assess current wastewater treatment status and the capability to plan for the future.

**THE FUTURE**

The Commissioner’s participation and leadership at the rural neighborhood lakeshore meeting will pay off for generations to come. Next month the JPB is to dissolve and the Crow Wing County Board will appoint the commissioners for the new sanitary district. What do we expect from these insightful decisions over the next 10 years?

A comprehensive wastewater infrastructure plan, which anticipates the needs and opportunities to guide growth and development, is in place, being implemented, regularly re-evaluated, and updated.

Seven subordinate districts with management standards are under full operation and affordably protecting lake water quality. Three additional regions within the county have approached the County Board to form subordinate districts the next year.

The steady decline in replacements of drainfields is documented by the database that tracks the ownership, type, and performance status of all onsite and cluster systems.

“Hot Spots Areas” where individual systems are inappropriate have been identified and suitable treatment options are prioritized within subordinate districts.

The Sanitary Management District organized the Hot Spot neighborhoods. The Hot Spots Areas are following the replacement plan that the District and neighborhood have developed. Land area is purchased or set aside for a community treatment site. A revenue plan is in place for each Hot Spot, accounts are established, and revenues collected.

The top two prioritized Hot Spots in the first subordinate district matched the public funding they have obtained from the state.
The number one prioritized Hot Spot started construction of new cluster collection and treatment system.

The number two prioritized Hot Spot advertised for bids for construction of a new cluster collection and treatment system.

A comprehensive septage plan is in place for the entire county. Each septage site is identified and monitored. Public and private lands are set-aside and reserved for land spreading.

The decline in wastewater enforcement actions within the subordinate districts are documented in the database.

GIS is linked to the database tracking system that identifies each parcel in the county. The GIS layers include digital orthoimagery base maps, parcel map, comprehensive soils map from the specific soils information collected each year, all the identified and prioritized Hot Spots, identified environmental sensitive areas, well head protection zones, delineated receiving environment that are identified by risk factors, occurrence of systems replacement, and occurrence of system repairs based on repair, system type, design, installer, and maintenance provider.

The Crow Wing County Sanitary Management District is a role model for management of rural wastewater infrastructure throughout Minnesota and across the county. To be continued…

References


Crow Wing County Planning and Zoning Staff, Crow Wing County Comprehensive Plan 2003-2023 Final Draft, July 2004, Crow Wing County Planning and Zoning, Brainerd Minnesota, Chpt. 2 Background Data, p 10.

ATTACHMENT A

A bill for an act
relating to the environment; authorizing a pilot
project in Crow Wing County for the establishment of a
sewer district; providing additional powers for the
sewer district.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF MINNESOTA:
Section 1. [CROW WING COUNTY SEWER DISTRICT; PILOT
PROJECT.]
Subdivision 1. [POWERS.] In addition to the powers granted
in Minnesota Statutes, chapter 116A, the county board for Crow
Wing County, by resolution, may grant the following powers to a
sewer district created by the county board under Minnesota
Statutes, chapter 116A:
(1) provide that an authorized representative of the
district, after presentation of credentials, may enter at
reasonable times any premise to inspect or maintain an
individual sewage treatment system, as defined in Minnesota
Statutes, section 115.55, subdivision 1, paragraph (g);
(2) include areas of the county within the sewer district
that are not contiguous and establish different systems for
wastewater treatment in specific areas of the county;
(3) provide that each special service area that is managed
by the sewer system or combination thereof constitutes a system
under Minnesota Statutes, chapter 116A;
(4) delegate to the sewer district, by resolution, all or a
portion of its administrative and enforcement obligations with
respect to individual sewage treatment systems under Minnesota
Statutes, chapter 115, and rules adopted by the Pollution
Control Agency;
(5) modify any individual sewage treatment system to provide reasonable access to it for inspection and maintenance; and

(6) neither the approval nor the waiver of the county board, nor confirmation by order of the district court, shall be required for the sewer commission to exercise the powers set forth in Minnesota Statutes, section 116A.24.

Subd. 2. [REPORT.] If the Crow Wing County Board exercises the additional powers granted under subdivision 1, the county shall provide a report by August 1, 2009, to the senate and house committees with jurisdiction over environmental policy on the establishment and operation of the sewer district. The report must include:

(1) a description of the implementation of the additional powers granted under subdivision 1;

(2) available information on the effectiveness of the additional powers to control pollution in the county; and

(3) any recommendations for changes to Minnesota Statutes, chapter 116A, to broaden the authority for sewer districts to include any of the additional powers granted under subdivision 1.

[EFFECTIVE DATE.] This section is effective the day following compliance with Minnesota Statutes, section 645.021, subdivision 2.