

Helena Valley Septic System  
Maintenance District  
Implementation Plan

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## **Executive Summary**

Lewis and Clark County (County) has pursued and was awarded a 319 Grant from the Montana Department of Environmental Quality to facilitate the development of a septic maintenance district. Since 2004, the County Growth Policy has a stated implementation plan for a septic maintenance program. This project is the first step towards completing that objective.

There are several reasons why the County wants to pursue some type of septic maintenance district. Primarily, County Staff and Administration are concerned about long-term water quality trends that show impacts to groundwater in several locations in the County. They are also concerned about being proactive with respect to shared groundwater resources, property rights and public health before there is a crisis or endemic health problem.

The County selected Morrison-Maierle through a competitive bid process to assist them to develop a roadmap for creating a countywide septic maintenance district by July 2008. This phase of the project entailed development of public outreach materials and a written report recommending options for implementation of a septic maintenance district.

Through a series of three public meetings, two stakeholder meetings, development of a project website, web survey and public meeting questionnaires, the public was provided with information regarding five different management approaches for a septic maintenance district, financing alternatives, and legal mechanisms for district creation available within Lewis and Clark County. In addition to presenting information about various septic maintenance district alternatives, the public were also polled about what functions they wanted to see performed by a septic maintenance district as well as their concerns about the formation of a septic maintenance district.

Synthesis of the input from the public and stakeholders with the goals and objectives of the County led to the recommendation of an operating permit management approach for a septic maintenance district. This type of management model allows for a uniform application of the requirements for operation and maintenance of septic systems because every household within the district using a septic tank and drainfield would be required to have an operating permit. The permits would be valid for a period of time (for example, three to six years) after which time the septic system would have to be inspected by a certified inspector and pumped, if necessary, in order for the permit to be renewed. This type of management approach would likely require two additional County staff, a database to maintain the operating permits, certification of private inspectors, education and outreach materials, and the resources and ability to enforce requirements for non-compliant systems.

## 1.0 Purpose and Scope

The 2004 Lewis and Clark County Growth Policy has a stated implementation plan for developing a county-wide septic maintenance program. At the time the Growth Policy was prepared, the start year was not defined because the project was on hold until staff and resources became available. This Septic Maintenance District Implementation Plan and the 319 Grant funds used to develop this Plan are the first steps towards the achievement of this aspect of the growth policy.

In 2007, the Lewis and Clark City-County Health Department pursued a 319 Grant from the Montana Department of Environmental Quality (DEQ) based on concerns over increasing private septic system density, the age of some septic systems, personal knowledge of impaired or failing systems, and the results of several water quality studies indicating trends of increasing nitrate in groundwater. The County is working to be proactive with respect to the current and future health issues associated with degradation of water resources used as a source of drinking water so that control of this situation can remain at a local instead of a State or Federal level.

According to the project grant application this project entails:

“...development of an enabling ordinance for adoption by the Lewis and Clark County Commission or other method of creation, development of procedures, database, and future funding mechanism for the proposed district to reduce nutrient releases to the environment that result from improper maintenance of onsite wastewater systems.”

These grant funds will also be used to evaluate, create and/or update the septic permit database and to contract for services to begin development and coordination of the establishment of a proposed Septic System Maintenance District (SMD) within the Helena Valley area. The initial project for the Helena Valley may become a pilot project for the entire county. An additional half-time FTE is scheduled to be hired by Lewis and Clark County (County) specifically to carry out the implementation of a district.

In addition to the 319 grant the County was also awarded a Target Watershed Grant from the EPA for \$899,000, of which \$200,000 is to be used to fund one County staff person (FTE) for 2.5 years to administer a septic maintenance district and roughly \$210,000 to provide assistance to homeowners within the Lake Helena Watershed whose septic systems are failing.

Morrison-Maierle, Inc (MMI) was selected in December 2007 through a competitive process to assist the County in laying the groundwork for providing the public and the appropriate decision makers with the information necessary to pursue the formation of a SMD.

The scope of this phase of the project is to provide information to the public and stakeholders about the process of SMD formation and gather feedback from these stakeholders and the public. Several models of maintenance districts/programs were presented to the public, and these different management models were evaluated and vetted based on public comment and stakeholder input on:

- Legal creation mechanism alternatives,
- Potential district functions, and
- Alternative funding methods.

The result of this first phase of the project is presented in this Implementation Plan and is intended to serve as a roadmap for creation of the Lewis and Clark County Septic System Maintenance District.

## 2.0 Current Situation

The County along with the Montana Department of Environmental Quality (DEQ) and the EPA have acknowledged that private septic systems are an acceptable method of wastewater treatment as long as they are designed, installed, operated and maintained properly. An indicator of groundwater contamination by wastewater is the presence of high nitrate concentrations and/or fecal coliform bacteria. The EPA drinking water standard for nitrates is 10mg/L. The County has performed testing on various wells in the Helena valley and has found high levels of nitrates (generally from agriculture and septic systems), chlorides (not harmful, but unpleasant) and bacteria. The results indicate that wastewater from septic systems is reaching the groundwater.

Most residents in the County rely on groundwater as their **only** source for drinking water. Onsite septic systems that do not work properly due to poor installation or maintenance can degrade ambient groundwater quality, impair public health, spread contamination and disease, affect quality of life and depress real estate values.

The Lewis and Clark City-County Health Department has issued permits and maintained a database for septic system permits since 1973. As of the beginning of 2008, there were approximately 10,300 permitted septic systems recorded. Estimates of the number of unpermitted systems, including systems installed prior to 1973 and illegally installed systems, is thought to be an additional 2000 to 2500.

Finally, approximately 40% of the permitted septic systems in Lewis and Clark County are twenty years old or older. Some of the older subdivisions in the Helena Valley have septic systems that are 30+ years old, some of which may be near the end of their useful life. However, a properly installed and *maintained* system can remain in service over an extended timeframe, postponing the cost and inconvenience of constructing a replacement system.

There are numerous factors contributing to the current status of private wastewater treatment in Lewis and Clark County. They include:

- wide variations in homeowner knowledge of their system and its maintenance requirements,
- homeowner financial status,
- the estimated high percentage of aging septic systems,
- the existing inspection and maintenance practiced by septic system owners,
- declining availability of locations for replacement drainfields as residential density increases,
- poorly sited systems,
- systems installed prior to permitting standards, and
- declining water quality trends.

## **3.0 Legal Framework for District Formation**

Lewis and Clark County has several different legal avenues by which to adopt a SMD. There are different legal formation mechanisms depending on which department or commission is used to adopt the pertinent resolutions and rules for district formation. The discussion of a legal framework is for overview purposes only. The County Attorney will likely have to advise the appropriate branch of Lewis and Clark County further regarding the details of district implementation. This project identified three County branches or departments that have the authority to adopt a maintenance district: the Water Quality Protection District, the Board of Health, and the County Commission. In addition a petition and public vote can also be used to create this type of district, similar to formation of a water or sewer district. Citations for the enabling legislation are briefly discussed under the following paragraphs.

### **3.1 L&C Water Quality Protection District**

Part 45 of Chapter 13 of Title 7 of the Montana Code Annotated (MCA) pertains to Local Water Quality Districts and the duties, powers and responsibilities assigned to these districts. The following citations are excerpted from this Part of MCA.

MCA 7-13-4517. Powers and duties of board of directors. The board of directors of a local water quality district, with the approval of the commissioners, may:

(8) administer local ordinances that are adopted by the commissioners and governing bodies of the participating cities and towns and that pertain to the protection, preservation, and improvement of the quality of surface water and ground water;

MCA 7-13-4518. Powers and duties of commissioners. In addition to the other powers and duties of the commissioners authorized by this part, the commissioners may:

(1) adopt local ordinances in accordance with the requirements of 75-5-311;

### **3.2 L&C Board of Health**

The General Provisions of Local Boards of Health (Chapter 2, Title 50 MCA) also describes some powers and duties that the Board of Health has with respect to septic system regulation. A portion of the citations from this Part of MCA are excerpted below.

MCA 50-2-116. Powers and duties of local boards of health.

(2) Local boards of health may:

(b) adopt necessary fees to administer regulations for the control and disposal of sewage from private and public buildings and facilities;

(c) adopt regulations that do not conflict with rules adopted by the department:

(i) for the control of communicable diseases;

(ii) for the removal of filth that might cause disease or adversely affect public health;

(iii) subject to the provisions of 50-2-130, for sanitation in public and private buildings and facilities that affects public health and for the maintenance of sewage treatment systems that do not discharge effluent directly into state water and that are not required to have an operating permit as required by rules adopted under 75-5-401;

### **3.3 Voter Creation of a Maintenance District**

Part 22 of Chapter 13, Title 7 MCA refers to the formation of County Water and/or Sewer Districts. This section of State Law could also be considered as a mechanism for creation of a septic maintenance district in Lewis and Clark County.

MCA 7-13-2203. County water and/or sewer districts authorized. (1) A county water and/or sewer district may be organized and incorporated and managed as herein expressly provided and may exercise the powers herein expressly granted or necessarily implied.

(2) The people of any county or counties or portion of a city or a county or city and county or any combination of these political divisions, whether such portion includes unincorporated territory or not, in the state of Montana, may organize a county water and/or sewer district under the provisions of this part and part 23 by proceeding as therein provided.

7-13-2204. Petition to create water and/or sewer district. (1) A petition, which may consist of any number of separate instruments, must be presented at a regular meeting of the board of county commissioners of the county in which the proposed district is located, signed by either at least 10% of the registered voters of the territory included in the proposed district or by the owners of all of the real property in the district.

(2) When the territory to be included in the proposed district lies in more than one county, a petition must be presented to the board of county commissioners of each county in which the territory lies. Each of the petitions must be signed by at least 10% of the registered voters of the territory within the county to be included within the proposed district or by the owners of all of the real property included in the proposed district.

(3) A petition to create a water and/or sewer district must set forth and describe the proposed boundaries of the district and require that the district be incorporated under the provisions of part 23 and this part.

### **3.4 Ordinance**

Lastly, Part 25 of Title 7 of MCA regarding County Taxation enables Lewis and Clark County to impose a property tax that could possibly be used for funding the administrative costs associated with a septic maintenance district.

MCA 7-6-2527. Taxation -- public and governmental purposes. A county may impose a property tax levy for any public or governmental purpose not specifically prohibited by law. Public and governmental purposes include but are not limited to:

(17) public health purposes as provided in 50-2-111 and 50-2-114;

## **4.0 Management Options**

Across the country, as well as within Lewis and Clark County, there are examples of several different types of septic maintenance management approaches. Examples of these approaches are discussed below and examples of these types of approaches currently in practice in Lewis and Clark County are presented where applicable.

### **4.1 Management Approach 1 – Homeowner Awareness**

Management Approach 1 – The Homeowner Awareness approach requires only a minimum amount of management, and describes appropriate management practices where treatment systems are owned and operated by individual property owners. Typically this type of program is used in areas where site and soil conditions do not present significant health risks to shallow water tables or drinking water wells within a specified distance from treatment systems.

This approach is used where treatment technologies are limited to standard septic systems, which provide acceptable treatment with little interaction by the owner. Any problems that might occur and continue undetected will pose a relatively low level of risk to public health and water resources.

The objectives of this management approach are to ensure that all systems are situated, designed, and constructed in compliance with current regulations. All systems are documented and inventoried by the regulatory authority, and the system owners are informed of the maintenance needs of their systems through scheduled reminders. The approach is intended to provide an accurate record of the types and location of installed systems, to raise homeowners' awareness of basic system maintenance requirements, and to better ensure that the homeowners attend to those system deficiencies that could threaten public health.

This approach, like all management programs, suggests the use of only trained and licensed/certified service providers. This approach is a starting point for enhancing management programs because it provides communities with a good database of systems and their application for determining whether increased management practices are necessary.

#### **Limitations**

- No compliance/problem identification mechanism.
- Septic system sites must meet detailed requirements (minimum depth to groundwater, etc.).
- Cost to maintain database and owner education program.

### **Example Systems**

- Essentially the current management system used by Lewis and Clark County (status quo).
- Standard septic system has been amended to allow Level Ib in addition to Level II treatment in the area of interim zoning boundary in Helena Valley Planning Area as of June 10, 2008.

## **4.2 Management Approach 2 – Maintenance Contract**

Management Approach 2 – The Maintenance Contract approach is recommended where more complex system designs are needed to enhance the capacity of standard systems to accept and treat wastewater. For example, pre-treating wastewater to remove non-biodegradable materials and particulate matter that typically pass through a septic tank may enhance underground infiltration system performance on sites with limited area, slowly permeable soils, or shallow water tables. However, such pretreatment units can have complex mechanical components and treatment processes, which require routine observation and maintenance in order to perform correctly.

Maintenance of these more complex systems is critical for maintaining acceptable protection. Therefore, these systems should be allowed only where trained operators are under contract to perform scheduled operation and maintenance. The objectives of this approach build on the Homeowner Awareness Approach by ensuring that property owners maintain maintenance contracts with trained operators.

### **Limitations**

- Improves compliance/problem identification mechanism, but relies on owner or contractor to report lapse in service contract (like proof of liability auto insurance).
- No mechanism to assess effectiveness of individual maintenance contracts.
- Cost to maintain database and owner education program.

### **Example Systems**

- The Maintenance Contract required for the first two years of operation for Level II (Advantex™ or Eliminite™) treatment systems is an example of this type of management system. Under the current system, the DEQ requires two-year service contracts at the time of installation and the owner of the system is required to provide for continued maintenance and service for the life of the system.

### **4.3 Management Approach 3 – Operating Permit**

Management Approach 3 – The Operating Permit approach may be necessary where proper performance of onsite wastewater treatment systems is critical to protect public health and water quality. Examples of locations where this program might be appropriate include areas adjacent to ponds, lakes, and areas where treatment systems create potential threats to drinking water supplies. The EPA strongly recommends that this approach be used where large-capacity systems or systems treating high-strength wastewaters are present.

A principal objective of this management program is to ensure that the onsite wastewater treatment systems continuously meet their performance criteria. Limited-term operating permits are issued to the property owner and are renewable for another term if the owner demonstrates that the system is in compliance with the terms and conditions of the permit. In subareas where it is appropriate to use conventional onsite system designs, the operating permit may contain only a requirement that routine maintenance is performed in a timely manner and the condition of the system be inspected periodically. With complex systems, the treatment process will require more frequent inspections and adjustments and therefore, system monitoring may be required.

An advantage to implementing the program elements and activities of this management program is that the design of treatment systems is based on performance criteria that are less dependent on site characteristics and conditions. Therefore, systems can be used safely in more sensitive environments if their performance meets those requirements reliably and consistently. The operating permit provides a mechanism for continuous oversight of system performance and negotiating timely corrective actions or levying penalties if compliance with the permit is not maintained. To comply with these performance standards, the property owner should be encouraged to hire a licensed maintenance provider or operator.

#### **Limitations**

- Higher level of expertise and resources required of regulatory authority for implementation.
- Requires permit tracking system (database and personnel).
- Regulatory authority needs enforcement powers.

#### **Example Systems**

- There are currently no examples of the Operating Permit Approach within Lewis and Clark County.

#### **4.4 Management Approach 4 – Responsible Management Entity (RME) Operation & Maintenance**

Management Approach 4 – The Responsible Management Entity (RME) Operation and Maintenance approach is recommended where large numbers of onsite and clustered systems must meet specific water quality requirements because the sensitivity of the environment is high. Frequent and highly reliable operation and maintenance is required to ensure water resource protection. Issuing the operating permit to an RME instead of the property owner provides greater assurance of control over performance compliance. This allows the use of performance-based systems in more sensitive environments than the Operating Permit Approach. In this approach the RME takes responsibility for the operation and maintenance for a service fee. In most cases the homeowners association plays the role of the RME and sets the dollar amount of the service fee.

This approach can reduce the number of permits and the administration functions performed by the regulatory authority. System failures are also reduced as a result of routine and preventive maintenance. The operating permit system is identical to that of the Operating Permit Approach except that the permittee is a public or private RME. States may need to establish a regulatory structure to oversee the rate structures that RMEs establish and any other measures that a public services commission would normally undertake to manage private entities in noncompetitive situations.

##### **Limitations**

- Enabling legislation and/or formation of a special district may be required.
- RME must have owner approval for repairs; may be recipe for conflict if performance problems are identified and not corrected.
- Need for easements or permission for right of entry.
- Oversight of RME required by regulatory authority.

##### **Example System**

- Grasslands Subdivision Home Owner's Association

#### **4.5 Management Approach 5 – Responsible Management Entity (RME) Ownership**

Management Approach 5 – The Responsible Management Entity (RME) Ownership approach is a variation of the RME operation and maintenance concept (Management Approach 4), with the exception that ownership of the system is no longer with the property owner. The designated management entity owns, operates, and manages the decentralized wastewater treatment systems in a manner analogous to central sewerage. Under this approach, the RME maintains control of planning and management, as well as operation and maintenance.

This management approach is appropriate for environmental or public health conditions similar to those for the RME Operation and Maintenance Approach, but Approach 5 provides a higher level of control of system performance. It also reduces the likelihood of disputes that can occur between the RME and the property owner when the property owner fails to fully cooperate with the RME. The RME can also more readily replace existing systems with higher-performance units or clustered systems when necessary. The EPA recommends implementation of the management practices detailed in this approach in cases where high-density development is proposed in the vicinity of sensitive receiving waters. States might need to establish a regulatory structure to oversee the rate structures that RMEs establish and any other measures that a public services commission would normally undertake to manage entities in noncompetitive situations.

### **Limitations**

- Enabling legislation and/or formation of a special district may be required.
- May require greater financial investment by RME for infrastructure.
- Oversight of RME still required by regulatory authority.
- Private RMEs may limit competition.
- Homeowner associations may not have adequate authority.

### **Example Systems**

- The town of Lincoln in Lewis and Clark County is an example of this type of management approach.

## **5.0 District Functions**

There are several key elements that are necessary for the implementation and proper function of any maintenance district. These key elements are discussed in more detail below.

### **An assessment of the current situation and a plan for district creation**

Any project has to have an understanding of the current situation as a logical starting point for development of the particular functions necessary for implementation of a maintenance district that meets the needs and goals of the public.

### **Homeowner education and awareness**

Since homeowners are the owners and oftentimes the operators of the private septic systems included in a maintenance district, homeowner education about how their septic system works, as well as how the septic maintenance district supports the correct operation and maintenance of their septic system requires essentially continuous education and outreach because this population is always changing.

### **Financing mechanism(s)**

Secure, long-term funding for district functions must be developed. Start-up costs may be one-time and could be handled with specific grants or other one-time cash infusions. However, the long-term operation of the district will require some type of renewable permit fee, assessment or tax that can be adjusted as program costs and services vary over time.

### **Mandatory inspection of all septic systems (permitted and unpermitted)**

The foundation for the majority of management models (with the possible exception of the homeowner awareness model) is a solid understanding of the type and function of all septic systems within the district. This first inspection may be more detailed than subsequent inspections and could be the basis for established the frequency of future inspections and septic tank pumping.

### **Septic system maintenance database**

In order to effectively and efficiently manage the inspection and maintenance cycle for septic systems within the district, some type of database is a necessity. The specific requirements, functions and benefits of a maintenance database are discussed in Section 7.0.

### **Standards for inspection, maintenance and repair of septic systems**

One size does not fill all when it comes to septic systems. However, standards for inspection and maintenance are necessary to ensure that every homeowner is doing their part and that there is a level playing field that ensures minimum inspection and maintenance standards are being adhered to.

### **Develop certification for septic inspectors**

If the County does not hire its own inspectors to perform septic system inspection and maintenance, then it is critical for the County to develop an inspector certification program. A certification program protects the homeowner so that he is getting a qualified inspector who is performing the proper level of inspection and it also assures the County that good inspection information is being collected and reported to the maintenance district.

### **Enforcement of septic inspection and maintenance**

If septic inspection and maintenance is required by the district, it will need the ability and resources to enforce inspection and maintenance. Certainly, enforcement will be a last option after education and outreach, but may become necessary to reach necessary compliance goals.

### **Develop program for retrofits and septic system enhancements**

Developing a program for upgrades, retrofits and other improvements to existing septic systems in areas that are environmentally sensitive or have severely degraded water quality may go a long way to improve public sentiment and to restore water quality in severely impacts areas. Providing technical resources and expertise to homeowners, incentives and funding may be some of the components for this program.

### **Development of siting and treatment standards to achieve project goals**

This work may be performed in conjunction with the DEQ to determine the appropriate set back distances between water wells, drainfield mixing zones, and property boundaries. Siting standards may be more restrictive in areas with sensitive receptors or higher potential for groundwater vulnerability.

### **Outreach and funding for long-term solutions for failed and failing systems**

Development of an outreach and funding program to assist homeowners with long-term solutions for failing and failed systems is another critical need to achieve the project goals. For example, some homeowners on the upper west side of Helena have failed septic systems and could connect into the City of Helena's municipal system. Renewed interest in developing a plan to connect numerous systems into the City is more cost effective and beneficial to the public and the environment than not being able to connect failed systems. Long-term solutions that include low interest funding sources, technical assistance and public education and awareness need to be developed in other areas with old and failing septic systems too.

### **Recordkeeping to determine compliance level and to maintain public accountability**

In addition to the development of the database for inspection, maintenance and administrative use, the use of these tools for reporting to the public about the costs for administration, effectiveness of the program and implementation of long-term program goals should be effectively communicated to the public. Public communication is critical for public acceptance and the degree of transparency that the project has through its communication and reporting will be an important success factor.

## **6.0 Funding Options**

Several different funding mechanisms were researched and evaluated as part of the first phase of the project. Summaries of the different funding mechanisms are presented below.

### **6.1 Fees**

#### **Permit Fee**

This fee might be assessed during the renewal of the permit. The time between renewals would have to be determined based on factors such as program administration and the initial inspection of the septic system. Permit renewal periods may be uniform or they may be tailored to site-specific conditions. Similar to other licenses and permits, the fees generated would be used to cover the administrative costs of the permit.

#### **Tipping Fee**

A fee would be charged to dispose of the effluent at the Helena WWTP. This fee (say 5 cents/gallon or a flat fee regardless of sewage amount) would be used to cover the administrative costs of the program. By its nature, this fee would only be assessed during pumping maintenance not during inspection.

#### **Web-based Reporting Fee**

The web-based reporting fee would be similar to the other types of fees and would be another mechanism to recoup a portion or all of the administrative fees necessary to run the district. This fee could be assessed at the time of inspection and charged electronically when the inspection report is submitted via the web. Full functionality of this fee would require the ability for either the homeowner, or a certified inspector, to be able to log into the County septic maintenance district permit database via the web to update inspection information. Use of credit card payments and authorizations via the web or setting up invoicing agreements with septic system inspectors would also be necessary to institute this fee system.

#### **Advantages**

- Fee amount could be lower if used only for administration of the septic maintenance district (and not to provide inspection, maintenance, or revolving fund financing).
- Property owners would have the ability to select maintenance operator and septic pumper.
- Property owner or contractor could submit paperwork for permit.
- Uniform permit cost regardless of septic system size or type.

### **Disadvantages**

- Some people may not be able to budget for permit fee plus costs for maintenance and pumping at one time.
- Funding mechanism not automatic like property assessments and requires enforcement component.
- Enforcement of non-permitted systems will be necessary.
- Rules and process for getting lapsed permits back into compliance would need to be developed.
- Administration budgets may fluctuate if scofflaws don't renew permits.

### **Source of Funding**

County Residents paying Permit Fee.

## **6.2 Property Assessment**

The assessment would be similar to the assessment of a rural improvement district (RID). The costs of operating the district would be determined and then the amount divided by the number of homeowners in the district. The assessment would then be applied to the property tax statements of those properties which have septic systems.

### **Advantages**

- Multiple options for setting assessment amount.
- Amount could include only administration costs, or assessment could be higher to include administration costs plus allow for rebates for septic pumping costs.
- Property owners could still have the ability to select a maintenance operator and septic pumper (County would issue rebates or coupons to property owners or pumpers at the time of maintenance).
- County process for property assessment well established (no prohibitive administrative start-up costs).
- County could take assessed funds to rehabilitate or pump non-compliant properties.
- Assessments would be lower (two times per year or monthly depending on whether property taxes are paid through an escrow account).

### **Disadvantages**

- Would be an additional tax assessment on properties.

### **Source of Funding**

County Residents would pay Property Assessments.

## **6.3 319 Grant**

Section 319 of the Clean Water Act provides grants which are important resources available to states to restore impaired waters and to protect threatened and good-quality waters. There are guidelines to provide states with a framework to use Section 319 grant funds in a manner that will implement their nonpoint source management programs effectively to achieve the vision established at the beginning of these guidelines and to achieve the specific goals and objectives established in their upgraded State nonpoint source management programs.

While the guidelines emphasize the use of Section 319 funds for the development and implementation of watershed-based plans to restore priority waters, states may also use Section 319 base funds for other activities that will generally support these goals, as well as water quality protection goals, including nonregulatory or regulatory programs for enforcement; technical assistance, including staffing; financial assistance; education; training; technology transfer; demonstration projects; and monitoring to assess the success of specific nonpoint source implementation projects.

Lewis and Clark County has also received approximately \$899,000 in Targeted Watershed Grant funding from the EPA. A portion of these monies are also earmarked for creation of a septic maintenance district.

319 and other EPA grants are awarded on a competitive basis and the funding amount varies from year to year. Because of these constraints, this funding source may not be an acceptable long-term funding mechanism, but could possibly be used instead for program start-up and development.

### **Advantages**

- Can provide targeted funds for specific needs and projects.
- Additional financing source potentially available to County.

### **Disadvantages**

- Funding and administration mechanism would not be controlled by County.
- Funding level can vary between grants
- Likely could not be a long-term funding source for a septic maintenance district.

### **Source of Funding**

Federal money allocated by Congress and distributed to states for administration.

## **6.4 Low Interest Loans Funded by Grants**

The County, upon approval by the County Commissioners could set up a revolving loan fund using eligible grant funds like the \$210,000 in Targeted Watershed Grant funds, fines from permit violations, or other sources of principal to pay for major rehabilitation

or replacement of septic systems if local residents cannot afford the onetime cost of septic system or drainfield replacement.

### **Advantages**

- Can be used to provide alternative financing mechanisms to meet needs of public for major septic system repairs.

### **Disadvantages**

- May limit use of portion of funds for other uses.
- Requires additional administration costs by the County.

### **Source of Funding**

Interest on principal from Targeted Watershed Fund. If loan defaults were kept to a minimum and the interest could cover inflation and possibly administrative costs, the program could be self perpetuating. Fund amount would have to be balanced with need to be fully self sustaining. Other sources of funding may be the proceeds from permit violation fines.

## **7.0 Database Requirements**

Lewis and Clark County is currently exploring a new database and information management system. Therefore, while an electronic database is a necessary component to the efficient and reliable operation of a maintenance district, the specific details, platforms and resource needs and requirements have not been evaluated in significant detail as part of this Plan. However, through the course of research for this project the following requirements, functions and benefits of a maintenance database were developed.

### **7.1 Requirements**

- Web access
- Septic pumper access and reporting/mailing capability
- Maintenance/installer access to database
- Paperless
- Flexibility
- Affordable
- Input and output into other information platforms (spreadsheets, GIS)

### **7.2 Functions**

- Tracking of inspection and maintenance events per property/system
- Tracking maintenance contracts (if necessary)
- Advance notifications of inspection periods and contract lapses
- Compliance/enforcement correspondence tracking (letters, phone calls, meetings, etc.)
- Reporting of system type, tank size, drainfield dimensions, tank and drainfield coordinates, number of bedrooms, replacement drainfield area, site constraints (memo field)
- Permit number, etc.
- Maintenance reports
- Inspection reports
- Enforcement action reports
- Summary reports for notifications, etc.
- Communications clearinghouse between pumpers, installers, inspectors, regulators

### **7.3 Benefits**

- Better data management
- Multiple access reduces administrative effort
- Better septic system performance through regular maintenance
- Bringing systems into compliance will allow for greater longevity
- Real time data acquisition and reporting

## 8.0 Public Comment

### 8.1 Stakeholders

A group of stakeholders was identified at the initiation of this project. A stakeholder meeting was held at Morrison-Maierle on March 5, 2008 with the following attendees:

**Table 1 Stakeholder List**

<b>NAME</b>	<b>REPRESENTING</b>
Frank Preskar, RS	Lewis and Clark County
Kathy Moore, RS	Lewis and Clark County
Barbara Pietuch	Lewis and Clark County
John Ward	Pumping Community
Steve Mandeville	Realtors
Duane Noel	Public
Trever Brandt	Public
Joe Meek	DEQ
John Rundquist	City of Helena
Don Clark	City of Helena
Lynora Rogstad	City of Helena Pretreatment Administrator Water/WW Coordinator
Sue Dugan	Morrison-Maierle, Inc.
Mark Brooke, P.E.	Morrison-Maierle, Inc.
Nancy Cormier, P.E.	Morrison-Maierle, Inc.
<b>Stakeholders not able to attend</b>	
Peter Donovan	L&C City-County Board of Health

The following topics were presented to the participants of the stakeholder meeting:

- Project Goals and Objectives
- Role of Stakeholders
- Legal Mechanisms for Creation of Septic Maintenance District
- Management Alternatives
- Goal of Public Meeting Process
- Other Public Information Campaigns
  - Public Meeting Ads
  - Website
  - *Independent Record* News Story
- Anticipated Project Issues
- Project Schedule
- Feedback on Project from Stakeholders

The key to this first stakeholder meeting was to immerse the participants in the project and get them involved in discussions with the public. At the time of the stakeholder meeting and throughout the public meeting process, a management alternative had not been selected. As part of this process, input from the County, stakeholders and the public was solicited to determine what their needs and concerns were. Based on this information, recommendations were developed for a management model, an implementation mechanism, district functions, and financing that best fit the needs of the community. Information provided to stakeholders and a summary of the stakeholder meeting minutes is presented in Appendix A.

Summary discussions from the first stakeholder meeting are presented below:

- Let's look at the "No Adverse Impacts" (NAI) approach as it relates to identifying a driving force. The concept is simple....the district is being considered to ensure that the actions of others don't adversely impact existing property rights.
- NAI approach provides/encourages legal and technical basis for decision making. In our case, the county is taking the action for the protection of public health and welfare by trying to ensure that septic systems are properly maintained. "It isn't your septic system that we are concerned about; we are concerned about your drinking water quality that may be harmed if your neighbor isn't maintaining his septic system."
- NAI uses a "do no harm" approach. It espouses a "use your property so you do not harm others" philosophy, it is supported in law. The focus is on preserving property rights.
- It was brought up that similar program to fund additional administration of septic maintenance in the County was taken to the City Commission for approval on July 14, 2005 where it was tabled for a number of reasons already mentioned.
- A collaborative effort with the L&C County Water Quality District tried to pass a inter-local agreement where the City would have collected fees from septic waste hauled to the Helena Wastewater Treatment Facility to fund a program similar to model 1. This effort likely failed for a number of reasons.
  - Both the City Commission and County Commission were not fully on board
  - The septic haulers thought that something needed to be done but that our plan was too watered down.
  - The funding mechanism for the program was not acceptable to most.
- One stakeholder firmly believed that at the very least management approach 3 (operating permit model) should be pursued to protect water quality now and not wait for someone [outside of local government] to tell us to do so.

- General consensus among stakeholders that preventative maintenance is an issue with private septic systems
- However voluntary compliance is not addressed rationally on an individual basis and the septic systems that likely need septic maintenance are the systems that can't afford it.
- Concerned that 100s to 1000s of unpermitted septic systems exist in the County (from time before septic systems were permitted) and the SMD process needs to get a hold of this issue.
- Concern that many systems have never been maintained (or pumped) in 10, 20, 30 years of operation. SMD will help identify which ones need maintenance and pumping.
- Public education will be a component of this process because some people actually don't know that they are on a system.

A second stakeholder meeting was held on June 23, 2008 to reconvene the stakeholders for this project and review with them the information and comments received from the public. At this second stakeholder meeting, Morrison Maierle also presented its recommended management approach based on the synthesis of stakeholder and public comment, water quality trends, need for the County to be proactive to protect public health and the environment, cost, practicality, and professional opinion. There was not a lot of additional comment about the project or recommended management approach.

## **8.2 Public Meetings**

The intent of the public meetings was two-fold. The first goal was to take the opportunity to inform the public about the septic maintenance district project as well as discuss and provide information about general design, operation, function and maintenance of a septic system and general water quality trends in the Helena Valley. These meetings were facilitated by Lewis and Clark County staff, Morrison-Maierle staff and some project stakeholders. The public meetings were conducted in a "design charrette" format to allow a more open information exchange with the public. Documentation of these meetings, including attendance lists, handout materials and written comments from the public, are located in Appendix B.

The second goal was to poll the public in order to gauge their level of understanding about how septic systems work and need to be maintained, get a sense of what their issues and concerns might be with the formation of a district, and finally get a sense of whether they thought some type of septic maintenance district was necessary to maintain and improve water quality in the County.

The three public meetings were held at Kessler, Jim Darcy and Warren schools according to the following schedule. Public comments received at the three public meetings are summarized below. Thirty two people attended the meeting at Kessler, 46 at Jim Darcy School and 39 at Warren school for a total of 117 members of the public in attendance at these meetings.

**Table 2 Public Meeting Schedule**

Public Meeting 1 Kessler School	7 PM Tuesday April 8 <sup>th</sup>
Public Meeting 2 Jim Darcy School	7 PM Wednesday May 7 <sup>th</sup>
Public Meeting 3 Warren School	7 PM Thursday May 22 <sup>nd</sup>

Of the 117 people that attended the public meetings we received 22 partial or fully completed comments and questionnaires. From the responses received from the public meeting handout questionnaire, here is a summary of the highlights from this cross section of the public:

**Most important characteristics of any septic maintenance district**

- Homeowner education (for you)—afterhours workshops, brochures, television broadcasts
- Cost of district operation
- Enforcement of non-compliant septic permits
- Enforcement of non-compliant septic maintenance
- Accurate septic system design and drainfield location records maintained by County

**Less important characteristics of any septic maintenance district**

- Value of services received by establishment of district
- Homeowner education (for others)—afterhours workshops, brochures, television broadcasts
- Proactive inspection of private septic systems by County
- Centralized website resources and septic system information for homeowners
- Complete septic system maintenance records maintained by County

**Financing frequency**

By a slight margin, more respondents preferred assessments at regular intervals instead of onetime permit renewal fees.

**County building permits**

The respondents were generally split on the need for building permits. Eleven respondents were in favor of the need for building permits and nine did not want to see the County adopt a requirement for residential building permits.

### **Mechanism for creation of septic maintenance district**

Sixteen respondents wanted to see the creation of a district be formed by a public vote. Other forms of creation received lower counts and this result may, in part, be a result of the public's familiarity with the voting process.

### **Other notable comments from the public meeting**

Concern about fairness of frequency of potential pumping requirements. Some members of the public proposed that the tanks be pumped based on occupancy and use not number of bedrooms. Currently the sizing and design of septic systems is based on the number of bedrooms in a home.

Public appreciated information and posters illustrating the areas of higher groundwater contamination in the valley.

Have HCTV produce a program on water quality [in the Helena Valley] and septic maintenance. Will "Backroads of Montana" do a show on water quality?

Several residents at each of the different meetings commented on the need for a "master plan" for addressing the sewage treatment needs for the entire Helena Valley. For example, many people expressed the need for a central sewer system and a new wastewater treatment plant near Lake Helena. The other comment in this area was the need for better coordination between the City and the County in areas where the City can more reasonably plan for and provide central sewer.

Make everyone equal. No one has a right to jeopardize another [person's] property.

Please don't chastise people who have lived in the valley for years. We can all work together if you help us by communication.

Homeowner education was a theme in many of the comments. Some residents were new to the County and have not lived at a home with a septic system and others had significant misconceptions about the need for septic tank pumping and the need or benefit of septic system additives. Here are a few additional comments on this subject.

Before the County gets into our pocket books, especially those of us on a fixed income, people have to be educated on septic tanks.

No formal information has come from the County or DEQ regarding the proper requirements of operating a septic system. Suggest publishing this important County and DEQ, DPHHS health and environmental information in local newspapers. Need to prevent cross connections, using backflow preventers, etc.

One member of the public expressed a concern that not enough septic system maintenance was being done and that there shouldn't be a big bureaucracy to run a maintenance district but still require some inspection and maintenance but allow the homeowner to choose who does their inspection and pumping.

### 8.3 Web Content and Survey

As part of the public outreach component for this project, a Morrison-Maierle web designer worked with County staff to develop website content for the project. Lewis and Clark County hosted these web pages on their server and posted a link to the project web site on their homepage. The following types of information were posted on the project website:

- Project Introduction
- Project Background
- Public Involvement
- Management Options
- Public Meetings
- Contact Information

Under the public involvement section, as well as from a direct link near the top of the County homepage, the viewer was given the ability to take an online survey developed for this project.

As of May 23, 2008 there were 326 respondents to the online septic maintenance district survey located on the County homepage or directly at: <http://www.co.lewis-clark.mt.us/departments/health/environmental-health-services/septic-maintenance-district.html>

A summary discussion of the results of the web survey responses follows below and detailed information and results is located in Appendix C.

Most people taking the online survey (94%) have a private drainfield located on their property. The distinction is important because some people may be connected to a municipal sewer system (if they are residents of the City of Helena) or may have a septic tank on their property but they may be served by a community drainfield or lagoon located elsewhere.

Next, most people (38%) that responded indicated that they have their septic tank pumped every three years, 22% have their tank pumped every two years and 23% have their tank pumped every five years. The results to this question form a general bell curve around three years with 8% never pumping their septic system.

Most people felt that there was a general relationship between drainfields and proper septic system maintenance and water quality. Sixty-seven percent agreed and 24% felt that the relationship was more complex and depended on other factors besides proper septic system operation.

Regarding the location of a replacement drainfield on the homeowners' property, 77% of the respondents to this question knew where there was a suitable location for a replacement drainfield on their property.

A very strong majority (91%) of people think it is a good idea to require having a septic system inspected and septic tank pumped if necessary during the purchase a new property. The corollary to this question, "Would you be willing to have your septic system inspected and pumped if necessary at the sale or transfer of your property?" also garnered a very strong response (90%) in favor of inspection. These responses imply two things. First, no homeowner wants to buy into a liability when purchasing a new home and secondly, most people want independent verification that their septic system is in good order in the event their property is sold.

Then there were a series of questions regarding the formation of some type of septic maintenance district in Lewis and Clark County. The responses to these questions were not as clear cut as some of the previous questions were. This may be explained by the fact that this discussion is just beginning and some initial skepticism about the intentions and goals of forming a maintenance district by the County.

For starters, most or 95% of respondents did not want the County to own and be responsible for the operation individual septic systems. Nor did they want a private entity (like a homeowner's association) to be responsible for the operation of their septic system by a 79% to 21% margin. Next, 75% of homeowners would like to see more education and felt they could maintain their own system without oversight.

Then respondents were mostly split 45% for to 55% against whether they would like to see the County support uniform septic system maintenance for wastewater treatment by private individuals. Respondents were also split 47% for and 53% against whether the County should enforce maintenance of systems that are not being operated correctly. They were more unequivocal (66%) on their sentiment that they did not want the County to take responsibility to ensure that septic systems are inspected and pumped when necessary to prevent failing septic systems or poor water quality.

However, most people (61%) disagreed with the statement: "I don't think the County should do anything regarding septic maintenance." The question to be addressed with the evaluation of other public and stakeholder input may then become how far should the County go with regard with formation of a septic maintenance district.

Finally, with regard to homeowner education, most people (56%) thought they knew about as much as their neighbors did about their septic system.

## **8.4 Summary of Public Comments**

Separation of some of the issues revolving around the timing of the septic maintenance district formation may be critical to interpreting some of these comments. For example, it is illustrative to understand and separate comments related to the interim zoning

which had required Level II septic treatment systems up until June 5, 2008 within a broad portion of the Helena Valley. Therefore, only public comments received that are germane to the principle elements of the creation of some type of septic maintenance district are considered appropriate for further analysis.

Within the comments relevant to the project, some public comments are contradictory. For example, a slight majority of the web survey respondents did not want to see the County support uniform septic maintenance of private septic systems. However, in the written responses from the questionnaire distributed at the public meetings, creation of a level playing field to ensure that everyone does their part to maintain their septic system was the number two advantage after maintaining and improving water quality of any type of septic maintenance district. Therefore, it may be safe to say that *if* a septic maintenance district is formed a reasonable segment of the public wants something done to protect and maintain water quality that is fair to all participants in the district.

### **Support of Process**

Several public comments were received in support of the formation of some type of SMD. Many respondents were reserved about full endorsement of a district because there haven't been any details presented with respect to cost, management alternative, timeframe for implementation, etc. However, this project has certainly raised the public awareness regarding district formation and this effort follows on the planning efforts codified in the County Growth Policy.

### **Education**

The majority of comments fit into this category. Most folks that discussed education wanted more education and reminders from the County about how and when to inspect and maintain their systems. Other people acknowledged that they were new to country living and did not know how to properly operate and maintain their septic system. A third vein with respect to education was the amount of misconceptions and misinformation that exists in the public about how to properly operate and maintain a system. For example, more than one person felt that monthly "additives" could entirely prevent a septic tank from ever having to be pumped due to solids buildup. Unfortunately, this is a common misconception by the public regarding the operation of septic systems.

### **Funding and Cost**

There were a significant number of comments regarding the additional costs for funding the administrative burden associated with the operation of a SMD. The general consensus from those respondents was that they were in favor of some type of maintenance district providing the administrative costs be kept as low as possible.

### **Focus on Problem Areas**

Comments in this area revolved around three issues:

1. No problems in my system/neighborhood/area so leave me alone but focus on the other systems/neighborhoods/areas

2. Enforcement—use and enforce the existing rules and go after the failed systems and lagoons that are polluting the environment
3. Require the new subdivisions to meet the new septic system design standards and rules but grandfather in the existing systems under old rules

These comments, while valid concerns, may not be fully effective in achieving the goal of maintaining water quality. However, targeting the problem areas and providing special programs for retrofits of older systems so that they can be brought up to higher treatment standards may be necessary to address these public comments.

### **Responsibility for Proper Operation**

Comments regarding responsibility can be broken into two categories. The first would be responsibility of the individual homeowner. There was essentially one school of thought that felt that the homeowners have the sole responsibility to operate and maintain their system properly and that the County at most should only provide education to those who want or need it. The other school of thought felt that the County should take a greater responsibility for countywide inspection, operation and maintenance of septic systems. Reconciliation of these two disparate viewpoints may come from an analysis of the history of operation and maintenance of private septic systems by homeowners in the valley. If the record demonstrates there has been regular and uniform inspection and maintenance of septic systems resulting in very few failed systems and water quality impacts, then County involvement may not be necessary.

## 9.0 Implementation Plan

Based on a synthesis of stated County needs and objectives, stakeholder input, public comment and input received to date, and surveys of other septic maintenance districts throughout the country, it is recommended that an operating permit management approach (Management Approach 3 as described in Section 4.0) be selected to meet the collective needs of the community.

Following are the recommended key functions of an operating permit management approach, some of the defined advantages, as well as some of the limitations of this type of management approach.

### Key Functions

- Inventory of all septic systems in district
- Tracking of operating permits
- Compliance monitoring
- Enforcement actions
- Permits can be tailored for areas of higher sensitivity
- Establish performance and monitoring requirements for individual systems
- Regulatory oversight established by issuing renewable operating permits that may be revoked for non-compliance
- Homeowner education
  - About septic system function and operation
  - About benefits of septic maintenance district

### Advantages

- Allows for periodic inspections of septic systems
- Allows for homeowners to select septic inspector and maintenance (pumping) contractor
- Compliance monitoring reporting simplified (compared to voluntary maintenance contracts)
- Noncompliant systems (operating without periodic inspections and maintenance) are easily identified to allow for corrective actions
- Allows for creation of level playing field (everyone has to have an operating permit)

### Limitations

- Expertise and resources required of regulatory authority for implementation
- Requires permit tracking system (database and personnel)
- Regulatory authority needs enforcement powers
- County needs to develop performance and monitoring standards
- County needs to develop program to certify inspectors

The other four management approaches evaluated as part of this project were eliminated for the following reasons. Management Approach 1 (homeowner awareness) is similar to the current system in Lewis and Clark County. This approach relies primarily on homeowner education. Through the public process part of this project, it became evident that some but not all homeowners currently have some degree of knowledge and understanding about septic system operation and maintenance. The significant limitation of this approach is that the current system does not provide the County with any ability to determine whether septic systems are being properly inspected and maintained. The ability to do so is necessary to ensure that current septic systems are being operated in the best manner possible.

Management Approach 2 (maintenance contract model) is required by the DEQ for Level 2 septic systems and could be expanded by the County to include all septic systems. The concern with this type of system is that, like Management Approach 1, it is a voluntary system that limits the ability of the County to know when maintenance contracts lapse.

Both Management Approach 4 and 5 require using a responsible management entity such as a homeowner's association to be responsible for maintaining septic systems. This approach is implemented in some subdivisions in Lewis and Clark County that have community drainfields. The disadvantage of this type of management model for county-wide implementation is determination of a management entity(ies) to be responsible for overall maintenance responsibilities. Where homeowner associations exist, they could be integrated into the operating permit approach being recommended in this report. The only additional requirements would be certification of inspectors and establishing reporting guidelines and costs for the management entity instead of the individual homeowners.

## **9.1 Schedule**

This section describes a tentative schedule that lists the major milestones necessary for implementation of a SMD. The dates and time spans may have to be modified depending on financial, public, political or resource constraints or needs.

**Table 3 Tentative Implementation Schedule**

<b>Action</b>	<b>Timeframe</b>
Review of Implementation Plan by County Staff	July –August 2008
Creation of County working group for SMD implementation	September 2008
Development of adoption, financing and SMD function details	September – February 2009
Public meetings to present SMD details	March – June 2009
Incorporation of public comments into SMD	July 2009
Creation of SMD	August 2009
Hire and train County Staff	September 2009
Certification of inspectors/establishing financing	September- December 2009
Update septic database and generate permit schedule	September- December 2009
Establishment of first round of permits for all existing systems	2010
Routine permit renewal	2013

## **9.2 Resource Needs**

There will be some additional resource needs that the County will have in order to properly administer a septic maintenance district. At a minimum, the following additional resources have been identified:

- One Additional Administrative FTE for database, clerical, and public information coordination;
- One Additional Technical FTE for enforcement, permitting, certification of inspectors and inspection review;
- A data management system and associated hardware and IT resources;
- Office space, computer, phone, vehicle and support needs;
- Project accounting and bookkeeping (billing tax assessments or permit fees, fines, etc.); and
- Additional resources during implementation and upon start-up to develop public information and education campaign.

## **9.3 Requirements of Maintenance District by County**

One issue that needs to be resolved is determining the frequency of inspections and maintenance that will drive the permit renewal period. For example, upon completion of the first round of inspection (and maintenance, if necessary), should the schedule for reinspection be developed based on the specific conditions of the individual septic system or should there be a uniform inspection period for all septic systems in the district?

It may be appropriate to tailor the inspection period on a case-by-case basis to address situations where there are compromised, undersized, failing or out of compliance septic systems. Other criteria to consider for inspection and maintenance are the number of occupants using the septic system and proximity of system to water wells or sensitive receptors like creeks, streams or water bodies.

Development of enforcement criteria, protocols and fines will also be necessary for the project.

## **9.4 Project Start-up and Phase-in Period**

Upon establishment of a septic maintenance district, there will need to be a phase in period while septic systems receive their first maintenance inspection and the schedule for reinspection is developed. There are three types of septic systems that would receive a "first maintenance inspection": existing permitted systems, existing unpermitted systems, and new systems. For new septic systems installed after the district is established, this first inspection should be relatively easy and could possibly be completed as part of the final certification of the installation.

For existing systems, a timetable will have to be established for homeowners to complete their inspections. Some incentives, like a drawing for prizes for those that complete their inspections early, might also be necessary so that all homeowners aren't trying to complete their inspection at the last possible minute. A timeframe that will allow for the number of inspectors to reasonably be able to inspect the entire set of septic systems in a time period less than or equal to the permit renewal period would be required for this effort. Depending on the duration of the average operating permit, three years might be a feasible period for this phase in period.

The County will likely have to cross-reference the property address database with the existing septic permit database in an attempt to determine which residences do not have a septic permit. These unpermitted systems fall into two categories, legal systems installed before 1973 and illegal systems installed in the County without a permit after 1973. Enforcement actions may have to be taken on these illegal systems (as well as other systems that were not installed or meet the current number of bedrooms being served by the system). The County may simply have to create a list of these unpermitted systems and establish a priority schedule for inspection of these systems in the event a sufficient number of owners of these systems are not participating in the process. The County may also want to prioritize inspection of older systems, or systems located in or near sensitive areas of the County like streams and reservoirs.

## **9.5 Public Education and Outreach**

Public awareness, outreach and education is a key component to any implementation plan. The public provided significant comment on this topic in the web survey and at the public meetings and it will be critical for the acceptance of a SMD to keep the public informed and include them in the process of district formation.

Even after the district is formed, there should be continual homeowner education and outreach because of the turnover in County population served by private septic systems. Education topics should include septic system operation dos and don'ts, septic system function (how it works), and what to do if a problem is encountered.

## **10.0 Next Steps/Critical Issues**

### **10.1 Develop Consistent Public Outreach and Education Process**

As a result of the public outreach process started with this project, the public awareness level with respect to a septic maintenance district was raised. This issue was somewhat clouded by the simultaneous activity of the groundwater vulnerability study and the revisions to the interim zoning regulations that occurred during this project. However, these other processes and projects have largely concluded. It is important for the County to continue to maintain the awareness and momentum developed during the first phase of the project so that the County's goals of showing both that progress is being made and that the process of developing a district is kept as transparent as possible. Selected resource materials from other septic maintenance districts are located in Appendix D.

There are several ways to do this:

- Develop and regularly update a district implementation schedule,
- Maintain a useful and functional maintenance district website,
- Prepare public service announcements for distribution to the local media,
- Develop a working group of key stakeholders to maintain consensus among stakeholder groups in the process, and
- Complete the process to implement the district in a relatively timely manner.

### **10.2 Determine Management Elements**

Once a management approach and district functions are selected by the County, the next step is to define the myriad operational details associated with the successful implementation of the selected management approach. At a minimum, these details include hiring and training staff, implementation of a new accounting and recordkeeping system, working on an enforcement protocol, training and certification for inspectors, and ongoing public education and outreach. Development of some performance and monitoring standards may also be necessary.

### **10.3 Determine Septic Maintenance District Boundary**

A boundary needs to be defined for the septic maintenance district. Two possible alternatives exist for formation of a maintenance district boundary. The boundary could be defined based on watersheds and one possible alternative under this scenario might be to include the Tenmile and Prickly Pear watersheds as located within Lewis and Clark County. The County may also want to consider including a corridor around the Missouri River of one or two miles in a septic maintenance district as well.

The other possible boundary could be the entire County. However, based on the population distribution in the County, ensuring there are adequate numbers of qualified inspectors and pumpers located in the northern part of the County should be one of the

considerations of this type of boundary designation. The other consideration with respect to the district boundary is to include a sufficient number of homeowners so that the administrative costs can be distributed as widely as feasible to reduce the individual cost for service.

#### **10.4 Develop Detailed Project and Homeowner Costs**

Costs of implementation and maintenance of the new SMD will depend on the degree of management and level of services provided by the district. As a first step, project costs should be estimated based on the level of management and degree of service offered by the County. For example, if two additional staff are hired, one administrative and one for education and enforcement, it may not be unreasonable to expect that the costs associated with these additional staff (with overhead, computer, vehicle, benefits, etc.) to be on the order of \$200,000 or more. After the total annual operational costs are determined, the cost needs to be divided among the homeowners in the septic maintenance district to determine the annual cost of the fee or assessment.

##### **Example Calculation of Administrative Costs:**

Total Annual Project Administration Cost: \$350,000  
Total number of septic systems (est.): 12,000  
 $\$350,000/12,000 =$   
Annual homeowner cost: \$29.17  
Monthly homeowner cost: \$2.43

If a homeowner is currently contracting for inspection and pumping of their septic system at the appropriate intervals, then the only additional cost to the homeowner should be any administrative costs associated with operation of the district.

##### **Example Annualized Cost with Septic Maintenance Program for family of three using a 1500 gallon septic tank using 2008 costs.**

This example also assumes inspections occur on a five-year cycle and that pumping the septic tank is necessary after six years. Therefore, as Table 4 indicates, a 31-year life cycle cost is less than \$8.50 per month to administer, inspect and regularly pump a typical septic system. Actual life cycle costs can be refined upon development of administrative costs and number of homes participating in the septic maintenance district.

Estimated inspection costs for first and routine inspections:  
\$75-\$250 depending on difficulty of accessing system

Pump out costs:  
Currently running around \$200

**Table 4 Example of Annualized Cost of Septic Program**

Year	Administration Cost	Average Inspection Cost	Average Pumping Cost	Annual Cost	Average Cumulative Annual Cost	Average Cumulative Monthly Cost
1	\$ 29.17	\$ 150.00	\$200.00	\$379.17	\$ 379.17	\$ 31.60
2	\$ 29.17			\$ 29.17	\$ 204.17	\$ 17.01
3	\$ 29.17			\$ 29.17	\$ 145.84	\$ 12.15
4	\$ 29.17			\$ 29.17	\$ 116.67	\$ 9.72
5	\$ 29.17			\$ 29.17	\$ 99.17	\$ 8.26
6	\$ 29.17	\$ 150.00		\$179.17	\$ 112.50	\$ 9.38
7	\$ 29.17		\$200.00	\$229.17	\$ 129.17	\$ 10.76
8	\$ 29.17			\$ 29.17	\$ 116.67	\$ 9.72
9	\$ 29.17			\$ 29.17	\$ 106.95	\$ 8.91
10	\$ 29.17			\$ 29.17	\$ 99.17	\$ 8.26
11	\$ 29.17	\$ 150.00		\$179.17	\$ 106.44	\$ 8.87
12	\$ 29.17			\$ 29.17	\$ 100.00	\$ 8.33
13	\$ 29.17		\$200.00	\$229.17	\$ 109.94	\$ 9.16
14	\$ 29.17			\$ 29.17	\$ 104.17	\$ 8.68
15	\$ 29.17			\$ 29.17	\$ 99.17	\$ 8.26
16	\$ 29.17	\$ 150.00		\$179.17	\$ 104.17	\$ 8.68
17	\$ 29.17			\$ 29.17	\$ 99.76	\$ 8.31
18	\$ 29.17			\$ 29.17	\$ 95.84	\$ 7.99
19	\$ 29.17		\$200.00	\$229.17	\$ 102.85	\$ 8.57
20	\$ 29.17			\$ 29.17	\$ 99.17	\$ 8.26
21	\$ 29.17	\$ 150.00		\$179.17	\$ 102.98	\$ 8.58
22	\$ 29.17			\$ 29.17	\$ 99.62	\$ 8.30
23	\$ 29.17			\$ 29.17	\$ 96.56	\$ 8.05
24	\$ 29.17			\$ 29.17	\$ 93.75	\$ 7.81
25	\$ 29.17		\$ 200.00	\$229.17	\$ 99.17	\$ 8.26
26	\$ 29.17	\$ 150.00		\$179.17	\$ 102.25	\$ 8.52
27	\$ 29.17			\$ 29.17	\$ 99.54	\$ 8.30
28	\$ 29.17			\$ 29.17	\$ 97.03	\$ 8.09
29	\$ 29.17			\$ 29.17	\$ 94.69	\$ 7.89
30	\$ 29.17			\$ 29.17	\$ 92.50	\$ 7.71
31	\$ 29.17	\$ 150.00	\$200.00	\$379.17	\$ 101.75	\$ 8.48

Finally, there will likely be additional, one-time start-up costs associated with preparation and development of the resources and personnel used by the septic maintenance district. These costs could be rolled in to the long-term annual administrative costs or be financed separately through grants, loans or other fees.

## **10.5 Explore and Develop Financing Options**

The information with respect to financing options in this report is a starting point for development and refinement of the actual financing mechanism(s) necessary for a district. More work will have to be done in this area to finalize which financing mechanisms are used and for what aspect of the project. Additional grants and monies should be pursued from federal, state and non-governmental organizations because this is the first project of its type in the State of Montana. The County should also explore leveraging County resources and expertise with other State or County Agencies interested in developing other septic maintenance districts around the state. For example, resources could be shared in the development of education and outreach materials, a website toolkit, technical expertise, etc.

## **10.6 Political Concerns**

It takes time to build consensus associated with creation of a SMD and consensus may take compromise. For example, one of the overarching concerns by many at the public meetings was the frequency of inspection and septic tank pumping. While it is appropriate to insure that septic system infrastructure is designed and constructed to be compatible with the number of bedrooms in accordance with DEQ regulations, maintenance (pumping) and possibly inspection could be performed based on the number of residents living at the home. As the details evolve about the mechanics of a maintenance district, time for public comment and feedback will also be necessary.

## 11.0 References

319 Grant Application.

EPA 1987. It's Your Choice A Official Guidebook for Local Officials on Small Community Wastewater Management Options. EPA 430/9-87-006 September.

EPA 2003. Voluntary National Guidelines for Management of Onsite and Clustered (Decentralized) Wastewater Treatment Systems. EPA 832-B-03-001 March.

EPA 2005. Handbook for Managing Onsite and Clustered (Decentralized) Wastewater Treatment Systems. EPA 832-B-05-001 December.

Lewis and Clark County Growth Policy, February 2004.

Lewis and Clark Septic Database.

MCA 7-13

MCA 50-2

Telephone conversations with other Septic Maintenance Districts.