

MARIN COUNTY

SEPTIC SYSTEM TECHNICAL ADVISORY COMMITTEE (SepTAC)

PRELIMINARY RECOMMENDATIONS

I. MARIN COUNTY SEPTAC

A. On-Site Wastewater Systems In Marin County

On-site wastewater systems, or septic systems, have been used since the mid-1800's to manage human sewage. These systems, if properly managed, can be cost-effective and acceptable long-term means for treatment and dispersal of human sewage, particularly in less densely populated areas, while maintaining appropriate protection of public health, water quality and the environment.

On-site wastewater systems in Marin County are regulated by the County's Environmental Health Services (EHS) Division. Based on a survey of property record data, there are approximately 7,000 to 10,000 properties in the County that are served by on-site wastewater systems (A map of Marin County's sewered and non-sewered areas is included as Appendix B of this report). Many of these systems are undocumented in the County's records, were installed prior to the County codes and standards, and may not comply with existing regulations.

B. SepTAC Formation

In June 2000, the EHS Division determined that there was a need to review and update various aspects of the regulations and policies concerning on-site wastewater systems and recommended that the Board of Supervisors (Board) authorize the formation of an On-Site Septic Policy and Technical Advisory Committee (SepTAC). The Board approved formation of the SepTAC in June, and approved appointments to the committee in August 2000 (A list of the SepTAC members is included as Appendix A of this report).

C. SepTAC Purpose and Timeline

The SepTAC has defined its purpose as follows:

To provide recommendations to the Board of Supervisors on how to improve the management of on-site waste water systems in Marin County and to define the extent of the problem based upon agreed upon criteria. Also, SepTAC will respond to the concerns raised in the Grand Jury Report (June 2000) and identify other key on-site wastewater water issues that need attention.

The SepTAC has been meeting monthly since September 2000. In September and October, the committee identified and discussed various issues of concern. In November, the committee agreed upon five categories of issues and created a subcommittee for each category. The five categories (and subcommittees) are as follows:

- 1) Education, Homeowner Support and Outreach;
- 2) Public Health, Water Quality, and Environment;
- 3) Growth;
- 4) Alternative and Creative Technologies; and

5) Improving Policies, Procedures and Regulations.

The SepTAC agreed that each subcommittee would develop recommendations to be brought back to the entire committee, for consideration and endorsement as recommendations to the Board.

The SepTAC also agreed to provide preliminary recommendations to the Board within six months of its first meeting, or March/April 2001. The SepTAC further agreed to develop final recommendations for the Board within one year, or by September/October 2001.

This report includes the SepTAC's preliminary recommendations (section III). This report also includes a description of some of the identified issues of concern and data gaps (section II), and some of the key aspects of the committee's work-in-progress toward final recommendations (section IV).

II. IDENTIFICATION of ISSUES

Note: This section, Identification of Issues, is likely to change as more information is gathered and issues are further clarified.

A. Concerns Identified by SepTAC

The SepTAC has agreed that there is a need to review and update various aspects of the regulations and policies concerning on-site wastewater systems in Marin County. This need stems from a number of concerns including: apparent disincentives for repair or upgrade of existing systems, disproportionate burdens on facility remodels and new developments, uncertainties in the regulations for large flow systems and community systems, and limited flexibility for use of alternative types of systems. Also, certain practices need to be clarified (e.g. greywater systems, inspection procedures) and definitions improved. Another concern is that some of Marin's requirements (such as dual leachfields, and requiring mounds almost as a standard) are in excess of water quality requirements and unnecessarily burdensome and expensive.

Many parcels with older development cannot comply with the current regulations, which were essentially created to address new development. This has created problems for the long-term maintenance, minor improvement, and replacement of residential and commercial development.

There are also some shortcomings in the existing program that need to be remedied. For example, the current program does not address long-term maintenance and management of on-site systems, does not adequately address sewage disposal facilities, does not include a significant home-owner education component, and there is an apparent lack of coordination with land-use planning and permitting processes.

There are also concerns that the regulations are widely ignored and are not adequately enforced, that systems are not being inspected and monitored, and that the program does not provide adequate customer service (e.g., problem solving, and getting through the permit process). In addition, there is no clear process for evaluation of potential cumulative impacts on a watershed, regional or county-wide basis.

The need for on-site wastewater systems is a significant constraint on development in non-sewered areas of Marin. SepTAC members are concerned that permitting additional alternative technologies for new development and/or creation of new lots, or facilitating community septic systems for new development and/ or creation of new lots, may alter existing development patterns (community character) and accelerate the rate of build-out. To properly manage these impacts, existing land use plans and regulations may have to be modified. These concerns do not relate to use of alternative technologies in repair situations, as is already broadly permitted under the existing regulations.

There is also a concern that the current management of on-site waste water systems has not provided adequate protection to surface and ground water resources in the County. One example of this is Tomales

Bay where the Bay is identified as impaired due to pathogens, and there are active shellfish beds that need to be protected.

Another concern is the need to revise and update the regulatory authorization from the Regional Water Quality Control Board under which the County's on-site wastewater system program operates. This authorization is commonly referred to as a Memorandum of Understanding (MOU). The existing MOU was developed in 1984 and was based on the regulations and practices in effect at that time. Changes have arisen since then, and this MOU needs to be updated to reflect current practices.

B. Concerns Identified by Other Groups

There are a number of organizations and interests that are concerned with improving ground and surface water quality in Marin County. Among these organizations is the Tomales Bay Shellfish Technical Advisory Committee (TBSTAC). Their concerns include potential impacts to water quality from faulty septic systems and the operation and proximity of a commercial waste disposal facility.

The TBSTAC is concerned in part with human and animal wastes as potential sources of contamination to shellfish. The TBSTAC has expressed concerns that the County's management plan for on-site systems should include homeowner education, financial assistance for repairs, and long-term monitoring and maintenance.

C. Concerns Identified by the Marin County Grand Jury

The *Grand Jury Report* (June 2000) discussed the dependence of Marin County on on-site wastewater systems and concluded that the existing control and oversight of these types of systems was ineffective. The Grand Jury found that organizational, management, and leadership deficiencies existed in the County's oversight of the program. Specific concerns identified included incomplete records and inventory of existing on-site wastewater systems, non-compliance with regulatory requirements or internal requirements (such as biennial inspections), confusion within the permitting process, and inadequate levels of staff and staff training.

D. Lack of Information (Data Gaps)

The SepTAC has identified several areas where there is insufficient information. In order to be able to adequately assess the overall on-site wastewater system program or potential impacts associated with the use of on-site systems, the following information is needed. Additional issues of concern may be identified following compilation and review of this information.

- 1) Identification of all on-site wastewater systems and the uses served, on a geographic basis (e.g., number of systems, type, facility use, size (flow) and age);
- 2) Number of systems that are failing or inadequate;
- 3) Location of sensitive areas for on-site wastewater systems (e.g., close proximity to streams, bays, floodplains; high ground water levels; shallow soil; steep slopes; water supply watersheds; drinking water wells; sensitive habitat; etc.); and
- 4) Potential impacts (including cumulative) of on-site wastewater systems on human health, water quality, and natural resources.

III. PRELIMINARY RECOMMENDATIONS

Note: SepTAC has agreed that cost-effectiveness is a goal that applies to all of the recommendations and that implementation and feasibility concerns also need to be addressed for each recommendation.

A. Recommendations for Inventory and Monitoring

1. *Create and maintain a database for all on-site wastewater systems in the County.*

This database should be able to provide a comprehensive inventory of all on-site systems in the County, and should accommodate both existing and future systems. The database should be suitable for tracking both permit-related data (e.g., location, site and system characteristics, design flows) and performance-related data (e.g., inspections, problems, follow-up actions). For systems where no information exists, the lack of information would be recorded.

2. *Conduct Risk Assessment of On-site Wastewater Systems*

Develop and implement a system for characterizing and priority ranking the environmental and human health sensitivity of on-site wastewater system locations. This system should include the following factors: proximity to surface water, proximity to drinking water sources (wells, reservoirs), depth to ground water, soil types, land forms, sensitive habitat areas, sensitive receptor populations, and other sensitive areas such as may be identified by results of water monitoring programs.

3. *Establish Program for Water Quality Monitoring*

Develop and implement a program for monitoring the quality of surface and ground water in order to evaluate impacts associated with on-site wastewater systems. This program will help identify areas with potential problems and assist development of appropriate management measures to help preserve and protect water quality.

4. *Conduct Inspections and Monitoring of On-site Wastewater Systems*

Develop and implement measures for the inspection of on-site wastewater systems to ensure proper system functioning and adequate protection of public health and the environment. Measures should include standardized inspection procedures and recording forms. Inspections should be implemented according to failure potential and public health and environmental risk. Options to be considered include voluntary measures, measures to be done by County staff, and use of independent entities or agencies. This effort should be coordinated with the County Health Officer.

B. Recommendations for Policies and Regulations

- 1.a. *Prepare & Adopt Updated Policy for Remodel or Addition to Residential Facilities*

Existing policies should be revised to allow remodels or additions to existing residential buildings without requiring replacement of the existing on-site wastewater system, provided that the system is functioning properly and the project does not encroach on the system or the associated system replacement area. The degree of improvements allowed (apart from zoning requirements) should be in accordance with the wastewater system capacity, as determined by the standards for repair or upgrade of on-site wastewater systems (repair/upgrade standards). The details of this policy should be established in conjunction with the creation of the repair/upgrade standards (see Recommendation B.2 below).

- 1.b. *Prepare & Adopt Updated Policy for Remodel or Addition to Commercial Facilities*

Same as Recommendation 1.a, above, except applicable to commercial use facilities.

2.a Prepare & Adopt Standards for Repair or Upgrade of On-Site Wastewater Systems Serving Residential Uses

The County should develop standards for the repair or upgrade of existing on-site wastewater systems serving residential buildings. These standards would apply to on-site wastewater systems constructed prior to 1984, the enactment of current regulations. These standards should address a broad range of systems and site conditions, with the objective of repair or upgrade of any existing system in the County. These standards should allow the use of a variety of alternative types of systems.

2b. Prepare & Adopt Standards for Repair or Upgrade of On-Site Wastewater Systems Serving Commercial Facilities

Same as Recommendation 2.a, above, except applicable to commercial use facilities.

3. Prepare & Adopt Regulations for Large Flow Systems

Regulations should be revised to address large-flow on-site wastewater systems (e.g., systems with flows greater than 1,500 gallons per day). These regulations should address evaluation of potential cumulative impacts from the proposed system, for the project property and surrounding watershed. These regulations should allow the use of appropriate treatment and dispersal technologies.

4. Establish Program for Home-Owner and Community Education

Educational outreach to owners and users of on-site wastewater systems should begin as soon as possible. Outreach should include distribution of educational materials to property owners and to other information outlets (e.g., libraries, community groups). Information should include the following: basics of on-site wastewater systems (what they are, how they work); recommended practices for proper use and maintenance; sources for services (inspection, pumping, consulting, repair); resources for additional information (publications, websites); and responsible government agencies (names, phone numbers). Additional, more detailed information and outreach efforts are needed to address special considerations such as high risk/sensitive areas and long term management. The outreach program should also entail working with existing community organizations to assist in educational efforts and, where applicable, to address community-wide problems and potential solutions. Outreach efforts should also be directed toward recreational users and visitors.

5. Negotiate and Implement Appropriate MOU with RWQCB

The existing MOU is outdated and needs to be revised to address current regulations and practices.

6. Develop Program to Provide Financial Assistance to Homeowners

The County should develop a financial assistance program to aid homeowners who must repair or upgrade their on-site wastewater system. The program should include grants and/or low-cost loans for homeowners that cannot afford necessary repairs or upgrades. Areas with existing systems and known problems, and areas needing enhanced treatment systems should be given priority for financial assistance.

7. Prepare & Adopt a Policy to Provide Incentives for Improving Operation of On-site Wastewater Systems ("Amnesty Policy")

The County should prepare a policy that provides incentives for individuals to improve the operation of their on-site wastewater system or to bring the system into compliance with applicable standards. The policy should include waiver of all penalty fees for those individuals voluntarily seeking to improve their system.

8. *Prepare & Adopt Policies and Standards for On-Site Wastewater Systems Serving New Development (Residential and Commercial)*

The County should prepare a policy that clearly identifies the applicable regulations and standards for on-site wastewater systems serving new development.

IV. NEXT STEPS

A. Additional Action, Funding, or Information Needed

1. *Maintain Adequate Staffing for County's On-Site Wastewater System Program*

The County should make every effort ensure that the EHS Division is maintained with staff levels sufficient to fully implement the County's onsite wastewater system program. This should include filling any staff vacancies as quickly as possible and maximizing opportunities for staff education and training.

2. *Increase Funding for Management of On-Site Wastewater Systems*

As needed, the County should consider methods to increase funding for management of on-site wastewater systems. Improvements in the program are needed to respond to complaints, ensure compliance, provide education and outreach to property owners, and provide assistance to individuals to help them better manage their on-site systems. Specifically, the County should consider use of assessment districts, parcel tax or use of general funds to help fund such activities.

3. *Continue to Seek Funding for Additional Outreach, Planning and Consensus-building*

Funding is needed to support outreach, planning and consensus building efforts within the communities. Funding should also be pursued to develop and publicize pilot projects and local community successes and to support more detailed outreach, research, and organizational efforts.

4. *Explore Methods for Improving Wastewater Management*

In addition to the traditional individual responsibility, other methods for promoting proper functioning of on-site wastewater systems include oversight and management on a community-wide basis. More information is needed on the formation of Community Service Areas or community-based maintenance districts and how they might apply to non-sewered areas in Marin County. Other management measures that could be considered include STEP systems, community systems, innovative technologies, demonstration projects, and connection to municipal sanitary sewers.

5. *Coordination of County Policies on Growth with Changes in On-site Wastewater Policies*

SeptAC members are concerned that changes to County policies regarding the use of alternative technologies for on-site wastewater systems will result in accelerated development in non-sewered areas of the County. The policies should also address community systems for new development on existing lots and creation of new lots. It is recommended that the County develop policies to address such potential land-use impacts before changing the on-site wastewater system policies.

6. *Investigate Feasibility of Alternative Systems*

Investigate feasibility of various alternative systems serving safely and reliably as a low cost alternative technology to replace failed systems. In particular, consider constructed wetlands and composting toilets as possible alternatives.

7. *Investigate Bulk Purchases of Supplies*

Investigate the feasibility of a County program to make available to on-site wastewater system owners inexpensive system upgrade supplies like effluent filters and risers. These could be made more inexpensive by having the County purchase them in bulk from suppliers.

8. *Request EHS staff to review preliminary recommendations and participate directly in development of final recommendations*

B. Unresolved Issues Needing More Discussion

1. *Scope and Content of Water Quality Monitoring Program*

Objective: Identify scope and content of the recommended water quality monitoring program, and options for implementation.

Discussion items: What parameters should be monitored? Where should sampling occur? How often? Freshwater and ocean/bay? Surface and groundwater? Are there applicable numeric criteria? Should body contact/ sports areas be incorporated? Should differentiation of human and animal sources be addressed? Who should implement the monitoring program? Should EHS and/or other County staff do it? Or should a new Water Quality Program be created to implement the program? Or should another agency or approach be considered? How should it be funded?

2. *Procedures and Criteria for Inspection and Evaluation of On-Site Wastewater Systems*

Objective: Identify options for implementing appropriate inspection, monitoring and evaluation of on-site wastewater systems.

Discussion items: Inspection frequency. Scope and content of inspections. Standardized procedures and reporting methods. Who should perform inspections? How will inspections be funded? Methods and criteria for evaluating observed system conditions and performance.

3. *Defining the Trigger for Upgrading Commercial Systems*

Objective: Define criteria (trigger) for requiring upgrade of an on-site wastewater system serving a commercial facility.

Discussion items: Suggestions include increases in wastewater flow, significant changes in wastewater strength, or changes in facility use.

4. *Defining Standards for Remodels or Additions to Residential and Commercial Facilities*

Objective: Identify standards for on-site systems for building remodel or addition projects.

Discussion items: Which types of remodels or additions should require an evaluation of the on-site wastewater system? Evaluation process and criteria. Suggested criteria include: increases in wastewater flow or square footage of proposed building additions.

5. *Procedures for Review and Approval of New Alternative Technologies*

Objective: Develop a uniform process for considering uses of alternative technologies.

Discussion items: Definition of innovative and alternative technologies. Procedures for consideration and approval of proposals. Evaluation criteria.

6. *Review Requirements for Dual Leach Fields and Potential Modifications*

Objective: Determine whether existing requirements for dual leach fields should be modified, and, as applicable, identify options for modifications.

Discussion items: Pros and cons of dual leach fields. Should the existing requirements be changed? Suggestions include: Replace existing requirement for dual leach field with requirement for leach field reserve/ replacement area (identification and preservation of an area on the property suitable for construction of a (future) replacement leach field equal in capacity to the primary leach field).

7. SepTAC Role Regarding Environmentally Sensitive Approaches

Objective: Clarify SepTAC's scope of work regarding environmentally sensitive approaches.

Discussion items: Should SepTAC's scope be expanded to consider policies or practices that encourage environmentally sensitive approaches? Possible issues include: gravel and sand extraction, sediment transport from construction, fuel and electric consumption, ground water protection, protection of watersheds, oyster fisheries and sports fish from effluent.

8. Prepare and Adopt Standards for Transportation and Disposal of Waste

Objective: Expand SepTAC's scope to make recommendations for transportation and disposal of waste.

Discussion items: County should review existing standards and current levels of enforcement of these standards, with particular focus on documentation of origins and nature of septage. County should evaluate what is suitable for waste discharge facilities and set and enforce appropriate policy. MOU with the RWQCB should be evaluated to consider including delegation of authority from RWQCB to County to provide oversight and monitoring assistance at permitted waste discharge facilities

9. Enhanced Treatment Systems for High-Risk Conditions or Areas

Objective: Determine if, where and when enhanced treatment system should be required, and options for implementation of such requirements.

Discussion items: It has been suggested that regulations should be revised to require enhanced treatment for on-site wastewater systems located in areas where there is a high risk of negative impacts to water quality or public health. Define enhanced treatment. Identify criteria to determine where and/or when enhanced treatment is needed. Would use of enhanced treatment allow variances from certain existing requirements (e.g., dispersal system design standards)?

10. Scope of Incentives Policy

Objective: Identify details of the recommended policy to provide incentives for improving on-site wastewater systems ('Amnesty' Policy).

Discussion items: Define policy aspects including timing, funding, incentives and procedures. Applicability to functioning and non-functioning systems. How the policy should treat legalizing systems that do not meet current standards, or were installed without permits. The policy should address legalization of the buildings serviced by the non-compliant on-site wastewater systems. Should requirements differ if the individual comes forward voluntarily? Should the permit fees be waived, reduced or subsidized?

11. Develop Regulations for Graywater Systems

Develop a regulatory scheme to facilitate the use of individual graywater systems.

12. *County should also update and review existing agreements with municipalities.*

County should work with municipalities to evaluate whether the existing agreements or arrangements regarding waste treatment should be modified.

C. Development of Final Recommendations

The SepTAC is proceeding with work on development of final recommendations for the Board of Supervisors. This work will include:

1. Refining, and expanding as necessary, the preliminary recommendations identified above (section III);
2. Consideration of new or additional information as available (e.g., section II.D.);
3. Incorporation of actions needed, as applicable (section IV.A.);
4. Discussion and consideration of outstanding issues (e.g., section IV.B.); and
5. Development of additional recommendations which may evolve in the course of SepTAC's work.

The SepTAC has agreed to develop final recommendations for the Board of Supervisors by September/October 2001.

APPENDIX A: MARIN COUNTY SEPTAC MEMBERS

Representation Category

Committee Member

Two on-site wastewater consultants

J. Dietrich Stroeh *

W. Edward Nute *

Two environmental advocates

Catherine Caufield *

Craig Ullery *

One homeowner using a septic system

Lloyd Kahn *

One small business owner using a septic system

Patricia Healy *

One mariculture industry representative

Terry Sawyer *

One agricultural representative

Steve Doughty *

One building contractor

Lawrence Hoytt *

One septic system contractor

Mike Giammona *

One scientific professional

Peter Warshall *

Five community organization members, one from each supervisorial district:

Supervisor District: One: Frank Nelson *

Two: Madlyn Stein *

Three: David Schonbrunn *

Four: Tom Flynn *

Five: Elizabeth Sapanai *

Two supervisors as liaisons to the Committee

Steve Kinsey

Cynthia Murray

Members of public agencies as ex-officio including;

U. S. National Park Service

Don Neubacher

CA Department of Health Services

A. Marc Commandatore

CA Regional Water Quality Control Board 2,

Blair Allen

Stinson Beach County Water District

Troy Pearce

Tomaes Village Community Services District

Karl Drexel

North Marin Water District

Gayle Smalley

Bolinas Community Utility District

Jack McClellan

* Denotes appointment by Board of Supervisors action, August 1, 2000.

Although not explicitly stated, this recommendation suggests that the existing County regulation requiring biennial inspections would be modified.

The distinction between inspection and monitoring of systems should be clarified.