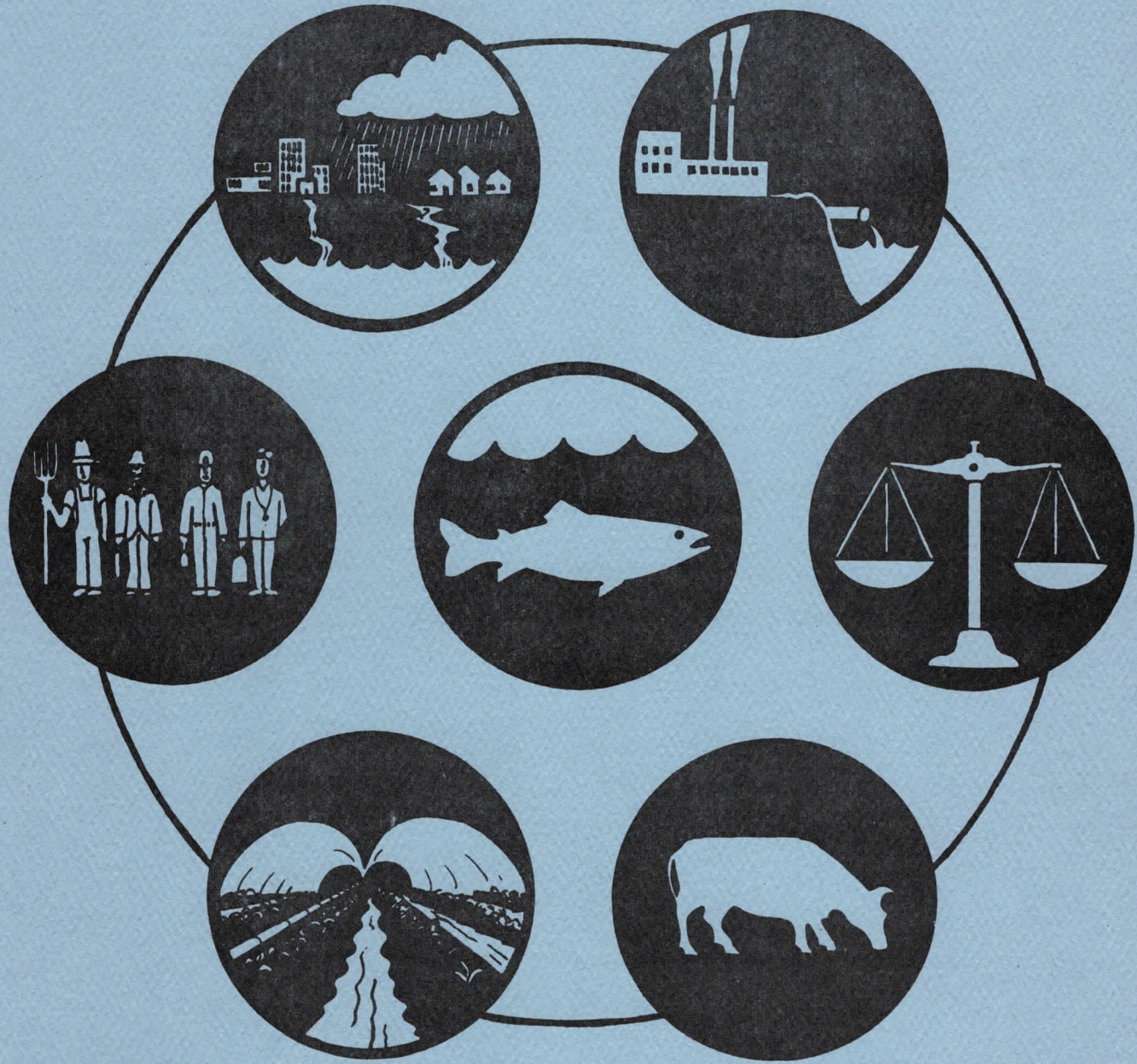


EVALUATION OF INSTITUTIONAL OPTIONS FOR WASTEWATER TREATMENT IN RURAL LARIMER COUNTY



Water Quality Management Plan

LARIMER-WELD REGIONAL COUNCIL OF GOVERNMENTS
LOVELAND, COLORADO

PREPARED BY TOM PITTS & ASSOCIATES
LOVELAND, COLORADO FEBRUARY, 1984

EVALUATION OF INSTITUTIONAL OPTIONS
FOR WASTEWATER TREATMENT IN
RURAL LARIMER COUNTY

Prepared For

County of Larimer
Fort Collins, Colorado

and

Larimer-Weld Regional
Council of Governments
Loveland, Colorado

Mr. Rex Burns
Project Coordinator

Mr. David Dubois
Water Resources Manager

By

Tom Pitts, P.E.

Tom Pitts and Associates
2803 W. Eisenhower Blvd.
Loveland, Colorado 80537

February, 1984

ACKNOWLEDGEMENT

The author expresses his appreciation to Mr. Jerry Blehm and Mr. Ed Schemm, Environmental Services Division, Larimer County Health Department, for their contribution to this project. Both gave generously of their time, expertise, and extensive knowledge of conditions in rural Larimer County.

TABLE OF CONTENTS

	<u>Page</u>
1.0 INTRODUCTION	1
1.1 FINDINGS	1
1.2 CONCLUSIONS	2
1.3 RECOMMENDATIONS	3
2.0 CATEGORIES OF INSTITUTIONAL PROBLEMS	6
3.0 INSTITUTIONAL PROBLEMS EXPERIENCED WITH WASTE WATER TREATMENT SYSTEMS IN RURAL AREAS OF LARIMER COUNTY	9
3.1 METHODOLOGY	9
3.2 RESULTS	10
3.3 POTENTIAL PROBLEMS IN THE UPPPER CACHE LA POUFRE RIVER BASIN	10
3.4 ASSESSMENT	11
4.0 INSTITUTIONAL AND FINANCIAL ALTERNATIVES	12
4.1 COUNTY UTILITY	12
4.1.1 Powers	12
4.1.2 Formation Procedures	12
4.1.3 Financing	13
4.2 COUNTY PUBLIC IMPROVEMENT DISTRICT	13
4.2.1 Powers	13
4.2.2 Formation Procedures	13
4.2.3 Financing	15
4.3 SPECIAL DISTRICT	16
4.3.1 Powers	16
4.3.2 Formation Procedures	18
4.3.3 Financing	20
4.3.4 Change of Boundaries	21
4.3.5 Time Frame	21
4.4 HOMEOWNERS ASSOCIATIONS	22
4.5 ADVANTAGES AND DISADVANTAGES OF ALTERNATIVES	22
4.4.1 County Sewer Utility	22
4.4.2 County Improvement District	23
4.4.3 Special (Sanitation) District	23
4.4.4 Homeowners Association	27

LIST OF TABLES

	<u>Page</u>
Table 2.1 - Criteria For Determining If An Institutional Problem Exists	8
Table 4.1-1 - Characteristics of County Utility Systems	14
Table 4.2-1 - Characteristics of County Public Improvement Districts	17
Table 4.5-1 - Advantages and Disadvantages Of A County Utility As An Institutional Option For Rural Wastewater Systems	24
Table 4.5-2 - Advantages and Disadvantages Of A County Improvement District As An Institutional Option For Rural Wastewater Systems	25
Table 4.5-3 - Advantages and Disadvantages Of Special (Sanitation) District As An Institutional Option For Rural Wastewater Systems	26
Table 4.5-4 - Advantages and Disadvantages of Homeowners Association For Implementing Wastewater Systems	28

1.0 INTRODUCTION

The need for this project arose out of concerns of the Larimer-Weld Regional Council of Governments and Larimer County regarding the ability of institutions to provide adequate wastewater treatment in rural areas of Larimer County. Recent experience indicates that where institutions are inadequate, the burden for problem solving is likely to fall on County government when problems arise. Both agencies have water quality management responsibilities. The Larimer-Weld Regional Council of Governments is a designated waste treatment management planning agency, and Larimer County is a designated waste treatment management agency, under the State and Federally approved Areawide Water Quality Management Plan for the Larimer-Weld Region.

In response to the concerns of the County and Council of Governments, this report addresses institutional problems and potential solutions. It does not deal with technical design or performance standards for wastewater treatment systems applied in rural areas.

1.1 FINDINGS

1. Three types of waste treatment systems have been and are being generally applied in rural Larimer County:

- A. On-lot septic tank and leach fields treating waste water from individual homes.
- B. Community collection systems and community leach fields.
- C. Community collection systems and small waste water treatment plants.

2. Inadequate waste treatment may occur with any of the three methods. In Larimer County, existing problems are associated with:

- A. On-lot systems installed on small lots with too little assimilative capacity due to their small size, or where soil, geologic, and/or drainage conditions severely limit assimilative capacity.
- B. Small waste water treatment plants which are not properly operated and/or maintained.

3. The vast majority of on-lot and on-site treatment and disposal systems in Larimer County are providing adequate wastewater treatment.

4. One existing subdivision is experiencing significant problems with failing on-lot systems, apparently resulting from poor soil and drainage conditions.

5. Four small waste water plants serving individual subdivisions in rural areas consistently have failed to meet basic state discharge standards designed to protect public health in the recent past. All four plants have been owned and operated by homeowners' associations. One of these plants has been phased out.

6. Three small plants in existing developed subdivisions are operated by homeowners' associations, and are meeting basic state discharge standards.

7. Three approved, but undeveloped, subdivisions propose home owner ownership of small waste water treatment plants.

8. Three subdivisions are proposed, or under discussion, which will include provision for homeowner ownership of small waste water treatment plants.

9. Waste water treatment in one developed and two approved subdivisions will result in three small waste water treatment plants within a one mile radius, at a location approximately 2 1/2 miles west of Berthoud. All three plants will be owned by homeowners' associations.

10. When inadequate treatment occurs, and the institution does not exist with capabilities to solve the problem, the burden of solving the problem is shifted to County and State agencies.

11. The potential for pollution from septic systems in the Upper Cache la Poudre Basin exists if seasonal use shifts to year around use at locations where on-site septic/leachfield systems were not designed for year around use.

12. Some of the institutional options available for solving existing problems and future problem avoidance involve County ownership and/or operation of waste water treatment facilities. The other options available, which would place operational responsibility on other entities, include formation of, or annexation to, special districts, or homeowners associations.

1.2 CONCLUSIONS

1. Experience in Larimer County indicates that homeowners' associations are poor candidates, from an institutional standpoint, for ownership of waste water treatment systems for the following reasons:

- A. Legal responsibility for proper operation and maintenance is difficult to assign among individual homeowners, making enforcement of discharge standards difficult.

- B. Homeowners' associations have no authority to levy taxes or sell bonds to assure funding of operation, maintenance, or necessary capital improvements, for waste water treatment.
 - C. Financing of capital improvements may depend on homeowners borrowing at high market interest rates.
 - D. Limited finance capabilities and financial options delay or prevent timely implementation of solutions to inadequate waste treatment problems.
 - E. Financing of routine operation and maintenance may depend on the perception of individual homeowners regarding how much should be spent on waste water treatment, rather than on real needs.
2. Solution of existing problems with inadequate treatment by small waste water treatment plants is dependent on:
- A. Vigorous enforcement of basic public health discharge standards.
 - B. Providing all existing homeowners owning small waste water treatment plants with viable institutional options for 1) financing capital improvements, where necessary, and 2) assuring continuous funding for proper operation and maintenance.
3. Avoidance of the problems associated with inadequate wastewater treatment and inadequate institutional responsibilities for operating rural wastewater systems should be a high priority for Larimer County.
4. Problem avoidance is possible by insuring that:
- A. On-lot and on-site septic/leachfield systems are allowed, and encouraged, where the assimilative capacity of the soils allows proper operation.
 - B. When small discharging wastewater treatment plants are necessary, that they are supported by institutions which have clear legal responsibilities, and adequate financial capabilities, to properly operate, maintain, and eventually replace the systems.

1.3 RECOMMENDATIONS

1. When necessary, the Larimer County Health Department should be prepared to advise and assist State Health officials in enforcement of discharge standards for small wastewater treatment facilities.

2. Where capital improvements are necessary to solve problems at small waste water treatment plants, realistic, enforceable compliance schedules should be established by the Water Quality Control Division, Colorado Department of Health, with advice and assistance of Larimer County Health Department.
3. The County should review available institutional options, and develop a policy regarding the County's role in ownership and operation of wastewater treatment facilities.
4. Where capital improvements are necessary to solve existing problems, the institutional options available to the homeowners should include:
 - A. Homeowner financing
 - B. Annexation to an existing sanitation district, with the district assuming financial and legal responsibility for compliance.
 - C. Formation of a sanitation district by homeowners and subsequent sale of bonds.
 - D. Assigning facilities to the County, to be operated as a county utility and subsequent sale of revenue bonds by the county to finance improvements, if the County decides to assume this responsibility.
5. The County should discourage home owner ownership of waste water treatment plants.
6. The county should encourage developers of new subdivisions in rural areas to provide on-lot septic systems for waste water treatment and disposal. The subdivisions should be designed with adequate lot sizes to assure that assimilative capacity exists to adequately treat wastes.
7. Where on-lot septic systems are not feasible, community septic tanks and leachfields, where acceptable soil and geologic conditions exist, are preferable to small waste water treatment plants. An adequate margin of safety should be incorporated into the design of on-site community systems to assure proper treatment, and to avoid unforeseen costs to home owners.
8. On-lot and on-site septic and leachfield systems in mountainous areas should be designed with a margin of safety in consideration of the water supply, aesthetic, and recreational resource value of mountainous areas to the people of Larimer County, and the sensitivity of those areas to pollution.

9. Where home owner ownership of waste water treatment plants is accepted by the County, the County should develop and apply financial criteria to guarantee adequate funding for operations, maintenance, and replacement costs. Developers and home owners should be fully informed of the legal and financial responsibilities and liabilities of waste water treatment plant ownership.

2.0 CATEGORIES OF INSTITUTIONAL PROBLEMS

Within the rural areas of the County, the primary types of waste treatment systems encountered are:

1. On-lot septic tank and leach field systems treating waste from an individual home.
2. On-site community collection systems and community leachfields treating wastes from a single subdivision.
3. On-site community collection systems and small discharging waste water treatment plants treating wastes from one or more subdivisions.

On-lot septic tanks and leachfields are the most common means of waste treatment in rural Larimer County, and, with few exceptions, serve their intended purpose quite well. However, inadequate treatment may occur with any of these systems. Symptoms of inadequate treatment associated with each type of system may exhibit the following characteristics:

<u>Type of System</u>	<u>Symptom of Inadequate Treatment</u>
Individual on-lot systems, on-site community systems	Untreated waste water appears on surface. Contamination of ground water. Contamination of surface water.
Small discharging waste treatment plants	Violation of basic State discharge standards for waste water treatment to protect public health. Contamination of flowing surface streams or reservoirs causing interference with the beneficial use of water (aquatic life, drinking water, recreation, agriculture).

The fact that inadequate waste treatment is occurring does not necessarily mean that there is an institutional problem. If an institution exists having legal responsibility and authority, and financial resources to solve the problem of inadequate waste treatment, then there is no institutional problem. The problem is lax enforcement of standards by state or county regulatory agencies.

Institutional problems occur where the institution responsible for waste treatment either does not exist, or where the institution does not have adequate authority to 1) to solve an inadequate treatment problem, or 2) to provide adequate operation and maintenance to prevent inadequate treatment from occurring in the future.

Table 2.1 identifies criteria for determining if an institutional problem exists. Applying the criteria defined in Table 2.1 results in the definition of three types of institutional problems associated with rural waste treatment systems. These are described below.

On-Lot Systems

If on-lot septic systems are failing in a substantial part of a subdivision, and causing either a surface discharge of water or ground water pollution problems, an institutional problem exists. No institutional structure usually exists to solve the problem, since each homeowner has been responsible for operating individual on-lot systems.

Community Collection and Treatment in Rural Areas

If a community collection and waste water treatment system (septic tank/leachfield or discharging treatment plant) serves a subdivision, and is not providing proper treatment as is indicated by failure to meet basic public health discharge standards, ground water pollution, and/or surface water pollution, an institutional problem may exist if the system ownership is vested in a homeowners' association or a combination of homeowners and developers. The homeowners association has no taxing authority, no bonding authority, and possibly no reserve funds to solve the problem. Enforcement of standards is difficult, legal responsibility for the waste treatment system is difficult to fix among individual home owners, qualified professional staffing to assure proper operation and maintenance may be lacking, financing of improvements may depend upon borrowing by individual home owners at a high rate of interest, and financing of operation and maintenance may depend on the perception of individual homeowners regarding how much should be spent on waste water treatment rather than on real needs.

Problems may develop in subdivisions served by a community collection and treatment system owned and operated by a homeowners' association. Although there is no pollution problem at present, there is a potential problem with inadequate treatment, and a subsequent institutional problem if home owners fail to provide proper financing for future needs, replacement costs, and adequate operation and maintenance. No taxing authority or bonding authority exists in the event of a system failure to provide funds for correction of a problem.

TABLE 2.1 CRITERIA FOR DETERMINING IF AN INSTITUTIONAL PROBLEM EXISTS

Disposal System	Existing Condition		Existing Institutional Structure	Is There An Institutional Problem?	Comment
	Is Adequate Treatment Occurring?	Is There A Water Quality Problem?			
On-lot	Yes	No	Individual Homeowner	No	
On-lot	No	Yes	Individual Homeowner	Yes	If entire subdivision is experiencing problem, no structure for financing solutions.
Community collection & local disposal (1)	Yes	No	Sanitation District	No	Adequate taxing and bonding authority usually exists to solve problems.
Community collection & local disposal (1)	No	Yes	Sanitation District	No	No question regarding responsibility; easy target for enforcement; usually has adequate taxing and bonding authority to solve problem.
Community collection & local disposal (1)	Yes	No	Homeowners' Association	Potential	Financing of future needs, replacement costs, adequate O & M, no taxing or bonding authority.
Community collection & local disposal (1)	No	Yes	Homeowners' Association	Yes	Possible enforcement problem with respect to ownership; problem with financing corrections, no taxing or bonding authority.

(1) "Local disposal" could be either a community septic tank/leachfield or a small waste water treatment plant.

3.0 INSTITUTIONAL PROBLEMS EXPERIENCED WITH WASTE WATER TREATMENT SYSTEMS IN RURAL AREAS OF LARIMER COUNTY

This section identifies institutional problems associated with rural waste water treatment recently experienced in Larimer County.

The data to define institutional problems within Larimer County did not exist in written form when this study was initiated. Questions which had to be addressed included:

1. Where are problems with inadequate waste treatment being experienced?
2. What are the potential problem areas for inadequate waste water treatment?
3. Do institutions exist in those areas to solve or prevent problems?

The methodology developed and implemented to answer these questions is described below:

3.1 METHODOLOGY

The study area ("rural Larimer County") was defined to be those unincorporated areas of Larimer County not served by existing municipally owned or sanitation district owned waste water treatment plants. Municipalities and sanitation districts generally have an adequate operating experience to prevent waste treatment problems and have adequate taxing and bonding authority to solve those problems when they occur. This study area definition eliminated large areas of the county in the vicinity of Fort Collins, Loveland, Estes Park, and Berthoud, as well as corridor areas linking Fort Collins and Loveland, and Loveland and Berthoud. Large areas of the county containing numerous subdivisions still remained within the study area.

In order to identify existing and potential institutional problems in the study area, interviews were held with the staff of the Environmental Services Division, Larimer County Health Department, to obtain their assessment of where existing and potential problems with inadequate treatment of waste exist. The sanitarians of the Larimer County Health Department are the individuals responsible for 1) initial review of proposed waste treatment systems, and 2) surveillance of systems after installation. They are the individuals most knowledgeable of conditions existing throughout the county. Every rural subdivision in the

county was reviewed and an assessment was made as to whether or not 1) a waste water treatment problem exists, and 2) an institutional problem exists. This information was transcribed, tabulated, and reviewed by County Health Department staff.

3.2 RESULTS

Two hundred and twenty-nine existing or proposed subdivisions were determined to be in the rural area of Larimer County, as of mid-1982. Seven existing subdivisions were served by small waste water treatment plants owned by homeowners associations, or a combination of homeowners associations and developers. The remaining subdivisions were served by either on-lot or on-site leachfield disposal systems. Based on the review, existing or potential problems were categorized and identified as follows:

<u>Problem Category</u>	<u>Number of Occurrences Within Last 2 Years</u>
1. Subdivision with failing individual septic systems, no institutional structure	1
2. Subdivision served by small waste water treatment plant; owned by homeowners association; not meeting discharge standards.	4
3. Potential problems due to ownership of small waste water plants by homeowners association with no taxing or bonding authority if problems arise.	
A. Existing subdivisions	3
B. Proposed subdivisions	6

3.3 POTENTIAL PROBLEMS IN THE UPPER CACHE LA POUDE RIVER BASIN

Upper Poudre Canyon contains numerous platted subdivisions and substantial development in some areas. In the developed areas, homes are used primarily on a seasonal basis, during the summertime. These homes are served by septic tanks. Summertime conditions in the Upper Poudre Canyon represent the optimum conditions which can occur for operation of septic tanks and leachfields. Evapotranspiration rates are high, and ground water tables are generally low as compared to the spring.

Poudre Canyon is identified as a potential problem area by the County Health Department because changes from summertime to year-around at sites not designed for year around use could cause inadequate treatment of wastewater. During the winter season there is virtually no evapo- transpiration and ground water tables can be high at times, particularly in the spring runoff period. Water pollution in the Upper Poudre Basin could have serious consequences because 1) it is the major source of municipal, domestic, and industrial water supply in Larimer and Weld Counties, and 2) the area experiences high levels of recreation use during summer and fall months.

3.4 ASSESSMENT

Of the two hundred and twenty-nine existing and proposed subdivisions reviewed, only one is experiencing problems with failing on-lot septic systems. The vast majority of existing subdivisions in rural Larimer County are served by on-lot or on-site septic/leachfield systems which are providing adequate wastewater treatment. These systems are characterized by proper design which reflects the waste assimilation capacity of soils. However, four of the seven subdivisions served by small discharging wastewater treatment plants have experienced problems in meeting basic public health discharge standards within the last two years. One of these plants has been eliminated by connecting to a municipal system. Ownership of these four facilities has been vested in homeowners associations. Three additional small wastewater plants, which are meeting standards, are owned and operated by homeowners associations. Six additional homeowner operated plants are included in proposed subdivisions, including two within a one mile radius of an existing small plant southwest of Berthoud.

Even though numbers of systems experiencing problems are small compared to the total, solution of problems, once they arise, is difficult, time-consuming, and represents a considerable burden for County public health organizations and personnel. Homeowners have to be made aware of the problem, an institutional structure has to be created, financing arranged, and a physical solution implemented. Homeowners facing a drastic increase in sewer fees may balk at implementing feasible, reliable solutions.

4.0 INSTITUTIONAL AND FINANCIAL ALTERNATIVES

This section describes the institutional and financial alternatives available for wastewater treatment systems in rural Larimer County, and the advantages and disadvantages of each. The alternatives examined include:

1. A sewer utility established by Larimer County, and owned and operated by Larimer County.
2. A county improvement district whereby an improvement district is formed by the County Board of Commissioners.
3. Establishing, or annexing to an existing, sanitation district.
4. Homeowners association.

These institutional options are described in terms of powers, formation procedures, and financing authorities.

4.1 COUNTY UTILITY

The Colorado Revised Statutes, 1973, Part 4, Water and Sewer Systems, empowers the County Board of Commissioners to establish water and sewerage facilities through the issuance of revenue bonds, and to establish appropriate rates for those receiving service from these systems to (a) pay back the revenue bonds, (b) establish a reserve fund, and (c) pay for operation and maintenance of the system. The sewerage facilities to be constructed can include both collection systems and treatment systems.

4.1.1 Powers

The powers and authorities necessary to establish water and sewer systems in this manner are vested in the County Board of Commissioners. The County has the authority to construct, reconstruct, improve, and extend water or sewerage facilities, and to operate and maintain those facilities. The County has the authority to require compulsory sewer connections if the County Board of Commissioners determines that (1) the County sewer line is within 400 feet of the property, and (2) connection is deemed necessary for public health.

4.1.2 Formation Procedures

A majority vote of the Board of County Commissioners is required to authorize the facilities, establish revenues, and authorize issuance of bonds to pay for facilities. This can be done at any regular or special meeting of the Board

of County Commissioners. There are no public hearing requirements for establishing this type of system, other than those required for regular Commission meetings.

4.1.3 Financing

In order to finance the facilities, the Board of Commissioners may accept loans or grants, and raise money for capital construction through sale of revenue bonds. Revenue bonds are the only allowable means of financing capital construction under this procedure. No ad valorem taxes are allowed. The County Board of Commissioners establishes revenues from operation of the facilities to be collected from all users of the system. This includes collection of operation and maintenance fees, reserve funds, and revenues to repay the revenue bonds. The revenue bonds are payable solely from revenues pledged, and do not constitute a debt of the County.

Table 4.1-1 summarizes the powers, formation procedures, time frames and financing associated with this procedure. For more complete information, the reader is referred to CRS 1973, Sections 30-20-401 through 30-20-422.

4.2 COUNTY PUBLIC IMPROVEMENT DISTRICT

Colorado Revised Statutes, 1973, Part 5, "County Public Improvement District Act", Sections 30-20-501 through 30-20-531, provides that the County Commissioners may establish a county public improvement district upon petition by electors and taxpayers within the service area of the proposed district. This section describes the powers, formation procedures, time frames, and financing capabilities of county public improvement districts.

4.2.1 Powers

The county public improvement district may construct a variety of public improvements, including sewer collection systems. However, it cannot construct sewage treatment systems. The district is a public or quasi-municipal subdivision of the State, and the County Commissioners are the ex-officio board of the district. The district has the power to enter into contracts, to operate improvements, and has the power of eminent domain.

4.2.2 Formation Procedures

In order to form the county improvement district and implement the improvements, the following activities have to take place:

TABLE 4.1-1. CHARACTERISTICS OF COUNTY UTILITY SYSTEMS.

<u>GENERAL POWERS</u>	<u>FORMATION PROCEDURES</u>	<u>TIME FRAME</u>	<u>FINANCING</u>
1. Powers are vested in County	Facilities, revenues, and bonds authorized by majority vote of board of county commissioners	At any regular or special meeting of the board of commissioners.	1. May accept loans or grants.
2. To construct, reconstruct, improve and extend water and/or sewerage facilities			2. Sale of revenue bonds
3. To operate and maintain water and sewerage facilities			3. Collection of operation and maintenance costs and other reasonable fees from <u>system users, including revenues to pay back bonds</u>
4. Compulsory sewer connections may be mandated by board of commissioners if the County sewer line is within 400 feet of property, and connection is deemed necessary for public health			4. Bonds are payable <u>solely from revenues pledged and do not constitute a debt of the County</u>
			5. May establish reserve fund

1. A petition must be filed by the majority of electors in the proposed district. Signed consents for inclusion by other owners must be submitted such that the property owned by the electors and other owners who sign consent for inclusion is equal to at least one-half of the assessed valuation of the district.
2. As soon as possible after receiving the petition, the County Commissioners establish a hearing date on the petition. The Clerk to the Board of Commissioners publishes a notice of the meeting and mails a copy to each elector in the district.
3. Between 20 and 40 days after the petition is filed, the Board of Commissioners conducts a hearing at which time they either form the district or dismiss the petition.
4. The resolution of formation is filed with the County Clerk within 30 days of the formation.
5. Expenditures greater than \$5,000 must be approved by a majority of electors. Publication of election notice is required at least 20 days prior to the election.
6. In the event that the voters approve sale of the bonds, public notice of the bond sale must be given. It is required by statute that this be given for two consecutive weeks prior to the sale of any bonds.

Assuming that a petition could be signed in 20 days, the minimum time frame for establishment of such a district and sale of bonds would appear to be on the order of 85 days, assuming there are no delays associated with notices, the election, or bond sale. This is a very optimistic timeframe.

4.2.3 Financing

The following procedures apply to financing a county improvement district:

1. The petitioners must file a bond or cash deposit to cover expenses of the County in the event organization of the district does not occur.
2. The County Board of Commissioners, acting as the ex-officio board of the improvement district, establishes fee schedules, rates, tolls, and charges for revenue producing facilities.

3. The Board has the power to levy and collect ad valorem taxes on all taxable property in the district.
4. Property tax levy or other charges are established on an annual basis.
5. The Board may establish a reserve fund and provide funding for the reserve fund through revenues or ad valorem taxes.
6. Expenditures greater than \$5,000 require approval by a majority of the voters.

Table 4.2-1 summarizes the major features of a county improvement district.

4.3 SPECIAL DISTRICT

Colorado Revised Statutes, 1981, authorizes the formation of sanitation districts in the State. The Special District Act of 1981 also governs sanitation districts formed after July 1, 1981. This section describes the powers, formation procedures, and financing alternatives available to water and sanitation districts, including changes of boundaries, whereby a subdivision could annex to an existing district.

4.3.1 Powers

The powers of a sanitation district are vested in the elected board of directors of the district. The powers include:

1. To enter into agreements;
2. To borrow money and incur indebtedness; and to issue bonds;
3. To own property;
4. To manage the affairs of the district;
5. Eminent domain;
6. To construct and maintain works;
7. To establish tap fees, rates, tolls and charges for services;
8. To establish a mill levy on all taxable property within the district;

TABLE 4.2-1. CHARACTERISTICS OF COUNTY PUBLIC IMPROVEMENT DISTRICTS

POWERS	FORMATION PROCEDURES	TIME FRAME	FINANCING
1. Improvement District may construct any public improvement, including sewer collection systems, but <u>excluding</u> electric light or gas systems or plants, water and <u>sewer treat-</u> <u>ment systems,</u> and facilities, and distribution lines.	1. Petition must be filed by majority of electors, with signed consents for inclusion by other owners. Electors and other owners must own at least one-half of assessed value in district.	1. Any time.	1. Bond or cash deposit must be filed with petition to cover expenses of the County in case organization of the District does not occur.
2. District is a public or quasi-municipal sub-division of the State.	2. Commissioners fix hearing date on petition; clerk publishes notice and mails copy to each elector in district.	2. Commissioners fix hearing date as soon as possible after receiving petition.	2. Establishment of fees, rates tolls, charges for revenue producing facilities.
3. County Commissioners are ex-officio board of district.	3. Hearing is conducted by Board of Commissioners to form district or dismiss petition.	3. Hearing twenty to forty days after petition is filed.	3. Board has power to levy and collect ad valorem taxes on all taxable property in district.
4. Enter into contracts.	4. Resolution of formation is filed with County Clerk.	4. Resolution is filed within thirty days of formation.	4. Property tax levy shall be established annually.
5. Borrow money.	5. Initial expenditures greater than \$5,000 must be approved by majority of the electors.	5. Publication of election notice required at least 20 days prior to election.	5. Reserve fund may be created and funded by revenues and ad valorem taxes.
6. Operate improvements.	6. Public notice of bond sale.	6. Bond sale notice published once a week for two consecutive weeks.	6. Expenditures greater than \$5,000 require approval of majority of voters.
7. Eminent domain.			

9. To compel owners of inhabited property within a sanitation district to connect their property with the sewer system, provided that the service line is within 400 feet of the dwelling;
10. To call an election to obtain voter approval for sale of bonds valued in excess of 1½ percent of the assessed valuation of the property in the district;
11. Power to extend its sewer lines to an appropriate outlet outside the district;
12. To furnish services outside the boundary of the district and to establish fees, rates, and charges for that service.

4.3.2 Formation Procedures

The formation procedures for a sanitation district are divided into two phases: (1) submission and approval of a service plan, and (2) organizational election. These two phases are described below.

Those proposing to organize a sanitation district must submit a service plan to the Board of County Commissioners prior to filing a petition for the organization of a sanitation district in any district court. The service plan must be accompanied by a processing fee set by the Board of County Commissioners but not to exceed \$200.00.

The service plan must include a financial survey and a preliminary engineering study showing how the proposed services are to be provided and how they are to be financed. The service plan must include a map of the proposed district with an estimate of population and valuation for assessment, a description of the facilities to be constructed, and an estimate of the cost including the cost of land, engineering services, legal services, proposed indebtedness, proposed maximum interest rates and discounts, and other major expenses related to the organization and operation of the district. The service plan must outline arrangements or proposed agreements with any other political subdivision for the performance of any services between the proposed special district and the other organizations.

At the next regular meeting of the Board of County Commissioners immediately following the filing of the service plan, the Board of County Commissioners must set a date within 30 days of that meeting for a public hearing on the service plan. The Special District Act requires that the County review the service plan to approve or disapprove the service plan, or conditionally approve the service plan, and provides the criteria for doing so.

The service plan is subject to review by the County Planning Commission which must submit its recommendations to the Board of County Commissioners. The hearing to be held by the Board of County Commissioners on the service plan is subject to public notice procedures, the first of which would be at least 20 days prior to the hearing date. Within 20 days after completion of the hearing, the Board of County Commissioners advises the petitioners for the organization of its action on the service plan. Modifications required by the Board of Commissioners must be made to the service plan if it is approved conditionally. Upon the incorporation of such modifications, the County Commissioners issue a Resolution of Approval to the petitioners. Following the Resolution of Approval, the petitioners may submit a petition for organization to the district court. The district court will not consider petitions unless they are accompanied by the Resolution of Approval by the County Board of Commissioners.

The following procedures are required for the organizational election to form a sanitation district:

1. A petition signed by not less than 10 percent or 100 of the taxpaying electors of the district, whichever number is the smaller, must be filed with the Clerk of the District Court vested with jurisdiction in the County. This petition will include the name of the district, the estimated cost of proposed improvements, description of the improvements, general description of the boundaries of the district, description of boundaries with respect to boundaries of the special districts or municipalities, costs of improvements, a request for organization of the district, resolution(s) of approval, and a bond or cash deposit for expenses.
2. The Judge of the District Court establishes a place and time for a hearing which is to be held not less than 20 days nor more than 40 days after the petition is filed. The Court Clerk publishes notice of the petition, the purpose and the boundaries of the district, and the time and place of the hearing, and mails a copy of the notice to the Board of County Commissioners.
3. Any persons desiring exclusion from the district must file a petition with the Court and present reasons for exclusion at the hearing.

4. If the Judge finds the petition in order, the Court directs that the question of the organization of the district should be submitted at an election to be held not less than 18 days after the first publication of notice of the election by the Clerk of the Court. The Judge will appoint three electors of the district as judges of the election.
5. At the election, the voters vote for or against the organization of the district, and for five electors of the district which shall constitute the Board of Directors of the district if organized.
6. If the majority of the votes cast are in favor of the organization, the District Court shall declare the district organized and designate the Board of Directors elected. The District then becomes a governmental subdivision of the State of Colorado and a body corporate with all the powers of a public or quasi-municipal corporation.

After initial election of the Directors at the organizational meeting, Directors are elected annually as their terms expire.

4.3.3 Financing

Creation of an indebtedness exceeding 1½ percent of the valuation for assessment of the taxable property in the District requires that an election be held to obtain voter approval for such actions. The Board is required to publish notice of the election not less than 18 days prior to the election.

The cost of extending water and sewer lines and to annex territory must be paid for by those receiving the service. In addition, any annexed territory is liable for its proportionate share of the cost of the sewage disposal plant and taxes can be levied for that as well.

The Board has the power to levy and collect ad valorem taxes on and against all property within the District. Generally, these taxes are levied uniformly against all property within the District and are collected through the County. The Board may also establish tap fees, sewer rates, tolls or charges for services, and the Board may pledge the revenue for payment of any indebtedness of the District, and for operation and maintenance expenditures. The Board may also divide the district according to the services provided, and has the power to fix different rates, fees, tolls, or charges and different rates of levy for tax purposes according to the services and facilities furnished.

4.3.4 Change of Boundaries

Districts may expand or contract boundaries subject to the conditions set forth in the 1981 Special District Act. These conditions include:

1. The Board of County Commissioners must approve any significant material modifications of the service plan which was originally approved. No modifications may be made by the governing board of the special district unless approval by the County Board of Commissioners has been obtained.
2. Any significant departure from the service plan as modified may be enjoined at any time prior to the date at which construction contracts are let for construction of all or any part of the departure sought upon the motion of the Board of County Commissioners or upon the motion of any interested party.
3. If the municipality or county has filed a written objection to inclusion of certain property, the district board shall not grant the petition for inclusion to real property for which adequate service is or will be available from such a municipality or county within a reasonable time and on a comparable basis.

Anyone desiring inclusion or exclusion to or from the district must file a petition with the Board of the District and it is subject to approval of the District Board. For inclusion, the petition must be signed by not less than ten percent or 100, whichever number is smaller, of the taxpaying electors of the area. The area must contain 25,000 or more square feet of land, and no single tract or parcel of property constituting more than 50 percent of the total area to be included may be included in any special district without the consent of the owner. The owner of any property within a district may petition for exclusion by the Board of Directors which hears the petition at a public meeting.

4.3.5 Time Frame

Sanitation districts normally take four to six months to form, plus additional time for an election to finance facilities.

4.4 HOMEOWNERS ASSOCIATIONS

Homeowners associations are usually established by the developer, and membership is a condition of land ownership within the subdivision. Homeowners may take a variety of institutional forms, ranging from loose-knit groups to corporations. The associations are usually established to hold and maintain common facilities used by the landowners. These facilities may include roads, greenbelts, recreation areas, water supply systems, and waste water collection or treatment systems. Initial fees may be established by the developer. Over the long term, fees are usually assessed by the association members, i.e., the home owners themselves.

4.5 ADVANTAGES AND DISADVANTAGES OF ALTERNATIVES

Each of the institutional alternatives discussed in this section has advantages and disadvantages in terms of implementing wastewater treatment systems. Many of the characteristics of the institutional alternatives described above may be considered an advantage or disadvantage, a pro or con, depending on the viewpoint and objective of the evaluator. Consistent with the objectives of this effort, the advantages and disadvantages of each institutional option from the perspective of Larimer County are identified. Identified advantages and disadvantages are discussed below.

4.5.1 County Sewer Utility

The principal advantages of the county utility district appear to be:

1. It is easily implemented by a majority vote of the County Commissioners.
2. It avoids formation of another governmental entity in the county.
3. The County can assure adequate operation and maintenance procedures and funding, thus avoiding a potential public health problem in the county.

The major disadvantages are:

1. Implementation will result in additional and new responsibilities for the County Commissioners and County staff.
2. The County must implement an accounting system to collect revenues and pay debts and bills.

3. Larimer County would be responsible for violations of the discharge permit and other liabilities associated with operation and maintenance of a treatment system.

Table 4.5-1 provides a comparative list of advantages and disadvantages of using the county utility option in rural Larimer County.

4.5.2 County Improvement District

The county improvement district appears to have all the disadvantages of the county utility district described above, and some of the advantages. However, it imposes a rather cumbersome organizational procedure as well as the requirement that an election be held to fund expenditures greater than \$5,000. Furthermore, a county improvement district could not be used to fund a wastewater treatment system. With this option, the County would still have operational and maintenance responsibilities for the wastewater treatment system, and would, through contract, arrange for the district to pay the costs associated with wastewater treatment. The County would still be responsible for operation and maintenance of both the treatment and collection systems, and would be liable for violation of the discharge permit and other liabilities associated with operation and maintenance of a collection and treatment system (see Table 4.5-2).

4.5.3 Special (Sanitation) District

The principal advantage in the formation of a special (sanitation) district is that once formed, the district is totally responsible for financing, operation, maintenance, and meeting of discharge permit requirements. The County has very limited responsibilities in any area associated with operation and maintenance of a sanitation district. On the "disadvantage" side, formation of a sanitation district is a lengthy process, ordinarily requiring six to eight months to complete. It results in formation of another governmental entity in the county. A further concern is that inadequate funding of operation and maintenance by a district would result in public health problems. However, the district would be a responsible governmental entity with authority to raise funds to assure proper operations and maintenance of facilities. State regulation through the discharge permit compliance should insure adequate operation and maintenance of the system. If this does not occur, the Board of Directors of the District is subject to criminal and civil penalties (see Table 4.5-3).

TABLE 4.5-1. ADVANTAGES AND DISADVANTAGES OF A COUNTY UTILITY AS AN INSTITUTIONAL OPTION FOR RURAL WASTEWATER SYSTEMS

<u>Characteristic</u>	<u>Pros</u>	<u>Cons</u>
Organization	<ol style="list-style-type: none"> 1. Easily implemented by majority vote of Commissioners. 2. Avoid formation of another governmental entity in County. 	<ol style="list-style-type: none"> 1. Additional responsibilities for County Commissioners and staff.
Financing	<ol style="list-style-type: none"> 1. Rates established by vote of County Commissioners for bond repayment, operation and maintenance, and reserve fund. 	<ol style="list-style-type: none"> 1. Revenue bonds only, no ad valorem taxes.
Operations and Maintenance	<ol style="list-style-type: none"> 1. County can assure adequate operation and maintenance procedures and funding. 2. County has option of using County personnel or contracting for O&M. 	<ol style="list-style-type: none"> 1. County is responsible for O&M. 2. New O&M responsibilities for County staff. 3. County must institute accounting system to collect revenues, and pay debts and bills.
Liabilities		<ol style="list-style-type: none"> 1. Larimer County is liable for compliance with State discharge permit, and for the liabilities associated with treatment system operation and maintenance.

TABLE 4.5-2. ADVANTAGES AND DISADVANTAGES OF A
COUNTY IMPROVEMENT DISTRICT
AS AN INSTITUTIONAL OPTION FOR RURAL WASTEWATER SYSTEMS

<u>Characteristic</u>	<u>Pros</u>	<u>Cons</u>
Organization	<ol style="list-style-type: none"> 1. County has used procedure previously. 2. Commissioners are board of improvement district board. 	<ol style="list-style-type: none"> 1. Approximately 90 days required to form district and issue bonds. 2. Additional responsibilities for County Commissioners.
Financing	<ol style="list-style-type: none"> 1. May levy ad valorem taxes, and assess other charges and fees. 	<ol style="list-style-type: none"> 1. Election required prior to expending greater than \$5,000. 2. Cannot fund wastewater <u>treatment</u> system. Can fund collection system.
Operation and Maintenance	<ol style="list-style-type: none"> 1. County can assure adequate operations and maintenance procedures and funding. 2. County has option of using County personnel or contracting for O&M. 	<ol style="list-style-type: none"> 1. County is responsible for O&M of collection and treatment system. 2. New O&M responsibilities for County staff. 3. County must institute accounting system to collect revenues, pay debts and bills.
Liabilities		<ol style="list-style-type: none"> 1. Larimer County is liable for compliance with State discharge permit, and for other liabilities associated with O&M of system.

TABLE 4.5.3. ADVANTAGES AND DISADVANTAGES OF
SPECIAL (SANITATION) DISTRICT
AS AN INSTITUTIONAL OPTION FOR RURAL WASTEWATER SYSTEMS

<u>Characteristic</u>	<u>Pros</u>	<u>Cons</u>
Organization	<ol style="list-style-type: none"> 1. County has limited responsibilities in organization of district. 2. Few additional responsibilities for County Commissioners and staff. 3. Expansion subject to County approval. 	<ol style="list-style-type: none"> 1. Organization and bonding election require 6-8 months. 2. Results in formation of another governmental entity in County. 3. Costs of organization are higher than other alternatives.
Financing	<ol style="list-style-type: none"> 1. Rates set by District Board. 2. County involvement limited to collecting ad valorem taxes. 	<ol style="list-style-type: none"> 1. Inadequate funding of O&M could create public health problem.
Operation and Maintenance	<ol style="list-style-type: none"> 1. No County responsibilities. 2. District is responsible for O&M. 3. State can require proper O&M through discharge permit compliance. 	<ol style="list-style-type: none"> 1. Improper O&M could create public health problem.
Liabilities	<ol style="list-style-type: none"> 1. No County liabilities for violation of discharge permit or O&M of system. All liabilities are with District Board of Directors. 	

Annexation to existing districts is an option for existing or new rural subdivisions, even though the boundaries may not be contiguous with the boundaries of the existing District. Annexation would require a modification of the existing District's service plan, which is subject to County Commissioner approval.

4.5.4 Homeowners Association

The advantages and disadvantages of homeowners associations as institutions for operating waste water treatment systems are listed in Table 4.5-4. Experience in Larimer County indicates that homeowners associations are not good candidates for operation of small waste water treatment plants. Operation and maintenance needs and costs have been underestimated. In partially built-out subdivisions where homeowners and developers share responsibilities, operational and legal responsibilities for O&M and permit compliance have been difficult to establish. When problems resulting from long-term inadequate O&M are identified, solutions may be expensive, require long implementation periods, and require extensive resource commitments by the County. Associations have not established replacement funds in the past, making financing a difficult and lengthy process. In the meantime, violations of basic discharge standards to protect public health have continued. Enforcement of discharge permit conditions is difficult, and in some instances has been lax for small plants due to other enforcement priorities.

It is possible that these problems could be overcome if responsibilities and liabilities are well defined and understood, adequate funding for O&M and replacement costs is provided by home owners, and enforcement is timely.

A home owners association agreement which addresses these potential problem areas and is incorporated into initial subdivision approval is essential. Financing may still be a problem if, as problems develop, rate increases subject to association member approval are necessary.

TABLE 4.5-4. ADVANTAGES AND DISADVANTAGES OF HOMEOWNERS ASSOCIATION FOR IMPLEMENTING WASTE WATER SYSTEMS

<u>Characteristics</u>	<u>Pros</u>	<u>Cons</u>
Organization	<ol style="list-style-type: none"> 1. Developer or home owner responsible for organizing, no County responsibility. 2. Organization (for new subdivisions) is simple and cheap. 3. Few additional responsibilities for County Commissioners and staff. 	<ol style="list-style-type: none"> 1. Association may not have adequate authority to solve problems.
Financing	<ol style="list-style-type: none"> 1. No County involvement in financing. 	<ol style="list-style-type: none"> 1. Financing may be inadequate to assume proper operations and maintenance, and replacement costs. 2. Correction of problems may be subject to voluntary contributions. 3. Level of monthly fees may depend on home owners perception of how much to pay, rather than real needs.
Operation and Maintenance	<ol style="list-style-type: none"> 1. No County responsibilities. 2. State should be able to require correction of problems through enforcement of discharge regulations. 	<ol style="list-style-type: none"> 1. No indication of inadequate O&M until violation of standard occurs. By that time major expenditure may be needed. 2. Adequate level of O&M by certified operator not guaranteed.

Liabilities

1. No County liabilities if properly operated and maintained.

2. In the event of system failure, County may have to assume responsibility for correcting problem.

1. Problems in assigning responsibilities where homeowners own and operate plant.

2. Homeowners may not understand full extent of legal/financial liability, or be able to support liabilities.