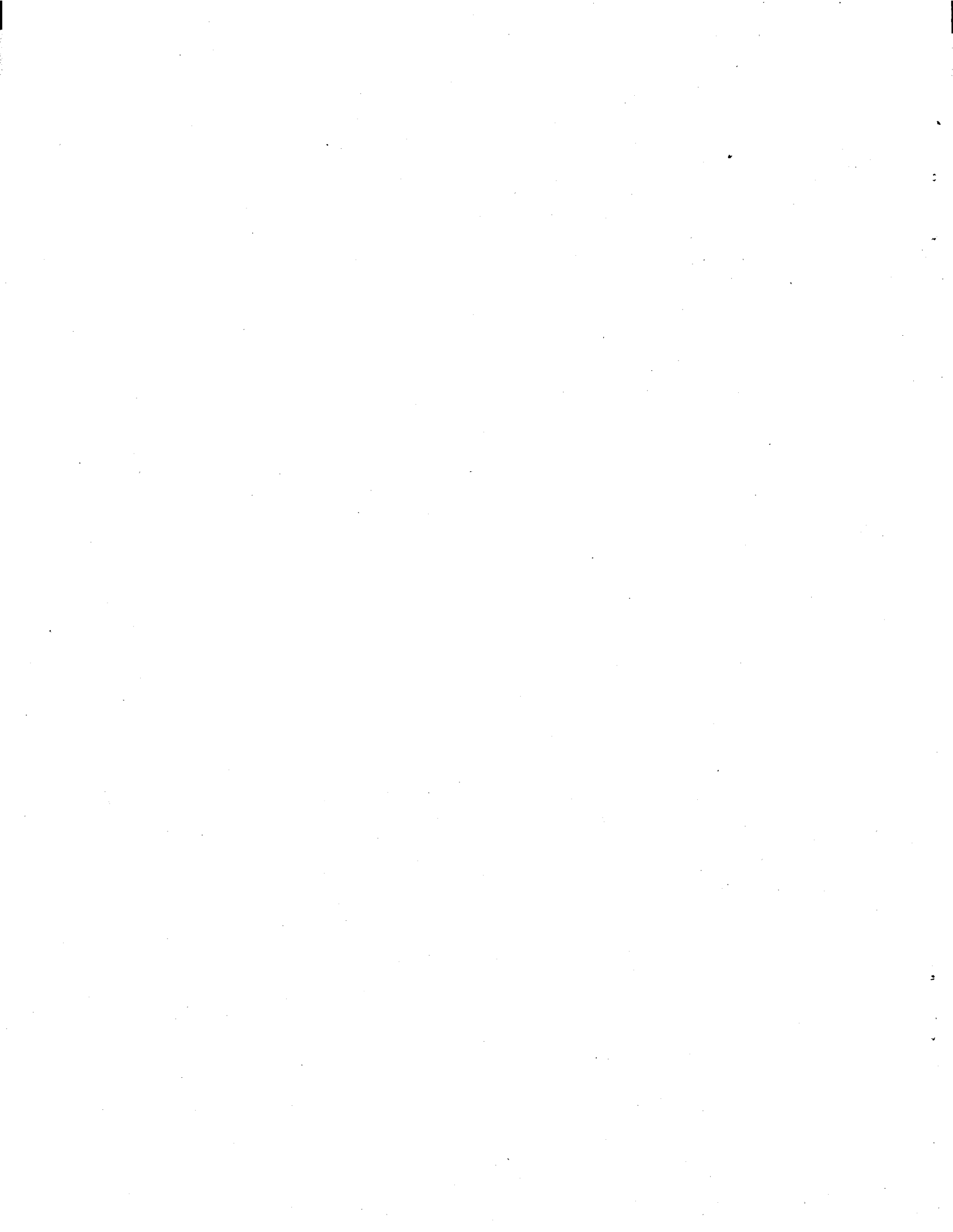


**Appendix B**

**The Wastewater Planning Process**



## **Appendix B The Wastewater Planning Process**

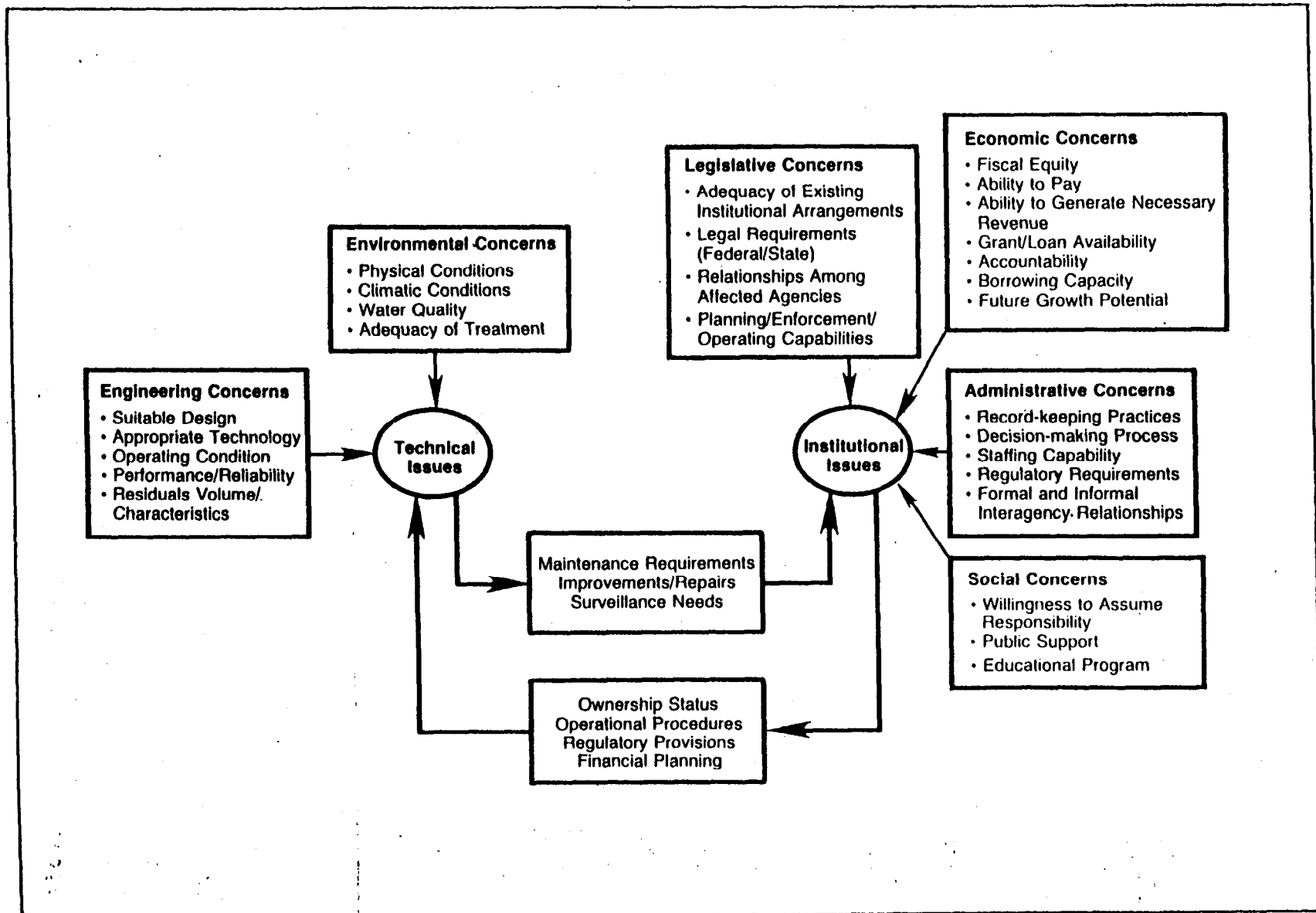
The wastewater planning process involves coordinating a variety of technical and institutional factors, including engineering, environmental, legislative, public education, socioeconomic, and administrative considerations, as shown in Figure B.1. The goal of the wastewater planning process is to develop a comprehensive plan to guide the community in the selection, siting, construction, operation, maintenance, and financing of wastewater systems that address the wastewater needs of the community. A key part of the planning process is a systematic evaluation of the financial and regulatory feasibility of all practical centralized and decentralized engineering alternatives. The steps in a wastewater planning process typically include (Arenovski and Shephard, 1996):

- Needs assessment—establishing an overall community profile, including current and future needs and issues, and identifying areas of concern where existing wastewater facilities are inadequate or problems might occur in the future.
- Development and screening of alternatives—examining which technology, or combination of technologies, will best address the concerns the community faces. The alternatives to consider include expanding or upgrading existing systems or improving their operation and maintenance, as well as installing new systems.
- Evaluation of community-wide plans—comparing the feasibility and cost-effectiveness of a small number of viable plans, and comparing each to a "baseline alternative" of maximizing the use of existing facilities.

In many communities, results of wastewater planning efforts will indicate that the best option is choosing several alternatives—that is, decentralized onsite wastewater systems in one part of the community, decentralized cluster systems in other sections, and a centralized facility in another part of town. This type of integrated approach reinforces land use planning; it also emphasizes the need for adequate management of decentralized systems, and for centralized and decentralized systems to be managed together by a central oversight agency (Shephard, 1996).

### **Comprehensive Planning**

Wastewater system options are best selected in conjunction with broader, comprehensive community planning efforts to ensure that overall community goals are being met, such as environmental protection and land use goals. The planning process includes an analysis of the physical, social, economic, cultural, and environmental characteristics of the planning area. For example, if a watershed protection program already exists in a region to protect sensitive environmental areas, more advanced wastewater treatment (e.g., disinfection or nutrient removal) might be included as part of the watershed program, whether as part of a centralized or decentralized wastewater system (note that a decentralized system would allow the flexibility of installing advanced treatment only for those dwellings in close proximity to the sensitive areas). Similarly, if local land-use planning efforts include maintaining open space and conservation/woodland areas, wastewater management choices can complement such efforts (e.g., by encouraging cluster developments serviced by cluster wastewater systems).



**Figure B -1. Technical and institutional factors in decentralized wastewater systems management planning.**