TABLE 5-3

SUMMARY OF SLUDGE PROCESSING AND DISPOSAL ALTERNATIVES

ALTERNATIVE	REGULATORY REQUIREMENTS	EFFLUENT QUALITY	MAINTENANCE REQUIREMENTS AND COMPLEXITY OF OPERATION	FLEXIBILITY	ENERGY USE	LAND REQUIREMENTS	POTENTIAL FOR AIR EMISSIONS	PUBLIC ACCEPTANCE	EASE OF IMPLEMENTATION	RELATIVE CAPITAL COSTS	RELATIVE O&M COSTS	SELECTED FOR FURTHER EVALUATION
Sludge thickening and disposal at a regional facility	Siting, design, and permitting requirements for new facilities.	Responsibility of regional facility and not applicable to disposal evaluation.	Town depends on outside source for reliable disposal.	Variety of disposal facilities accept thickened sludge both on and off-Cape.	Low	Low	Odor control facilities are often required.	Thickening facilities could be part of a new large facility, or use/expansion of the existing Chatham facility.	Easiest. Many regional facilities accept liquid sludge.	Relatively low compared to other disposal alternatives.	Disposal costs are typically competitive with disposal of dewatered sludge. Equipment maintenance is minimal.	Yes, due to the need to have flexible operations, and take advantage of existing facilities at the existing Chatham WWTF.
Sludge dewatering and disposal at a regional facility	Siting, design, and permitting requirements for new facilities.	Responsibility of regional facility and not applicable to disposal evaluation.	Town depends on outside source for reliable disposal. Dewatering equipment is typically reliable.	Limited number of facilities receiving dewatered sludge	Moderate due to operation of dewatering equipment.	Low	Odor control facilities are often required.	Dewatering facilities would be part of a large centralized facility.	Relatively easy due to existing facilities.	Moderate due to dewatering equipment and building.	Disposal costs can be reduced because solids are consolidated. Equipment maintenance costs are higher.	Yes. Taking advantage of the existing facilities.
Sludge thickening, dewatering, and composting (or alkaline stabilization)	Siting, design, and permitting requirements for new facilities.	Capable of producing a material that can be distributed to the public.	Previous installations on Cape Cod were shut down due to odors and poor economics.	Limited options for disposal if public interest in taking material is low.	High due to extensive equipment and odor control facilities.	High for covered structures, storing, and loading areas.	High potential for odors. Previous facilities on Cape Cod shut down due to odors.	Adjacent property owners may not accept this process due to odors, large land requirements, and visual impacts.	Difficult due to construction of new facilities and extensive permitting.	High compared to thickening and dewatering.	High due to purchase of materials, operation and maintenance of equipment, and operator requirements.	No, due to higher costs and uncertain demand and/or markets for the finished product
Sludge thickening and/or dewatering and land application	Siting, design, and permitting requirements for new facilities. Regular sampling, analysis, and reporting to MassDEP.	There is a risk that nitrogen will leach from the sludge and enter the groundwater system.	Relatively simple in agricultural areas, but expected to have difficult permit requirements in Chatham.	Can be flexible if there is sufficient land area.	Low	High	High	Low	Extensive permitting requirements and minimal locations for the land application.	Low if there is a nearby agricultural economy.		No, this method is not appropriate for Chatham because there are few expansive agricultural areas.