

Board of
Health
For your
"Info"

PRELIMINARY DISCUSSION DRAFT

OPTIONS FOR DISPOSAL OF SOLID WASTE

Report to Selectmen, Town of Wayland,
Massachusetts



June, 1979

SOLID WASTE STUDY COMMITTEE

Anne Blackburn
Thomas Boot
Virginia Casale
Luther Davis
John Gregorian
Herbert Jacobus
Woodrow Miller
Atheline Nixon
David Shanks, Chairperson
Christopher Woodcock

11/78-6/79

Comptroller Solwa

TABLE OF CONTENTS

1. INTRODUCTION
2. SUMMARY FINDINGS and CONCLUSIONS
3. ECONOMICS
4. RECOMMENDATIONS
5. LANDFILL
6. TRANSFER
7. SMALL SCALE RESOURCE RECOVERY
8. LARGE SCALE REGIONAL RESOURCE RECOVERY

APPENDIX

- I - LANDFILL INPUT ESTIMATES
- II - 10 TOWN SOLID WASTE DISPOSAL SURVEY
- III - ESTIMATED COST OF ALTERNATIVES
- IV - GLOSSARY OF TERMS

INTRODUCTION

From Dumps to Sanitary Landfills

Trash disposal in "open dumps" has long been the practice in New England, and "dump picking" has been a habit among many. New England's townspeople were reusing and recycling long before they were popularized by the environmental movement. Dumps can have, however, negative and even dangerous aspects which have made them a prime target of the federal Environmental Protection Agency (EPA) and a number of state agencies. Conditions which cause alarm include:

- * rotting food and vegetation which tends to attract rodents
- * Uncontrolled surface runoff or subsurface drainage (leachate) from decomposing wastes or toxic substances disposed of or formed in the dump can pollute surface or ground water, thus threatening water supplies, wildlife and wildlife habitat
- * noxious odors can form in warm weather, as can toxic gases during open burning or if accidental fires break out
- * uneven and littered ground can be unsafe for dump users
- * blowing papers and the general appearance of dumps impact the aesthetic quality of nearby areas

These factors combine into health and safety concerns for dump users and workers alike.

In recent years Wayland has disposed of its solid wastes -- household and commercial trash, brush, highway and construction debris -- at a site just south of Route 20, east of the Sudbury line. The Board of Health has local statutory authority for supervision of this town service; but the site is actually operated by the Highway Department under the jurisdiction of the Road Commission. Trash arrives at the site in a range of vehicles including large compactor trucks of contractors as well as the cars and pickup trucks of local residents. The present site is nearly full, and the town has acquired an additional landfill site across Route 20.

The present landfill has been under extremely close scrutiny by the state Department of Environmental Quality Engineering (DEQE) which has informed the town that the site does not and cannot meet state requirements. The town has been instructed to move to the new site as soon as possible, and to upgrade operations at the present site until the move is completed. Over the past two years Wayland has had to spend a substantial amount to improve operations at the old site and prepare an access road to the new site.

Improving the operations of the present site has meant upgrading the open dump into a more environmentally acceptable "sanitary landfill." Instead of just dumping trash and periodically burning the piles to reduce their size, each day's trash must be deposited in a prepared area, or "face", compacted into the face, and then covered with a specified amount of soil, or "cover," forming a "cell." Although more expensive and time consuming, the process discourages rodents and reduces the chance that contaminated runoff will reach nearby waters. Under the new state requirements "dump picking" can only be permitted under special circumstances, and no such arrangement has been set up as yet.

Within the next year the present site is expected to be closed, a process which will incur certain costs. The site must be graded and seeded, and then monitored for erosion or contaminated runoff. The land must remain idle for several years, depending upon the anticipated use. The land can either be retained by the town or sold.

Requirements at the new landfill site will also be costly. In addition to the more stringent rules under which it must be operated, the state also requires that toilet facilities be provided for workers, and a water line be constructed for use in case of fire. Furthermore, the state is only willing to approve

use of the new landfill section-by-section. If more stringent requirements are established by EPA or the state agencies before approval is obtained for all sections of the landfill, costs and complexity of operation could increase still more. For example, the first section of the landfill which will be used has a layer of impervious clay which separates the landfill from the ground water beneath it, providing natural protection from leachate. However, if subsequent sections of the landfill do not have as thick a natural barrier, the state may require the town to put a lining in place before that section of the new landfill can be used. The town must also continue to pay for monitoring of this site as well as the old site, to make sure that no contaminated runoff reaches nearby waters. If the town fails to comply with requirements at either site the state can impose a heavy daily fine until the problem is corrected. The state also has the power to close down town landfill operations; although it has thus far been reluctant to go that far, provided a good faith effort is being made to upgrade conditions.

COMMITTEE ESTABLISHED TO STUDY THE TOWN'S ALTERNATIVES

In December 1978, the combination of rising costs and escalating state requirements led the Selectmen to establish a Committee to Study Solid Waste Disposal Alternatives (CSSWDA). The Committee was asked to investigate whether landfilling was still the most effective way for Wayland to provide this necessary service to its residents. During its existence the Committee has met with individuals informed about various waste disposal methods, investigated the experiences of nearby towns with waste disposal and recycling, and visited several types of waste disposal operations ranging from other landfills to a regional resource recovery

On the basis of these experiences a preliminary screening was made of the waste disposal alternatives which deserved a detailed study. Only two alternatives were rejected: A town owned large-scale high technology system, which the Committee felt was inappropriate because of the town's present and anticipated population and land use characteristics, and a large town owned incinerator, for most existing inventions now are unable to meet air pollution standards.

The Committee has investigated in detail three types of disposal method which appeared to hold promise: continuation of the landfill, transfer of Wayland's solid wastes (out of town) to a commercial landfill or incinerator; and two levels of resource recovery (systems in which materials are recovered and/or energy). Recycling was felt to be an important aspect of all the alternatives, and was investigated with that thought in mind. Study teams were formed within the Committee to investigate the costs, benefits and various impacts of each of the waste disposal methods deemed feasible at that point. Once the individual study teams completed their work, various combinations of options have been discussed which seemed to meet the short and longer term waste disposal needs of the town of Wayland.

In the following sections each alternative is described. The Landfill section discusses continuation of the town's present method of disposing of its wastes; the Transfer section introduces the possibility of shipping some or most of the town's solid wastes to a commercial landfill or incineration site; the Small Scale Resource Recovery section analyses the construction of a small facility at the landfill which would burn the town's trash to produce energy to run the Town Building, the Public Service Building and the Wayland-Sudbury Sewerage Treatment Plant which

is under construction. The Large Resource Recovery section summarizes the Committees' findings concerning three regional resource operations, one of which is operational (RESCO in Saugus) and two others which are in the planning stage -- NESWC and 128 West.

It is important to note that during its investigations the Committee found an extremely volatile situation in addition to the uncertainty about environmental regulations. Energy costs are changing rapidly, and this has implications for each of the disposal methods. The technology involved in both small and large resource recovery is still in its infancy -- but a major breakthrough in either type could change the situation dramatically. It will be important for the town to provide some method by which the factors can be followed in case changes take place which indicate that a further evaluation would be appropriate.

Even though the problem of solid wastes is a complex one for Wayland, many positive factors are present as the alternatives are considered:

- * the population is fairly small and no extreme rise is anticipated. The relatively small waste stream (60 tons per day)¹ should be able to fit into a regional landfill or resource recovery system if the town decides to do so.
- * the town has a new landfill site and could acquire others if necessary. Many neighboring communities may fill their present sites before Wayland does, and because they have no back-up site, may have to transfer solid wastes out of town until the 128 Regional Resource Recovery facility is completed.
- * the town has few sources of potentially toxic or hazardous wastes within its perimeters.
- * the town's officials have not ducked this tough issue. They are responsibly attempting to develop a sound, cost-effective long-term answer to this continuing community need.

¹Based on a 5 day week See Appendix I

2.

SUMMARY FINDINGS AND CONCLUSIONS

Present Landfill

*Closing of old
Start up
Costs for new
landfill have to
be spread over
the life of landfill
not taken in
lump sum*

- * Cost of operation has increased from about \$2/ton to over \$6/ton in the past five years - due primarily to tighter state regulations.
- One-time costs of closing the landfill could increase the \$6/ton figure substantially.
- * The life of this facility is essentially over.
- * Recycling efforts of some other nearby towns are much greater than in Wayland.
- * Wayland is one of the few towns which does not charge for residential and commercial permits, or for excessive landfill use.

New Landfill

probably longer

- * Local landfilling represents the least expensive currently available method of solid waste disposal.
- * The expected life of the new landfill is 12-15 years with no major operating changes.
 - This life could be extended 1-2 years with a modest recycling effort.
 - With investment in solid waste disposal technologies such as shredding and baling, it may be possible to extend this life further.
- * At the end of the use ful life of the new landfill, Wayland must seek another landfill site or another solid waste disposal alternative.
- * Without recycling improvement, the annual operating cost is estimated at \$180,000, or almost \$11/ton, including garbage collection and interest on the land.
- * There is a need for a more detailed plan for traffic flow, safety, facilities placement

not anticipated

- * State regulations, many of which add to landfill costs, are expected to increase in the future.
- * Wayland has no guarantee that the State will continue its landfill permit beyond the initial section (good for 1-2 years).
 - each section is subject to separate review and approval.

Trash Collection

- * Town-provided (Town employee or contracted) residential trash collection would incur annual costs in addition to landfill operating costs as follows:
 - Curbside collection for disposal in new landfill: \$110,000
 - Door-to-door collection for disposal in new landfill: \$310,000
- * A collection service would have the following major impacts:
 - reduce landfill in-and-out traffic
 - eliminate most recycling efforts
 - extend landfill life through more efficient cell filling and compaction

Not practical for this town →

Transfer Operations

- * Transfer of solid waste is a proven technology which many other nearby towns are using, including Wellesley and Southboro.
- * Out-of-town transfer offers more flexibility in solid waste disposal options, but at a higher cost than landfilling.
- * Three transfer methods have been evaluated for Wayland:
 - Curbside pickup of all solid waste to an out-of-town facility (requires no local landfill).
 - Curbside pickup of selected solid waste to an out-of-town facility; local landfilling of construction debris, etc.

see above

- Existing private auto/trash collection to local transfer station for out-of-town disposal; local landfill for construction debris, etc.
- * Some form of transfer station is probably the next step for Wayland.

Small Scale Resource Recovery

- * Small scale resource recovery, as defined herein (under 100 tons/day), uses the solid waste from one or a few towns to generate steam or electricity by modified incineration.
- * Commercially available solid waste energy recovery units exist of a size capable of burning Wayland's solid waste (60 tons/day).
- * Coupled with an electric turbine/generator, such a system might:
 - power the new septage facility
 - provide steam to town buildings and local industry
 - provide electricity and steam for resale.
 - extend the life of the new landfill substantially
- * The complexities and risks of such a system appear high, given that:
 - the small scale incinerator/generator combination is untested in practice
 - capital costs are high (about \$1 million)
 - larger-scale projects may have better efficiency for electricity
 - meeting air quality emission standards may be costly.

Large Scale Regional Resource Recovery

- * Large scale regional resource plants use solid waste from many towns (1000-4000 tons/day) to create boiler fuel for electric power stations, or to generate steam or electricity via incineration of solid waste.
 - The existing and proposed plants of interest to Wayland generate steam or electricity through incineration:
 - RESCO - Saugus, Mass.
 - NESWC - N.Andover, Mass.
 - 128 West - Stoughton, Mass.
- * Participation in any regional resource recovery program requires a transfer operation for Wayland.
- * Because of the relatively long distances involved (30-40 miles one-way), a transfer station would probably be required (rather than direct collection/hauling).
- * There are presently no sub-regional transfer stations:
 - Wayland/Sudbury would be a logical combination for a future operation.
- * Solid waste exclusions from these facilities will require a limited landfill in Wayland.
- * The state is backing regional resource recovery, and is expected to bring pressure to bear on Wayland to join the 128 West project.
- * Principal advantages of these regional resource recovery systems include:
 - scale economies for electrical generation are by combining the solid waste stream from many communities.
 - local landfill life is conserved.
 - energy revenues partially offset disposal costs.

* With the exception of the RESCO plant, which has been in operation for three years and has available capacity, the other regional resource recovery plants carry the following risks for Wayland:

- A very restrictive 20 year "take or pay" contract is required.
- There is doubt about these projects proceeding on schedule.
- Operating costs are passed through to participating towns.
- There are limits to the allowable quality (heat content) and seasonal fluctuation of the solid waste accepted.

3.

ECONOMICS

The major solid waste disposal alternatives discussed in the body of this report have been summarized in the table in Figure 1. Each alternative represents a complete solid waste disposal system option for Wayland. Information on annual operating cost, cost per ton, risk, and landfill life are shown for each alternative.

In developing these costs, we have made many assumptions in order to fill in missing or incomplete data. As such, the figures should be regarded as first-order estimates only. The lack of hard data on landfill input volumes, sources, and operating costs is not unusual. However, the town will be able to make more informed judgments on alternatives if better records are maintained, as we have recommended.

All costs in this study are in today's dollars; No effort has been made to project future costs and/or the effects of inflation. Cost detail for each alternative is contained in Appendix III.

4.

SUMMARY RECOMMENDATIONS

- * Move landfill operations to the new Sand Hill landfill as soon as possible.
 - continue to proceed to secure necessary permits
 - continue with planning for landfill opening
- * Provide more concentrated supervisory attention to landfill operations.
 - consider appointment of a Highway Department supervisor for this purpose.
- * Secure bids for contracted operation of the new landfill before it opens
 - ✓ use qualified bidders
 - ✓ base on detailed specifications consistent with LEA report and committee recommendations
 - compare results to estimated costs for town operation
- * Consider constructing a combined recycling and on-site mini-transfer area at the new landfill:
 - compatible with future potential transfer operations
 - to extend the life of the landfill
 - to provide an attractive, efficient, safe area for self-hauled residential solid waste disposal
- * Do not enter into a long-term (20-year) contract with 128 West at this time.
 - monitor the "sign-up" progress of this and other regional resource recovery programs
- * Consider the purchase or designation of additional land for future landfilling.
 - under most future solid waste disposal alternatives, some local landfill area will be required.

Key need is →

we support strongly →

- * Continue to discuss opportunities for joint solid waste disposal with Sudbury to
 - extend landfill life
 - reduce operating costs
- * Continue the Solid Waste Committee, reporting to the Board of Road Commissioners, with a modified charter including:
 - advice on matters of solid waste disposal
 - periodic reassessment of costs and benefits of alternative

We support strongly

Open Questions

- * What are the exact sources, types and amounts of solid waste generated within Wayland?
- * How much (if any) out-of-town solid waste is going into Wayland's landfill?
- * How can toxic wastes be prevented from going into the landfill?
- * How much will a shredder and/or baler extend the life of the landfill?
- * Will there be harmful effects from the small amount of known toxic wastes (paint, insect spray, etc.) which exist in the landfill now?
- * Is there enough interest in small scale resource recovery to hire a consultant to investigate the feasibility of such a project?

5.

THE LANDFILL ALTERNATIVE
Present Conditions

At the present time Wayland's nearly 4,000 households, places of business and schools contribute approximately 60 tons of solid waste per day to the town landfill.¹ To this must be added the construction, road repair and debris which is generated by the

town. This service is expected to cost the town about \$100,000 in 1979, or approximately \$6 a ton, well above the \$2 per ton which was the average cost in the days before the state began to tighten environmental requirements in order to protect the health and well being of the citizens, their water supply, and the wild-life and habitat adjacent to the landfill site.

Under a separate contract garbage is collected from many of the town's homes on a weekly basis, and delivered to a pig farm. Although this cost is relatively high when viewed on a per-ton basis, it provides a service which many citizens want, it re-cycles the garbage, and saves about 1100 cubic yards of space in the landfill each year. Both the garbage and landfill services are "free" to those who haul their own trash to the landfill. Persons electing to have a contractor pick up their trash pay about \$7 a month for the pick up service. The cost of landfill operations and garbage collection are included in the town budget.

As has already been stated, the town is expected to move its waste disposal operations to the new landfill site within a year. Even if Wayland were to decide to transfer out the bulk of its trash, the landfill site will continue to be important to the town. Many commercial landfills and resource recovery centers will not accept bulky or difficult to dispose of wastes such as construction or road debris or brush. Because costs of operation are rising dramatically, and obtaining additional landfill sites would be both costly and difficult, it is extremely important that the space in the new landfill be used as effectively as possible,

¹ based on a 5-day week.

*reason for
any other
site to be
found*

and the life of the landfill extended as long as possible. The 1979 LEA study has affirmed the 1972 estimate performed by the consulting firm of Camp, Dresser and McKee of a 12-15 year life for the new landfill. However, the town's population has not grown as anticipated in the 1972 report, and this should mean a few more years of useful life.

*In here
dell for
input*

EXTENDING THE LIFE OF THE LANDFILL THROUGH RECYCLING

Recycling is a resource recovery method involving the collection and treatment of a waste product for use as a raw material in the manufacture of the same or similar product. For example, glass containers may be collected and melted to produce new containers.

Until recently, only relatively valuable materials (copper, precious metals) have been actively recycled. The recycling markets for most municipal waste products are especially poor in New England, because there are few local industries engaged in primary paper, iron and steel, and glass manufacturing. Sorting and collection of potentially recyclable materials, when added to transportation costs, has been more costly than buying virgin materials to produce these products.

Currently, Wayland recycles the following materials:

<u>Material</u>	<u>Approximate Annual Amount</u>	<u>Current Unit Price</u>	<u>Total Annual Revenue/Cost</u>
Scrap metal	100 tons	\$8-\$10/ton	\$800-\$1000
Glass	300 cy	\$2/cy	\$600
Newspaper	400 tons	\$1/ton	\$400
Food Wastes	500-600 tons	\$58-\$70/ton ¹⁾	\$35,000 cost ¹⁾

1) Wayland retains a contractor to pick up garbage from residences, schools and commercial establishments.

In the past, Wayland recycled aluminum cans, but has since dropped this practice. All recycling efforts are conducted at the town landfill, with voluntary support of residents.

Aside from the minimal scrap value received, recycling can also be justified as a method which extends the life of Wayland's landfill. The cost of just the land and cover material required for a cubic yard of potentially recyclable waste is about \$1.00 for the new landfill. If Wayland were transferring its solid waste to a regional landfill, as Wellesley does, the cost of transferring a cubic yard of recyclables would be about \$7-\$8.00. These figures suggest that Wayland could afford to subsidize recycling up to a cost of \$1/cy today; rising to \$6-\$7.00/cy to avoid transfer costs.

From interviews, site observations and surveys, the Committee believes much more could be done to promote recycling in Wayland. By comparison, several nearby towns are successfully recycling tires, brush, beverage cans, magazines, and even books. Wellesley has an outstanding program for recycling. Without unusual or costly efforts we believe Wayland could save on the order of 10% of its landfill each year through recycling. This will extend the life of the landfill by 1-2 years,

- 1) At landfill densities of 1000 lb/cy, these figures translate to \$0.50/ton; \$3.50-\$4.00/ton.
- 2) See Table 1 and 2.

To achieve this result, we recommend the following general approaches:

Establish an attractive recycling area at the landfill.

Consider "drop points" for recyclables at other high-traffic areas in town.

Follow scrap markets aggressively to obtain maximum scrap revenues.

As allowed by law, permit selective "picking" in carefully controlled areas.

Develop and implement an effective public information program on recycling.

Provide funds to have recyclables transferred out of town up to the cost of landfilling.

TABLE 2

POTENTIAL RECYCLING METHODS

<u>MATERIAL</u>	<u>RECYCLING METHOD/COMMENT</u>
Scrap metal	Separate paved area. Enforce <u>no</u> scrap metal in landfill policy.
Newspaper	Convenience drop offs. Expand container capacity.
Aluminum cans	\$0.20/lb. current value. Sorting is a problem.
Magazines	Convenience drop off.
Brush	Chip periodically in separate controlled area. Chips sell for \$2.75/cy picked up. Town can use all material chipped.
Tires	Encourage disposal at trade-in. Separate controlled area. Haul out of town.
Leaves/Grass	Compost area.
Construction Debris	Maximum lengths only; separate area for wood products.
Wood Furniture	Separate controlled area. Selective picking.

TABLE 1
RECYCLING ESTIMATES

<u>MATERIAL</u>	<u>ANNUAL AMOUNTS</u>			
	<u>CURRENT</u>		<u>POTENTIAL (estimated)</u>	
	<u>CY</u>	<u>TONS</u>	<u>CY</u>	<u>TONS</u>
Scrap Metal		100 ¹⁾		200 ²⁾
Newspaper	800 ¹⁾		1600 ²⁾	
Glass	300 ¹⁾		600 ²⁾	
Beverage cans	-		60 ³⁾	
Magazines	-		200 ⁴⁾	
Brush	-		700 ⁵⁾	
Tires	-		100 ⁶⁾	
Leaves/Grass	-		500 ⁵⁾	
Construction Debris	-		500 ⁷⁾	
Wooden Furniture	-		60 ⁸⁾	
TOTAL	1100		4320	

Additional landfill volume savings = 3200 cy/year or approximately 10% of annual waste volume input.

-
- 1) Town Highway Department records
 - 2) 100% increase
 - 3) 10% of glass container volume
 - 4) 10% of newspaper volume
 - 5) 2% of total landfill volume
 - 6) 500 tires at 5/cy
 - 7) 50 rooms at 10 cy/room
 - 8) 1.5 cy container/month

EXTENDING THE LIFE OF THE LANDFILL THROUGH IMPROVED OPERATIONS

A second way that space can be saved at the landfill is by better compaction of wastes as they are worked into the landfill face. One means through which to accompany this would be to use town-wide, house-to-house pickup in vehicles which would compact the trash as it was placed on the truck. In investigating this alternative, the Committee determined that it could cost the town about \$320,000 additional per year for house-to-house pickup. Curbside pickup would be less expensive but would have problems of noise, aesthetics, and with dogs and raccoons. The Committee questioned whether citizens would be willing to put up with these inconveniences and higher taxes to pay for a service they may not want. Town-wide pickup would have the double advantage, however, of compacting the trash before it arrived at the landfill site, and limiting traffic entering and leaving the landfill.

Improved compaction can also be accomplished at the face of the landfill, although this is not particularly well done at the present time. Because all vehicles, regardless of size, now come to the face of the landfill to deposit their trash, the working area is spread out and poorly controlled. Tires, brush and other debris which do not compact well are often mixed in. Trash may even be coming into our landfill from other communities, for Wayland was found to be virtually the only landfill which does little to monitor who -- or what -- comes into it. Because of all these factors, space is being used up faster than it needs to, or should be. Present operations permit another condition which may create danger for dump users: the conglomeration of large compactors, trucks, pickup trucks and private automobiles which

*Push
for more
control*

require access to the working front, especially on busy Saturday mornings.

A MINI-TRANSFER STATION

For these reasons the Committee suggest that the town consider constructing a combined recycling and mini-transfer area at the new landfill site. The mini-transfer portion would consist of a u-shaped, paved area, encircling an area with open-top metal containers. Private autos or pickup trucks would unload directly into these containers. Well marked and convenient recycling sites would be nearby. When a container became full it would be replaced by an empty one, and the full one would be pulled over to the working face of the landfill and dumped. The only other vehicles (besides landfill equipment) which would be permitted at the working face would be the large compactor trucks or trash haulers. The combined recycling, mini-transfer station would have several advantages:

1. encouraging recycling, thus prolonging the life of the landfill.
2. providing a safe trash drop area for homeowners
3. a better controlled working face of the landfill with greater compaction -- extending the life of the landfill.
4. the design would lend itself to shredding of the town's solid wastes before compacting, should the town decide to invest in the needed equipment.
5. the design would be adaptable to transferring wastes out of town should the town decide in the future to use an outside landfill or resource recovery facility.

As best the Committee could estimate, a mini-transfer station could be added to the new landfill site for an annual cost of approximately \$30,000, which represents the amortized capital cost of containers, on-site transport, and site improvements, such as paving, railings, etc.

As the Committee concluded its discussions on the continuation of the landfill as Wayland's waste disposal method it realized that one problem exists to which there apparently is no present solution: the disposal of toxic and hazardous substances in the landfill which have been used by homeowners, schools and small businesses. The Committee suggests that the Selectmen request the state Department of Environmental Quality Engineering (DEQE) consider ways to assist Massachusetts towns in disposing of left-over paints, herbicides, pesticides, household cleaning agents, etc.

The other methods for waste disposal and extending the life of the landfill either involve transfer out of town or disposal of much of the town's waste through a small resource recovery facility at the site. These concepts, and their comparative relevance for Wayland at this point in time, are discussed in the next sections of this report.

6.

TRANSFER

The transfer alternative would involve the hauling of solid waste to a disposal site outside the Town of Wayland. The disposal site could be a private or regional landfill or a small or large scale resource recovery unit. Possible sites within a 40 mile radius are indicated on the attached map in Figure 2.

There are several reasons why towns adopt a transfer method for solid waste disposal. A town may be forced to establish a transfer operation because the present landfill has reached its capacity and there exists no other suitable or available land in the town for a landfill operation. A town may have a fair number of years left in its present landfill but may wish to extend its life further by transferring out certain components of its solid waste. Another reason that transfer is adopted is the cost factor. Because of more stringent federal and state regulations, the increasing costs of cover, gravel, equipment, and labor, and political opposition to possible landfill sites, some towns have found it preferable to transfer its solid waste out of town.

There are many alternatives under the transfer method and we have considered the three which offer the most potential for the town of Wayland. Each alternative could be operated using Town labor, or with an outside contractor.

1. COMPLETE CURBSIDE TRANSFER OUT - NO LANDFILL.

• Transfer could be complete - i.e. all solid waste such as garbage, trash, recyclables, construction debris, sludge from a septage treatment facility could be picked up at curbside and hauled out of town. Under this alternative no landfill is required.

FIGURE 2

[Map - horse supplied]